

2011

Perinatal Services Guidelines for Care: A Compilation of Current Standards

2011



Regional
Perinatal
Programs of
California

Supported in part through contracts with the State of California, Department of Public Health, Maternal, Child and Adolescent Health Division, Federal Title V Funds.



Table of Contents

Cover Page	1
Table of Contents Introduction	2
History	3
Perinatal Services: Antepartum Care	
• Basic	6
• Specialty	13
• Subspecialty	18
Perinatal Services: Intrapartum Care	
• Basic	23
• Specialty	38
• Subspecialty	45
Perinatal Services: Postpartum Care	
• Basic	53
• Specialty	57
• Subspecialty	59
Perinatal Services: Neonatal Care	
• Basic	61
• Specialty	74
• Subspecialty	104
Perinatal Services: Quality, Safety and Performance Initiatives	129

Suggested citation: Bollman, D. Lisa (ed), Perinatal Services Guidelines for Care: A Compilation of Current Standards. Sacramento: California Department of Public Health, Maternal Child and Adolescent Health Division; 2011

History of this document:

Key informants, representing facilities with more than 20 live births, were interviewed to describe services available for maternal and neonatal patients. Representatives of the Regional Perinatal Programs of California throughout the state conducted these interviews from September, 1995 through February, 1996. Interview questions focused on risk-appropriate care, transport of maternal and neonatal patients, and services available for high-risk maternal patients and very low birth weight (VLBW) infants. (*Perinatal Facilities Interview, Region 6, Final Report*. Regional Perinatal Programs of California. July, 1996)

A matrix was developed to permit comparison of regulations and standards. The matrix (model) presented in the 1998 edition represents comparisons of the most recent written information.

It is also important to note that this document is not intended to be all-inclusive. For complete information, please refer to the source document (s).

Purpose of this tool:

This tool is intended to be a reference, which allows the user to have ready access to current perinatal standards and guidelines.

The perinatal standards and guidelines are presented in the context of a model (described to the right) which allows the reader to compare standard-setting organizations that guide and direct perinatal care.

One precaution for the use of this tool – please be advised that this tool is not all-inclusive. If there are questions – please refer to the source document (s).

Model*:

General Sections:

- There are four general sections of this tool:
 - ◆ Antepartum Care
 - ◆ Intrapartum Care
 - ◆ Postpartum Care
 - ◆ Neonatal Care
- There are subsections of the antepartum, intrapartum and neonatal sections: **
 - ◆ Basic Care
 - ◆ Specialty Care
 - ◆ Subspecialty Care
- **Standard-Setting Organizations:**
 - ◆ **ACOG/AAP:** American College of Obstetrics and Gynecology and American Academy of Pediatrics: Guidelines of Perinatal Care
 - ◆ **Title 22** of the California Code of Regulation
 - ◆ **Title 24** of the California Building Code
 - ◆ **CCS:** California Children’s Services
 - ◆ **EMSA:** Emergency Medical Services Agency
- **Indicators:**
 - ◆ Definitions
 - ◆ Personnel/Staff
 - ◆ Nurse Manager
 - ◆ Registered Nurse (RN)
 - ◆ Advanced Practice Nurses (APN)
 - ◆ Medical Staff
 - ◆ Support Personnel
 - ◆ Outreach/Education
 - ◆ Facilities, Equipment & Supplies
 - ◆ Function
 - ◆ Patient Types
 - ◆ Transport & Regional Cooperation
 - ◆ Quality Improvement
 - ◆ Policy/Procedure

*Areas which have been left blank – have no information in the source documents.

**Standards of care in specialty units are in addition to those in basic care; Standards of care in subspecialty units are in addition to those in basic care and specialty care.

History of Toolkit

<i>Contributors</i>	<i>Source Documents</i>	<i>Date of Production</i>
<ul style="list-style-type: none"> ♦ Low Birth Weight Work Group of Region 6 Combined ♦ Community Perinatal Network ♦ Kaiser Permanente, Southern California ♦ Regional Perinatal Outreach Program, Long Beach Memorial Medical Center ♦ South Bay Perinatal Access Project ♦ The Perinatal Advisory Council of Los Angeles Communities 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 3rd edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 1992. ♦ <i>Toward Improving the Outcome of Pregnancy: The 90s and Beyond (TIOP II)</i>. March of Dimes Birth Defects Foundation, 1993. ♦ <i>California Code of Regulation, Title 22: Social Security, Volume 28, Revised, April 1, 1990</i>. Barclays Law Publishers, South San Francisco, CA. ♦ State of California, Department of Health Services, California Children Services (CCS). Bulletin 87-30, Chapter 3, Section 3.25: <i>Standards for Neonatal Intensive Care Units (NICU)</i>, Section 3.34: <i>Neonatal Surgery</i>, Section 3.35: <i>ECMO Standards</i>, issued February 15, 1988. ♦ <i>Regional Perinatal Plan. (1993): Unit Level Criteria</i>. Kaiser Permanente, Southern California. ♦ <i>Guidelines For Pediatric Interfacility Transport Programs</i>, February, 1994 	Original Tool Developed in 1994
<ul style="list-style-type: none"> ♦ Regional Perinatal Outreach Program, Long Beach Memorial Medical Center <i>Nancy Davey, RN, BSN, PHN</i> <i>Gisela Nilly, RN, MN</i> ♦ Community Perinatal Network <i>D. Lisa Bollman, RNC, CPHQ</i> 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 4th edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 1997. ♦ <i>California Code of Regulation, Title 22: Social Security, Volume 28, Revised, November 29, 1996</i>. Barclays Law Publishers, South San Francisco, CA. 	Updated 1998
<ul style="list-style-type: none"> ♦ Community Perinatal Network <i>D. Lisa Bollman, RNC, MSN, CPHQ</i> 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 5^h edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 1997. ♦ <i>California Code of Regulation, Title 22: Social Security, Volume 28, Revised, November 29, 1996</i>. Barclays Law Publishers, South San Francisco, CA. ♦ <i>California Children's Services Manual of Procedures</i>. Chapter 3 – Provider Standards. Issued: 1/1/99. ♦ <i>Guidelines For Pediatric Interfacility Transport Programs</i>, February, 1994 	2003

History of Toolkit

<i>Contributors</i>	<i>Source Documents</i>	<i>Date of Production</i>
<ul style="list-style-type: none"> ♦ Community Perinatal Network <i>D. Lisa Bollman, RNC, MSN, CPHQ</i> ♦ Mid-Coastal California Perinatal Outreach Program <i>Barbara Murphy, RN, MSN</i> ♦ Regional Perinatal System of San Diego & Imperial Counties <i>Lisa Cardenas, MHA, CPHQ</i> <i>Lizette Lozano</i> 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 5th edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 2002. ♦ <i>California Code of Regulation, Title 22: Social Security</i>, Volume 28, Revised, November 29, 1996. Barclays Law Publishers, South San Francisco, CA. ♦ <i>California Children’s Services Manual of Procedures</i>. Chapter 3 – Provider Standards. Issued: 1/1/99. 	2004
<ul style="list-style-type: none"> ♦ Community Perinatal Network <i>Kevin Van Otterloo, MPA</i> <i>D. Lisa Bollman, RNC, MSN, CPHQ</i> 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 5th edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 2002. ♦ <i>California Code of Regulation, Title 22: Social Security</i>, Volume 28, Revised, November 29, 1996. Barclays Law Publishers, South San Francisco, CA. ♦ <i>California Children’s Services Manual of Procedures</i>. Chapter 3 – Provider Standards. Issued: 1/1/99. ♦ <i>Guidelines For Pediatric Interfacility Transport Programs</i>, February, 1994 	2007
<ul style="list-style-type: none"> ♦ North Coast Perinatal Access System <i>Suzanne Cervantes, RN, MS</i> <i>Shilu Ramchand, RN</i> 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 6th edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 2007. ♦ <i>California Code of Regulation, Title 22: Social Security</i>, Volume 28, Revised, November 29, 1996. Barclays Law Publishers, South San Francisco, CA. ♦ <i>California Children’s Services Manual of Procedures</i>. Chapter 3 – Provider Standards. Issued: 1/1/99. ♦ <i>Guidelines For Pediatric Interfacility Transport Programs</i>, February, 1994 	2008
<ul style="list-style-type: none"> ♦ Community Perinatal Network <i>D. Lisa Bollman, RNC, MSN, CPHQ</i> <i>Katherine A. Cross, BS</i> ♦ Northeastern California Perinatal Outreach Program <i>Kristi Gabel, RNC-OB, MSN, CNS</i> ♦ Southeastern Los Angeles Perinatal Program <i>Cathy Fagen, RD</i> <i>Katina Kraniak, RN</i> 	<ul style="list-style-type: none"> ♦ <i>Guidelines for Perinatal Care</i>. 6th edition. American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG), 2007. ♦ <i>California Code of Regulation, Title 22: Social Security</i>, Volume 28, Revised, November 29, 1996. Barclays Law Publishers, South San Francisco, CA. ♦ <i>California Children’s Services Manual of Procedures</i>. Chapter 3 – Provider Standards. Issued: 1/1/99. ♦ <i>Guidelines For Pediatric Interfacility Transport Programs</i>, February, 1994 ♦ California Building Code, Title 24, 2007 ♦ <i>Toward Improving the Outcome of Pregnancy:</i> <ul style="list-style-type: none"> ♦ Recommendations for the Regional Development of Perinatal Health Services (TIOP I-1975) ♦ <i>The 90s and Beyond (TIOP II– 1993)</i>. ♦ <i>Enhancing Perinatal Health Thought Quality, Safety and Performance Initiatives (TIOP III-2010)</i> ♦ March of Dimes Birth Defects Foundation. 	2011

Perinatal Services Antepartum Care

Basic



Perinatal Services Antepartum Care (Basic)

Definition:

ACOG/AAP

- Surveillance and care of all patients admitted to the obstetric service, with an established triage system for identifying high-risk patients who should be transferred to a facility that provides specialty or subspecialty care.
- Proper detection and initial care of unanticipated maternal-fetal problems that occur during labor and delivery.
- Capability to begin an emergency cesarean delivery within 30 minutes of the decision to do so (see “Preface” and “Cesarean Delivery” in Chapter 5)
- Availability of appropriate anesthesia, radiology, ultrasound, laboratory, and blood bank services on a 24-hour basis.
- Care of postpartum conditions.
- Resuscitation and stabilization of all neonates born in the hospital.
- Evaluation and continuing care of healthy neonates in a nursery or with their mothers until discharge.
- Adequate nursery facilities and support for stabilization of small or ill neonates before transfer to a specialty or subspecialty facility
- Consultation and transfer arrangements
- Accommodations and policies that allows families, including their other children, to be together in the hospital following the birth of an infant
- Data collection, storage, and retrieval
- Quality improvement programs, including efforts to maximize patient safety (pg. 11)

Personnel/Staff

ACOG/AAP

- The presence of one or more registered nurses or licensed practical nurses with demonstrated knowledge and clinical competence in the nursing care of mothers, fetuses, and newborns during labor, delivery and the postpartum and neonatal period is suggested. (pg. 30)

Registered Nurse/Patient Ratio

1:6 Antepartum/postpartum patients without complications.

1:3 Antepartum/ postpartum patients with complications but in stable condition.

1:2 Patients in postoperative recovery.

1:4 Newborns of those requiring close observation (pg. 29)

Title 22

- All patients shall be attended by a physician or licensed nurse when under the effect of anesthesia or regional anesthesia, when in active labor, during delivery or in the immediate period. [70547(j)]
- There shall be a RN on duty on each shift assigned to the L&D suite. In addition, there shall be sufficient trained personnel to assist the family, monitor and evaluate labor and assist with delivery. [70549 (a) (3-c)]



Perinatal Services Antepartum Care (Basic)

Registered Nurse

ACOG/AAP

- ♦ Perinatal nursing care at a basic care facility should be under the direction of a registered nurse. (pg. 28)

Title 22

- ♦ A registered nurse trained in infant resuscitation shall be on duty on each shift. [70549 (e)(1)]
- ♦ There shall be one registered nurse on duty for each shift assigned to the antepartum and postpartum areas. [70549 ©]

Advanced Practice Nurse

ACOG/AAP

- ♦ A qualified physician or certified nurse-midwife should attend all deliveries. (pg. 21)

Management

ACOG/AAP

- ♦ The perinatal care program at a hospital providing basic care should be coordinated jointly by the chiefs of the obstetric, pediatric, nursing, and midwifery services. This administrative approach requires close coordination and unified policy statements. In hospitals that do not separate these services, one person may be given the responsibility for coordinating perinatal care. (pg. 21)

Title 22

- ♦ A physician shall have overall responsibility of the unit. This physician shall be certified or eligible for certification by the American Board of Obstetrics and Gynecologists or the American Board of Pediatrics. [70549 (a)]
- ♦ If a physician with one of the above qualifications is not available, a physician with training and experience in obstetrics and gynecology or pediatrics may administer the service. In this circumstance, a physician with the above qualifications shall provide consultation at a frequency which will assure high quality service. He shall be responsible for:
 - Providing continuous obstetric, pediatric, anesthesia, laboratory and radiologic coverage.
 - Maintaining working relationships with intensive care newborn nursery.
 - Providing for joint staff conferences and continuing education of respective medical specialties.
- ♦ A physician who is certified or eligible for certification by the American Board of Pediatrics shall be responsible for the nursery. [70549 (a)]

Staff

AAP/ACOG

- ♦ A qualified physician or certified nurse-midwife should attend all deliveries. (pg. 21)



Perinatal Services Antepartum Care (Basic)

Sub-specialty Anesthesia

AAP/ACOG

- ♦ Anesthesia personnel with credentials to administer obstetric anesthesia should be available on a 24-hour basis. (pg. 22)

Support Personnel

AAP/ACOG

- ♦ Personnel who are capable of determining blood type, cross-matching blood, and performing antibody testing should be available on a 24-hour basis.
- ♦ The hospital's infection control personnel should be responsible for surveillance of infections in women and neonates as well as for the development of an appropriate environmental control program.
- ♦ A radiologic technician should be readily available 24 hours per day to perform portable X-rays. (pg. 33)

Outreach/ Education

AAP/ACOG

- ♦ Medical and nursing staff of any hospital should be knowledgeable about current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed. (pg. 34)

Title 22

- ♦ In addition, there shall be sufficient trained personnel to assess and provide care, assist the family and provide family education. [70549 (d)]
- ♦ There shall be evidence of continuing education and training programs for the nursing staff in perinatal nursing and infection control. [70549 (f)]

Facilities, Equipment & Supplies

AAP/ACOG

- ♦ The physical facilities in which perinatal care is provided should be conducive to care that meets the unique physiologic and psychosocial needs of parents, neonates, and families. (pg. 42)
- ♦ Labor, delivery, and newborn care facilities should be located in close proximity to each other. When these facilities are distant from each other, provisions should be made for appropriate transitional areas. (pg. 42)
- ♦ The patient's personal needs, as well as those of her newborn and family, should be considered when obstetric service units are planned. (pg. 42)
- ♦ The service should be consolidated in a designated area that is physically arranged to prohibit unrelated traffic through the service units. (pg. 42)



Perinatal Services Antepartum Care (Basic)

Facility, Equipment & Supplies

Title 22

- ♦ At least one labor room – minimum of 9.3 square meters – (100 square feet) (not included in licensed bed capacity) and contain no more than 2 beds. [70553 (b)(1-3)]
- ♦ Labor rooms shall contain at least the following equipment:
 - Oxygen and suction outlets.
 - Bed with adjustable side rails.
 - Foot stool, one or more comfortable chairs.
 - Hand-washing facilities and toilet to be shared by no more than 2 patients.
 - Adjustable exam light.
 - Sphygmomanometer.
 - Regular and fetal stethoscope. [70551 (c)(1-5)]

Title 24

1224.32 OBSTETRICAL FACILITIES (PERINATAL UNIT SPACE)

1224.32.1 General. The obstetrical facility, including cesarean operating room(s) and delivery room(s), shall be located and designed to prohibit nonrelated traffic through the unit.

1224.32.2 Antepartum and postpartum unit

1224.32.2.1 Patient bedrooms. Antepartum and postpartum bedrooms shall comply with Section 1224.14.1.

1224.32.2.2 Service areas. Shall be provided in accordance with Section 1224.14.2 with the following additions:

Staff lounge.

Staff storage. Lockable closets or cabinets for personal articles of staff.

Consultation conference room(s).

Multipurpose Rooms for staff , patients, families, trainings.

Examination Rooms

Clean Utility room

Soiled workroom or soiled holding room.

Medication station.

Self-contained medicine dispensing unit

Clean linen storage

Nourishment area.

Ice machine

Equipment

Gurneys and wheelchairs.

Showers and bathtubs.

Patient toilet rooms

Emergency equipment storage

Housekeeping room

Function

AAP/ACOG

- ♦ The obstetric facility should have the following components of maternity and newborn care:
 - Antepartum care for patient stabilization or hospitalization before labor.
 - Fetal diagnostic testing, (eg. non-stress and contraction stress testing, biophysical



Perinatal Services Antepartum Care (Basic)

profile, amniocentesis, and ultrasound examinations).

- Labor observation and evaluation for patients who are not yet in active labor or who must be observed to determine whether labor has actually begun; hospital obstetric services should develop a casual, comfortable area (“false-labor lounge”) for patients in prodromal labor.
- Labor
- Delivery
- Postpartum maternal and newborn care (pg. 42-43)

Title 22

- ♦ Hospital shall have capability for operative delivery including C/S at all times. [70547 (e)]
- ♦ A perinatal unit means a maternity and newborn service of the hospital for the provision of care during pregnancy, labor, delivery, postpartum and neonatal periods with appropriate staff, space, equipment and supplies. [70545]
- ♦ A perinatal unit shall provide:
 - Care for the patient during pregnancy, labor, delivery and the postpartum period.
 - Care for the normal infant and the infant with abnormalities which usually do not impair function or threaten life.
 - Care for mothers and infants needing emergency or immediate life-support measures to sustain life up to 12 hours or to prevent major disability. [70547 (a)(1-3)]



Perinatal Services Antepartum Care (Basic)

Transport & Regional Cooperation

AAP/ACOG

- ♦ One of the goals of regionalized perinatal care is for women and neonates at high risk to receive care in facilities that provide the required level of specialized care. Because all hospitals cannot provide all levels of perinatal care, inter-hospital transport of pregnant women and neonates is an essential component of a regionalized perinatal system. It is accepted medical practice to transfer a neonate to a hospital able to provide the services needed or anticipated to be needed if the birth hospital cannot provide the level of service. Similarly, women who are at risk for complication that pose significant risk for adverse outcomes whose neonates are likely to require intensive support should be considered candidates for referral during the antepartum period. Neonates born to women transported during the antepartum period have better survival rates and decreased risks of long-term sequelae than those who are transferred after birth. Because of the recent focus and interpretation of the Emergency Medical Treatment and Labor Act (EMTALA) and the accepted need for interhospital transport of women, both facilities and professionals providing health care to the pregnant women need to understand their obligation to the law. (pg. 67)
- ♦ Interhospital transport should be considered if the necessary resources or personnel for optimal patient outcomes are not available at the facility currently providing care. The resources available at both the referring and the receiving hospitals should be considered. The risks and benefits of the transport, as well as the risks and benefits associated with not transporting the patient should be assessed. Transport may be undertaken if the physician determines that the well being of either the woman or the fetus or the newborn will not be adversely affected or that the benefits of transfer outweigh the foreseeable risks. The staff of the referring hospital should consult with the receiving as soon as the need for transport of a woman or her neonate is considered. (pg. 76)

Title 22

- ♦ Formal arrangements for consultation and/or transfer of an infant to an intensive care newborn nursery, or a mother to a hospital with the necessary services, for problems beyond the capability of the perinatal unit. [70547 (a)(4)]

Policy/Procedure

AAP/ACOG

- ♦ Written policies and procedures for the management of pregnant patients seen in the emergency department or admitted to nonobstetric services should be established and approved by the medical staff and must comply with the requirements of federal and state transfer laws. When warranted by patient volume, a high-risk antepartum care unit should be developed to provide specialized nursing care and facilities for the mother and the fetus at risk. When this is not feasible, written policies are recommended that specify how the care and transfer of pregnant patients with obstetric, medical, or surgical complications will be handled and where these patients will be assigned. (pg. 127)
- ♦ Obstetric and nursery personnel, as well as others who have significant contact with newborns, should be as free of transmissible infectious diseases as possible. Each hospital should establish written policies and procedures for assessing the health of personnel assigned to perinatal care services, restricting their contact with patients when necessary, maintaining their health records, and requiring staff to report any illness they may have. These policies and procedures should address screening for immunity to measles, rubella, mumps, varicella-zoster virus, HBV, pertussis, tetanus, diphtheria, and tuberculosis. (pg. 352)

Perinatal Services Antepartum Care Specialty



Perinatal Services Antepartum Care (Specialty)

Definition

ACOG/AAP

- ♦ Provision of basic care services as described previously, and in addition, provision of the following enhanced services:
 - Care of appropriate high-risk women and fetuses, both admitted and transferred from other facilities.
 - Stabilization of severely ill newborns before transfer.
 - Treatment of moderately ill larger preterm and term newborns. (pg. 11)
- ♦ Care in a specialty level facility should be reserved for stable or moderately ill newborns that have problems that are expected to resolve rapidly and that would not be anticipated to need subspecialty level services on an urgent basis. These situations usually occur as a result of relatively uncomplicated preterm labor or preterm rupture of membranes at approximately 32 weeks of gestation or later. (pg. 10)
- ♦ Currently, some hospital with specialty level obstetric services also provides some elements of neonatal intensive care; such disproportionate service capability is not encouraged. In particular, the availability of pediatric subspecialty, such as pediatric cardiology, pediatric surgery, pediatric anesthesiology and pediatric radiology, may be limited. Each hospital should have a clear understanding of the categories of perinatal patients that can be managed appropriately in the local facility and those that should be transferred to a higher level facility. Preterm labor and impending delivery at less than 32 weeks of gestation usually warrant maternal transfer to a subspecialty (level III) center. Infants whose mothers cannot be transferred before delivery usually should be transferred after stabilization following delivery. (pg. 10-12)

Personnel/Staff

ACOG/AAP

Registered Nurse/Patient Ratio

- 1:6 Antepartum/postpartum patients without complications.
- 1:3 Antepartum/ postpartum patients with complications but in stable condition.
- 1:2 Patients in postoperative recovery.
- 1:4 Newborns of those requiring close observation. (pg. 29)

Nurse Manager

ACOG/AAP

- ♦ Specialty care hospitals should have a director of perinatal and neonatal nursing services who has overall responsibility for inpatient activities in the respective obstetric and neonatal areas. This registered nurse should have demonstrated expertise in obstetric or neonatal care. (pg 31)

Registered Nurse

ACOG/AAP

- ♦ A registered nurse with advanced training and experience in routine and high risk obstetric care should be assigned to the labor and delivery area at all times. In the post partum period, a registered nurse should be responsible for providing support for women and families with newborns who require intensive care and for facilitating visitation and communication with the NICU.(pg. 31)



Perinatal Services Antepartum Care (Specialty)

Advance Practice Nurse

ACOG/AAP

- ♦ Advance practice neonatal nurse is prepared, according to nationally recognized standards, by the completion of an educational program of study and supervised practice beyond the level of basic nursing. As of January 1, 2000, this preparation must include the attainment of a master's degree in the nursing specialty. Graduates from previous years who are currently credentialed advance practice neonatal nurse or certificate prepared (nongraduate) neonatal nurse practitioners should be allowed to maintain their practice and are encouraged to complete a formal graduate education. (pg.26)

Medical Staff

ACOG/AAP

- ♦ A board certified obstetrician-gynecologist with special interest, experience, and, in some situations, a subspecialty in maternal-fetal medicine, should be chief of the obstetric service at a specialty care hospital. (pg. 23)
- ♦ The hospital staff should also include a radiologist and a clinical pathologist who are available 24 hours per day. Specialized medical and surgical consultation also should be available. (pg. 23)

Sub-Specialty Anesthesia

ACOG/AAP

- ♦ The director of obstetric anesthesia services should be board certified in anesthesia and should have training and experience in obstetric anesthesia. Anesthesia personnel with privileges to administer obstetric anesthesia should be available according to hospital policy. (pg. 23)

Support Personnel

ACOG/AAP

- ♦ At least one full-time, master's degree level, medical social worker for every 30 beds who has experience with socioeconomic and psychosocial problems of both women and fetuses at high risk, ill neonates and their families. Additional medical social workers are required when there is a high volume of medical or psychosocial activity.
- ♦ At least one occupational or physical therapist with neonatal expertise.
- ♦ At least one individual skilled in evaluation and management of the neonatal feeding and swallowing disorders (eg, speech-language pathologist)
- ♦ At least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the needs of both women with neonates at high-risk
- ♦ Qualified personnel for support services, such as laboratory studies, radiologic studies, and ultrasound examinations (these personnel should be available 24 hours per day)
- ♦ Respiratory therapists or nurses with special training who can supervise the assisted ventilation of neonates with cardiopulmonary disease
- ♦ Pharmacy personnel with pediatric expertise who can work to continually review their systems and process of medication administration to ensure that patient care policies are maintained
- ♦ Personnel skilled in pastoral care, available as needed (pg. 33-34)



Perinatal Services Antepartum Care (Specialty)

Outreach/Education

ACOG/AAP

- Medical and nursing staff of any hospital should be knowledgeable about current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed. (pg. 34)

Transport and Regional Cooperation

ACOG/AAP

- One of the goals of regionalized perinatal care is for women and neonates at high risk to receive care in facilities that provide the required level of specialized care. Because all hospitals cannot provide all levels of perinatal care, interhospital transport of pregnant women and neonates is an essential component of a regionalized perinatal system. It is accepted medical practice to transfer a neonate to a hospital able to provide the services needed or anticipated to be needed if the birth hospital cannot provide the level of service. Similarly, women who are at risk for complication that pose significant risk for adverse outcomes whose neonates are likely to require intensive support should be considered candidates for referral during the antepartum period. Neonates born to women transported during the antepartum period have better survival rates and decreased risks of long-term sequelae than those who are transferred after birth. Because of the recent focus and interpretation of the Emergency Medical Treatment and Labor and Labor Act (EMTALA) and the accepted need for interhospital transport of women, both facilities and professionals providing health care to the pregnant women need to understand their obligation to the law. (pg. 67)
- Interhospital transport should be considered if the necessary resources or personnel for optimal patient outcomes are not available at the facility currently providing care. The resources available at both the referring and the receiving hospitals should be considered. The risks and benefits of the transport, as well as the risks and benefits associated with not transporting the patient should be addressed. Transport may be undertaken if the physician determines that the well being of either the woman or the fetus would not be adversely affected or that the benefits of transfer outweigh the foreseeable risks. The staff of the referring hospital should consult with the receiving as soon as the need for transport of a woman or her neonate is considered. (pg. 76)



Perinatal Services Antepartum Care (Specialty)

Policy/Procedure

ACOG/AAP

- ♦ Written policies and procedures for the management of pregnant patients seen in the emergency department or admitted to nonobstetric services should be established and approved by the medical staff and must comply with the requirements of federal and state transfer laws. When warranted by patient volume, a high-risk antepartum care unit should be developed to provide specialized nursing care and facilities for the mother and the fetus at risk. When this is not feasible, written policies are recommended that specify how the care and transfer of pregnant patients with obstetric, medical, or surgical complications will be handled and where these patients will be assigned. (pg. 127)
- ♦ Obstetric and nursery personnel, as well as others who have significant contact with newborns, should be as free of transmissible infectious diseases as possible. Each hospital should establish written policies and procedures for assessing the health of personnel assigned to perinatal care services, restricting their contact with patients when necessary, maintaining their health records, and requiring staff to report any illness that they may have. These policies and procedures should address screening for immunity to measles, rubella, mumps, varicella-zoster virus, HBV, pertussis, tetanus, diphtheria, and tuberculosis. (pg. 352)

Perinatal Services Antepartum Care

Subspecialty



Perinatal Services Antepartum Care (Subspecialty)

Definition

ACOG/AAP

- ♦ Provision of comprehensive perinatal care services for both directly admitted and transferred women and neonates of all risk categories, including basic and specialty care services as described previously. (pg. 12)
- ♦ Evaluation of new technologies and therapies. (pg. 12)
- ♦ Provision of comprehensive perinatal health care services at and above those of subspecialty care facilities
- ♦ Responsibility for regional prenatal health care service organization and coordination, including the following areas:
 - Maternal and neonatal transport
 - Regional outreach support and education programs
 - Development and initial evaluation of new technologies and therapies
 - Training of health care providers with specialty and subspecialty qualifications and capabilities
 - Analysis and evaluation of regional data, including those on perinatal complications and outcomes (pg. 12)

CCS

- ♦ The services provided by subspecialty care facility vary markedly from those at a specialty facility. Subspecialty care services include expertise in neonatal and maternal-fetal medicine. Both usually are required for management of pregnancies with threatened maternal complications at less than 32 weeks of gestation. Fetuses that may require immediate complex care should be delivered at a subspecialty care center. (pg. 11)
- ♦ In circumstances where subspecialty level maternal care is needed, the level of care subsequently needed by the neonate may prove to be at the basic or specialty level. It is difficult to predict accurately all neonatal risk outcomes before birth. Appropriate assessment and consultation should be used, considering the potential risks of the women as well. (pg. 12)

Personnel/Staff

ACOG/AAP

Registered Nurse/Patient Ratio

1:6 Antepartum/postpartum patients without complications.

1:3 Antepartum/ postpartum patients with complications but in stable condition.

1:2 Patients in postoperative recovery.

1:4 Newborns of those requiring close observation (pg. 29)

Nurse Manager

ACOG/AAP

- ♦ The director of perinatal and neonatal nursing services at a level III (subspecialty) hospital should have overall responsibility for inpatient activities in the maternity-newborn care units. This registered nurse should have experience and training in obstetric or neonatal nursing or both, as well as in the care of patients at high risk. Preferably, this individual has an advanced degree. (pg. 32)



Perinatal Services Antepartum Care (Subspecialty)

Registered Nurse

ACOG/AAP

- ♦ For antepartum care, a registered nurse should be responsible for the direction and supervision of nursing care. All nurses working with high-risk antepartum patients should have evidence of continuing education in maternal-fetal nursing. (pg. 32)

Advance Practice Nurse

ACOG/AAP

- ♦ An APN who has been educated and prepared at the master's level should be on staff to coordinate education. (pg. 32)

Management

ACOG/AAP

- ♦ Ideally, the director of the maternal-fetal medicine service of a hospital providing subspecialty care should be a full time, board certified obstetrician with subspecialty certification in maternal-fetal medicine. (pg. 24)

Medical Staff

ACOG/AAP

- ♦ Other maternal-fetal medicine specialists and neonatologists who practice in the subspecialty care facility should have qualifications similar to those of the chief of their service. A maternal-fetal medicine specialist and a neonatologist should be readily available for consultation 24 hours per day. Personnel qualified to manage obstetric or neonatal emergencies should be in-house. (pg. 24)

Sub-specialty Anesthesia

ACOG/AAP

- ♦ A board-certified anesthesiologist with special training or experience in maternal-fetal anesthesia should be in charge of obstetric anesthesia services at a level III (subspecialty) care hospital. Personnel with privileges in the administration of obstetric anesthesia should be available in the hospital 24 hours per day. (pg. 25)



Perinatal Services Antepartum Care (Subspecialty)

Support Personnel

ACOG/AAP

- ♦ At least one full-time, master's degree level, medical social worker for every 30 beds who has experience with socioeconomic and psychosocial problems of both women and fetuses at high risk, ill neonates and their families. Additional medical social workers are required when there is a high volume of medical or psychosocial activity.
- ♦ At least one occupational or physical therapist with neonatal expertise.
- ♦ At least one individual skilled in evaluation and management of neonatal feeding and swallowing disorders (eg, speech-language pathologist)
- ♦ At least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the needs of both women and neonates at high-risk
- ♦ Qualified personnel for support services, such as laboratory studies, radiologic studies, and ultrasound examinations (these personnel should be available 24 hours per day)
- ♦ Respiratory therapists who can supervise the assisted ventilation of neonates with cardiopulmonary disease.
- ♦ Pharmacy personnel with pediatric expertise who can work to continually review their systems and process of medication administration to ensure that patient care policies are maintained.
- ♦ Personnel skilled in pastoral care, available as needed (pg. 34)

Outreach/Education

ACOG/AAP

- ♦ Medical and nursing staff of any hospital should be knowledgeable about current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed.
- ♦ The staff of regional centers should be capable of assisting with the in-service programs of other hospitals in their region on a regular basis. Such assistance should include periodic visits to those hospitals, as well as periodic review of the quality of patient care provided by those hospitals. Regional center staff should be accessible for consultation at all times. The medical and nursing staff hospitals providing level II (specialty) and level III (subspecialty) care should participate in formal courses or conferences. (pg. 34)



Perinatal Services Antepartum Care (Subspecialty)

Transport & Regional Cooperation

ACOG/AAP

- ♦ To ensure optimal care of high-risk patients, the following components should be part of a regional referral program:
 - Formal transfer arrangements between participating hospitals that clearly outline the responsibilities of each facility
 - A method of risk identification and assessment of problems that are expected to benefit from consultation and transport
 - Assessment of the perinatal capabilities and determination of conditions necessitating consultation, referral, or transfer by the medical staff of each participating hospital
 - Resource management to maximize efficiency, effectiveness, and safety
 - Adequate financial and personnel support
 - A reliable, accurate, and comprehensive communication system between participating hospitals and transport teams
 - Determination of responsibility for each of these functions. (pg. 69)
- ♦ An interhospital transport program should provide 24-hour service. It should include a receiving or program center responsible for ensuring that high-risk patients receive the appropriate level of care, a dispatching unit to coordinate the transport of patients between facilities, an appropriately equipped transport vehicle, and a specialized transport team.
- ♦ If the transport is done by the referring hospital, the referring physician and hospital retain responsibility until the transport team arrives with the patient at the receiving hospital. If the transport team is sent by the receiving hospital, the receiving physician or designee assumes responsibility for patient care from the time the patient leaves the referring hospital. (pg. 69)

Policy/Procedure

ACOG/AAP

- ♦ Written policies and procedures for the management of pregnant patients seen in the emergency department or admitted to nonobstetric services should be established and approved by the medical staff and must comply with the requirements of federal and state transfer laws. When warranted by patient volume, a high-risk antepartum care unit should be developed to provide specialized nursing care and facilities for the mother and the fetus at risk. When this is not feasible, written policies are recommended that specify how the care and transfer of pregnant patients with obstetric, medical, or surgical complications will be handled and where these patients will be assigned. (pg. 127)
- ♦ Obstetric and nursery personnel, as well as others who have significant contact with newborns, should be as free of transmissible infectious diseases as possible. Each hospital should establish written policies and procedures for assessing the health of personnel assigned to perinatal care services, restricting their contact with patients when necessary, maintaining their health records, and requiring staff to report any illness that they may have. These policies and procedures should address screening for immunity to measles, rubella, mumps, varicella-zoster virus, HBV, pertussis, tetanus, diphtheria, and tuberculosis. (pg. 352)

Perinatal Services Intrapartum Care

Basic



Perinatal Services Intrapartum Care (Basic)

Personnel/Staff

ACOG/AAP

- ♦ Intrapartum care requires the same labor intensiveness and expertise as any other intensive care and, accordingly, perinatal units should have the same adequately trained personnel and fiscal support. (pg. 25)
- ♦ The presence of one or more registered nurses or licensed practical nurses with demonstrated knowledge and clinical competence in the nursing care of mothers, fetuses, and newborns during labor, delivery and the postpartum and neonatal period is suggested. (pg. 30)

Registered Nurse/Patient Ratio

- 1:2 Patients in labor.
- 1:1 Patients in second stage of labor.
- 1:1 Patients with medical or obstetric complications.
- 1:2 Oxytocin induction or Augmentation of labor.
- 1:1 Coverage for initiating epidural anesthesia.
- 1:1 Circulation for cesarean delivery. (pg. 29)

Nurse Manager

ACOG/AAP

- ♦ Perinatal nursing care at the basic care facility should be under the direction of a registered nurse. (pg. 28)

Registered Nurse

ACOG/AAP

- ♦ Intrapartum care should be under the direct supervision of a registered nurse. Responsibilities of the registered nurse include initial evaluation and admission of patients in labor; continuing assessment and evaluation of patients in labor, including checking the status of the fetus, recording vital signs, observing the fetal heart rate, performing obstetric examinations, observing uterine contractions, and supporting the patient; determining the presence or absence of complications; supervising the performance of nurses with less training and experience and of ancillary personnel; and staffing of the delivery room at the time of delivery. (pg. 30)

Advance Practice Nurses

ACOG/AAP

- ♦ A qualified physician or certified nurse midwife should attend all deliveries (pg. 21)
- ♦ A *neonatal nurse practitioner (NNP)* is a registered nurse with clinical experience in neonatal nursing who has obtained a master's degree or completed an educational program of study and supervised practice beyond the level of basic nursing in the specialty with supervised clinical experience in the management of newborns and their families. These nurses manage a caseload of neonatal patient with consultation, collaboration, and medical supervision. Using their acquired knowledge of pathophysiology, pharmacology, and physiology, NNPs exercise independent judgment in the assessment and diagnosis of infants and in the performance of certain delegated procedures. (pg. 26)



Perinatal Services Intrapartum Care (Basic)

Advance Practice Nurses

ACOG/AAP

- ♦ A qualified physician or certified nurse midwife should attend all deliveries (pg. 21)
- ♦ A *neonatal nurse practitioner (NNP)* is a registered nurse with clinical experience in neonatal nursing who has obtained a master's degree or completed an educational program of study and supervised practice beyond the level of basic nursing in the specialty with supervised clinical experience in the management of newborns and their families. These nurses manage a caseload of neonatal patient with consultation, collaboration, and medical supervision. Using their acquired knowledge of pathophysiology, pharmacology, and physiology, NNPs exercise independent judgment in the assessment and diagnosis of infants and in the performance of certain delegated procedures. (pg. 26)

Management

ACOG/AAP

- ♦ The perinatal care program at a hospital providing basic care should be coordinated jointly by the chiefs of the obstetric, pediatric, nursing, and midwifery services. This administrative approach requires close coordination and unified policy statements. In hospitals that do not separate these services, one person may be given the responsibility for coordinating perinatal care. (pg. 21)

Staff

ACOG/AAP

- ♦ A qualified physician or certified nurse midwife should attend all deliveries (pg. 21)
- ♦ At least one person whose primary responsibility is for the newborn and who is capable of initiating neonatal resuscitation should be present at every delivery. (pg 22)

Sub-specialty Anesthesia

ACOG/AAP

- ♦ Anesthesia personnel with credentials to administer obstetric anesthesia should be available on a 24-hour basis. (pg 22)

Support Personnel

- ♦ A licensed practical nurse or nurse assistant, supervised by a registered nurse, may provide support to the mother and attend to her personal comfort. (pg. 30)
- ♦ Personnel who are capable of determining blood type, cross-matching blood, and performing antibody testing should be available on a 24-hour basis.
- ♦ The hospital's infection control personnel should be responsible for surveillance of infections in women and neonates as well as for the development of an appropriate environmental control program.
- ♦ A radiologic technician should be readily available 24 hours per day to perform portable X-rays.
- ♦ Availability of a postpartum-care provider with expertise in lactation is essential. (pg. 33)



Perinatal Services Intrapartum Care (Basic)

Outreach/Education

ACOG/AAP

- ♦ Medical and nursing staff of any hospital should be knowledgeable about current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed. (pg. 34)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Areas used for women in labor should have the following equipment:
 - Sterilization equipment (if there is no central sterilization equipment)
 - X-ray view box
 - Stretchers with side rails
 - Equipment for pelvic examinations
 - Emergency drugs
 - Suction apparatus, either operated from a wall outlet or portable equipment
 - Cardiopulmonary resuscitation cart (maternal & neonatal)
 - Protective gear for personnel exposed to body fluids
 - Warming cabinets for solutions and blankets
 - A labor or birthing bed and a footstool
 - A storage area for the patient's clothing and personal belongings
 - Sufficient work space for information management systems
 - One or more comfortable chairs
 - Adjustable lighting that is pleasant for the patient and adequate for examinations
 - An emergency signal and intercommunication system
 - Adequate ventilation and temperature control
 - An equipment to measure and monitor blood pressure
 - Mechanical infusion equipment
 - Fetal monitoring equipment
 - Oxygen outlets
 - Access to at least one shower for use by patients in labor
 - A writing surface for medical records, computer hookup for medical record purposes, or both
 - Storage facilities for supplies and equipment (pg. 44-45)



Perinatal Services Intrapartum Care (Basic)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Each delivery room should be maintained as a separate unit that has the following equipment & supplies necessary for normal delivery and for the management of complications:
 - Birthing bed that allows variations in position for delivery
 - Instrument table and solution basin stand
 - Instruments and equipment for vaginal delivery, repair for lacerations
 - Solutions and equipment for the intravenous administration of fluids
 - Equipment for administration of all types of anesthesia, including equipment for emergency resuscitation of the patient
 - Individual oxygen, air, and suction outlets for the mother and her neonate
 - An emergency call system
 - Good lighting
 - Mirrors for patients to observe the birth (optional)
 - Wall clock with a second hand
 - Equipment for fetal heart rate monitoring
 - Neonatal resuscitation and stabilization unit
 - Scrub sinks strategically placed to allow observation of the patient
- ♦ Trays containing drugs and equipment necessary for emergency treatment of both the patient and the neonate
- ♦ Equipment necessary for the treatment of cardiopulmonary resuscitation should also be easily accessible (pg. 46)
- ♦ The physical facilities in which perinatal care is provided should be conducive to care that meets the unique physiologic and psychosocial needs of parents, neonates, and families. (pg. 42)
- ♦ Labor, delivery, and newborn care facilities should be located in close proximity to each other. When these facilities are distant from each other, provisions should be made for appropriate transitional areas. (pg. 42)
- ♦ The labor and delivery area should be used for non-obstetric patients only during periods of low occupancy. (pg. 44)
- ♦ The room provided for a woman in labor should be private. Each woman should have access to a private toilet and hand-washing in her room. Ideally, each room should have a shower or bathtub and a window. (pg. 44)
- ♦ The patient's personal needs, as well as those of her newborn and family should be considered when obstetric service units are planned. (pg. 42)
- ♦ The service should be consolidated in a designated area that is physically arranged to prohibit unrelated traffic through the service units. (pg. 42)



Perinatal Services Intrapartum Care (Basic)

Facility, Equipment &

Supplies

ACOG/AAP

- ♦ The obstetric facility should incorporate the following components of maternity and newborn care:
 - Antepartum care for patient stabilization or hospitalization before labor.
 - Fetal diagnostic testing (eg, nonstress and contraction stress testing, biophysical profile, amniocentesis, and ultrasound examinations).
 - Labor observation and evaluation for patients who are not yet in active labor or who must be observed to determine whether labor has actually begun; hospital obstetric services should develop a casual, comfortable area (“false-labor lounge”) for patients in prodromal labor.
 - Labor
 - Delivery
 - Postpartum maternal and newborn care (pg. 42-43)
- ♦ Efforts to promote healthy behaviors can be as effective during labor and delivery as they are during antepartum care. Physical contact between the newborn and the parents in the delivery room should be encouraged. Every effort should be made to foster family interaction and to support the desire of the family to be together. (pg. 139)

Equipment, Facilities & Supplies

Title 22

- ♦ Labor room – minimum of (9.3 square meters) 100 square feet (not included in licensed bed capacity) [70553.b (1-3)] and contain no more than 2 beds with the following equipment:
 - Oxygen and suction outlets.
 - Bed with adjustable side rails.
 - Foot stool, one or more comfortable chairs.
 - Handwashing facilities and toilet to be shared by no more than 2 patients.
 - Adjustable exam light.
 - Sphygmomanometer.
 - Regular and fetal stethoscope. [70551 ©(1-9)]
- ♦ Delivery rooms: Provided for no other purpose with minimum of 30 square meters (324 square feet) with no dimensions less than 5.5 square meters (18 square feet) [70553 © (1-2)] and the following equipment:
 - Adjustable delivery table.
 - Surgical light.
 - Inhalation and regional anesthesia equipment.
 - Clock with sweep second hand.
 - Elapsed time clock.
 - Emergency supplies.
 - Emergency call button.
 - Oxygen and suction for mother and infant.
 - Incubator or warmer with thermostatic controls [70551 (d)(1-9)]



Perinatal Services Intrapartum Care (Basic)

Equipment, Facility, and Supplies

Title 22

- ♦ Nursery equipment includes:
 - Bassinet for each infant.
 - Enclosed storage unit for clean supplies for each infant.
 - Diaper receptacles.
 - Hamper.
 - Wall thermometer.
 - Hygrometer.
 - Scales.
 - Incubators or warmers.
 - Oxygen and compressed air with regulating devices and administration equipment. [70551 (e) (1-8)]
 - Solutions for treatment of neonates eyes:
 - Sterile 1% silver nitrate and irrigating solutions (other solutions may require applications for flexibility from (DHS).
 - Sterile clamps for umbilical cord. [70551 (d) (10-11)]
- ♦ A fetal heart rate monitor should be available. [70551 (b)]
- ♦ Resuscitation equipment:
 - Glass trap suction with catheter.
 - Pharyngeal airways, assorted sizes.
 - Laryngoscope, including blade for premature infants.
 - Endotracheal catheters, assorted sizes with malleable stylets.
- ♦ Laboratory:
 - The hospital laboratory should have the capability of performing blood gas analysis, pH and microtechniques. [70551 (e) (1-8)]

Title 24

1224.32.3 Cesarean/delivery service space

1224.32.3.1 Cesarean operating room(s). Provide a minimum clear floor area of 360 square feet (33.45m²) with a minimum dimension of 16 feet (4877 mm). There shall be a minimum of one such room.

1224.32.3.2 Delivery room(s). Provide a minimum clear floor area of 300 square feet (27.87 m²). An emergency communication system shall be connected with the obstetrical facilities control station. There shall be a minimum of one such room.

1224.32.3.2.1 Postpartum bed ratio. Delivery rooms, which are used for no other purpose, shall be provided at the ratio of one per 12 postpartum beds or major fraction thereof.

Exceptions:

If LDR or LDRP beds are provided, the postpartum bed ratio is not required.

When approved by the licensing agency, the operating room of small or rural hospitals with a licensed bed capacity of 50 or less may serve as the delivery room.

1224.32.3.3 Clocks. Shall be provided as follows.

1. A direct-wired or battery-operated clock with sweep second hand and lapsed time indicators in each cesarean operating and delivery room.
2. A direct-wired or battery-operated clock or other equivalent timing device, visible from the scrub-up sinks.



Perinatal Services Intrapartum Care (Basic)

Equipment, Facility, and Supplies

1224.32.3.4 Surgical lights. Provide a surgical light in each cesarean operating or delivery room.

1224.32.3.5 Infant resuscitation. Provide within the cesarean operating rooms and delivery rooms a minimum clear floor area of 40 square feet (3.72m²) in addition to the required area of each room or may be provided in a separate but immediately accessible room with a clear floor area of 150 square feet (13.94 m²). Six single or three duplex electrical outlets shall be provided for the infant in addition to the facilities required for the mother.
room with shower or tub.

1224.32.3.6 Labor room(s) (LDR or LDPR rooms may be substituted). Where LDRs or LDRPs are not provided, a minimum of two labor beds with a minimum clear floor area of 120 square feet (11.15 m²) per bed. Each labor room shall contain a handwashing fixture and have access to a toilet room may serve two labor rooms, Labor rooms shall have controlled access with doors that are arranged for observation from a nursing station. At least one shower (which may be separate from the labor room if under staff control) for use of patients in labor shall be provided. Windows in labor rooms, if provided, shall be located, draped, or otherwise arranged, to preserve patient privacy from casual observation from outside the labor room.

Exceptions:

Where renovations of labor rooms is undertaken in facilities built under the 2001 or prior California Building Code, existing labor rooms shall have a minimum clear floor area of 100 square feet (9.29 m²) per bed.

For shelled spaces built under the 2001 or prior California Building Code, labor rooms shall have a minimum clear floor area of 100 square feet (9.29 m²) per bed.

1224.32.3.7 Recovery room(s) (LDR or LDPR rooms may be substituted). Each recovery room shall contain at least two beds and have a nurse control with charting facilities located to permit visual control of all beds. Each room shall include a handwashing fixture and a medication station. A clinical sink with bedpan flushing device shall be available, as shall storage for supplies and equipment. Provide visual privacy of the new family.

1224.32.3.8 Service areas. Individual rooms shall be provided as indicated in the following standards; otherwise, alcoves or other open spaces that do not interfere with traffic may be used.

1224.32.3.8.1 Services. The following services shall be provided:

1. Control/nurse station. This shall be located to restrict unauthorized traffic into the service space.
2. Soiled workroom or soiled holding room. See Section 1224.14.2.7.
3. Fluid waste disposal.

1224.32.3.8.2 Shared services. The following services shall be provided and may be shared with the surgical facilities. Where shared, areas shall be arranged to avoid direct traffic between the delivery and operating rooms.

1224.32.3.8.2.1 Supervisor's office or station. Office or station shall be a minimum of 80 square feet (7.43 m²) and have a desk.

1224.32.3.8.2.2 Waiting room. This room shall have toilet room(s), telephone(s), and drinking fountain(s) conveniently located. The toilet room(s) shall contain a lavatory.



Perinatal Services Intrapartum Care (Basic)

Equipment, Facility, and Supplies

Title 24

- 1224.32.3.8.2.3 Drug distribution station. Shall have a handwashing fixture and provisions for controlled storage, preparation, and distribution of medication.
 - 1224.32.3.8.2.4 Scrub facilities for cesarean operating or delivery room(s). Two positions shall be provided adjacent to entrance to the first cesarean operating room. Provide one additional scrub sink per cesarean or delivery operating room. Scrub facilities shall be arranged to minimize any splatter on nearby personnel or supply carts. In new construction, provide view windows at scrub stations to permit the observation of room interiors.
 - 1224.32.3.8.2.5 Clean utility room. A clean utility room shall be provided if clean materials are assembled within the obstetrical service space prior to use. If a clean utility room is provided see Section 1224.14.2.6
 - 1224.32.3.8.2.6 Storage.
 - 1. Clean sterile area readily available to the delivery room.
 - 2. Equipment storage room(s) for equipment and supplies used in the obstetrical service space.
 - 1224.32.3.8.2.7 Workroom. An anesthesia work room for cleaning, testing, and storing anesthesia equipment. It shall contain a work counter, sink, and provisions for separation of clean and soiled items.
 - 1224.32.3.8.2.8 Male and female staff clothing change areas. The clothing change area shall be designated to encourage one-way traffic and eliminate cross-traffic between clean and contaminated personnel. The area shall contain lockers, showers, toilets, handwashing fixtures, and space for donning and disposing scrub suits and booties.
 - 1224.32.3.8.2.9 Staff lounge. Lounge and toilet room facilities for obstetrical staff convenient to cesarean operating room(s), delivery room(s), labor room(s), and recovery room(s). Each toilet room shall contain handwashing facilities.
 - 1224.32.3.8.2.10 On-call room. An on-call room(s) for physician and/or staff shall be provided, but may be located elsewhere in the facility.
 - 1224.32.3.8.2.11 Housekeeping room.
- 1224.32.4 LDR and LDRP Facilities.
- 1224.32.4.1 Location. LDR room(s) may be located in a separate LDR service space or as part of the cesarean delivery space. The postpartum unit may contain LDRP rooms.
 - 1224.32.4.2 Space requirements. These rooms shall have a minimum of 250 square feet (23.23m²) of clear floor area with a minimum dimension of 13 feet (3962mm). There shall be space for crib and sleeping space for support person. An area within the room but distinct from the mother's area shall be provided for infant stabilization and resuscitation. The medical gas outlets shall be located in the room so that they are accessible to the mother's delivery area and infant resuscitation area.
 - 1224.32.3.4.3 Occupancy. Each LDR and LDRP room shall be for single occupancy.
 - 1224.32.4.4 Shower or tub. Each LDR and LDRP room shall have direct access to a private toilet room with shower or tub.
 - 1224.32.4.5 Handwashing fixtures. Each LDR or LDRP room shall be equipped with handwashing fixtures.



Perinatal Services Intrapartum Care (Basic)

Function

ACOG/AAP

- ♦ A pregnant woman who comes to the labor and delivery area should be evaluated in a timely fashion. Obstetric nursing staff may perform this initial evaluation, which should minimally include assessment of:
 - Maternal vital signs
 - Fetal heart rate
 - Uterine contractions (pg. 140)
- ♦ The responsible obstetric provider should be informed promptly if any of the following findings are present or suspected:
 - Vaginal bleeding
 - Acute abdominal pain
 - Temperature of 100.4 or higher
 - Preterm labor
 - Preterm rupture of membranes (PROM)
 - Hypertension
 - Nonreassuring fetal heart rate (pg. 140-141)
- ♦ Whenever a pregnant woman is evaluated for labor, the following factors should be assessed and recorded in the patient's permanent medical record:
 - Maternal vital signs
 - Frequency and duration of uterine contractions
 - Documentation of fetal well-being
 - Urinary protein concentration
 - Cervical dilatation and effacement, unless contraindicated (eg, placenta previa, preterm PROM) or cervical length is ascertained by transvaginal ultrasonography
 - Fetal presentation and station of the presenting part
 - Status of membranes
 - Date and time of patient's arrival and of notification of the provider
 - Estimation of fetal weight and assessment of maternal pelvis



Perinatal Services Intrapartum Care (Basic)

Function

ACOG/AAP

- ♦ If no new risk factors are found, attention may be focused on the following historical factors:
 - Time of onset and frequency of contractions.
 - Status of the membranes.
 - Presence or absence of bleeding.
 - Fetal movement.
 - History of allergies.
 - Time, content, and amount of the most recent food or fluid ingestion.
 - Use of any medication. (pg. 141-142)
- ♦ Once the results of the examination have been obtained and documented, the provider responsible for the woman's care in the labor and delivery area should be informed of her status. (pg. 142)
- ♦ If results of the woman's laboratory evaluation are not known and cannot be obtained, blood typing, Rh D type determination, hepatitis B virus antigen testing, and a serologic test for syphilis should be performed before the woman is discharge. (pg. 143)
- ♦ At all times in the hospital labor and delivery area, the safety and well being of the mother and fetus are the primary concern and responsibility of the obstetric staff. This concern, however, should not unnecessarily restrict the activity of women with uncomplicated labor and delivery or exclude people who are supportive of her. (pg. 143)
- ♦ Vital signs should be recorded at regular intervals, at least every 4 hours. This frequency may be increased, particularly as active labor progresses, according to clinical signs and symptoms. (pg. 146)
- ♦ The method of fetal heart rate monitoring for fetal surveillance during labor may vary, depending on the risk assessment at admission, the preferences of the patient and obstetric staff, and departmental policy. (pg. 146)
- ♦ If no risk factors are present at the time of the patient's admission, a standard approach to fetal surveillance is to determine, evaluate, and record the fetal heart rate every 30 minutes in the active phase of the first stage of labor and at least every 15 minutes in the second stage of labor. (pg. 146-147)



Perinatal Services Intrapartum Care (Basic)

Function

ACOG/AAP

- ♦ If risk factors are present at admission or appear during labor, there is no difference in perinatal outcome between intermittent auscultation and continuous fetal monitoring if one of the following methods for fetal heart rate monitoring is used:
 - During the active phase of the first stage of labor, the fetal heart rate should be determined, evaluated and recorded at least every 15 minutes, preferably before, during, and after a uterine contraction, when intermittent auscultation is used. If continuous electronic fetal heart rate monitoring is used, the heart rate tracing should be evaluated at least every 15 minutes.
 - During the second stage of labor, the fetal heart rate should be determined and recorded at least every 5 minutes if auscultation if used. If continuous electronic fetal heart rate monitoring is used, the tracing should be evaluated at least every 5 minutes.
- ♦ Non-reassuring findings should be noted and communicated to the physician or certified nurse-midwife so that appropriate intervention can occur. (pg. 147)
- ♦ Relative contraindications to internal fetal monitoring include maternal HIV infection and other high-risk factors for fetal infection, including herpes simplex virus and hepatitis B or hepatitis C virus. (pg. 147)
- ♦ The following conditions are required for forceps or vacuum extraction operations:
 - A person with privileges for such procedures
 - Assessment of maternal pelvis-fetal size relationship, including clinical pelvimetry, and an estimation of fetal weight, and the position and station of the fetal calvarium
 - Adequate anesthesia
 - Willingness to abandon attempted operative vaginal delivery
 - Ability to perform emergency cesarean delivery (pg. 159)

Policy /Procedure

ACOG/AAP

- ♦ The obstetric department should establish policies in consultation with other hospital units or personnel, such as the emergency department or infectious disease director, for coordinated care of pregnant women. Departments should agree on the conditions that are best treated in the labor and delivery area and those that should be treated in other hospital care units. (pg. 140)
- ♦ Written departmental policies regarding triage of patients who come to a labor and delivery area should be reviewed periodically for compliance with appropriate regulations. (pg. 140)
- ♦ Policies should be developed to ensure expeditious preparation of blood products for transfusion if the patient is at increased risk of hemorrhage or if the need arises. (pg. 143)
- ♦ Concerns such as showers during labor, placement of intravenous lines, use of fetal heart rate monitoring, and restrictions on ambulation should be reviewed in departmental policies, taking into consideration physicians' preferences as well as patients' desires, comfort, and sense of participation. Likewise, the use of drugs for relief of pain during labor and delivery should depend on the needs and desires of the woman. (pg. 143)
- ♦ A policy that allows for adequate evaluation of patients for labor and that prevents unnecessary admissions to the labor and delivery unit is advisable. (pg. 144)



Perinatal Services Intrapartum Care (Basic)

Policy/Procedure

ACOG/AAP

- Obstetric departmental policies should include recommendations for transmitting to the nursery those maternal and fetal historical and laboratory data that may affect the care of the newborn. (pg. 143)
- Management of PROM is not uniform, and several acceptable strategies exist for the care of the patients with PROM. These strategies should address methods of diagnosis, induction of labor, and timing and use of antibiotics for both prophylaxis and treatment of the mother and the fetus. (pg. 144)
- Either electronic fetal heart rate monitoring or intermittent auscultation may be used to determine fetal status during labor. Obstetric unit guidelines should clearly delineate the procedures to be followed for using these techniques according to the phase and stage of labor. (pg. 146)
- Each hospital's department of obstetrics and gynecology should develop written protocols for preparing and administering oxytocin solution or other agents for labor induction or stimulation. Indications for induction and augmentation of labor should be stated. The qualifications of personnel authorized to administer oxytocic agents for this purpose should be described. The methods for assessment of the woman and the fetus before and during administration of these agents should be specified. (pg. 148)
- Various regimens exist for the administration of varying techniques and agents to stimulate uterine contractions. These regimens vary in initial dose, amount of incremental dose increase, and interval between dose increases. Each hospital's department of obstetrics and gynecology should determine which regimens will be standard for that hospital so that obstetric staff in the labor and delivery area may develop further guidelines for their application to individual patients. (pg. 148)
- The judgment of the obstetric staff, the individual obstetrician, the anesthesiologist, and the pediatric support personnel, as well as the policies of the hospital, determine whether support persons may be present at a cesarean delivery. A written policy developed by all involved hospital staff is recommended. (pg. 162)
- Because it is possible to introduce fluid into the uterus at too rapid a rate, each obstetric unit should establish a protocol for intrauterine pressure monitoring during amnioinfusion or limitations of the volume and infusion rate when the technique is used. (pg. 150)
- After cesarean delivery, policies for postanesthesia care should not differ from those applied to nonobstetric surgical patients receiving major anesthesia. Policy should ensure that a physician is available in the facility, or at least is nearby, to manage anesthetic complications and provide cardiopulmonary resuscitation for patients in the postanesthesia care unit. (pg. 162)
- The medical and nursing staff should cooperatively establish specific postpartum policies and procedures. (pg. 164)
- Proper preparation to manage maternal hemorrhage can be lifesaving. Policies to ensure the need for rapid availability of the blood products for transfusion in the event of hemorrhage must be in place. (pg. 199)
- Some women have a religious objection to the receipt of any blood product. Written policies to guide the management of these patients during treatment are advisable, and the woman's autonomy should be respected. (pg. 201)



Perinatal Services Intrapartum Care (Basic)

Policy/Procedure

Title 22

- ♦ There shall be written policies developed and maintained by the person responsible for the service in consultation with other appropriate health professionals and administration. These policies and procedures shall reflect the standards and recommendations of the American College of Obstetricians and Gynecologists “Standards for Obstetric-Gynecologic Hospital Services,” 1969, and the American Academy of Pediatrics “Hospital Care of Newborn Infants,” 1971. [70547 (b) (1-5)]
- ♦ Policies and procedures shall be approved by the governing body. Procedures shall be approved by the medical staff and administration where such is appropriate. Such policies and procedures shall include but not be limited to:
 - Relationship to other services in the hospital.
 - Admission policies, including infants delivered prior to admission and infants transferred from an intensive care newborn nursery.
 - Arrangements for maternity patient overflow.
 - Consultation from an intensive newborn nursery.
 - Infection control and relationship to the hospital infection committee.
 - Transfer of mother to appropriate care services and/or infants to and from an intensive care newborn nursery. [70547 (b) (1-6)]
 - Provision, where deemed necessary, for family-centered perinatal care, including rooming-in and care of infants by parent or surrogate.
 - Prevention and treatment of neonatal hemorrhagic disease.
 - Care of the premature or low birth weight infant.
 - Visiting privileges.
 - Resuscitation of newborn.
 - Administering and monitoring of oxygen and respiratory therapy.
 - Transfusion.
 - Management of hyperbilirubinemia
 - PKU screening. [70547 (b) (7-14)]
 - Rhesus (Rh) hemolytic disease identification, reporting and prevention.
 - Induction of labor and administration of oxytocic drugs. Provision for parent education regarding childbirth, child care and family planning.
 - Discharge and continuity of care with referral to community supportive services.
 - Obstetric-pediatric-pathologic-radiologic conferences.
 - Patient identification system.
 - Care routines for mother and infant. [70547 (b) (15-21)]
 - Handwashing Technique
 - Individual bassinet technique.
 - Credo treatment of eyes of newborn.
 - Breast feeding.
 - Gavage feeding.
 - Formula preparation and storage. [70547(b) (22-27)]



Perinatal Services Intrapartum Care (Basic)

Policy/Procedure

Title 22

- ♦ The responsibility and accountability of the perinatal service to the medical staff and administration shall be defined. [70547©]
- ♦ The Infection Control Committee shall develop and implement policies for the management, including physical separation from other infants, infants with diarrhea of the newborn or draining lesions. [70547 (f)]
- ♦ All infections shall be reported to the hospital infection control committee promptly. [70547 (g)]
- ♦ All persons in the delivery room shall wear clean gowns, caps and masks during a delivery. [70547 (h)]
- ♦ Oxygen shall be administered to newborn infants only on the written order of a physician. The order shall include the concentration (volume percent) or desired arterial partial pressure of oxygen and be reviewed, modified, or discontinued after 24-hours. [70547 (i)]
- ♦ All patients shall be attended by a physician or licensed nurse when under the effect of anesthesia or regional analgesia, when in active labor during delivery or in the immediate postpartum period. [70547 (j)]
- ♦ Rooming-in should be permitted if requested by the family. [70547 (k)]
- ♦ Smoking shall be prohibited in delivery rooms and nurseries. [70547 (l)]
- ♦ The delivery room is considered an electrically sensitive area and shall meet the requirements of section 70853 of these regulations. [70547 (m)]
- ♦ Periodically, an appropriate committee of the medical staff shall evaluate the services provided and make appropriate recommendations to the executive committee of medical staff and administration. [70547 (n)]

Perinatal Services Intrapartum Care

Specialty



Perinatal Services Intrapartum Care (Specialty)

Definition

ACOG/AAP

- ♦ Provision of basic care services as described previously, in addition, provision of the following enhanced services:
 - Care of appropriate high-risk women and fetuses, both admitted and transferred from other facilities.
 - Stabilization of severely ill newborns before transfer.
 - Treatment of moderately ill larger preterm and term newborns. (pg.11)
- ♦ Care in a specialty level facility should be reserved for stable or moderately ill newborns that have problems that are expected to resolve rapidly and who would not be anticipated to need subspecialty level services on an urgent basis. These situations usually occur as a result of relatively uncomplicated preterm labor or preterm rupture of membranes at approximately 32 weeks of gestation or later. (pg. 10)
- ♦ Currently, some hospital with specialty level obstetric services also provides some elements of neonatal intensive care; such disproportionate service capability is not encouraged. In particular, the availability of pediatric subspecialty, such as pediatric cardiology, pediatric surgery, pediatric anesthesiology and pediatric radiology, may be limited. Each hospital should have a clear understanding of the categories of perinatal patients that can be managed appropriately in the local facility and those that should be transferred to a higher level facility. Preterm labor and impending delivery at less than 32 weeks of gestation usually warrant maternal transfer to a subspecialty (level III) center. Infants whose mothers cannot be transferred before delivery usually should be transferred after stabilization following delivery. (pg. 10-12)

Title 22

- ♦ A perinatal unit means a maternity and newborn service of the hospital for the provision of care during pregnancy, labor, delivery, postpartum and neonatal periods with appropriate staff, space, equipment and supplies. [70545]

Perinatal Unit General Requirements

- ♦ A perinatal unit shall provide:
 - Care for the patient during pregnancy, labor and delivery and the postpartum period.
 - Care for the normal infant and the infant with abnormalities which usually do not impair function or threaten life.
 - Care for mothers and infants needing emergency or immediate life support measures to sustain life up to 12 hours or to prevent major disability. [70547]

Personnel Staff

ACOG/AAP

- ♦ Intrapartum care requires the same labor intensiveness and expertise as any other intensive care and, accordingly, perinatal units should have the same adequately trained personnel and fiscal support. (pg. 25)

Registered Nurse/Patient Ratio:

- 1:2 Patients in labor.
- 1:1 Patients in second stage of labor.
- 1:1 Patients with medical or obstetric complications.
- 1:2 Oxytocin induction or augmentation of labor.
- 1:1 Coverage for initiating epidural anesthesia.
- 1:1 Circulation for cesarean delivery. (pg. 29)



Perinatal Services Intrapartum Care (Specialty)

Nurse Manager

ACOG/AAP

- ♦ Specialty care hospitals should have a director of perinatal and neonatal nursing services who has overall responsibility for inpatient activities in the respective obstetric and neonatal areas. This registered nurse should have demonstrated expertise in obstetric or neonatal care. (pg 31)

Registered Nurse

ACOG/AAP

- ♦ In addition to fulfilling nursing responsibilities in level I hospitals, nursing staff in the labor, delivery, and recovery areas should be able to identify and respond to the obstetric and medical complications of pregnancy, labor, and delivery. A registered nurse with advanced training and experience in routine and high-risk obstetric care should be assigned to the labor and delivery area at all times. (pg. 31)

Advance Practice Nurses

ACOG/AAP

- ♦ See Nurse Manager

Medical Staff

ACOG/AAP

- ♦ At a hospital with a level II nursery, a board certified obstetrician-gynecologist with interest, experience, and, in some situations, a subspecialty in maternal-fetal medicine should be chief of the obstetric service. (pg. 23)
- ♦ The hospital staff should also include a radiologist and a clinical pathologist who are available 24 hours per day. Specialized medical and surgical consultation also should be available. (pg. 23)

Sub-specialty Anesthesia

ACOG/AAP

- ♦ The director of obstetric anesthesia services should be board certified in anesthesia and should have training and experience in obstetric anesthesia. Anesthesia personnel with privileges to administer obstetric anesthesia should be available according to hospital policy. (pg. 23)

Support Personnel

ACOG/AAP

- ♦ At least one full-time, master's degree level, medical social worker for every 30 beds who has experience with socioeconomic and psychosocial problems of both women and fetuses at high risk, ill neonates and their families. Additional medical social workers are required when there is a high volume or psychosocial activity.
- ♦ At least one occupational or physical therapist with neonatal expertise.
- ♦ At least one individual skilled in evaluation and management of neonatal feeding and swallowing disorders (eg, speech-language pathologist)



Perinatal Services Intrapartum Care (Specialty)

Support Personnel

ACOG/AAP

- ♦ At least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the needs of both women and neonates high-risk .
- ♦ Qualified personnel for support services, such as laboratory studies, radiologic studies, and ultrasound examinations (these personnel should be available 24 hours per day)
- ♦ Respiratory therapists or nurses with special training who can supervise the assisted ventilation of neonates with cardiopulmonary disease.
- ♦ Pharmacy personnel who can work to continually review their systems and processes of medication administration to ensure that patient care policies are maintained.
- ♦ Personnel skilled in pastoral care (pg. 33-34)

Outreach/Education

ACOG/AAP

- ♦ The medical and nursing staff of any hospital providing perinatal care at any level should be knowledgeable about current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed. (pg. 34)
- ♦ Design and coordination of a program for perinatal outreach education should be provided jointly by neonatal and obstetric physicians and APNNs. (pg. 35)
- ♦ Ideally, a maternal-fetal medicine specialist, a certified nurse-midwife, an obstetric nurse, a neonatologist, and a neonatal nurse should be members of the perinatal outreach education team. (pg. 35)



Perinatal Services Intrapartum Care (Specialty)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Areas used for women in labor should have the following equipment:
 - Sterilization equipment (if there is no central sterilization equipment)
 - X-ray view box
 - Stretchers with side rails
 - Equipment for pelvic examinations
 - Emergency drugs
 - Suction apparatus, either operated from a wall outlet or portable equipment
 - Cardiopulmonary resuscitation cart (maternal & neonatal)
 - Protective gear for personnel exposed to body fluids
 - Warming cabinets for solutions and blankets
 - A labor or birthing bed and a footstool
 - A storage area for the patient's clothing and personal belongings
 - Sufficient work space for information management systems
 - One or more comfortable chairs
 - Adjustable lighting that is pleasant for the patient and adequate for examinations
 - An emergency signal and intercommunication system
 - Adequate ventilation and temperature control
 - Equipment to measure and monitor blood pressure
 - Mechanical infusion equipment
 - Fetal monitoring equipment
 - Oxygen outlets
 - Access to at least one shower for use by patients in labor
 - A writing surface for medical records, computer hookup for medical record purposes, or both
 - Storage facilities for supplies and equipment (pg. 44-45)



Perinatal Services Intrapartum Care (Specialty)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Each delivery room should be maintained as a separate unit that has the following equipment & supplies necessary for normal delivery and for the management of complications:
 - Birthing bed that allows variations in position for delivery
 - Instrument table and solution basin stand
 - Instruments and equipment for vaginal delivery, repair for lacerations
 - Solutions and equipment for the intravenous administration of fluids
 - Equipment for administration of all types of anesthesia, including equipment for emergency resuscitation of the patient
 - Individual oxygen, air, and suction outlets for the mother and neonate
 - An emergency call system
 - Good lighting
 - Mirrors for patients to observe the birth (optional)
 - Wall clock with a second hand
 - Equipment for fetal heart rate monitoring
 - Neonatal resuscitation and stabilization unit
 - Scrub sinks strategically placed to allow observation of the patient
- ♦ Trays containing drugs and equipment necessary for emergency treatment of both the patient and the neonate
- ♦ Equipment necessary for the treatment of cardiopulmonary resuscitation should also be easily accessible (pg. 46)
- ♦ The physical facilities in which perinatal care is provided should be conducive to care that meets the unique physiologic and psychosocial needs of parents, neonates, and families. (pg. 42)
- ♦ Labor, delivery, and newborn care facilities should be located in close proximity to each other. When these facilities are distant from each other, provisions should be made for appropriate transitional areas. (pg. 42)
- ♦ The labor and delivery area should be used for nonobstetric patients only during periods of low occupancy. (pg. 44)
- ♦ The room provided for a woman in labor should be private. Each woman should have direct access to a private toilet and hand-washing in her room. Ideally, each room should have a shower or bathtub and a window. (pg. 44)
- ♦ The patient's personal needs, as well as those of her newborn and family should be considered when obstetric service units are planned. (pg. 42)
- ♦ The service should be consolidated in a designated area that is physically arranged to prohibit unrelated traffic through the service units. (pg. 42)



Perinatal Services Intrapartum Care (Specialty)

Policy/Procedure

ACOG/AAP

- ♦ The obstetric department should establish policies in consultation with other hospital units or personnel, such as the emergency department or infectious disease director, for coordinated care of pregnant women. Departments should agree on the conditions that are best treated in the labor and delivery area and those that should be treated in other hospital care units. (pg. 140)
- ♦ Written departmental policies on triage of patients presenting to a labor and delivery area should be periodically reviewed for compliance with appropriate regulations. (pg. 140)
- ♦ Policies should be developed to ensure expeditious preparation of blood products for transfusion if the patient is at increased risk of hemorrhage or if the need arises. (pg. 143)
- ♦ Concerns such as showers during labor, placement of intravenous lines, use of fetal heart rate monitoring, and restrictions on ambulation should be reviewed in departmental policies, taking into consideration physicians' preferences as well as patients' desires, comfort, and sense of participation. Likewise, the use of drugs for relief of pain during labor and delivery should depend on the needs and desires of the woman. (pg. 143)
- ♦ A policy that allows for adequate evaluation of patients for labor and that prevents unnecessary admissions to the labor and delivery unit is advisable. (pg. 144)
- ♦ Obstetric departmental policies should include recommendations for transmitting to the nursery those maternal and fetal historical and laboratory data that may affect the care of the newborn. (pg. 143-144)
- ♦ Either electronic fetal heart rate monitoring or intermittent auscultation may be used to determine fetal status during labor. Obstetric unit guidelines should clearly delineate the procedures to be followed for using these techniques according to the phase and stage of labor. (pg. 146)
- ♦ The judgment of the obstetric staff, the individual obstetrician, the anesthesiologist, and the pediatric support personnel, as well as the policies of the hospital, determines whether support persons may be present at a cesarean delivery. A written policy developed by all involved hospital staff is recommended. (pg. 162)
- ♦ After cesarean delivery, policies for postanesthesia care should not differ from those applied to nonobstetric surgical patients receiving major anesthesia. Policy should ensure that a physician is available in the facility, or at least is nearby, to manage anesthetic complications and provide cardiopulmonary resuscitation for patients in the postanesthesia care unit. (pg. 162-163)
- ♦ The medical and nursing staff should cooperatively establish specific postpartum policies and procedures. (pg. 164)
- ♦ Facilities that provide labor delivery and services should be prepared to manage maternal hemorrhage. Proper preparation and resources to manage maternal hemorrhage in a timely manner can be lifesaving. Policies to ensure the need for rapid availability of the blood products for transfusion in the event of hemorrhage must be in place. (pg. 199)
- ♦ Some women have a religious objection to the receipt of any blood product. Written policies to guide the management of these patients during treatment are advisable, and the woman's autonomy should be respected. (pg. 201)

Perinatal Services Intrapartum Care

Subspecialty



Perinatal Services Intrapartum Care (Subspecialty)

Definition

ACOG/AAP

- ♦ Provision of comprehensive perinatal care services for both directly admitted and transferred women and neonates of all risk categories, including basic and specialty care services as described previously. (pg. 12)
- ♦ Evaluation of new technologies and therapies. (pg. 12)
- ♦ Provision of comprehensive perinatal health care service organization and coordination, including the following areas:
 - Maternal and neonatal transport
 - Regional outreach support and education programs
 - Development and initial evaluation of new technologies and therapies
 - Training the health care providers with specialty and subspecialty qualifications and capabilities
 - Analysis and evaluation of regional data, including those on perinatal complication and outcomes
- ♦ The services provided by subspecialty care facility vary markedly from those at a specialty facility. Subspecialty care services include expertise in maternal-fetal medicine and neonatology. Both usually are required for management of pregnancies with threatened maternal complications at less than 32 weeks of gestation. Fetuses that may require immediate complex care should be delivered at a subspecialty care center. (pg. 12-13)
- ♦ In circumstances where subspecialty level maternal care is needed, the level of care subsequently needed by the neonate may prove to be at the basic or specialty level. It is difficult to predict accurately all neonatal risk outcomes before birth. Appropriate assessment and consultation should be used, considering the potential risks of the women as well as her infant. (pg. 13)

Personnel/Staff

ACOG/AAP

Registered Nurse/Patient Ratio:

1:2 Patients in labor.

1:1 Patients in second stage of labor.

1:1 Patients with medical or obstetric complications.

1:2 Oxytocin induction or augmentation of labor.

1:1 Coverage for initiating epidural anesthesia.

1:1 Circulation for cesarean delivery. (pg. 29)

Nurse Manager

ACOG/AAP

- ♦ This registered nurse should have experience and training in obstetric or neonatal nursing or both, as well as the care of patients at high risk. Preferably, this individual has an advanced degree. (pg. 32)

Registered Nurse

ACOG/AAP

- ♦ For intrapartum care, a registered nurse should be in attendance within the labor and delivery unit at all times. This registered nurse should be skilled in the recognition and nursing management of complications of labor and delivery. (pg. 32)



Perinatal Services Intrapartum Care (Subspecialty)

Management

ACOG/AAP

- ♦ The director of the maternal-fetal medicine service of a hospital providing subspecialty care should be a full-time board-certified obstetrician with subspecialty certification in maternal-fetal medicine. (pg. 24)

Medical Staff

ACOG/AAP

- ♦ Other maternal-fetal medicine specialists and neonatologists who practice in the subspecialty care facility should have qualifications similar to those of the chief of their services. A maternal-fetal medicine specialist and a neonatologist should be readily available for consultation 24 hours a day. (pg. 24)
- ♦ Personnel qualified to manage obstetric or neonatal emergencies should be in-house. (pg. 24)
- ♦ Advanced obstetric and neonatal diagnostic imaging facilities with interpretation on an urgent basis should be available 24 hours per day. Level IIIB and IIIC NICUs require urgent access for consultation to a broad range of pediatric, rather than adult, medical subspecialists, including cardiology, neurology, hematology, genetics, nephrology, metabolism, endocrinology, gastroenterology nutrition, infectious disease, pulmonology, immunology, pathology and pharmacology. (pg. 24-25)
- ♦ Pediatric surgical subspecialists (eg, general pediatric surgeons, cardiovascular surgeons; neurosurgeons; and orthopedic, ophthalmologic, urologic, plastic, and otolaryngologic surgeons) should be available on site or at a closely related institution for consultation and care. (pg. 25)

Sub-specialty Anesthesia

ACOG/AAP

- ♦ A board-certified anesthesiologist with special training or experience in maternal-fetal anesthesia should be in charge of obstetric anesthesia services at a level III (sub-specialty) care hospital. (pg. 25)
- ♦ Personnel with privileges in the administration of obstetric anesthesia should be available in the hospital 24 hours per day. Pediatric anesthesiologists should be available for all neonatal surgical procedures. (pg. 25)

Support Personnel

ACOG/AAP

- ♦ At least one full-time, master's degree level, medical social worker (for every 30 beds) who has experience with socioeconomic and psychosocial problems of both women and fetuses at high risk, ill neonates and their families. Additional medical social workers are required when there is a high volume or psychosocial activity.
- ♦ At least one occupational or physical therapist with neonatal expertise.
- ♦ At least one individual skilled in evaluation and management of neonatal feeding and swallowing disorders (eg, speech-language pathologist)



Perinatal Services Intrapartum Care (Subspecialty)

Support Personnel

ACOG/AAP

- ♦ At least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the needs of high-risk women with neonates.
- ♦ Qualified personnel for support services, such as laboratory studies, radiologic studies, and ultrasound examinations (these personnel should be available 24 hours per day)
- ♦ Respiratory therapists or nurses with special training who can supervise the assisted ventilation of neonates with cardiopulmonary disease.
- ♦ Pharmacy personnel who can work to continually review their systems and processes of medication administration to ensure that patient care policies are maintained.
- ♦ Personnel skilled in pastoral care, available as needed. (pg. 33-34)

Outreach/Education

ACOG/AAP

- ♦ The staff of regional centers should be capable of assisting with the in-service programs of other hospitals in their region on a regular basis. Such assistance should include periodic visits to those hospitals, as well as periodic review of the quality of patient care provided by those hospitals. (pg. 34)
- ♦ Regional center staff should be accessible for consultation at all times. The medical and nursing staff of hospitals providing level II (specialty) and level III (subspecialty) care should participate in formal courses or conferences. Regularly scheduled conferences may include the following subjects:
 - Review of the major perinatal conditions and their medical treatment and nursing care.
 - Review of electronic fetal monitoring, including maternal-fetal outcomes, toward a goal of standardizing nomenclature and patient care
 - Review of perinatal statistics, the pathology related to all deaths, and significant surgical specimens
 - Review of current imaging studies
 - Family-centered care
 - Review of perinatal complications and outcomes
 - Review of patient satisfaction data, complaints and compliments (pg. 34-35)
- ♦ Each subspecialty care center in a regional system may organize an education system that is tailored to meet the needs of the perinatal health professionals and institutions within the network. (pg. 35)



Perinatal Services Intrapartum Care (Subspecialty)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Areas used for women in labor should have the following equipment:
 - Sterilization equipment (if there is no central sterilization equipment)
 - X-ray view box
 - Stretchers with side rails
 - Equipment for pelvic examinations
 - Emergency drugs
 - Suction apparatus, either operated from a wall outlet or portable equipment
 - Cardiopulmonary resuscitation cart (maternal & neonatal)
 - Protective gear for personnel exposed to body fluids
 - Warming cabinets for solutions and blankets
 - A labor or birthing bed and a footstool
 - A storage area for the patient's clothing and personal belongings
 - Sufficient work space for information management systems
 - One or more comfortable chairs
 - Adjustable lighting that is pleasant for the patient and adequate for examinations
 - An emergency signal and intercommunication system
 - Adequate ventilation and temperature control
 - Equipment to measure and monitor blood pressure
 - Mechanical infusion equipment
 - Fetal monitoring equipment
 - Oxygen outlets
 - Access to at least one shower for use by patients in labor
 - A writing surface for medical records, computer hookup for medical record purposes, or both
 - Storage facilities for supplies and equipment (pg. 44-45)



Perinatal Services Intrapartum Care (Subspecialty)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Each delivery room should be maintained as a separate unit that has the following equipment & supplies necessary for normal delivery and for the management of complications:
 - Birthing bed that allows variations in position for delivery
 - Instrument table and solution basin stand
 - Instruments and equipment for vaginal delivery, repair for lacerations
 - Solutions and equipment for the intravenous administration of fluids
 - Equipment for administration of all types of anesthesia, including equipment for emergency resuscitation of the patient
 - Individual oxygen, air, and suction outlets for the mother and neonate
 - An emergency call system
 - Good lighting
 - Mirrors for patients to observe the birth (optional)
 - Wall clock with a second hand
 - Equipment for fetal heart rate monitoring
 - Neonatal resuscitation and stabilization unit
 - Scrub sinks strategically placed to allow observation of the patient
- ♦ Trays containing drugs and equipment necessary for emergency treatment of both the patient and the neonate
- ♦ Equipment necessary for the treatment of cardiopulmonary resuscitation should also be easily accessible (pg. 46)
- ♦ The physical facilities in which perinatal care is provided should be conducive to care that meets the unique physiologic and psychosocial needs of parents, neonates, and families. (pg. 42)
- ♦ Labor, delivery, and newborn care facilities should be located in close proximity to each other. When these facilities are distant from each other, provisions should be made for appropriate transitional areas. (pg. 42)
- ♦ The labor and delivery area should be used for non-obstetric patients only during periods of low occupancy. (pg. 44)
- ♦ The room provided for a woman in labor should be private. Each woman should have direct access to a private toilet and hand-washing area in her room. Ideally, each room should have a shower or bathtub and a window. (pg. 44)
- ♦ The patient's personal needs, as well as those of her newborn and family should be considered when obstetric service units are planned. (pg. 42)
- ♦ The service should be consolidated in a designated area that is physically arranged to prohibit unrelated traffic through the service units. (pg. 42)



Perinatal Services Intrapartum Care (Subspecialty)

Policy/Procedure

ACOG/AAP

- ♦ The obstetric department should establish policies in consultation with other hospital units or personnel, such as the emergency department or infectious disease director, for coordinated care of pregnant women. Departments should agree on the conditions that are best treated in the labor and delivery area and those that should be treated in other hospital care units. (pg. 140)
- ♦ Written departmental policies on triage of patients presenting to a labor and delivery area should be reviewed periodically for compliance with appropriate regulations. (pg. 140)
- ♦ Policies should be developed to ensure expeditious preparation of blood products for transfusion if the patient is at increased risk of hemorrhage or if the need arises. (pg. 143)
- ♦ Concerns such as showers during labor, placement of intravenous lines, use of fetal heart rate monitoring, and restrictions on ambulation should be reviewed in departmental policies, taking into consideration physicians' preferences as well as patients' desires, comfort, and sense of participation. Likewise, the use of drugs for relief of pain during labor and delivery should depend on the needs and desires of the woman. (pg. 143)
- ♦ A policy that allows for adequate evaluation of patients for labor and that prevents unnecessary admissions to the labor and delivery unit is advisable. (pg. 144)
- ♦ Obstetric departmental policies should include recommendations for transmitting to the nursery those maternal and fetal historical and laboratory data that may affect the care of the newborn. (pg. 143-144)
- ♦ Management of PROM is not uniform, and several acceptable strategies exist for the care of the patients with PROM. These strategies should address methods of diagnosis, induction of labor, and timing and use of antibiotics for both prophylaxis and treatment of the mother and fetus. (pg. 144)
- ♦ Either electronic fetal heart rate monitoring or intermittent auscultation may be used to determine fetal status during labor. Obstetric unit guidelines should clearly delineate the procedures to be followed for using these techniques according to the phase and stage of labor. (pg. 146)
- ♦ Each hospital's department of obstetrics and gynecology should develop written protocols for preparing and administering oxytocin solution or other agents for labor induction or stimulation. Indications for induction and augmentation of labor should be stated. The qualifications of personnel authorized to administer oxytocic agents for this purpose should be described. The methods for assessment of the woman and the fetus before and during administration of these agents should be specified. (pg. 148)
- ♦ Various regimens exist for the administration of varying techniques and agents to stimulate uterine contractions. These regimens vary in initial dose, amount of incremental dose increase, and interval between dose increases. Each hospital's department of obstetrics and gynecology should determine which regimens will be standard for that hospital so that obstetric staff in the labor and delivery area may develop further guidelines for their application to individual patients. (pg. 148)
- ♦ Because it is possible to introduce fluid into the uterus at too rapid a rate, each obstetric unit should establish a protocol for intrauterine pressure monitoring during amnioinfusion or limitations of the volume and infusion rate when the technique is used. (pg. 150)



Perinatal Services Intrapartum Care (Subspecialty)

Policy/Procedure

ACOG/AAP

- ♦ The judgment of the obstetric staff, the individual obstetrician, the anesthesiologist, and the pediatric support personnel, as well as the policies of the hospital, determine whether support persons may be present at a cesarean delivery. A written policy developed by all involved hospital staff is recommended. (pg. 162)
- ♦ After cesarean delivery, policies for post anesthesia care should not differ from those applied to non-obstetric surgical patients receiving major anesthesia. Policy should ensure that a physician is available in the facility, or at least is nearby, to manage anesthetic complications and provide cardiopulmonary resuscitation for patients in the post anesthesia care unit. (pg. 162)
- ♦ Facilities that provide labor and delivery services should be prepared to manage maternal hemorrhage. Proper preparation to manage maternal hemorrhage can be lifesaving. Policies to ensure the need for rapid availability of the blood products for transfusion in the event of hemorrhage must be in place. (pg. 199)
- ♦ The medical and nursing staff should cooperatively establish specific postpartum policies and procedures. (pg. 164)
- ♦ Some women have a religious objection to the receipt of any blood product. Written policies to guide the management of these patients during treatment are advisable, and the woman's autonomy should be respected. (pg. 201)

Perinatal Services Postpartum Care

Basic



Perinatal Services Postpartum Care (Basic)

Definition

ACOG/AAP

- ♦ Surveillance and care of all patients admitted to the obstetric service, with an established triage system for identifying high-risk patients who should be transferred to a facility that provides specialty or subspecialty care.
- ♦ Proper detection and initial care of unanticipated maternal-fetal problems that occur during labor and delivery.
- ♦ Capability to begin an emergency cesarean delivery within 30 minutes of the decision to do so (see “Preface” and “Cesarean Delivery” in Chapter 5)
- ♦ Availability of appropriate anesthesia, radiology, ultrasound, laboratory, and blood bank services on a 24-hour basis.
- ♦ Care of postpartum conditions.
- ♦ Resuscitation and stabilization of all neonates born in the hospital.
- ♦ Evaluation and continuing care of healthy neonates in a nursery or with their mothers until discharge.
- ♦ Adequate nursery facilities and support for stabilization of small or ill neonates before transfer to a specialty or subspecialty facility
- ♦ Consultation and transfer arrangements
- ♦ Accommodations and policies that allows families, including their other children, to be together in the hospital following the birth of an infant
- ♦ Data collection, storage, and retrieval
- ♦ Quality improvement programs, including efforts to maximize patient safety (pg. 11)

Title 22

Perinatal Unit Definition

- ♦ A perinatal unit means a maternity and newborn service of the hospital for the provision of care during pregnancy, labor, delivery, postpartum and neonatal periods with appropriate staff, space, equipment and supplies. [70545]

Perinatal Unit General Requirements

- ♦ A perinatal unit shall provide:
 - Care for the patient during pregnancy, labor and delivery and the postpartum period.
 - Care for the normal infant and the infant with abnormalities which usually do not impair function or threaten life.
 - Care for mothers and infants needing emergency or immediate life support measures to sustain life up to 12 hours or to prevent major disability. [70547]

Personnel/Staff

ACOG/AAP

Registered Nurse/Patient Ratio

- 1:6 Antepartum/postpartum patients without complications.
- 1:3 Antepartum/ postpartum patients with complications but in stable condition.
- 1:2 Patients in postoperative recovery.
- 1:4 Newborns of those requiring close observation (pg. 29)



Perinatal Services Postpartum Care (Basic)

Registered Nurse

ACOG/AAP

- ♦ Postpartum care of the woman and her newborn should be provided by a registered nurse whose responsibilities include initial and ongoing assessment, newborn care education, support for the attachment process and breastfeeding, preparation for healthy parenting, preparation for discharge, and follow-up of the woman and her newborn within the context of the family. This registered nurse should have training and experience in the recognition of normal and abnormal physical and emotional characteristics of the mother and her newborn. The RN should also directly observe the neonate during the stabilization period after birth. The nurse monitors the infants adaptation to extrauterine life and assists in the transition of the newborn to rooming in with the mother. (pg. 30)

Title 22

- ♦ There shall be one RN on duty for each shift assigned to the postpartum area. In addition, there shall be sufficient trained personnel to assess and provide care, assist family and provide education. [(70549(d))]

Support Personnel

ACOG/AAP

- ♦ A licensed practical nurse or nurse assistant, supervised by a registered nurse, may provide support to the mother and attend to her personal comfort postpartum. (pg. 30)
- ♦ Availability of a postpartum care provider with expertise in lactation is essential. (pg. 33)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ The postpartum unit should be flexible enough to permit accommodation of patients when the census is at its peak and allow the use of beds for alternate functions when the patient census is low. Post partum rooms should ideally be occupied by a single family. Ideally, the room is equipped for newborn care, and the patient and her neonate are admitted to the room together. Each room in a postpartum unit should have a hand washing sink and, if possible, a toilet and shower. When this is not possible and it is necessary for patients to use common facilities, patients should be able to reach them without entering a general corridor. When the patient is breastfeeding, the room should have a hand washing sink, a mobile bassinet unit, and supplies necessary for the care of the newborn. (pg. 47)
- ♦ Larger services may have a specific recovery room for postpartum patients and a separate area for high-risk patients. The equipment needed is similar to that needed in any surgical recovery room and include equipment for monitoring vital signs, suctioning, administering oxygen, and infusing fluids intravenously. Cardiopulmonary resuscitation equipment must be immediately available. Equipment for pelvic examinations also should be available. (pg. 47)



Perinatal Services Postpartum Care (Basic)

Facilities

Title 24

1224.32.2 Antepartum and postpartum unit

1224.32.2.1 Patient bedrooms. Antepartum and postpartum bedrooms shall comply with Section 1224.14.1.

1224.32.2.2 Service areas. Shall be provided in accordance with Section 1224.14.2 with the following additions:

Staff lounge.

Staff storage. Lockable closets or cabinets for personal articles of staff.

Consultation conference room(s).

Multipurpose Rooms for staff , patients, families, trainings.

Examination Rooms

Clean Utility room

Soiled workroom or soiled holding room.

Medication station.

Self-contained medicine dispensing unit

Clean linen storage

Nourishment area.

Ice machine

Equipment

Gurneys and wheelchairs.

Showers and bathtubs.

Patient toilet rooms

Emergency equipment storage

Housekeeping room

Policy Procedure

ACOG/AAP

- ♦ The monitoring of maternal status postpartum is dictated by the events of the delivery process. Post-anesthesia pain management should be guided by protocols established by the anesthesiologists and Obstetricians in concert. After cesarean delivery, policies for post-anesthesia care should not differ from those applied to non-obstetric surgical patients receiving major anesthesia. Policy should ensure that a physician is available in the facility, or at least is nearby, to manage anesthetic complications and provide cardiopulmonary resuscitation for patients in the post-anesthesia care unit. (pg. 162)
- ♦ The medical and nursing staff should cooperatively establish specific postpartum policies and procedures. In the postpartum period, staff should help the woman to learn how to care for the general needs of herself and her neonate and should identify potential problems related to her general health. (pg. 164)

Perinatal Services Postpartum Care

Specialty



Perinatal Services Postpartum Care (Specialty)

Definition

ACOG/AAP

- ♦ Provision of basic care services as described previously, and in addition, provision of the following enhanced services:
 - Care of appropriate high-risk women and fetuses, both admitted and transferred from other facilities.
 - Stabilization of severely ill newborns before transfer.
 - Treatment of moderately ill larger preterm and term newborns. (pg. 11)
- ♦ Care in a specialty level facility should be reserved for stable or moderately ill newborns that have problems that are expected to resolve rapidly and that would not be anticipated to need subspecialty level services on an urgent basis. These situations usually occur as a result of relatively uncomplicated preterm labor or preterm rupture of membranes at approximately 32 weeks of gestation or later. (pg. 10)
- ♦ Currently, some hospital with specialty level obstetric services also provides some elements of neonatal intensive care; such disproportionate service capability is not encouraged. In particular, the availability of pediatric subspecialty, such as pediatric cardiology, pediatric surgery, pediatric anesthesiology and pediatric radiology, may be limited. Each hospital should have a clear understanding of the categories of perinatal patients that can be managed appropriately in the local facility and those that should be transferred to a higher level facility. Preterm labor and impending delivery at less than 32 weeks of gestation usually warrant maternal transfer to a subspecialty (level III) center. Infants whose mothers cannot be transferred before delivery usually should be transferred after stabilization following delivery. (pg. 10-12)

Nurse Manager

ACOG/AAP

- ♦ Specialty care hospitals should have a director of perinatal and neonatal nursing services who has overall responsibility for inpatient activities in the respective obstetric and neonatal areas. This registered nurse should have demonstrated expertise in obstetric or neonatal care. (pg 31)

Registered Nurse

ACOG/AAP

- ♦ In addition to fulfilling nursing responsibilities of level 1 hospitals, in the postpartum period, the registered nurse should be responsible for providing support for women and families with newborns who require intensive care and for facilitating visitation and communication with the NICU. (pg. 31)

Support Personnel

ACOG/AAP

- ♦ In the Specialty care facility, under the supervision of a registered nurse, they may assist with the delivery of care, provide support to the patient, assist with lactation support, and attend to the woman's personal comfort. (pg.31)

Perinatal Services Postpartum Care

Subspecialty



Perinatal Services Postpartum Care (Sub-specialty)

Definition

ACOG/AAP

- ♦ Provision of comprehensive perinatal care services for both directly admitted and transferred women and neonates of all risk categories, including basic and specialty care services as described previously. (pg. 12)
- ♦ Evaluation of new technologies and therapies. (pg. 12)
- ♦ Provision of comprehensive perinatal health care service organization and coordination, including the following areas:
 - Maternal and neonatal transport
 - Regional outreach support and education programs
 - Development and initial evaluation of new technologies and therapies
 - Training the health care providers with specialty and subspecialty qualifications and capabilities
 - Analysis and evaluation of regional data, including those on perinatal complication and outcomes
- ♦ The services provided by subspecialty care facility vary markedly from those at a specialty facility. Subspecialty care services include expertise in maternal-fetal medicine and neonatology. Both usually are required for management of pregnancies with threatened maternal complications at less than 32 weeks of gestation. Fetuses that may require immediate complex care should be delivered at a subspecialty care center. (pg. 12)
- ♦ In circumstances where subspecialty level maternal care is needed, the level of care subsequently needed by the neonate may prove to be at the basic or specialty level. It is difficult to predict accurately all neonatal risk outcomes before birth. Appropriate assessment and consultation should be used, considering the potential risks of the women as well as her infant. (pg. 13)

Nurse Manager

ACOG/AAP

- ♦ This registered nurse should have experience and training in obstetric or neonatal nursing or both, as well as the care of patients at high risk. Preferably, this individual has an advanced degree. (pg. 32)

Registered Nurse

ACOG/AAP

- ♦ A registered nurse should be in attendance at all times. This registered nurse should be skilled in the recognition and nursing management of complications in women and newborns. (pg.32)

Perinatal Services Neonatal Care

Basic



Perinatal Services Neonatal Care (Basic)

Definition

ACOG/AAP

- ♦ Resuscitation and stabilization of all neonates born in the hospital.
- ♦ Evaluation and continuing care of healthy neonates in a nursery or with their mothers until discharge.
- ♦ Adequate nursery facilities and support for stabilization of small or ill neonates before transfer to a specialty or subspecialty facility
- ♦ Consultation and transfer arrangements
- ♦ Adequate nursery facilities and support for stabilization of small or ill neonates before transfer to a specialty or subspecialty facility.
- ♦ Data collection, storage and retrieval (pg. 11)
- ♦ Quality improvement programs, including efforts to maximize patient safety.
- ♦ In addition, they can stabilize and care for late preterm infants (35-37 weeks) who remain physiologically stable. (pg.10)

Title 22

Perinatal Unit Definition

- ♦ A perinatal unit means a maternity and newborn service of the hospital for the provision of care during pregnancy, labor, delivery, postpartum and neonatal periods with appropriate staff, space, equipment and supplies. [70545]

Perinatal Unit General Requirements

- ♦ A perinatal unit shall provide:
 - 1) Care for the patient during pregnancy, labor and delivery and the postpartum period.
 - 2) Care for the normal infant and the infant with abnormalities which usually do not impair function or threaten life.
 - 3) Care for mothers and infants needing emergency or immediate life support to sustain life up to 12 hours or to prevent major disability. [70547]

Personnel/Staff

ACOG/AAP

- ♦ Registered Nurse/Patient Ratio

1:6-8 Newborns requiring only routine care

1:3-4 Normal mother-newborn couplet care or breastfeeding care.

1:3-4 Newborns requiring continuing care

1:2-3 Newborns requiring intermediate care

1:1-2 Newborns requiring intensive care

1:1 Newborns requiring multisystem support

1:≥1 Unstable newborns requiring complex critical care (pg.29)

- ♦ At every delivery, there should be at least one person whose primary responsibility is the neonate and who is capable of initiating resuscitation including positive-pressure ventilation and chest compressions. Either that person or someone else who is immediately available should have the skills required to perform a complete resuscitation, including endotracheal intubation and the use of medications. Recognition and immediate resuscitation of a distressed neonate requires an organized plan of action and the immediate availability of qualified personnel and equipment.



Perinatal Services Neonatal Care (Basic)

Personnel/Staff

ACOG/AAP

- ♦ Responsibility for identification and resuscitation of a distressed neonate should be assigned to a qualified individual, who may be:
 - A physician
 - A certified nurse-midwife
 - A advanced practice neonatal nurse
 - Labor and delivery nurse
 - Physician assistant
 - A nurse-anesthetist
 - A nursery nurse
 - A respiratory therapist (pg. 205)
- ♦ Individuals qualified to perform neonatal resuscitation should demonstrate the following capabilities:
 - Ability to rapidly and accurately evaluate the newborn condition.
 - Knowledge of pathogenesis of risk factors predisposing for the need for resuscitation, drugs, hypovolemia, trauma, anomalies, infections, preterm birth as well as specific indications for resuscitation
 - Skills in airway management including bag and mask ventilation, laryngoscopy, endotracheal intubation and suctioning of the airway, chest compressions, emergency administration of drugs and fluids and maintenance of thermal stability. Recognition and decompression of a tension pneumothorax by needle aspiration also is a desirable skill
 - Skill in placing an umbilical venous catheter. This is especially important because most medications needed for resuscitation should be given by this route. (pg. 206)

Nurse Manager

ACOG/AAP

- ♦ Perinatal nursing care at the basic care facility should be under the direction of a registered nurse. (pg. 28)

Registered Nurse

ACOG/AAP

- ♦ The presence of one or more registered nurses or licensed practical nurses with demonstrated knowledge and clinical competence in the nursing care of mothers, fetuses, and newborns during labor, delivery and the postpartum and neonatal period is suggested. (pg. 30)
- ♦ Care of the newborn should be supervised by a registered nurse whose responsibilities include initial and ongoing assessment, newborn care education, support for the attachment process and breastfeeding, preparation for healthy parenting, preparation for discharge, and follow-up of the woman and her newborn within the context of the family. This registered nurse should have training and experience in the recognition of normal and abnormal physical and emotional characteristics of the mother and her newborn. (pg. 30)
- ♦ The RN should also directly observe the neonate during the stabilization period after birth. The nurse monitors the infants adaptation to extrauterine life and assists in the transition of the newborn to rooming in with the mother. (pg. 30).



Perinatal Services Neonatal Care (Basic)

Registered Nurse

Title 22

- ♦ A registered nurse trained in infant resuscitation shall be on duty each shift. [70549 (e) (1)]
- ♦ A registered nurse who has had training and experience in neonatal nursing shall be responsible for the nursing care in the nursery. [70549 (e)]

Advance Practice Nurses

ACOG/AAP

- ♦ A *neonatal nurse practitioner (NNP)* is a registered nurse with clinical experience in neonatal nursing who has obtained a master's degree or completed an educational program of study and supervised practice beyond the level of basic nursing in the specialty with supervised clinical experience in the management of newborns and their families. These nurses manage a caseload of neonatal patient with consultation, collaboration, and medical supervision. Using their acquired knowledge of pathophysiology, pharmacology, and physiology, NNPs exercise independent judgment in the assessment and diagnosis of infants and in the performance of certain delegated procedures. (pg. 26)
- ♦ A neonatal clinical nurse specialist is a registered nurse with a master's degree who, through study and supervised practice at the graduate level, has become expert in the theory and practice of neonatal nursing. Responsibilities of the neonatal clinical nurse specialist include serving as a resource for neonatal nurses, neonatal nurse practitioners and other care providers, establishing and evaluating standards of patient care within a unit, assessing and identifying educational needs of the family, nursery and community, designing and implementing appropriate educational programs on the basis of identified needs, providing consultation and initiating research projects, collecting data and implementing changes. (pg.26)

Management

ACOG/AAP

- ♦ The perinatal care program at a hospital providing basic care should be coordinated jointly by the chiefs of the obstetric, pediatric, nursing, and midwifery services. This administrative approach requires close coordination and unified policy statements. The coordinators of perinatal care at a basic care hospital are responsible for developing policy, maintaining appropriate guidelines, and collaborating and consulting with the professional staff of hospitals providing specialty and subspecialty care in the region. In hospitals that do not separate these services, one person may be given the responsibility for coordinating perinatal care. (pg. 21)

Title 22

- ♦ A physician shall have the overall responsibility of the unit. This physician shall be certified or eligible for certification by the American Board of Obstetrics and Gynecologists or the American Board of Pediatrics. If a physician with one of the above qualifications is not available, a physician with training and experience in OB and GYN or pediatrics may administer the service. In this circumstance, a physician with the above qualifications shall provide consultation at a frequency which will assure high quality service. [70549 (a) (1-3)]
- ♦ He shall be responsible for:
 - Providing continuous OB, pediatric, anesthesia, labor and X-ray coverage.
 - Maintaining working relationships with NICU.
 - Providing joint staff conferences and continuing education of respective medical specialties. [70549 (a) (1-3)]



Perinatal Services Neonatal Care (Basic)

Staff

Title 22

- ♦ A physician who is certified or eligible for certification by the American Board of Pediatrics shall be responsible for the nursery. [70549 (b)]

Sub-specialty Anesthesia

Title 22

- ♦ Periodically, an appropriate committee of the medical staff shall evaluate the service provided and make appropriate recommendations to the executive committee of medical staff and administration. [70547 (n)]

Support Personnel

ACOG/AAP

- ♦ When required, one or two additional persons should be available to assist with neonatal resuscitation. (pg. 22)
- ♦ Personnel who are capable of determining blood type, cross-matching blood, and performing antibody testing should be available on a 24-hour basis.
- ♦ The hospital's infection control personnel should be responsible for surveillance of infections in women and neonates as well as for the development of an appropriate environmental control program.
- ♦ A radiologic technician should be readily available 24 hours per day to perform portable X-rays. (pg. 33)

Title 22

- ♦ The hospital laboratory should have the capability of performing blood gas analysis, pH and microtechniques. [70547 (d)]

Outreach/Education

ACOG/AAP

- ♦ Medical and nursing staff of any hospital should be knowledgeable about and competency in current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed. (pg. 34)

Title 22

- ♦ There shall be evidence of continuing education and training programs for the nursing staff in perinatal nursing and infection control. [70549 (f)]



Perinatal Services Neonatal Care (Basic)

Facility, Equipment & Supplies

ACOG/AAP

Neonatal Functional Units

- ♦ All neonatal service in a birthing hospital should have facilities available to perform the following functions:
 - Resuscitation and stabilization
 - Admission and observation
 - Normal newborn nursery care
 - Isolation
 - Visitation
 - Supporting service areas
- ♦ Consistency of nursing care provided and efficient staffing may be enhanced by having a mix of neonatal patients in a single area. Local circumstances should be considered in the design and management of these care areas.

Resuscitation and Stabilization

- ♦ The resuscitation should be illuminated to at least 100-foot candles at the neonate's body surface and should contain the following items:
 - Overhead source of radiant heat that can be regulated by the newborn's skin temperature
 - Noncompressible resuscitation and examination mattress that allows access on three sides
 - Wall clock
 - Flat working surface for medical records
 - Table or flat surface for trays and equipment
 - Oxygen, pulse oximetry, blenders, compressed air, suction catheters
 - Dry preferably warmed towels
 - Resuscitation equipment, including bulb syringe, suction catheters, laryngoscope, endotracheal tubes and tape, meconium aspirator, ventilation bags and masks for term and preterm neonates, stethoscope, vascular access catheters
 - Syringes, medications, solution(s) for volume expansion
 - Equipment for examination, immediate care, and identification of the neonate
 - Protective gear to prevent exposure to body fluids (pg. 50)
- ♦ An estimated 40 net square feet of floor space is needed for each neonate in the admission and observation area. The capacity required depends on the size of the delivery service and the duration of close observation. The number of observation stations required depends on the birth rate and length of stay in the observation area. There should be a minimum of two observation stations. The admission and observation area should be well lighted and contain a wall clock and emergency resuscitation equipment similar to that in the designated resuscitation area. Outlets also should be similar to those in the resuscitation area. (pg. 52)



Perinatal Services Neonatal Care (Basic)

Facility, Equipment & Supplies

ACOG/AAP

Newborn Nursery

- Within each perinatal care facility there will be several types of units for newborn care. These units usually are defined by the content and complexity of care required by a specific group of infants. (pg. 52)
- Routine care of apparently normal term and some late preterm neonates who have demonstrated successful adaptation to extrauterine life may be provided either in the newborn nursery or in the area where the woman is receiving postpartum care. The nursery should be close to the postpartum area. In a multifloor maternity unit, there should be a newborn nursery on each floor. (pg. 52)
- The number of bassinets in the newborn nursery should exceed the number of obstetric beds to accommodate multiple births, extended neonatal hospitalization, maternal illness, cesarean delivery, and fluctuations in demand. The bed requirement for the newborn nursery should be estimated by using data on the mean length of stay and annual number of liveborn, normal, term neonates. The use of combination LDR/LDRP rooms and rooming-in of newborn with mothers may substantially alter nursery bed requirements. (pg. 52)
- Because relatively few staff members are needed to provide care in the newborn nursery and because no bulky equipment is needed, 30 net square feet of floor space for each neonate should be adequate. Bassinets should be at least 3 feet apart in all directions, measured from the edge of one bassinet to the edge of the neighboring bassinet. The newborn care area may be one room (in a small hospital) or one or more rooms (in larger hospitals). One registered nurse is recommended for every 6-8 neonates and should be available in each newborn-occupied area at all times. Therefore, individual rooms should have accommodations for 6-8, 12-16, or 18-24 neonates. (pg. 53)
- The newborn nursery should be well lighted, have a large wall clock, and a sink for hand-washing and be equipped for emergency resuscitation. One pair of wall-mounted electrical outlets is recommended for each two neonatal stations; one oxygen outlet, one compressed-air outlet, and one suction outlet are recommended for each four neonatal stations. (pg. 53)
- Cabinets and counters should be available within the newborn care area for storage of routinely used supplies, such as diapers, formula, and linens. If circumcisions are performed in the nursery, an appropriate table with adequate lighting is required. Electrical outlets to power portable X-ray machines are highly recommended. (pg. 53)
- In addition to providing care for healthy infants, a newborn nursery can provide care for infants born at 35-37 weeks who are physiologically stable that are not ill but may require frequent feeding and more hours of nursing than do normal term neonates should be. (pg. 53)
- More space is needed for the care of these newborns and so there should be 50 net square feet of floor space for each patient station, in the newborn nursery with approximately 4 feet between bassinets or incubators. (pg. 54)
- As in the resuscitation and stabilization areas and the admission and observation area, equipment for emergency resuscitation is required in the neonatal care areas. (pg. 53)
- Each neonatal station should have six electrical outlets, one oxygen outlet, one compressed-air outlet, and one suction outlet. In addition, the equipment and supplies required in the newborn nursery should be available in this area. Provisions should be made for the comfort of parents or personnel who feed neonates in both incubators and bassinets. (pg. 54)



Perinatal Services Neonatal Care (Basic)

Facility, Equipment & Supplies

Title 22

- ♦ Nursery equipment shall include at least the following:
 - A separate bassinet for each infant made of easily cleanable material, such as metal or clear plastic.
 - Enclosed storage unit for clean supplies for each infant.
 - Diaper receptacles with a cover, foot control and disposable liner.
 - A hamper with a disposable liner for soiled linen.
 - A wall thermometer and hygrometer.
 - Accurate beam scales or the equivalent. [70551 (e) (1-6)]
 - Thermostatically controlled incubators or radiant heating devices to maintain proper ambient temperature.
 - Oxygen and compressed air supply. [70551 (e) (7-8)]
 - Resuscitation equipment and supplies to include at least:
 - Glass trap suction device with catheter.
 - Pharyngeal airways, assorted sizes.
 - Laryngoscope, include a blade for premature infants.
 - Endotracheal catheters, assorted sizes with malleable stylets.
 - Arterial catheters, assorted sizes.
 - Ventilatory assistance bag and infant mask.
 - Bulb syringe.
 - Stethoscope.
 - Syringes, needs and appropriate drugs. [70551(d) (12A-I)]
 - Suction equipment.
 - At least one duplex electrical outlet for two bassinets.
 - One handwashing sink with controls not requiring direct contact of the hands for operation (wrist or elbow blade handles are not acceptable) for each six bassinets. [70551(e) (10-12)]
 - Dressing rooms for shift personnel should be provided. [70553 (a) (2)]
- ♦ Sufficient floor area shall be provided so that there is at least 2.3 square meters (24 square feet) per bassinet with at least one meter (3 feet) between bassinets.
- ♦ A workroom or control station shall be maintained which shall provide for handwashing, gowning and charting.
- ♦ There shall be 100 foot candles of light at each bassinet.
- ♦ Bassinets in the normal newborn nursery are not included in the total licensed bed capacity. [70553 (d) (1-4)]



Perinatal Services Neonatal Care (Basic)

Facility, Equipment & Supplies

1224.32.3.5 Infant resuscitation. Provide within the cesarean operating rooms and delivery rooms a minimum clear floor area of 40 square feet (3.2m²) in addition to the required area of each room or may be provided in a separate but immediately accessible room with a clear floor area of 150 square feet (13.94 m²). Six single or three duplex electrical outlets shall be provided for the infant in addition to the facilities required for the mother.

1224.32.5 Newborn/well baby nursery

1224.32.5.1.1 General. Infants shall be housed in nurseries that comply with the standards below. All nurseries shall be adjacent to the postpartum unit and obstetrical facilities. The nurseries shall be located and arranged to preclude the need for unrelated pedestrian traffic. No nursery shall open directly onto another nursery. Each nursery shall contain the following:

1224.32.5.1.1 Handwashing fixtures. At least one handwashing fixture for each six infant bassinets.

1224.32.5.1.2 Storage. Storage for linens and infant supplies at each nursery room.

1224.32.5.1.3 Location. A consultation/demonstration/breast feeding or pump room shall be provided convenient to the nursery. Provision shall be made, either within the room or conveniently located nearby, for sink, counter, refrigeration and freezing, storage for pump and attachments, and educational materials. The area provided for these purposes, when conveniently located, may be shared.

1224.32.5.1.4 Workroom(s). Each nursery shall be served by a connecting workroom. The workroom shall contain gowning facilities at the entrance for staff and housekeeping personnel, work counter, refrigerator, storage for supplies, and handwashing fixture. One workroom may serve more than one nursery room provided that required services are convenient to each. Adequate provision shall be made for storage of emergency cart(s) and equipment out of traffic and for the sanitary storage and disposal of soiled waste.

1224.32.5.1.5 Housekeeping room. A housekeeping room shall be provided for the exclusive use of the nursery unit. It shall be directly accessible from the unit.

1224.32.5.1.6 Charting space. Charting facilities shall have linear surface space to ensure that staff and physicians may chart and have simultaneous access to information and communication systems.

1224.32.5.2 Space requirements. Each newborn nursery room shall contain no more than 16 infant stations. Nurseries shall provide a minimum of 25 square feet (2.32 m²) of floor area per bassinet, with at least 3 feet (914 mm) between bassinets and at least 6 inches (152



Perinatal Services Neonatal Care (Basic)

Patient Types

Title 22

- Care for the normal infant and the infant with abnormalities which usually do not impair function or threaten life. [70547 (a)(2)]
- Care for infants needing emergency or immediate life support measures to sustain life up to 12 hours or to prevent major disability. [70547 (a) (3)]

Transport

ACOG/AAP

- An infant with known or anticipated medical needs may be admitted to the Level 2 Intermediate Care nursery or Level 3 ICN area in the same hospital if it is a specialty or subspecialty hospital or may be transferred to a hospital that provides the appropriate specialty or subspecialty care. (pg. 213)
- Interhospital transport should be considered if the necessary resources or personnel for optimal patient outcomes are not available at the facility currently providing care. The resources available at both the referring and the receiving hospitals should be considered. The risks and benefits of transport, as well as the risks and benefits associated with not transporting the patient should be assessed. Transport may be undertaken if the physician determines that the well-being of either the woman, the fetus, or the newborn will not be adversely affected or that the benefits of transfer outweigh the foreseeable risks. The staff of the referring hospital should consult with the receiving hospital as soon as the need for transport of the woman or neonate is considered. (pg. 76)
- If the transport is done by the referring hospital, the referring physician and hospital retain responsibility until the transport team arrives with the patient at the receiving hospital. If the transport team is sent by the receiving hospital, the receiving physician or designee assumes responsibility for patient care from the time the patient leaves the referring hospital. (pg. 69)
- Referring physicians should be familiar with the transport system, including how to gain access and to appropriately use its services. The referring physician is responsible for evaluating and stabilizing the patient's condition before transfer. (pg. 71)
- When being transferred, each patient should be accompanied by a maternal or neonatal transport form. This form should contain general information about the patient, including the reason for referral, the transport mode, and any additional information that may enhance understanding of the patient's needs. Also provided should be relevant neonatal medical information that maximizes the opportunity for appropriate and timely care and minimizes duplication of tests and diagnostic procedures at the receiving hospital. The newborn must have appropriate identification bands in place. (pg. 72)



Perinatal Services Neonatal Care (Basic)

Policy/Procedure

ACOG/AAP

- Each hospital should have policies and procedures addressing the care and resuscitation of the newborn, including the qualifications of physicians and staff who provide this care. A program should be in place that ensures the competency of these individuals as well as their periodic credentialing. At every delivery there should be at least one person whose primary responsibility is the newborn and who is capable of initiating resuscitation. Responsibility for identification and resuscitation of a distressed neonate should be assigned to a qualified individual. A physician, usually a pediatrician, should be designated to assume primary responsibility for initiating, supervising, and reviewing the plan for management of newborns requiring resuscitation in the delivery room. Procedures should be developed for transfer of responsibility for care. (pg. 205-206)
- Hospital medical staff policies should delineate the level of capability of their perinatal units, which conditions should prompt consultation and which patients should be considered for transfer. (pg. 70)
- The referring physician is responsible for evaluating the patient's condition and initiating stabilization procedures before the transport team arrives. (pg. 72)
- With multiple births, each of the newborns should be identified as to birth order and the corresponding umbilical cords should be identified according to hospital policy. (pg. 214)
- The medical and nursing services of each hospital should develop guidelines regarding the time of the first bath, measures to protect against excessive heat loss, circumstances and method of skin cleansing, and the roles of personnel and parents. (pg. 220)
- Each hospital should establish procedures to assess the neonate's status regarding hepatitis exposure and timely, appropriate intervention and immunization. (pg. 221)
- Every hospital should establish routines to ensure that all newborns are screened in accordance with state law. An adequate neonatal screening program includes education, laboratory tests, administration, follow-up, management, and evaluation components. The responsibility for transmitting the screening test results to the physician or other health care providers should rest with the authority or agency that performed the test. (pg. 222)
- The father or other support person should be encouraged to remain with the mother throughout the intrapartum and postpartum periods. Flexible and liberal visiting policies for families are encouraged. (pg. 225)
- An institution that allows sibling visitation should have clearly defined, written policies and procedures that are based on currently available information. (pg. 226)
- Institutions should develop guidelines through their professional staff in collaboration with appropriate community agencies, including third-party payers, to establish hospital stay programs for mothers and their healthy term newborns. State and local public health agencies also should be involved in the oversight of existing hospital stay programs for quality assurance and monitoring. (pg. 227-228)
- Hospital nurseries should have policies regarding the handling of adoptions in accordance with State laws. Policies should reflect sensitivity toward both the adoptive family as well as the birth parents. (pg. 235)



Perinatal Services Neonatal Care (Basic)

Policy/Procedure

ACOG/AAP

- ♦ Obstetric and nursery personnel, as well as others who have significant contact with newborns, should be as free of transmissible infectious diseases as possible. Each hospital should establish written policies and procedures for assessing the health of personnel assigned to perinatal care services, restricting their contact with patients when necessary, maintaining their health records, and reporting any illness that they may have. These policies and procedures should address screening for immunity to measles, rubella, mumps, varicella-zoster virus, HBV, pertussis, tetanus, diphtheria, and tuberculosis. (pg. 352)
- ♦ Hospital policies regarding sterile areas should be established and maintained. (pg. 345)
- ♦ Each unit should have a written policy on the procedures governing the use of these intravascular catheters. (pg. 339)
- ♦ Written policies should be established for the removal and disposal of solid wastes. (pg. 349)
- ♦ An established procedure for the disposal of soiled linen should be strictly followed. (pg. 351)

Title 22

- ♦ There shall be written policies and procedures developed and maintained by the person responsible for the service in consultation with other appropriate health professionals and administration. [70545 (b)]
- ♦ These policies and procedures shall reflect the standards and recommendations of the American Academy of Pediatrics "Hospital Care of Newborn Infants," (1971). Policies shall be approved by the governing body. [70545 (b)]
- ♦ Procedures shall be approved by the medical staff and administration where such is appropriate. Such policies and procedures shall include, but not be limited to:
 - Relationships to other services in the hospital.
 - Admission policies, including infants delivered prior to admission and infants transferred from an intensive care newborn nursery.
 - Consultation from an intensive care newborn nursery.
 - Infection control and relationship to the hospital infection committee.
 - Transfer of infants to and from an intensive newborn nursery.
 - Prevention and treatment of neonatal hemorrhagic disease.
 - Care of the premature or low birth weight infant.
 - Visiting privileges.
 - Resuscitation of newborn.
 - Administering and monitoring of oxygen and respiratory therapy.[70547 (b) (1-11)]
 - Transfusion.
 - PKU screening.
 - Rhesus (Rh) hemolytic disease identification, reporting and prevention.
 - Management of hyperbilirubinemia.
 - Provision of parent education regarding child care and family planning.
 - Obstetric-pediatric-pathologic-radiologic conferences.
 - Patient identification system.
 - Care routines for infant.
 - Handwashing technique.



Perinatal Services Neonatal Care (Basic)

Policy/Procedure

Title 22

- Individual bassinet technique.
- Credo treatment of eyes of newborn.
- Breast feeding.
- Gavage feeding.
- Formula preparation and storage. [70547 (b) (12-28)]
- Discharge and continuity of care with referral to community support services
- ♦ Provision, where deemed necessary, for family centered perinatal care, including rooming-in and care of infants by parent or surrogate.
- ♦ The responsibility and accountability of the perinatal service to the medical staff and administration shall be defined. [70547 ©]
- ♦ Rooming-in should be permitted if requested by the family. [70547 (k)]
- ♦ Smoking shall be prohibited in delivery rooms and nurseries. [70547 (l)]
- ♦ Periodically, an approved committee of the medical staff shall evaluate the services provided and make appropriate recommendations to the executive committee of the medical staff and administration. [70547 (n)]
- ♦ The Infection Control Committee shall develop and implement policies for the management, including physical separation from other infants, of infants with diarrhea of the newborn or draining lesions. [70547 (f)]
- ♦ All infections shall be reported to the hospital Infection Control Committee promptly. [70547 (g)]
- ♦ Oxygen shall be administered to newborn infants only on written order of a physician. The order shall include the concentration (volume percent) or desired arterial partial pressure of oxygen and be renewed, modified or discontinued after 24 hours. [70547 (i)]
- ♦ Formal arrangements for consultation and/or transfer of an infant to an intensive care newborn nursery, for problems beyond the capability of the perinatal unit. [70547 (a) (4)]

Perinatal Services Neonatal Care

Specialty



Perinatal Services Neonatal Care (Specialty)

Definition

ACOG/AAP

- ♦ Provision of basic care services as described previously and in addition provision of the following enhanced services:
 - Care of appropriate women at high risk and fetuses, both admitted and transferred from other facilities.
 - Stabilization of severely ill newborns before transfer.
 - Treatment of moderately ill larger preterm and term newborns. (pg.11)

- ♦ Care in a specialty level facility should be reserved for stable or moderately ill newborns that have problems that are expected to resolve rapidly and that would not be anticipated to need subspecialty level services on an urgent basis. These situations usually occur as a result of relatively uncomplicated preterm labor or preterm rupture of membranes at approximately 32 weeks of gestation or later. (pg. 10)

- ♦ Currently, some hospital with specialty level obstetric services also provides some elements of neonatal intensive care; such disproportionate service capability is not encouraged. In particular, the availability of pediatric subspecialty, such as pediatric cardiology, pediatric surgery, pediatric anesthesiology and pediatric radiology, may be limited. Each hospital should have a clear understanding of the categories of perinatal patients that can be managed appropriately in the local facility and those that should be transferred to a higher level facility. Preterm labor and impending delivery at less than 32 weeks of gestation usually warrant maternal transfer to a subspecialty (level III) center. Infants whose mothers cannot be transferred before delivery usually should be transferred after stabilization following delivery. (pg. 10-12)

Title 22

- ♦ An intensive care newborn nursery (ICNN) service shall provide:
 - Comprehensive care for all life-threatening or disability-producing situations.
 - Consultation services to referring perinatal units.
 - Infant transport services. [70483 (a)(1-3)]

- ♦ 2 designations:
 - Newborn nursery (as part of the perinatal unit).
 - Intensive care newborn nursery (ICNN).



Perinatal Services Neonatal Care (Specialty)

Definition

CCS

Intermediate NICU

- ♦ For the purpose of the California Children’s Services (CCS) program, an Intermediate Neonatal Intensive Care Unit (NICU) shall be defined as a nursery within a CCS-approved Pediatric Community or Special Hospital that has the capability of providing neonatal care services (intermediate and continuing care as defined in Section 3.25.3/A.2.), for sick neonates and infants who do not require intensive care but require care at a level higher than provided in a general nursery. Such infants may include, but are not limited to, infants requiring intravenous medication, exchange transfusion, feedings by nasogastric tube, parenteral nutrition, oxygen therapy and short term ventilatory assistance (approximately less than or equal to four hours) as per the CCS Manual of Procedures, Chapter 2.17.1/A., Medical Eligibility for Care in a CCS-approved NICU. (3.25.3/A.1)
- ♦ Type of care provided to sick neonates in an Intermediate NICU shall be defined as a follows:
 - After initial stabilization, “intermediate care” is that care which is provided to neonates and infants who require:
 - Greater than or equal to eight hours, but less than 12 hours, of nursing care by a registered nurse per 24-hour period
 - Other medical necessary support.
 - “Continuing care” is that care which is provided to neonates and infants who require:
 - Greater than or equal to six hours, but less than eight hours, of nursing care by a registered nurse per 24-hour period
 - May have previously received intermediate or intensive care but who no longer require these levels of care. (3.25.3/A.2)

EMS

- ♦ Ambulance Provider: Provider of air or ground ambulances
- ♦ Medical Control Physician: The physician responsible for directing the medical care of the patient during transport.
- ♦ Pediatric: The term “pediatric” includes neonates, infants, children and adolescents. For data collection purposes pediatric is defined as < 18 years.
- ♦ Pediatric Interfacility Transport: The transport of ill or injured pediatric patients between health care facilities.
- ♦ Pediatric Interfacility Transport Program: A transport program organized to provide pediatric Interfacility transport on a regular basis. This program may be hospital-based or non-hospital-based.
- ♦ Regional Interfacility Pediatric Transport Program: An organized program that provides pediatric transport services for multiple facilities in a geographic area.
- ♦ Transport Team: A medical team composed of a minimum of two individuals responsible for providing clinical care and monitoring for a patient during transport.
- ♦ Transport Team Nurse: A registered nurse providing clinical care for a patient during transport.
- ♦ Transport Team Physician: The physician providing clinical care for a patient during transport.



Perinatal Services Neonatal Care (Specialty)

Personnel/Staff

ACOG/AAP

- In units where neonates receive mechanical ventilation, medical, nursing, or respiratory therapy staff who have demonstrated ability to intubate the trachea, manage mechanical ventilation, and decompress a pneumothorax should be continually available. The nursing staff should be formally trained and validated in neonatal resuscitation. The unit's medical director, in conjunction with other personnel should define and supervise the delegated medical functions, processes and procedures performed by various categories of personnel. (pg. 31-32)

Registered Nurse/Patient Ratio

- 1:6-8 Newborns requiring only routine care
- 1:3-4 Normal mother-newborn couplet care or breastfeeding
- 1:3-4 Newborns requiring continuing care
- 1:2-3 Newborns requiring intermediate care
- 1:1-2 Newborns requiring intensive care
- 1:1 Newborns requiring multisystem support
- 1:≥1 Unstable newborns requiring complex critical care (pg. 29)

CCS

- There shall be an identified NICU multidisciplinary team:
 - Which shall have the responsibility for the coordination of all aspects of patient care
 - Which shall consist of, at a minimum, a CCS-paneled neonatologist or CCS-paneled pediatrician, a clinical nurse specialist or registered nurse, and a CCS-paneled medical social worker with current experience and practice in neonatal care and whose professional requirements are defined in Section 3.25.3/F. optional members to the Intermediate NICU multidisciplinary team may include, but are not limited to, the following: CCS-paneled clinical registered dietician, respiratory care practitioner, CCS-paneled occupational therapist and CCS-paneled physical therapist. (3.25.3/E.6)
- There shall be 24-hour in-house coverage by a professional staff (physician, NNP, and/or RN):
 - Who has evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA
 - Who is proficient in needle aspiration for pneumothorax and intubation for resuscitation. (3.25.3/H.7)
- Nurse staffing in the Intermediate NICU shall meet the requirements contained in CCR, Title 22, Division 5, Article 6, Section 70485, Section 3.25.3/F.2; and shall also include the following:
 - The nurse supervisor or designee shall be present in the NICU at all times.
 - There shall be at least one nurse supervisor assigned to the NICU for every 30 full-time equivalent NICU positions or 50 NICU staff members to be supervised, whichever is less. (3.25.3/H.8)



Perinatal Services Neonatal Care (Specialty)

Personnel Staff

CCS

- ♦ There shall be, at a minimum, weekly NICU multidisciplinary team conferences (rounds).
 - The NICU multidisciplinary team conference shall include representation from the NICU's medical, nursing, medical social service, RCP staff, occupational therapist and physical therapist, when appropriate. (3.25.3/H.14)
 - There shall be a R.N. assigned to each patient in the NICU.
 - There shall be no less than two R.N.s physically present in each area of care of the NICU at all times, when a patient is present.
 - A NNP assigned to the NICU may not be included in the calculation of nurse staff to infant ratio in the NICU. (3.25.3/H.8)

Personnel/Staff

EMS

(II.F) Transport Team Personnel

- ♦ Qualifications
 - For the transport of neonatal and pediatric patients deemed critical by the referring and receiving physicians the transport team should consist of at least 2 individuals and at least one of the team members should be a transport nurse or physician.
 - Certification as a physician, registered nurse, respiratory care practitioner, EMT-I, EMT-II or paramedic as determined appropriate by the medical control physician.
 - Training and experience in pediatric transport and pediatric or neonatal critical care.
 - Transport team personnel who are responsible for the stabilization and transport of ill or injured pediatric patients should collectively possess the skills and knowledge to provide a level of care commensurate with the specific and anticipated clinical needs of the patient.

Nurse Manager

ACOG/AAP

- ♦ Specialty care hospitals should have a director of perinatal and neonatal nursing services who has overall responsibility for inpatient activities in the respective obstetric and neonatal areas. (pg 31)

CCS

- ♦ There shall be an Intermediate NICU nurse manager:
 - Who shall have the responsibility on a 24-hour basis for the organization, management, supervision and quality of nursing practice and nursing care in the NICU
 - Who shall not be a nurse manager of more than one NICU other than at the same contiguous medical building complex
 - Who shall meet the requirements contained in Section 3.25.3/F. (3.25.3-6/E.3)



Perinatal Services Neonatal Care (Specialty)

Nurse Manager

CCS

- ♦ Intermediate NICU Manager
 - There shall be a nurse manager of the NICU who shall direct the nursing administrative operation of the NICU, as per Section 3.25.3/E.3. and shall:
 - Be a registered nurse (R.N.) licensed by the State of California holding a master's degree in nursing
 - Be an R.N. holding a bachelor's of science degree in nursing (BSN) and either a master's degree in a related field or a certificate in nursing or health care administration from a nationally recognized accrediting organization
 - Have at least three years of clinical nursing experience one of which shall have been in a facility with an NICU that is equivalent to a Regional, Community, or Intermediate NICU or in a facility providing pediatric critical care.
 - The responsibilities of the Intermediate NICU nurse manager shall include, at a minimum, personnel, fiscal and material management, and coordination of the quality improvement program for the NICU.
 - The intermediate NICU nurse manager shall directly supervise the nurse supervisor for the NICU.
 - The facility shall maintain written documentation of the qualifications and responsibilities of the Intermediate NICU nurse manager.
 - If the nurse manager is dedicated solely to the NICU and does not oversee more than 30 full-time equivalent positions or 50 NICU staff members, the position and responsibilities of the nurse manager and the nurse supervisor may be combined under the nurse manager position.
 - The Intermediate NICU nurse manager shall have direct responsibility to the administrative director of nursing or individual holding an equivalent position (3.25.3-9/F.2.1).

EMS

(II. C) Nursing Director

- ♦ Qualifications
 - Registered nurse with a baccalaureate degree in nursing or another health related field.
 - Specialized training and at least 2 years of clinical experience in pediatric transport.
 - Advanced skills and knowledge of the standards of practice in pediatric monitoring and life support techniques and a minimum of 3 years of clinical experience in pediatric critical care, neonatal intensive care or pediatric emergency services.
- ♦ Responsibilities
 - Concurrent service as the administrative director if individual meets qualifications.
 - Appointment and assurance of competence of transport nurses and development of appropriate orientation, training and continuing education programs for these nurses.



Perinatal Services Neonatal Care (Specialty)

Registered Nurse

ACOG/AAP

- All nurses caring for ill newborns must possess demonstrated knowledge in the observation and treatment of newborns, including cardiorespiratory monitoring. The registered nursing staff of an intermediate-care nursery in a specialty care hospital takes on a greater responsibility for monitoring the premature newborn or the newborn who is having difficulty in adapting to extrauterine life. The neonatal nurse at this level cares for premature or term newborns who are ill or injured from complications at birth. The neonatal nurse provides the newborn with frequent observation and monitoring and should be able to monitor and maintain the stability of cardiopulmonary, neurologic, metabolic, and thermal functions; assist with special procedures, such as lumbar puncture, endotracheal intubation, and umbilical vessel catheterization; and perform emergency resuscitation. (pg. 31)
- The nursing staff should be formally trained and validated in neonatal resuscitation. (pg. 31)

CCS

Intermediate NICU Registered Nurses

- R.N.s who are assigned direct patient care (intermediate and continuing care) responsibilities in the Intermediate NICU shall:
 - Be licensed by the State of California
 - Have education, training and demonstrated competency in neonatal critical care nursing
 - Have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA.
- R.N.s functioning in an expanded role shall do so in accordance with standardized procedures as per CCR, Title 16, Division 14, Article 7, Sections 1470 through 1474.
- The facility shall maintain written documentation of the qualifications and responsibilities of the R.N. staff which shall include, at a minimum, the standards of competent performance of the R.N. staff providing care in the Intermediate NICU. (3.25.3-13/F.2.6)

Advance Practice Nurses

ACOG/AAP

- In collaboration with a physician, care may be provided by qualified advanced-practice nurses who have formal education in acute care and training in the care of critically ill newborns in level 2 or 3 neonatal NICUs as well as at least 600 supervised clinical hours and experience in the care of these newborns at high risk. (pg. 23)



Perinatal Services Neonatal Care (Specialty)

Advance Practice Nurses

CCS

Intermediate NICU Clinical Nurse Specialist

- ♦ There may be a clinical nurse specialist (CNS) for the Intermediate NICU and who shall:
 - Be an R.N. licensed by the State of California
 - Be certified by the State Board of Registered Nursing as a CNS, as per the California Business and Professions Code, Chapter 6, Section 2838 of the Nursing Practice Act
 - Have at least two years of clinical experience in neonatal nursing care at least one of which shall have been in a facility with an NICU that is equivalent to a Regional, Community, or Intermediate NICU
 - Have current certification in Neonatal Intensive Care Nursing from a nationally recognized accrediting organization, i.e. the NCC
 - Have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA.
- ♦ The Intermediate NICU CNS shall be responsible for:
 - Directing the clinical nursing practice in the NICU
 - Coordinate and assessment of critical care educational development and clinical competency of the nursing staff in the NICU; and for ensuring continued neonatal critical care nursing competency through educational programs for both the newly-hired and experienced nursing staff
 - Consultation with staff on complex neonatal critical care nursing issues
 - Oversight of comprehensive parent and or primary caretaker education activities
 - Ensuring the implementation of a coordinated and effective discharge planning program. (3.25.3/F.2.3)

Management

ACOG/AAP

- ♦ A general pediatrician should have the expertise to assume responsibility for acute, although less critical, care of newborns; understand the need for proper continuity of care and be capable of providing it and share responsibility with a consulting neonatologist for the development and delivery of effective services for newborns at risk in the hospital and community. In a level IIB hospital, a board-certified pediatrician with subspecialty certification in neonatal-perinatal medicine should be chief of the neonatal care service. (pg.23)
- ♦ The chief of the obstetric service and the chief of the newborn service should coordinate the hospital's perinatal care services and in conjunction with other medical, anesthesia, nursing, respiratory therapy, and hospital administration staff develop policies concerning staffing, procedures, equipment and supplies. (pg. 23)

CCS

Intermediate NICU Medical Director

- ♦ There shall be a CCS-paneled neonatologist or CCS-paneled pediatrician with current experience and practice in neonatal medicine as the medical director who shall have the overall responsibility for the quality of medical care for the infants admitted to the NICU. (3.25.3/F.1.1)



Perinatal Services Neonatal Care (Specialty)

Management

EMS

(II) Organization and Personnel

(II.A) Administrative Director

- ♦ Responsibilities
 - Oversight of structure, administration, operational components, fiscal management, information management and quality improvement mechanism for the pediatric transport program.
 - Assurance that the transport program meets all applicable federal, state and local laws and regulations. Assurance that all transport program personnel are appropriately licensed or certified in the State of California.

Medical Staff

ACOG/AAP

- ♦ Care of high-risk neonates should be provided by appropriately qualified physicians. A general pediatrician should have the expertise to assume responsibility for acute, although less critical, care of newborns; understand the need for proper continuity of care and be capable of providing it; and share responsibility with a consulting neonatologist for the development and delivery of effective services for newborns at risk in the hospital and community. (pg. 23)
- ♦ In a level IIB hospital, a board-certified pediatrician with subspecialty certification in neonatal-perinatal medicine should be chief of the neonatal care service. (pg.23)
- ♦ The director of Obstetric anesthesia services should be board certified in anesthesia and should have training and experience in obstetric anesthesia. (pg. 23)
- ♦ The hospital staff should also include a radiologist and a clinical pathologist who are available 24 hours a day. Specialized medical and surgical consultation also should be available. (pg. 23)

CCS

- ♦ The responsibilities of the Intermediate NICU medical director shall include, but are not limited to, the following:
 - Participation in the development, review and assurance of the implementation of NICU policies and procedures as described in Section 3.25.3/I.
 - Approval of, at a minimum, written criteria that define the following:
 - Which infants shall be admitted to the NICU
 - Which infants require discharge and/or transfer out of the Intermediate NICU
 - Which infants require consultation by a neonatologist or pediatrician with evidence of current experience and practice in neonatal medicine.
 - Supervision of quality control and quality assessment activities (including morbidity and mortality reviews).
 - Assuring NICU staff competency in resuscitation techniques.
 - Assuring ongoing NICU staff education.
 - Participation in NICU budget preparation.
 - Oversight of infant transport to and from the NICU.
 - Assuring maintenance of NICU database and/or vital statistics. (3.25.3/F.1.1)



Perinatal Services Neonatal Care (Specialty)

Medical Staff

CCS

Intermediate NICU Neonatologist/Pediatrician Staff

- ♦ The Intermediate NICU medical director shall have one or more CCS-paneled associate neonatologist or pediatrician on staff who shall share the clinical care responsibilities of the NICU.
- ♦ A CCS-paneled neonatologist shall:
 - Be certified by the American Board of Pediatrics and
 - Be certified by the American Board of Pediatrics in the subspecialty of Neonatal-Perinatal Medicine or shall be board certified in Neonatal-Perinatal Medicine within four years of completing training.
- ♦ A CCS-paneled pediatrician shall:
 - Be certified by the American Board of Pediatrics with evidence of current experience and practice in neonatal medicine
 - Meet educational requirements defined in Section 3.25.3/K.
 - Have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA (3.25.3-9/F.1.2)

Intermediate NICU Additional Physician Staff

- ♦ There shall be a written agreement with a CCS-approved Regional or Community NICU for obtaining telephone consultation with a neonatologist on a 24-hour basis as defined in Section 3.25.3/H
- ♦ There shall be a written agreement with a CCS-approved Regional NICU for obtaining telephone consultation on a 24-hour basis with all necessary specialties and disciplines as defined in Section 3.25.3/H. This does not preclude consultation agreements with Community NICUs. (3.25.3/F.1.3)

EMS

(II. B) Medical Director

- ♦ Qualifications
 - Completion of specialized training, experience, or expertise in pediatric and neonatal transport.
 - Qualified specialist in pediatric emergency medicine, pediatric critical care or neonatal-perinatal medicine (qualified specialist means a physician and surgeon licensed in California who has taken special postgraduate medical training, or has met other specified requirements, and has become sub-board certified within six years of qualification for sub-board certification in corresponding subspecialty.)



Perinatal Services Neonatal Care (Specialty)

Medical Staff

EMS

- ♦ Responsibilities
 - Authority over transport utilization, including triage of transport requests when transport demand exceeds operational capacity.
 - Coordination of specialists and services required in the transport of patients.
 - Establishment of guidelines for transport team composition and mode of transportation.
 - Appointment and assurance of competence of medical control physicians and transport team physicians and the development of appropriate orientation, training, and continuing education programs for these physicians.
 - Appointment of associate and/or assistant medical director(s) as necessary.
 - The associate and assistant medical director(s) should have specialized training, experience and expertise in pediatric transport and pediatric critical care, including advanced skills in monitoring and life support techniques.
 - In the absence of the medical director, an associate or assistant medical should be designated to function as medical director.

Support Personnel

ACOG/AAP

- ♦ When required, one or two additional persons should be available to assist with neonatal resuscitation. (pg. 22)
- ♦ Personnel who are capable of determining blood type, crossmatching blood, and performing antibody testing should be available on a 24-hour basis.
- ♦ The hospital's infection control personnel should be responsible for surveillance of infections in women and neonates as well as for the development of an appropriate environmental control program.
- ♦ A radiologic technician should be readily available 24 hours per day to perform portable X-rays. (pg. 33)
- ♦ Availability of a postpartum care provider with expertise in lactation. (pg 33)
- ♦ At least one full-time, master's degree level, medical social worker (for every 30 beds) who has experience with socioeconomic and psychosocial problems of high-risk women and fetuses, ill neonates and their families.
- ♦ Additional medical social workers are required when there is a high volume or psychosocial activity.
- ♦ At least one occupational or physical therapist with neonatal expertise.
- ♦ At least one individual skilled in evaluation and management of neonatal feeding and swallowing disorders.
- ♦ At least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the needs of high-risk women with neonates.
- ♦ Qualified personnel for support services, such as laboratory studies, radiologic studies, and ultrasound examinations (these personnel should be available 24 hours per day)
- ♦ Respiratory therapists or nurses with special training who can supervise the assisted ventilation of neonates with cardiopulmonary disease.
- ♦ Pharmacy personnel who can work to continually review their systems and process of medication administration to ensure that patient care policies are maintained.
- ♦ Personnel skilled in pastoral care, available as needed. (pg. 33-34)



Perinatal Services Neonatal Care (Specialty)

Support Personnel

CCS

- ♦ Respiratory care services shall be provided by respiratory care practitioners (RCPs) who are licensed by the State of California and have additional training in neonatal respiratory care. Additional training in neonatal respiratory care shall be demonstrated by the following:
 - Completion of a formal neonatal respiratory therapy course at an approved school of respiratory therapy that includes didactic and clinical course work
 - Completion of a minimum of 20 hours of didactic and four weeks of precepted neonatal clinical experience in a hospital-based course at a facility with an NICU equivalent to a Regional or Community NICU. (3.25.3/F.3)
- ♦ Social worker services shall be provided in the NICU by a CCS-paneled medical social worker (MSW) holding a master's degree in social work and who has expertise in psychosocial issues affecting the families of seriously ill neonates/infants. For every 15 patients in the NICU there shall be one full-time equivalent MSW. (3.25.3/F.4)
- ♦ There shall be at least one licensed pharmacist holding a doctoral degree in pharmacy (PharmD) with neonatal expertise available for consultation to the Intermediate NICU staff. Pharmacy staff and pharmaceutical services shall be available on a 24-hour basis to the Intermediate NICU. (3.25.3/F.5)
- ♦ Nutritional consultation to the Intermediate NICU shall be provided by a CCS-paneled clinical registered dietitian who has clinical experience and neonatal nutritional services. (3.25.3/F.6)

Outreach/Education

ACOG/AAP

- ♦ The medical and nursing staff of any hospital providing perinatal care at any level should maintain knowledge about and competency in current maternal and neonatal care through joint in-service sessions. These sessions should cover the diagnosis and management of perinatal emergencies, as well as the management of routine problems and family-centered care. The staff of each unit also should have regular multidisciplinary conferences at which the patient care problems are presented and discussed. (pg. 34)
- ♦ Design and coordination of a program for perinatal outreach education should be provided jointly by neonatal and obstetric physicians and APNs. (pg. 35)
- ♦ Ideally, a maternal-fetal medicine specialist, a certified nurse-midwife, an obstetric nurse, a neonatologist, and a neonatal nurse should be members of the perinatal outreach education team. (pg. 35)



Perinatal Services Neonatal Care (Specialty)

Outreach/Education

CCS

- ♦ Assurance for continuing education for staff providing services in the NICU shall include at least the following:
 - There shall be a written plan for an orientation of all newly hired professionals who will be providing care in the NICU and an ongoing evaluation of the program. This written plan shall include the competencies required of the professional staff and documentation of successful demonstration of these competencies.
 - There shall be a written plan for the continuing education of all professionals involved in neonatal care:
 - The continuing education program shall include, but is not limited to, a neonatal/perinatal in-service education program for all professionals, held at least monthly.
 - CCS-paneled pediatricians providing care to infants requiring intermediate or continuing care shall document a minimum of 36 hours of continuing education in neonatal medicine every three years.
 - All R.N.s providing care in the Intermediate NICU shall have documentation of completing 40 hours annually of clinical training in neonatal critical care nursing at a CCS-approved Regional or Community NICU.
 - The Intermediate NICU shall have an in-house educational programs which are based on the standards of practice for all professionals responsible for providing care in the NICU as demonstrated by peer review journal articles and current professional reference books. These programs shall be provided as specified in the requirements for the Regional Cooperation Agreement, as per Section 3.25.3/B.3.
 - There shall be a method for monitoring attendance of all professionals involved in neonatal care at the monthly continuing education programs. (3.25.3/K.7)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ In addition to the requirements in a basic care facility, the following provisions apply to hospitals providing intermediate care:
 - The neonate intermediate care area should be close to the delivery and cesarean delivery room and in the intensive care area, and away from general hospital traffic. It should have radiant heaters or incubators for maintaining body temperature, as well as infusion pumps, cardiopulmonary monitors, and equipment for ventilatory assistance. (pg. 54)
 - At least 120 net sq ft of floor space is needed for each patient station in intensive care, although less may be adequate for intermediate care. There should be at least 4 feet between incubators, bassinets, or radiant heaters. Space needed for other purposes (eg, for desks, counters, cabinets, corridors, and treatment rooms) should be added to the space needed for patients. Neonates receiving intermediate care may be housed in a single large room or in two or more smaller rooms. In the latter, case, each room should accommodate some multiple of 3-4 neonates who require intermediate care. (pg. 54)



Perinatal Services Neonatal Care (Specialty)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Eight electrical outlets, two oxygen outlets, two compressed-air outlets, and two suction outlets should be provided for each patient station. In addition, the area should have a special outlet to power the neonatal unit's portable X-ray machine. All electrical outlets for each patient station should be connected to both regular and auxiliary power. An oxygen tank for emergency use should be stored but readily available for each newborn receiving wall-supplied oxygen. All equipment and supplies for resuscitation should be immediately available within the intermediate care unit. These items may be conveniently placed on an emergency cart. (pg. 55)

Title 22

- ♦ An intermediate NICU may be licensed as an ICNN through program flexibility. All units shall conform to the most current American Academy of Pediatrics and American College of Obstetricians and Gynecologists (AAP/ACOG) guidelines for perinatal care. [70307]

CCS

- ♦ An Intermediate NICU shall be a distinct, separate unit within the hospital.
- ♦ An Intermediate NICU shall meet the following bed requirements:
 - There shall be at least six licensed ICNN beds for providing intermediate and continuing care and:
 - At least one of the six beds shall have 80 square feet per patient station, to be utilized for infant stabilization shall meet all requirements pertaining to space, equipment, supplies, and physical environment for intensive care as required in the ICNN regulations, CCR, Title 22, Division 5, Sections 70487 and 70489.
 - There shall be at least five beds in the Intermediate NICU providing intermediate and/or continuing care which are not licensed under CCR, Title 22, Division 5, Article 6, Section 70489 but are licensed under program flexibility, CCR, Title 22, Article 4, Division 5, Section 70307. Those beds licensed under program flexibility shall not be used for intensive care and shall, at a minimum, have the following:
 - Fifty square feet for each patient station exclusive of space needed for storage, desks, counters, treatment rooms, et cetera and
 - Eight electrical outlets, two oxygen outlets, two compressed air outlets, and two suction outlets per patient station.
 - Beds in addition to the six bed requirements of Section 3.25.3/G. in the Intermediate NICU which provide only continuing care and are licensed under program flexibility, CCR, Title 22, Division 5, Article 4, Section 70307 shall at a minimum, have the following:
 - Forty square feet for each patient station exclusive of space needed for storage, desks, counters, treatment rooms, et cetera and
 - Four electrical outlets, one oxygen outlet, one compressed air outlet and one suction outlet per patient station.(3.25.3/G.2)



Perinatal Services Neonatal Care (Specialty)

Facilities, Equipment and Supplies

Title 24

1224.29.2 Newborn intensive care units (NICU). The NICU shall comply with all the requirements of Section 1224.29.1. Additionally each NICU shall include or comply with the following:

1224.29.2.1 Entrance. The NICU shall have a clearly identified entrance and reception area for families. The area shall permit visual observation and contact with all traffic entering the unit.

1224.29.2.2 Handwashing fixture(s). Provide one handwashing fixture for each four infants or major fraction thereof. In a multiple-bed room, every bed position shall be within 20 feet (6096 mm) of a hands-free handwashing fixture. Where an individual room concept is used, a handwashing fixture shall be provided within each room.

1224.29.2.3 Doors. At least one door to each patient room shall be a minimum of 44 inches (1118 mm) wide.

1224.29.2.4 View windows. When viewing windows are provided, provision shall be made to control casual viewing of infants. Controls shall be provided to enable lighting to be adjusted over individual patient care spaces. Darkening sufficient for transillumination shall be available when necessary.

1224.29.2.5 Control station. A central area shall serve as a control station, shall have space for counters and storage, and shall have convenient access to handwashing fixture. It may be combined with or include centers for reception and communication and patient monitoring.

1224.29.2.6 Area. Each patient care space shall contain a minimum of 120 square feet (11.15 m²) per bassinet excluding handwashing fixtures and aisles. There shall be an aisle for circulation adjacent to each patient care space with a minimum width of 4 feet (1219 mm).

Exception:

Where renovation of existing NICUs is undertaken in facilities built under the 2001 or prior California Building Code, patient care areas shall have no less than 80 square feet (7.43 m²) of clear floor area per bassinet exclusive of space for nurse control, scrubbing and gowning, and reception area.

For shelled spaces built under the 2001 or prior California Building Code, NICUs shall have no less than 80 square feet (7.43 m²) of clear floor area per bassinet, exclusive of space for nurse control, scrubbing and gowning, and reception area.

1224.29.2.7 Ceilings. Ceilings shall have a noise reduction coefficient (NRC) of at least 0.90.

1224.29.2.8. Airborne infection isolation room. Shall comply with the requirements of Section 1224.29.1.13 except for separate toilet, bathtubs, or shower. The room shall be enclosed and separated, from the nursery unit with provisions for observation of the infant from adjacent nurseries or control area(s)

1224.29.9 Lactation. Space shall be provided for lactation support and consultation in or immediately adjacent to the NICU.

1224.29.10 Emergency equipment storage. Space shall be provided for emergency equipment that is under direct control of the nursing staff, such as a CPR cart.

1224.29.11 Housekeeping room. Shall be directly accessible from the unit and be dedicated for the exclusive use of the neonatal intensive care unit.

Perinatal Services Neonatal Care (Specialty)

Facilities, Equipment and Supplies

Title 24

Station Outlet Locations	Oxygen	Vacuum	Medical Air
Patient rooms (medical & Surgical)	1/bed	1/bed	—
Examinations or Treatment (medical, surgical, and postpartum care)	1/room	1/room	—
Airborne infection isolation or protective environment (medical and surgical)	1/bed	1/bed	—
Security room (medical, surgical, and postpartum)	1/bed	1/bed	—
Airborne infection isolation (intensive care)	3/bed	3/bed	1/bed
Newborn intensive care	3/bassinets	3/bassinets	3/bassinets
Newborn nursery (full term)	1/4 bassinets	1/4 bassinets	1/4 bassinets
Post-anesthesia care unit	1/bed	3/bed	1/bed
Postpartum bedroom	1/bed	1/bed	—
Pediatric Nursery	1/bassinets	1/bassinets	1/bassinets
Cesarean operating/delivery room	2/room	3/room	1/room
Infant resuscitation station	1/bassinets	1/bassinets	1/bassinets
Labor room	2/bed	2/bed	—
OB recovery	1/bed	3/bed	1/bed
Labor/delivery/recovery (LDR)	2/bed	2/bed	—
Labor/delivery/recovery/postpartum (LDRP)	2/bed	2/bed	—



Perinatal Services Neonatal Care (Specialty)

Facility, Equipment & Supplies

CCS

- ♦ An Intermediate NICU shall have the following space/rooms available within, adjacent to, or in close proximity to the NICU:
 - An on-call physician's room/sleeping quarter
 - A parent waiting room
 - A separate room available parent and infant interaction in privacy
 - A separate room for parent and physician/staff conferences, NICU multidisciplinary team conferences, case presentations, teaching/in-service education, and other staff meetings. (3.25.3/G.3)
- ♦ Transport equipment with provisions for temperature control, ventilation, and cardiopulmonary monitoring shall be available for the transport of infants within the hospital and shall meet conditions in CCR, Title 22, Division 5, Article 6, Section 70487. (3.25.3/G.6)
- ♦ Laboratory services and consultation necessary to the level of care provided shall be available on a 24-hour basis. There shall be capability for ten minute turnaround time for pH and blood gas determinations. (3.25.3/G.8)
- ♦ An Intermediate NICU shall have:
 - One bed used for infant stabilization at 80 square feet that meets the following requirements:
 - Monitoring equipment at the infant station in the NICU that has, at a minimum, the capability of:
 - ⇒ Heart rate and electrocardiogram (ECG)
 - ⇒ Respiratory rate
 - ⇒ Temperature
 - ⇒ Oxygen saturation and/or transcutaneous PaO₂
 - Individual infant monitoring equipment shall have characteristics including, at a minimum, the following:
 - ⇒ Visible and audible high/low alarms for heart rate, respiratory rate, and all pressures
 - ⇒ Hard-copy capability of the rhythm strip
 - ⇒ Routine testing and maintenance of all monitors
 - ⇒ Two pressure monitoring channels
 - Beds used for intermediate care and are not used for infant stabilization that meets the following requirements:
 - Monitoring equipment at the infant station in the NICU shall have at a minimum, the capability to monitor:
 - ⇒ Heart rate and ECG
 - ⇒ Respiratory rate
 - ⇒ Temperature
 - ⇒ Oxygen saturation and/or transcutaneous PaO₂.
 - Individual infant monitoring equipment that have characteristics including, at a minimum the following:
 - ⇒ Visible and audible high/low alarms for heart rate, respiratory rate, and pressure
 - ⇒ Routine testing and maintenance of all monitors
 - ⇒ One pressure monitoring channel per every two beds



Perinatal Services Neonatal Care (Specialty)

Facility, Equipment & Supplies

CCS

- Beds licensed for continuing care and are not used for continuing care that meet the following requirements:
 - Monitoring equipment at the infant station in the NICU that have the capability of:
 - ⇒ Heart rate and ECG
 - ⇒ Respiratory rate
 - ⇒ Oxygen saturation
 - Individual infant monitoring equipment that have characteristics including, but not limited to, the following:
 - ⇒ Visible and audible high/low alarms for heart rate and respiratory rate; and
 - ⇒ Routine testing and maintenance of all monitors. (3.25.3/G.4)
- ♦ Oxygen and compressed air, supplied from a central source, shall supply 50 pounds per square inch (psi) with an alarm system to warn of a critical reduction inline pressure. Reduction valves and blenders shall produce concentrations of oxygen from 21 percent to 100 percent at atmospheric pressure for head hoods and 50 psi for mechanical ventilators. Oxygen monitoring for inspired concentrations shall be available in the NICU. (3.25.3/G.5)
- ♦ Diagnostic imaging procedures and consultation services necessary for the level of care provided shall be available on a 24-hours basis as specified in Chapter 3.3.2 of the CCS Standards for Pediatric Community Hospitals. (3.25.3/G.7)
- ♦ A nursery within a CCS-approved Pediatric Community or Special Hospital that has the capability of providing neonatal care services (intermediate and continuing care as defined in Section 3.25.3/A.2.), for sick neonates and infants who do not require intensive care but require care at a level higher than provided in a general nursery. Such infants may include, but are not limited to, infants requiring intravenous medication, exchange transfusion, feedings by nasogastric tube, parenteral nutrition, oxygen therapy and short term ventilatory assistance (approximately less than or equal to four hours) as per the CCS Manual of Procedures, Chapter 2.17.1/A., Medical Eligibility for Care in a CCS-approved NICU. (3.25.3/A)



Perinatal Services Neonatal Care (Specialty)

Facility, Equipment & Supplies

EMS

(II.G) Communication Center

- ♦ The Pediatric Interfacility Transport Program should have a transport communication center or special location where transport requests are received and processed. The essential components are:
 - Designated phone lines and two-way communication capability
 - Transport protocols
 - A reference data base on hospitals and ambulance providers
 - Mechanism of documenting all transport transactions
- ♦ Communication personnel should be trained and skilled in handling transport transactions. They should not have other duties of more primary importance that might cause delays in the transport process.
- ♦ All communications for individual transports should be documented.
- ♦ A reference data base should be maintained and should include regional information pertinent to pediatric interfacility transport, including hospitals, ambulance providers, airports, interfacility distances, interfacility transport times by the various ambulance providers, and other essential information stored in a manner which allows immediate accessibility.
- ♦ The transport program should provide a communications system that facilitates communications between the transport team, the communication center personnel, the medical control physician, the referring and receiving facilities, and the ambulance providers.

IV. Operations Agreements with Ambulance Providers

- ♦ The Pediatric Interfacility Transport Program should be responsible for assuring the coordination of ambulance services.

(VIII) Pediatric Interfacility Transport Equipment and Supplies

- ♦ The following equipment and supplies should be available and maintained in proper operating condition for use by the Pediatric Interfacility Transport Program.
 - Transport isolette
 - Transport isolette should be capable of providing a neutral thermal environment and should allow for continuous intensive care at all times.
 - The transport gurney or isolette should be capable of being loaded into an ambulance by the ambulance personnel and safely secured within the ambulances.
 - Portable patient equipment
 - Portable patient monitoring equipment should be capable of monitoring the patient's heart rate, respiratory rate, blood pressure, blood oxygenation and temperature in a moving environment.
 - Transport equipment should have an independent battery power capability of at least 1 ½ hours.
 - Transport oxygen/air systems
 - The primary oxygen/air system for transport isolettes should have the capability of blending air and oxygen and providing a precise oxygen concentration from 21% to 100%.
 - Oxygen/air systems should have the capability to operate for twice the anticipated duration of the transport as estimated by the transport program.



Perinatal Services Neonatal Care (Specialty)

Facility, Equipment & Supplies

EMS

- Ambulance Power
 - Inverter adequate to power the transport equipment
 - Built-in Suction.
- Power, oxygen/air connections
 - The transport equipment system should be capable of direct connection to ambulance oxygen/air and power supplies.
 - ⇒ 50 PSI oxygen/air source.
 - ⇒ Standard oxygen and air connections.
 - ⇒ Standard oxygen/air flow meter, capable of delivery of up to 15 liters/minute.
- Means of securing equipment
 - Positive attachments for all of its components.
 - The transport equipment should be stressed and secured such that it will maintain physical and functional integrity when subjected to an impact deceleration.
- Dedicated equipment and supplies
 - All medical supplies, medications and equipment used on a regular basis by the transport program should be dedicated to it.
- ◆ Operation and Maintenance
 - All medical equipment and supplies should meet applicable federal and state requirements, including FAA hazardous material regulations.
 - All equipment should be maintained in working order and be ready for use on transport.
 - Medical equipment, supplies and medications shall be checked on regular basis and prior to each transport and compatible with each other and with the equipment of the surface and air ambulance.



Perinatal Services Neonatal Care (Specialty)

Facility, Equipment & Supplies

EMS

Appendix A:

- ♦ The following equipment, medication and supplies should be stocked and immediately available for transport. Selection for the individual transport should be based on the patient's needs as determined by the medical control physician and the referring physician.
 - **Monitoring Equipment:**
 - stethoscope, cardiac-respiratory monitor, pulse oximeter, blood pressure cuffs neonatal, infant, child, and adult, patient thermometer, ECG, monitor / defibrillator (5-400J capacity with pediatric and adult sized paddles, inspired oxygen monitor, respiratory equipment, oxygen delivery) (50psi with alarm system), flowmeter-15 L/minute, neonatal ventilator; pediatric ventilator optional, access to high PEEP system, bag valve mask (BVM) device, self inflating (neonatal, pediatric size 450 ml and adult size 1000ml), clear face masks (infant, child, adult), laryngoscope, blades, (curved 2,3; straight 0,1,2,3), light bulbs and batteries, endotracheal tubes (uncuffed 2.5-5.5 and cuffed 6.0-9.0), Magill forceps (pediatric and adult), endotracheal tube stylists (pediatric and adult), oral airways (0-5), chest tubes, placement equipment and Heimlich valve, portable air and oxygen cylinders, nebulizer, suction, bulb syringe, portable suction, suction catheters (tracheal and pharyngeal) (infant, child, adult), feeding tubes (5,8,10 Fr), nasopharyngeal airways (infant, child, adult), oxygen delivery devices (i.e. nasal cannulas and oxygen masks), nasogastric tubes (infant, child, adult), adhesive tape, arterial line maintenance system, urinary bladder catheters (infant, child, adult), Vascular access: catheters; tubing; intraosseous needles; central line; UAC/UVC catheters and placement equipment: infusion pumps; blood culture tubes; penlight/flashlight; warming devices, insulated blanket; child restraint devices for isolette and gurney
 - **Medications:**
 - Pulmonary: Aminophylline; Bronchodilators aerosol; Racemic epinephrine; Steroids.
 - Cardiac: Adenosine; Atropine; Bretylium; Calcium Chloride; Diuretic; Dobutamine; Dopamine; Epinephrine; Lidocaine; Prostaglandin; Sodium bicarbonate; Vasodilators.
 - Neurologic: Anticonvulsants – short and long acting; Mannitol; Muscle relaxants; Naloxone; Opiate; Sedative.
 - Other Medications: Balanced salt solutions; Broad spectrum antibiotics; Colloids; 50% Dextrose; Diphenhydramine; IV solution with dextrose and saline



Perinatal Services Neonatal Care (Specialty)

Patient Types

ACOG/AAP

- Sick neonates who do not require intensive care but require 6-12 hours of nursing time each day should be taken to an intermediate care area. This area also may be used for convalescing neonates who have returned to specialty facilities from an outside intensive care unit. Newborns requiring complex care, such as assisted ventilation, for more than several hours should be moved to an intensive care area. (pg. 54)

CCS

- A nursery within a CCS-approved Pediatric Community or Special Hospital that has the capability of providing neonatal care services (intermediate and continuing care as defined in Section 3.25.3/A.2.), for sick neonates and infants who do not require intensive care but require care at a level higher than provided in a general nursery. Such infants may include, but are not limited to, infants requiring intravenous medication, exchange transfusion, feedings by nasogastric tube, parenteral nutrition, oxygen therapy and short term ventilatory assistance (approximately less than or equal to four hours) as per the CCS Manual of Procedures, Chapter 2.17.1/A., Medical Eligibility for Care in a CCS-approved NICU. (3.25.3/A).

Transport & Regional Cooperation

ACOG/AAP

- An infant with known or anticipated medical needs may be admitted to the level II intermediate-care nursery or level III intensive-care area in the same hospital if it is a specialty or subspecialty hospital or may be transferred to a hospital that provides the appropriate specialty or subspecialty care. (pg.213)
- Interhospital transport should be considered if the necessary resources or personnel for optimal patient outcomes are not available at the facility currently providing care. The resources available at both the referring and the receiving hospitals should be considered. The risks and benefits of transport, as well as the risks and benefits associated with not transporting the patient should be addressed. Transport may be undertaken if the physician determines that the well-being of either the woman, the fetus, or the newborn will not be adversely affected or that the benefits of transfer outweigh the foreseeable risks. The staff of the referring hospital should consult with the receiving hospital as soon as the need for transport of the neonate is considered. (pg. 76)
- An interhospital transport program should provide 24-hour service. It should include a receiving or program center responsible for ensuring that high-risk patients receive the appropriate level of care, a dispatching unit to coordinate the transport of patients between facilities, an appropriately equipped transport vehicle, and a specialized transport team. (pg. 69)
- If the transport is done by the referring hospital, the referring physician and hospital retain responsibility until the transport team arrives with the patient at the receiving hospital. If the transport team is sent by the receiving hospital, the receiving physician or designee assumes responsibility for patient care from the time the patient leaves the referring hospital. (pg. 69)
- The receiving center is responsible for the overall coordination of the regional program. It should ensure that interhospital is organized in a way that ensures that patients will receive the appropriate level of care. (pg. 72)



Perinatal Services Neonatal Care (Specialty)

Transport & Regional Cooperation

ACOG/AAP

- ♦ The receiving center is responsible for providing referring physicians with:
 - Access by telephone on a 24-hour basis to communicate with receiving obstetric and neonatal units.
 - Follow-up on the neonate by telephone, letter, or fax, provided all federal, state, and local requirements are met.
 - A complete summary, including diagnosis, an outline of the hospital course, and recommendations for ongoing care for each patient at discharge.
 - Ongoing communication and follow-up.

- ♦ Contingency plans should be in place to avoid a shortage of beds for patients needing tertiary care. These plans should include provisions for accepting or transferring patients among the cooperating centers or to an alternative receiving center, rather than only the receiving center affiliated with the referral center, when special circumstances warrant (eg, patient census or need for specialized services, such as extracorporeal membrane oxygenation). (pg. 72-73)

Title 22

§ 70547

- ♦ (4) Formal arrangements for consultation and/or transfer of an infant to an intensive care newborn nursery , or a mother to a hospital with the necessary services, for problems beyond the capability of the perinatal unit.

§ 70483

- ♦ (a2) Consultation service to referring perinatal units.
- ♦ (b) There shall be written policies and procedures developed and maintained...

§ 70483

- ♦ (b5) Consultation to perinatal units
- ♦ (b6) Transfer of mothers to an appropriate care services and/or infants to and from an intensive care newborn nursery.

CCS

- ♦ The Intermediate NICU medical director shall be responsible either directly or through written agreements with a CCS-approved Regional NICU or agency that a mechanism for neonatal transport exists. This does not preclude transport agreements with a CCS-approved Community NICU.
 - The written neonatal transport agreement for the provision of transport services of infants by another NICU or agency shall be subject to CCS program approval. The neonatal transport agreement shall be updated and signed annually by the medical directors of the NICUs involved in the agreement.
 - The medical director of the neonatal transport program shall be responsible for a written neonatal transport plan, as per CCS Standards for Regional and Community NICUs, as applicable. Maintenance of written records of each neonatal transport completed shall be available for review by CCS program staff.
 - The NICU shall agree to accept, on a space and staff available basis, any infant requiring a level of care beyond that which can be provided by a hospital with which the NICU has transport agreements and/or by the Regional Perinatal Dispatch Center. All guidelines and requirements of the Regional Dispatch Center shall be followed.
(3.25.3/H.15)



Perinatal Services Neonatal Care (Specialty)

Transport & Regional Cooperation

CCS

- ♦ An Intermediate NICU shall have a Regional Cooperation Agreement as specified below:
 - An Intermediate NICU shall enter into written agreements, approved by CCS program, with an affiliated CCS-approved Regional NICU(s). The Intermediate NICU may additionally enter into a written agreement(s), approved by the CCS program, with an affiliated CCS-approved Community NICU(s). All Regional Cooperation Agreements shall specify mutual responsibility for at least the following:
 - Joint education and training of perinatal health professionals
 - Joint development of guidelines for consultations by perinatal, neonatal, and other specialty disciplines, as indicated
 - Joint development of guidelines for maternal and neonatal patient referral and transport to an from each facility/NICU
 - Joint identification, development and review of protocols, policies and procedures related to the care of the high-risk obstetric and neonatal patient, at least every two years
 - Joint review of outcome data, according to CCS requirements, at least annually.
 - The Regional Cooperation Agreement shall be developed, negotiated, signed, and dated prior to CCS approval by at least the following persons from each hospital:
 - Hospital Administrator
 - Medical Director of the NICU
 - Medical Director, Maternal-Fetal Medicine, (hospital without licensed perinatal beds are exempt from this requirement)
 - Nurse Administrator
 - It shall be the mutual responsibility of the Regional, Community, and Intermediate NICUs to review annually and recommend any modifications of said agreement to reflect the evaluation of outcome. (3.25.3/B.3)
- ♦ High Risk Infant Follow-up Program
 - The medical director of the NICU shall have the responsibility for ensuring that all high-risk infants discharge from the NICU are referred to an appropriate high risk infant follow-up (HRIF) program.
 - There shall be an organized HRIF program in the NICU's facility or there shall be a written agreement for the provision of services provided in high risk infant follow-up programs by another hospital or agency, including High Risk Infant Follow-up Special Care Centers.
 - The HRIF program shall conform with the CCS high risk infant eligibility criteria and components of service, as per the CCS Manual of Procedures, Chapter 2.17.2, CCS Medical Eligibility Criteria. (3.25.3/L)



Perinatal Services Neonatal Care (Specialty)

Transport & Regional Cooperation

EMS

- ♦ Assuring access and appropriate linkage to such specialized centers should be part of local and regional EMS plans for children's care.
- ♦ Ideally all pediatrics interfacility transports should occur rapidly and safely by qualified inter-facility pediatric transport programs functioning with prospectively developed operational guidelines, consultation agreements and transfer agreements.
- ♦ When ambulance providers predominantly involved in prehospital care conduct pediatric inter-facility transfers, the appropriateness of such transports and quality of care provided should be reviewed and monitored by the local EMS agency in concert with prehospital care providers.

(II.F.2) Transport Team Responsibilities

- ♦ Stabilization and care during transport of ill or injured pediatric patients.
- ♦ The transport team leader must:
 - Assign by the medical control physician for each transport team
 - Be responsible for patient care under the direction of the medical control physician
 - Coordinate, supervise and/or participate in the patient care
 - Maintain communications with the medical control physician and receiving and referring health care personnel
 - Be responsible for obtaining consents for transport, admission
 - Attend formal orientation and education programs as required by the transport program
 - The transport team should be able to depart from the transport program facility within 60 minutes when the medical control physician deems it to be necessary. Mobilization time is measured from the time of the agreement to transport the patient to the time of the team's departure.

(IV. A) The Pediatric Interfacility Transport Program

- ♦ Should have written operations agreements with ground and air ambulance providers used by the program for emergency and/or elective transports. Agreements should be in place prior to the initiation of the utilizations of an ambulance provider. Agreements should include but not be limited to:
 - Responsibilities for patient care
 - Recording and transferring appropriate information and records
 - Financial and indemnification provision
 - Term of agreement.

(IV.B) The Pediatric Interfacility Transport Program

- ♦ Should be responsible for assuring the coordination of ambulance services.

(V.A) Pediatric Interfacility Transport Programs

- ♦ Should have written agreements with referring and receiving hospitals that routinely utilize the program.



Perinatal Services Neonatal Care (Specialty)

Transport & Regional Cooperation

EMS

(V.B) Agreements

- ♦ Should specify the roles and responsibilities of the transport program and the hospitals including:
 - Agreement to transfer and receive appropriate pediatric patients when indicated.
 - Policies and procedures for evaluating, transferring or receiving pediatric patients.
 - Responsibilities for patient care before, during and after transport.
 - Private physician, family involvement.
 - Recording and transferring appropriate information and records.
 - Financial and indemnification provisions.
 - Term of agreement.

(V.C) Agreements

- ♦ Should include provisions for educational programs related to pediatric transport, evaluation and stabilization of critically ill and injured pediatric patients, and availability of pediatric critical care consultation and other pediatric critical care services.

(VI.A) The Pediatric Interfacility Transport Program

- ♦ Should have an organized multidisciplinary quality improvement program.

(VI.B) Components

- ♦ Of the plan must include an interface with the prehospital, emergency department, trauma, inpatient pediatrics, and pediatric critical care quality improvement activities.

(II.D) Joint Responsibilities of the Administrative, Medical and Nursing Directors

- ♦ Collaborative responsibilities of the administrative, medical and nursing directors include, but are not limited to, the following:
 - Implementation of these guidelines for the pediatric interfacility transport program.
 - Development, implementation and annual review of policies, protocols and standards for the transport program including policies and procedures for patient care.
 - Collection and analysis of data necessary for evaluation of the safety and effectiveness of the transport program.
 - Integration of orientation, training and continuing education programs for personnel involved in the transport program

(III) Consultation Services

- ♦ Medical and nursing consultation services should be provided by Pediatric Interfacility Transport Programs. Consultation should be available at all times to health care personnel wishing information concerning the care of pediatric patients who might need interfacility transport.



Perinatal Services Neonatal Care (Specialty)

Quality Improvement

CCS

- ♦ There shall be an ongoing quality assurance program specific to the patient care activities in the Intermediate NICU that is coordinated with the hospital's overall quality assurance program
 - Documentation shall be maintained of the quality assurance and quality assessment activities provided.
 - Documentation shall include utilization review and medical records review which shall be available for on-site review by CCS program staff. (3.25.3/K.1)
- ♦ There shall be morbidity and mortality conferences held at least quarterly to discuss neonatal care issues. These conferences shall be held conjointly with professionals in obstetrics or perinatal subspecialties.
 - CCS encourages multidisciplinary participation, including primary care physicians as well as participation by outside consultants on a regular basis.
 - A hospital without licensed perinatal beds is exempt from having a joint conference but shall have neonatology staff morbidity and mortality conferences.
 - Meeting agendas, lists of attendees, and minutes of such conferences shall be maintained and available for on-site review by CCS program staff. (3.25.3/K.2)
- ♦ There shall be a written plan that facilitates a family-centered and culturally competent approach to NICU care by the professional staff. This plan shall include, but not be limited to, a mechanism for the parent(s) or primary caretaker(s) to provide input and feedback to NICU multidisciplinary team members regarding their infant's care and experiences in the NICU. This may be in the form of a patient/family satisfaction questionnaire.(3.25.3/K.3)
- ♦ There shall be a formalized method for the Intermediate NICU medical director to review, document on an annual basis, professionals who are required to successfully complete the Neonatal Resuscitation Program course of the AAP and AHA as described in Section 3.25.3/F. (3.25.3/K.4)
- ♦ There shall be a formalized method for the reviewing and documenting on an annual basis, the skills of professionals responsible for 24-hour in-house coverage of the following:
 - Neonatal resuscitation and intubation. This review shall be based on maintaining evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA
 - Needle aspiration for pneumothorax. (3.25.3/K.5)
- ♦ Infant morbidity and mortality data concerning birth weight, survival, transfer, incidence of certain conditions, and other information as required, shall be compiled in a CCS-approved format and shall be submitted to the Chief, Children's Medical Services Branch (3.25.3/K.6)



Perinatal Services Neonatal Care (Specialty)

Quality Improvement

EMS

(VI.C) The quality improvement program

- ♦ Should utilize concurrent review, generic screens and focused studies to monitor pediatric care provided by the Pediatric Interfacility Transport Program.

(VI.D) The quality improvement program should:

- ♦ Establish, maintain, support and document evidence of planned, systematic quality improvement program.
- ♦ Assure appropriate and adequate response to findings from quality improvement activities, including the identification of opportunities to improve patient care and pediatric transport program.
- ♦ Assure appropriate and efficient use of the transport programs and resources.

(VI.E) The quality improvement program should address the following:

- ♦ Safety
 - Patient safety for transport under the circumstances.
 - Transport team safety and fitness, including flight arrangements, safety restraints.
 - Equipment safety, including records of equipment used maintenance, and testing of function.
 - Untoward events
- ♦ Expediency: recording and review of response times for each component of the transport program.
- ♦ Resource allocation and cost-effectiveness
 - Monitoring and review of appropriate utilization of the transport program, transport personnel, equipment, supplies, and mode of transport.
 - Monitoring and review of transport costs and cost-effectiveness.
- ♦ Triage: Evaluation of the flow of information, prioritization of resource allocation, selection of ambulance provider, and selection of receiving facility.
- ♦ Patient Care and Management:
 - Evaluation of patient care and management in terms of patient outcome.
- ♦ (VII.A) Accurate and current records should be maintained on all components of the Pediatric Interfacility Transport Program.
- ♦ (VII.B) Where available, centralized data centers should receive data from each transport program.
- ♦ (VII.C) Data: Should be collected and reviewed on a regular basis for planning, evaluation and quality improvement.
- ♦ (VII.D) Cooperation should exist between programs in the development, analysis and distribution of data.
- ♦ Selection and periodic evaluation of competency and performance of personnel involved in the transport program.
- ♦ Implementation of an organized quality improvement program, including the review of quality of care provided by the transport program and appropriate utilization of the transport program and its resources.
- ♦ Development of the budget.
- ♦ Appropriate interface with the local EMS agency.
- ♦ Periodic review of transactions of individual transports.
- ♦ Development of outreach education related to the pediatric interfacility transport program



Perinatal Services Neonatal Care (Specialty)

Policy Procedure

ACOG/AAP

- ♦ In addition to policies for basic care facilities, the following provisions apply to hospitals providing specialty care:
 - A systematic program for tracking and scheduling ophthalmologic examinations of pre-term neonates at risk for retinopathy of prematurity is useful and strongly encouraged to reduce vision loss from retinopathy of prematurity that usually responds to timely treatment. (pg.264)
 - Physicians and nursery staff should be competent in the recognition of signs of neonatal withdrawal. There are a number of useful systematic scoring schemata for assessing severity and each nursery unit should have a written policy for implementation of a scoring system for neonatal withdrawal. (pg. 265)
 - It is critical that neonates with hypoxic cardiorespiratory failure receive care in institutions that have personnel – including physicians, nurses, and respiratory therapists who are qualified to use multiple modes of ventilation – and readily accessible radiologic and laboratory support. Neonates who are not benefiting from conventional therapies should be transferred in a timely manner to the appropriate Level III NICU capable of providing alternative treatments. (pg.271)
 - The number of routine painful or stressful events neonates are exposed to should be minimized using protocols that limit painful or stressful disruptions in care. (pg. 284)
 - A guideline for immunization of both preterm and term neonates requiring prolonged hospital stays, should be implemented in each neonatal intensive care unit. (pg. 284)
 - It is prudent that each institution establish guidelines for discharge of high-risk neonates. These should allow for individual physician judgment and flexibility. (pg. 292)

CCS

- ♦ There shall be an Intermediate NICU Policies and Procedures Manual which shall be:
 - Updated, reviewed, and signed at least on an annual basis by the medical director and nurse manager of the Intermediate NICU
 - Readily available in the NICU for all NICU staff. (3.25.3/1.1)
- ♦ The written Policies and Procedures Manual for the Intermediate NICU shall address/include, but not be limited to, the following:
 - Criteria delineating the privileges granted to attending CCS-paneled physicians and criteria as to when consultation by a neonatologist is required
 - Criteria for admission of infants to the NICU
 - Criteria for infant discharge from the NICU and infant transfer to/from the NICU
 - Criteria for monitoring infants in the NICU
 - Pain management and sedation for operative and/or medical procedures
 - Criteria for NICU staff are called to provide neonatal resuscitation in the delivery room and written protocol for the provision of skilled neonatal resuscitation in the delivery room
 - Mechanism for bioethical review of neonatal patients when indicated
 - Mechanism for infection surveillance, prevention, and control in the NICU
 - Discharge planning process



Perinatal Services Neonatal Care (Specialty)

Policy/Procedure

CCS

- Parent visitation in the NICU
- Mechanism for the referral to the hospital's child abuse and neglect team or (Child Protective Services on a 24-hour basis; which includes the roles of the designated coordinator for discharge planning and the NICU multidisciplinary team members with the parent or caretaker and the referring physician, primary care physician, and any specialized follow-up agencies, including CCS Special Care Centers and the Early Start Program
- A written plan that facilitates a family- centered and culturally competent approach to NICU care by the professional staff which includes, but is not limited to, the following:
 - A system that will encourage and provide for inclusion of the parent(s) or primary caretaker(s) in the decision-making process relating to the care and interventions of their infant as early as possible
 - A method for the parent(s) or primary caretaker(s) to provide input and feedback to the NICU multidisciplinary team members regarding their infant's care and experiences in the NICU
- A system to ensure that all infants who are provided care in the NICU receive a hearing screening test prior to hospital discharge, in accordance with the California NHSP and as mandated by California Health and Safety Code, Section 123975
- A system to ensure that an ophthalmology examination is performed on infants at risk for retinopathy of prematurity, as defined by the most recent joint statement of the AAP, the American Association for Pediatric Ophthalmology and Strabismus, and the American Academy of Ophthalmology. The ophthalmology examination shall be performed by a CCS-paneled ophthalmologist with experience in the examination of pre-term infants. (3.25.3/I.2).

Text and Documents

- ♦ The latest editions of the following texts and documents shall be kept in the NICU:
 - Red Book: Report of the Committee on Infectious Diseases, Committee on Infectious Diseases, American Academy of Pediatrics
 - Guidelines for Perinatal Care. American Academy of Pediatrics and The American College of Obstetricians and Gynecologists (AAP/ACOG)
 - Two current reference books pertaining to the care of the high risk infant
 - One current reference book pertaining to critical care nursing of the high-risk infant
 - CCS Manual of Procedures, Chapter 3.25, CCS Standards for Neonatal Intensive Care Units
 - CCS Manual of Procedures, Chapter 3.3, CCS Standards for Hospitals; Current listing of CCS medically eligible conditions
 - An annually updated Policies and Procedures Manual of the Intermediate NICU (3.25.3/K.8)

Perinatal Services Neonatal Care

Subspecialty



Perinatal Services Neonatal Care (Sub-Specialty)

Definition

ACOG/AAP

Subspecialty Care

- ♦ Provision of comprehensive perinatal care services for both admitted and transferred women and neonates of all risk categories, including basic and specialty care services as described previously.
- ♦ Evaluation of new technologies and therapies. (pg. 12)
- ♦ The services provided by subspecialty care facility vary markedly from those at a specialty facility. Subspecialty care services include expertise in neonatal and maternal-fetal medicine. Both usually are required for management of pregnancies with threatened maternal complications at less than 32 weeks of gestation. Fetuses that may require immediate complex care should be delivered at a subspecialty care center. (pg. 12)
- ♦ In circumstances where subspecialty level maternal care is needed, the level of care subsequently needed by the neonate may prove to be at the basic or specialty level. It is difficult to predict accurately all neonatal risk outcomes before birth. Appropriate assessment and consultation should be used, considering the potential risks of the women as well as her infant. (pg. 13)

Regional Subspecialty Perinatal Health Care Center

- ♦ Provision of comprehensive perinatal health care services at and above those of subspecialty care facilities (pg. 12)
- ♦ Responsibility for regional perinatal health care services organization and coordination including:
 - Maternal and neonatal transport
 - Regional Outreach support and regional educational programs
 - Development and initial evaluation of new technologies and therapies
 - Training of health care providers with specialty and subspecialty qualifications capabilities
 - Analysis and evaluation of regional data, including those on perinatal complications and outcomes (pg. 12)

Title 22

- ♦ An intensive care newborn nursery (ICNN) service shall provide:
 - Comprehensive care for all life-threatening or disability-producing situations.
 - Consultation services to referring perinatal units.
 - Infant transport services. [70483 (a)(1-3)]



Perinatal Services Neonatal Care (Sub-Specialty)

Definition

CCS

Regional NICU (Tertiary)

- A nursery within a CCS-approved Tertiary Hospital that has the capability of providing a full range of neonatal care services (intensive, intermediate, and continuing care as defined in Section 3.25.1/A.2), including neonatal surgery, for severely ill neonates and infants. Regional NICUs shall provide support to Community and Intermediate NICUs that includes, but is not limited, to professional education and consultation. (3.25.2/A.1)

Community NICU

- A nursery within a CCS-approved Pediatric Community, General Community or Special Hospital that has the capability of providing a full range of neonatal care services (intensive, intermediate, and continuing care as defined in Section 3.252/A.2), for severely ill neonates and infants and shall provide support to Intermediate NICUs that shall include, but not limited to, professional education and consultation. (3.25.1/A.1)
- Types of care provided by a Regional and Community NICU shall be defined as follows:
 - “Intensive care” is that care which is provided to neonates and infants who require:
 - Twelve hours or more of nursing care by a registered nurse 24-hour period
 - Continuous cardiopulmonary monitoring
 - Other specialized care technology for their multisystem programs
 - “Intermediate care” is that care which is provided to neonates and infants who require:
 - Greater than or equal to eight hours, but less than 12 hours of nursing care by a registered nurse per 24-hour period
 - Other medically-necessary support
 - “Continuing care” is that care which is provided to neonates and infants who require:
 - Greater than or equal to six hours, but less than eight hours, of nursing care by a registered nurse per 24-hour period
 - May have previously received intermediate or intensive care but who no longer require intermediate or intensive care.(3.25.1/A.2) & (3.25.2/A.2)

EMS

- See Specialty Neonatal Intensive Care Section

Personnel/Staff

ACOG/AAP

Registered Nurse/Patient Ratio

- 1:6-8 Newborns requiring only routine care
- 1:3-4 Normal mother-newborn couplet care or breastfeeding care
- 1:3-4 Newborns requiring continuing care
- 1:3-4 Newborns requiring intermediate care
- 1:1-2 Newborns requiring intensive care
- 1:1 Newborns requiring multisystem support
- 1:1 Unstable newborns requiring complex critical care (pg. 29)



Perinatal Services Neonatal Care (Sub-Specialty)

Personnel/Staff

Title 22

- ♦ A ratio of one RN to two or fewer intensive care infants shall be maintained. [70485 (d)]

CCS

- ♦ There shall be an identified multidisciplinary team which shall have the responsibility for coordination of all aspects of patient care; and which shall consist of, at a minimum, a CCS-paneled neonatologist, a clinical nurse specialist, a respiratory care practitioner and a CCS-paneled medical social work with current experience and practice in neonatal care and whose professional requirements are defined in Section 3.25.1/F for the Regional NICU and Section 3.25.2/F for the Community NICU. Optional members of the Regional or Community NICU multidisciplinary team may include, but are not limited to, the following: CCS-paneled clinical registered dietitian, CCS-paneled occupational therapist and CCS-paneled physical therapist. (3.25.1/E.6) & (3.25.2/E.6)
- ♦ There shall be 24-hour in-house coverage by a professional staff member (physician, NNP, and/or RN) who has evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA and who is proficient in needle aspiration for pneumothorax and intubation for resuscitation. (3.25.1/H.8) & (3.25.2/H.8)
- ♦ Nurse staffing shall meet the requirements contained in CCR, Title 22, Division 5, Article 6, Section 70485, Sections 3.25.1/F.2 & 3.25.2/F.2 and shall also include the following:
 - The nurse supervisor or designee shall be present in the NICU at all times
 - There shall be at least one nurse supervisor assigned to the NICU for every 30 full-time equivalent NICU positions or 50 NICU staff members to be supervised, whichever is less
 - There shall be a R.N. assigned to each patient in the NICU
 - There shall be no less than two R.N.s physically present in each area of care of the NICU at all times, when a patient is present
 - A NNP assigned to the NICU may not be included in the calculation of nurse staff to infant ratio in the NICU
 - There shall be no more than one LVN for every three R.N.s assigned to provide direct nursing care to infants requiring continuing care. (3.25.1/H.9) & (3.25.2/H.9)
- ♦ There shall be, at a minimum, weekly NICU multidisciplinary team conferences (rounds). The NICU multidisciplinary team conference shall include representation from the NICU's medical, nursing, medical social service, RCP staff, and other specialists, i.e., the clinical registered dietitian, occupational therapist and physical therapist, when appropriate. (3.25.1/H.15) & (3.25.2/H.16)

EMS

- ♦ See Specialty Neonatal Intensive Care Section



Perinatal Services Neonatal Care (Sub-Specialty)

Nurse Manager

ACOG/AAP

- ♦ The director of perinatal and neonatal nursing services at a subspecialty care hospital should have overall responsibility for inpatient activities in the maternity-newborn care units. This registered nurse should have experience and training in obstetric or neonatal nursing or both, as well as the care of patients at high risk. Preferably, this individual has an advanced degree. (pg. 32)

Title 22

- ♦ An RN with training and experience in intensive care nursing shall be responsible for nursing care in the intensive care newborn nursery. [70485 (b)]

CCS

- ♦ The Regional & Community NICU nurse manager shall direct the nursing administrative operation of the NICU, as per Section 3.25.1/E.3 & 3.25.2/E.3 and shall:
 - Be a registered nurse (R.N.) licensed by the State of California holding a master's degree in nursing
 - Be a R.N. holding a bachelor's of science degree in nursing (BSN) and either a master's degree in a related field or certificate in nursing or health care administration from a nationally recognized accrediting organization
 - Have at least three years clinical nursing experience at least one of which shall have been in a facility with an NICU that is equivalent to a Regional or Community NICU. (3.25.1/F.2) & (3.25.2/F.2)
- ♦ Manager shall include, at a minimum, personnel, fiscal and materiel management, and coordination of the quality improvement program for the NICU. The Regional & Community NICU nurse manager shall directly supervise the nurse supervisor(s) for the NICU. The facility shall maintain written documentation of the qualifications and responsibilities of the Regional & Community NICU nurse manager.
- ♦ The Regional NICU nurse manager shall have direct responsibility to the administrative director of nursing or individual holding an equivalent position.
- ♦ If the Community NICU nurse manager is dedicated solely to the NICU and does not oversee more than 30 full-time equivalent positions or 50 NICU staff members, the position and responsibilities of the nurse manager and the nurse supervisor may be combined under the nurse manager position. (3.25.1/F.2) & (3.25.2/F.2)

EMS

- ♦ See Specialty Neonatal Intensive Care Section



Perinatal Services Neonatal Care (Sub-Specialty)

Registered Nurse

ACOG/AAP

- ♦ Registered nurses in the NICU should have specialty certification or advanced training and experience in the nursing management of high-risk neonates and their families. They should also be experienced in caring for unstable neonates with multiorgan system problems and in specialized care technology. The neonatal nurse in the level III NICU provides direct care for the premature or term infant that requires complex care including an infant requiring intensive life support techniques such as mechanical ventilation. (pg.32)
- ♦ The obstetric and neonatal areas may be staffed by a mix of professional and technical personnel. Assessment and monitoring activities should remain the responsibility of a registered nurse or an APN in obstetric-neonatal nursing, even when personnel with a mixture of skills are used. (pg. 32-33)

Title 22

- ♦ A RN who has had training and experience in intensive care of the newborn shall be on duty on each shift. [70485 ©]

CCS

- ♦ R.N.s who are assigned direct patient care (intensive, intermediate, and continuing care) responsibilities in the Regional & Community NICU shall
 - Be licensed by the State of California;
 - Have education, training and demonstrated competency in neonatal critical care nursing
 - Have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA
- ♦ R.N.s functioning in an expanded role shall do so in accordance with standardized procedures as per CCR, Title 16, Division 14, Article 7, Sections 1470 through 1474. (3.25.1/F.2) & (3.25.2/F.2)

EMS

- ♦ See Specialty Neonatal Intensive Care Section



Perinatal Services Neonatal Care (Sub-Specialty)

Advance Practice Nurses

ACOG/AAP

- ♦ An APN should be available to the staff for consultation and support on nursing care issues. Additional nurses with special training are required to fulfill regional center responsibilities, such as outreach and transport. (pg. 32)

CCS

Regional NICU Clinical Nurse Specialist

- ♦ There shall be a minimum of one full-time equivalent clinical nurse specialist (CNS) for the Regional NICU. The Regional NICU CNS shall
 - Be an R.N. licensed by the State of California
 - Be certified by the State Board of Registered Nursing as a CNS, as per the California Business and Professions Code, Chapter 6, Section 2838 of the Nursing Practice Act
 - Have at least three years of clinical experience in neonatal nursing care at least one of which shall have been in a facility with an NICU that is equivalent to a Regional or Community NICU
 - Have current certification in Neonatal Intensive Care Nursing from a nationally recognized accrediting organization, i.e. the NCC
 - Have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA. (3.25.1/F.2)

Community NICU Clinical Nurse Specialist

- ♦ There shall be at least a 0.5 full-time equivalent clinical nurse specialist (CNS) for the Community NICU. The Community NICU CNS shall
 - Be an R.N. licensed by the State of California
 - Be certified by the State Board of Registered Nursing as a CNS, as per the California Business and Professions Code, Chapter 6, Section 2838 of the Nursing Practice Act
 - Have at least three years of clinical experience in neonatal nursing care at least one of which shall have been in a facility with an NICU that is equivalent to a Regional or Community NICU
 - Have current certification in Neonatal Intensive Care Nursing from a nationally recognized accrediting organization, i.e. the NCC
 - Have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA(3.25.2/F.2)
- ♦ The Regional & Community NICU CNS shall be responsible for:
 - Directing the clinical nursing practice in the NICU
 - Coordination and assessment of critical care education development and clinical competency of the nursing staff in the NICU; and for ensuring continued neonatal critical care nursing competency through educational programs for both the newly-hired and experienced nursing staff
 - Consultation with staff on complex neonatal critical care nursing issues
 - Oversight of comprehensive parent and or primary caretaker education
 - Ensuring the implementation of a coordinated and effective discharge planning program (3.25.1/F.2) & (3.25.1/F.2)



Perinatal Services Neonatal Care (Sub-Specialty)

Management

ACOG/AAP

- The director of the maternal-fetal medicine service of a hospital providing subspecialty care should be a full time, board certified obstetrician with subspecialty certification in maternal-fetal medicine. The director of the newborn ICU should be a full-time board-certified pediatrician with subspecialty certification in neonatal-perinatal medicine. (pg. 24)

Title 22

- A physician shall have overall responsibility for the service. He or she shall be certified or eligible for certification by the American Board of Pediatrics and have additional training and experience in neonatology. [70485(a)]

CCS

Regional & Community NICU Medical Director

- There shall be a full-time CCS-paneled neonatologist as the medical director
 - Who shall have overall responsibility for the quality of medical care for the infants admitted to the NICU
 - Who shall be certified by the American Board of Pediatrics and certified by the American Board of Pediatrics in the subspecialty of Neonatal-Perinatal Medicine
 - Who shall have evidence of current successful completion of the Neonatal Resuscitation Program course of the American Academy of Pediatrics (AAP) and American Heart Association (AHA). (3.25.1/F.1) & (3.25.2/F.1)

Staff

ACOG/AAP

- Other maternal-fetal specialists and neonatologists who practice in the subspecialty care facility should have qualifications similar to those of the chief of their service. A maternal-fetal medicine specialist and a neonatologist should be continuously available for consultation 24 hours per day. Personnel qualified to manage obstetric or neonatal emergencies should be in-house. (pg. 24)
- Advanced Obstetric and neonatal diagnostic imaging facilities with interpretation on an urgent basis should be available 24 hours per day.
- Level IIIB and IIIC NICUs require urgent access for consultation to a broad range of pediatric, rather than adult, medical subspecialists, including cardiology, neurology, hematology, nephrology, metabolism, endocrinology, gastroenterology-nutrition, infectious diseases, pulmonology, immunology, pathology and pharmacology and genetics should be available for consultation. (pg. 24-25)
- Pediatric surgical subspecialists (eg. General pediatric surgeons, cardiovascular surgeons; neurosurgeons; and orthopedic, ophthalmologic, urologic, plastic and otolaryngologic surgeons) should be available onsite or at a closely related institution for consultation and care. (pg. 25)



Perinatal Services Neonatal Care (Sub-Specialty)

Staff

Title 22

- ♦ The pediatrician shall be responsible for:
 - Providing in-hospital pediatric services.
 - Maintaining working relationships with referring perinatal units.
 - Providing for joint staff conferences and continuing education of respective medical specialties.
 - Providing transport team availability at all times. [70485 (a) (1)]
 - A surgeon experienced in neonatal surgery and a pediatric cardiologist shall be available to the service. [70485 (a) (3)]

CCS

- ♦ The responsibilities of the Regional & Community NICU medical director shall include, but are not limited to, the following:
 - Participation in the development, review and assurance of the implementation of NICU policies and procedures as specified in Section 3.25.1/1 & 3.25.2/1.
 - Approval of, at a minimum, written criteria that defines the following:
 - Which infants admitted to the NICU require care to be provided by a neonatologist
 - Which infants require consultation by a neonatologist
 - Which infants requiring intermediate or continuing care who may be managed by a CCS-paneled pediatrician who has evidence of current experience and practice in neonatal medicine and who meets the requirements defined in Section 3.25.1/F.1.3.e & Section 3.25.2/F.1.3.d.
 - Supervision of quality control and quality assessment activities (including morbidity and mortality reviews).
 - Assuring NICU staff competency in resuscitation techniques.
 - Assuring ongoing NICU staff education.
 - Participation in NICU budget preparation.
 - Oversight of neonatal/infant transport to and from the NICU.
 - Assuring maintenance of NICU database and/or vital statistics. (3.25.1/F.1) & (3.25.2/F.1)

Regional and Community NICU Neonatologist Staff

- ♦ The Regional & Community medical director shall have two or more full-time equivalent associate neonatologists on staff:
 - Who shall be CCS-paneled neonatologists
 - Who shall share the clinical care responsibilities of the NICU
 - Who shall be certified by the American Board of Pediatrics and certified by the American Board of Pediatrics in subspecialty of Neonatal-Perinatal Medicine
 - Associate neonatologists shall meet all board certification requirements within four years of becoming eligible to sit for the subspecialty examination
 - Who shall have evidence of current successful completion of the Neonatal Resuscitation
 - Program course of the AAP and AHA. (3.25.1/F.1) & (3.25.2/F.1)



Perinatal Services Neonatal Care (Sub-Specialty)

Staff

CCS

Regional NICU Additional Physician Staff

- ♦ A CCS-paneled pediatric cardiologist shall be on the hospital staff, on-call, and available on-site to the NICU in less than one hour.
- ♦ At a minimum, the following CCS-paneled pediatric subspecialists with neonatal expertise shall be on the hospital staff and readily available for in-hospital consultation to the NICU on a 24-hour basis: neurologist and geneticist/dysmorphologist.
- ♦ At a minimum, the following CCS-paneled pediatric subspecialists with neonatal expertise shall be readily available for consultation to the NICU: ophthalmologist, gastroenterologist, endocrinologist, nephrologists, pulmonologist, hematologist/oncologist, infectious disease specialist, and immunologist.
- ♦ CCS-paneled surgeons (pediatric surgeon, neurosurgeon, orthopedic surgeon, otolaryngologist, urologist, cardiovascular surgeon and plastic surgeon), anesthesiologists with special expertise in neonatal anesthesia and radiologists shall be on hospital staff; shall meet the requirements contained in Chapter 3.3.4 of the CCS Standards for Neonatal Surgery and Chapter 3.3.1 of the CCS Standards for Tertiary Hospitals; and shall be available in-hospital for consultation to the NICU on a 24-hour basis.
- ♦ CCS-paneled pediatricians may provide care to infants requiring intermediate and/or continuing care under the direct supervision of the Regional NICU medical director or CCS- paneled neonatologist. (3.25.1/F.1)

Community NICU Additional Physician Staff

- ♦ A CCS-paneled pediatric cardiologist shall be on the hospital staff, on-call, and available on-site to the NICU in less than one hour.
- ♦ At a minimum, the following CCS-paneled pediatric subspecialists with neonatal expertise shall be readily for consultation to the NICU: gastroenterologist, geneticist/dysmorphologist, endocrinologist, nephrologist, neurologist, pulmonologist, hematologist/oncologist, infectious disease specialist, immunologist, and pediatric surgeon. There shall be an agreement for Community NICU staff to obtain telephone consultation with those CCS-paneled pediatric subspecialists identified above who are not on hospital staff.
- ♦ There shall be a CCS-paneled ophthalmologist with expertise in the examination of the preterm infant on hospital staff. Those infants at risk for retinopathy of prematurity and who require examination prior to discharge, shall have their examination performed by the CCS-paneled ophthalmologist.
- ♦ CCS-paneled pediatricians may provide care to infants requiring intermediate and/or continuing care under the direct supervision of the Community NICU medical director or CCS-paneled neonatologist. (3.25.2/F.1)



Perinatal Services Neonatal Care (Sub-Specialty)

Sub-specialty Anesthesia

ACOG/AAP

- A board-certified anesthesiologist with special training or experience in maternal-fetal anesthesia should be in charge of obstetric anesthesia services at a subspecialty care hospital. Personnel with privileges in the administration of obstetric anesthesia should be available in the hospital 24 hours per day. Pediatric anesthesiologists should be available for all neonatal surgical procedures. (pg. 25)

Title 22

- A physician who is certified or eligible for certification by the American Board of Anesthesiology shall be available to the service. [70485 (a) (2)]

CCS

Regional NICU

- CCS-paneled surgeons (pediatric surgeon, neurosurgeon, orthopedic surgeon, otolaryngologist, urologist, cardiovascular surgeon and plastic surgeon), anesthesiologists with special expertise in neonatal anesthesia and radiologists shall be on hospital staff; shall meet the requirements contained in Chapter 3.34 of the CCS Standards for Neonatal Surgery and Chapter 3.3.1 of the CCS Standards for Tertiary Hospitals; and shall be available in-hospital for consultation to the NICU on a 24-hour basis. (3.25.1/F.1)

Support Personnel

ACOG/AAP

- At least one full-time, master's degree level, medical social worker (for every 30 beds) who has experience with socioeconomic and psychosocial problems of high-risk women and fetuses, ill neonates and their families. Additional medical social workers are required when there is a high volume of medical or psychosocial activity.
- At least one occupational or physical therapist with neonatal expertise.
- At least one individual skilled in evaluation and management of neonatal feeding and swallowing disorders.
- At least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the needs of high-risk women with neonates.
- Qualified personnel for support services, such as laboratory studies, radiologic studies, and ultrasound examinations (these personnel should be available 24 hours per day)
- Respiratory therapists or nurses with special training who can supervise the assisted ventilation of neonates with cardiopulmonary disease.
- Pharmacy personnel who can work to continually review their systems and process of medication administration to ensure that patient care policies are maintained.
- Personnel skilled in pastoral care as available. (pg. 33-34)

Title 22

- A respiratory therapist trained in the respiratory care of the newborn shall be available to the service. [[0485 (g)]
- A physical therapist shall be available.
- Social services shall be available. [70483 (h)]



Perinatal Services Neonatal Care (Sub-Specialty)

Support Personnel

CCS

- ♦ Respiratory care services shall be provided by respiratory care practitioners (RCPs) who are licensed by the State of California and who have additional training and experience in neonatal respiratory care. Additional training in neonatal respiratory care shall be demonstrated by the following:
 - Completion of a formal neonatal respiratory therapy course at an approved school of respiratory therapy that includes didactic and clinical course work
 - Completion of a minimum of 20 hours of didactic and four weeks of precepted neonatal clinical experience in a hospital-based course at a facility with an NICU equivalent to a Regional or Community NICU. (3.25.1/F.3) & (3.25.2/F.3)
- ♦ Social work services shall be provided in the NICU by a CCS-paneled medical social worker (MSW) holding a master's degree in social work who has expertise in psychosocial issues affecting the families of seriously ill neonates/infants. (3.25.1/F.4) & (3.25.2/F.4)
- ♦ There shall be at least one licensed pharmacist holding a doctoral degree in pharmacy (PharmD) with neonatal expertise available for consultation to Regional and Community NICU staff. (3.25.1/F.5) & (3.25.2/F.5)
- ♦ Nutritional consultation to the Regional NICU shall be provided by a CCS-paneled clinical registered dietitian who has clinical experience in pediatric and neonatal nutritional services. (3.25.1/F.6) & (3.25.2/F.6)
- ♦ There shall be a CCS-paneled occupational therapist available to the Regional NICU who meets the requirements contained in Chapters 3.3.1 and 3.3.2 of the CCS Standards for Pediatric Community Hospitals and Tertiary Hospitals. (3.25.1/F.7) & (3.25.2/F.7)
- ♦ There shall be a CCS-paneled physical therapist available to the Regional NICU who meets the requirements contained in Chapters 3.3.1 and 3.3.2 of the CCS Standards for Pediatric Community Hospitals and Tertiary Hospitals. (3.25.1/F.8) & (3.25.2/F.8)
- ♦ Diagnostic imaging procedures and consultation services necessary for the level of care provided shall be available on a 24-hour basis as specified in Chapters 3.3.1 & 3.3.2 of the CCS Standards for Pediatric Community Hospitals. (3.25.1/G.7) & (3.25.2/G.7)
- ♦ Laboratory services and consultation services necessary to the level of care provided shall be available on a 24-hour basis. There shall be the capability for a ten minute turnaround time for pH and blood gas determinations. (3.25.1/G.8) & (3.25.2/G.8)



Perinatal Services Neonatal Care (Sub-Specialty)

Outreach/Education

ACOG/AAP

- ♦ The staff of regional centers should be capable of assisting with the in-service programs of other hospitals in their region on a regular basis. Such assistance should include periodic visits to those hospitals, as well as periodic review of the quality of patient care provided by those hospitals. (pg. 34)
- ♦ Regional center staff should be accessible for consultation at all times. The medical and nursing staff of hospitals providing specialty and subspecialty care should participate in formal courses or conferences. Regularly scheduled conferences may include the following subjects:
 - Review of the major perinatal illnesses and their treatment and nursing care.
 - Review of electronic fetal monitoring, including maternal-fetal outcomes, toward a goal of standardizing nomenclature and patient care.
 - Review of perinatal statistics, the pathology related to all deaths, and significant surgical specimens
 - Review of current imaging studies
 - Family-centered care
 - Review of perinatal complications and outcomes.
 - Review of patient satisfaction data, complaints, and compliments (pg. 34-35)
- ♦ Each subspecialty care center in a regional system may organize an education program that is tailored to meet the needs of the perinatal health professionals and institutions within the network. (pg. 35)

Title 22

- There shall be evidence of continuing education and training programs for the nursing staff in intensive care newborn nursing and referring perinatal units. [70485 (e)]



Perinatal Services Neonatal Care (Sub-Specialty)

Outreach/Education

CCS

- ♦ Assurance of continuing education for staff providing services in the NICU shall include, at a minimum, the following:
 - There shall be a written plan for orientation of all newly-hired professionals who will be providing care in the NICU and an ongoing evaluation of the program. This written plan shall include the competencies required of the professional staff and documentation of successful demonstration of these competencies.
 - There shall be written plans for the continuing education of all professionals involved in neonatal care:
 - The continuing education program shall include, but is not limited to, a neonatal/perinatal in-service education program for all professionals, held at least monthly.
 - CCS-paneled pediatricians providing care to infants requiring intermediate or continuing care shall document a minimum of 36 hours of continuing education in neonatal medicine every three years.
 - The Community & Regional NICU shall have in-house educational programs which are based on the standards for all professionals responsible for providing care in the NICU as demonstrated by peer review journal articles and current professional reference books. These programs shall be provided as specified in the requirements for Regional Cooperation Agreement, as per Section 3.25.1/B.3 & 3.25.2/B.7.
 - There shall be a method for monitoring attendance of all professionals involved in neonatal care at the monthly continuing education programs. (3.25.1/J.8) & (3.25.2/J.8)

Facility, Equipment & Supplies

ACOG/AAP

- ♦ Equipment and supplies in the intensive care unit should also include all those needed in the resuscitation and intermediate care areas. Immediate availability of emergency oxygen is essential. In addition, equipment for long-term ventilatory support should be provided. Respirators should be equipped with nebulizers or humidifiers with heaters. (pg. 56)
- ♦ Continuous on-line monitoring of oxygen concentrations, body temperature, heart rate, respiration, oxygen saturation, and blood pressure levels should be available; transcutaneous oxygen tension, and transcutaneous carbon dioxide tension, monitoring may be desirable. (pg. 56)
- ♦ Supplies should be kept close to the patient station so that nurses are not away from the neonate unnecessarily and may use their time and skills efficiently. A central modular supply system can enhance efficiency. (pg. 56)
- ♦ Both clean and soiled utility rooms are needed in the neonatal care areas. A separate clean utility room is used for storing breast milk and storing and preparing formulas, medications, and supplies frequently needed for the care of neonates in all functional units. (pg. 57)



Perinatal Services Neonatal Care (Sub-Specialty)

Facility, Equipment & Supplies

Title 22

- ♦ Unit parameters:
 - Sufficient floor area shall be provided so that there is at least 7.2 square meters (80 sq. ft.) per bassinet.
 - A workroom or control station shall be maintained which shall provide for handwashing, gowning and charting.
 - There shall be 100 foot candles of light at each bassinet.
 - A waiting room shall be maintained adjacent to the NICU.
 - A treatment area with temperature control.
 - Bassinets in the NICU shall be included in the total licensed capacity of the hospital. [(70489 (a-f))]
- ♦ The intensive care newborn nursery shall include at least the following:
 - A separate bassinet or equivalent for each infant.
 - Enclosed storage units for clean supplies.
 - Diaper receptacles with a cover, foot control and disposable liner.
 - A hamper with disposable liner for soiled linen.
 - A wall thermometer and hygrometer.
 - Accurate beam scales or equivalent.
 - Thermostatically controlled incubators or radiant heating device to maintain proper ambient temperature.
 - Two oxygen and one compressed air outlets per infant station with regulating devices and administration equipment.
 - Suction equipment.
 - DC defibrillator (within the hospital).
 - Cardiac monitor.
 - Blanket warmer.
 - Blood gas analyzer (within the hospital). [70487 (a)(1-13)]
 - Umbilical blood vessel catheterization tray.
 - Portable incubator with power pack to provide continuous temperature control and monitoring.
 - Ventilatory equipment designed for the care of newborn infants.
 - Ten or more electrical outlets for each infant bed equivalent.
 - One hand washing sink with controls not requiring direct contact with hands for operation for each 4 bassinets. [70487 ©(10-18)].
- ♦ Resuscitation equipment and supplies to include at least:
 - Glass trap suction device with catheter or a device which serves this function.
 - Pharyngeal airways, assorted sizes.
 - Laryngoscope, including a blade for premature infants.
 - Arterial catheters, assorted sizes.
 - Ventilatory assistance bag and infant mask.
 - Bulb syringe.
 - Stethoscope.
 - Syringes, needles and appropriate drugs. [704897 (a) (9 a-h)]



Perinatal Services Neonatal Care (Sub-Specialty)

Facility, Equipment & Supplies

CCS

- ♦ The Regional & Community NICU shall be a distinct, separate unit within the hospital
- ♦ The Regional & Community NICU shall meet the following bed requirements:
 - There shall be at least 16 licensed ICNN beds for providing intensive, intermediate, and continuing care and:
 - At least eight of the licensed beds shall meet all requirements pertaining to space (80 square feet per patient station), equipment, supplies, and physical environment for provision of intensive care as required in the ICNN regulations, CCR, Title 22, Division 5, Sections 70483 through 70489
 - There shall be at least eight beds in the Regional NICU providing intermediate and/or continuing care. These beds shall be licensed as required in Section 3.25.1/G.2.a.1 & 3.25.2/G.2.a.1 above or licensed under program flexibility, CCR, Title 22, Division 5, Article 4, Section 70307. Beds licensed under program flexibility shall not be used for intensive care and shall, at a minimum, have the following:
 - ⇒ Fifty square feet for each patient station exclusive of space needed for storage, desks, counters, treatment rooms, et cetera
 - ⇒ Eight electrical outlets, two oxygen outlets, two compressed air outlets, and two suction outlets per patient station (3.25.1/G.2) & (3.25.2/G.2)
- ♦ Beds in addition to the 16 required in Sections 3.25.1/G.2.a.1 and which provide only continuing care and are licensed under program flexibility, CCR, Title 22, Division 5, Article 4, Section 70307, shall at a minimum, have the following:
 - Forty square feet for each patient station exclusive of space needed for storage, desks, counters, treatment rooms, et cetra
 - Four electrical outlets, one oxygen outlet, one compressed air outlet and one suction outlet per patient station. (3.25.2/G.2) & (3.25.1/G.1)
- ♦ Beds licensed for intensive care, as required in the ICNN regulations, that meet the following requirements:
 - Monitoring equipment at each infant station in the NICU that have, at a minimum, the capability to monitor:
 - Heart rate and electrocardiogram (ECG)
 - Respiratory rate
 - Temperature
 - Oxygen saturation and/or transcutaneous PaO₂
 - Individual infant monitoring equipment that have features including, at a minimum, the following:
 - Visible and audible high/low alarms for heart rate, respiratory rate, and all pressures
 - Hard-copy capability for the rhythm strip
 - Routine testing and maintenance of all monitors
 - Two pressure monitor channels. (3.25.1/G.4) & (3.25.2/G.4)



Perinatal Services Neonatal Care (Sub-Specialty)

Facility, Equipment & Supplies

CCS

- ♦ A Regional & Community NICU shall have the following space/rooms available within, adjacent to, or in close proximity to the NICU:
 - An on-call physician's room/sleeping quarter
 - A parent waiting room
 - A separate room available for parent and infant interaction in privacy
 - A separate room for parent and physician/staff conferences, NICU multidisciplinary team conferences, case presentations, teachings/in-service education, and other staff meetings. (3.25.1/G.3) & (3.25.2/G.3)
- ♦ Oxygen and compressed air, supplied from a central source, shall supply 50 pounds per square inch (psi) with an alarm system to warn of a critical reduction in line pressure. Reduction valves and blenders shall produce concentrations of oxygen from 21 percent to 100 percent at atmospheric pressure for head hoods and 50 psi for mechanical ventilators. Oxygen monitoring for inspired concentrations shall be available in the NICU. (3.25.1/G.5) & (3.25.2/G.5)
- ♦ Transport equipment with provisions for temperature control, ventilation, and cardiopulmonary monitoring shall be available for transport of infants within the hospital transport equipment shall meet the conditions in CCR, Title 22, Division 5, Article 6, Section 70487. (3.25.1/G.6) & (3.25.2/G.6)
- ♦ Diagnostic imaging procedures and consultation services necessary for the level of care provided shall be available on a 24-hour basis as specified in Chapter 3.3.1 of the CCS Standards for Tertiary Hospitals and Chapter 3.3.2 of the CCS Standards for Pediatric Community Hospitals. (3.25.1/G.7) & (3.25.2/G.7)
- ♦ Laboratory services and consultation services necessary for the level of care provided shall be available on a 24-hour basis. There shall be the capability for a ten minute turnaround time for pH and blood gas determinations. (3.25.1/G.8) & (3.25.2/G.8).

Patient Types

Title 22

- ♦ An intensive care newborn nursery service shall provide:
 - Comprehensive care for all life-threatening or disability-producing situations.
 - Consultation service to referring perinatal units. [70483 (a) (1-6)]
 - Review and evaluation of service programs of perinatal units. [70483 (a) (1-6)]
- ♦ There shall be discharge planning and provisions for follow-up care. [70483 (i)]
- ♦ An intensive care newborn nursery service means the provision of comprehensive and intensive care for all contingencies of the newborn infant. [70481]



Perinatal Services Neonatal Care (Sub-Specialty)

Patient Types

CCS

Regional NICU

- ♦ A nursery within a CCS-approved Tertiary Hospital that has the capability of providing a full range of neonatal care services (intensive, intermediate, and continuing care as defined in Section 3.25.1/A.2), including neonatal surgery for severely ill neonates and infants. Regional NICUs shall provide support to Community and Intermediate NICUs that includes, but is not limited to, professional education and consultation. (3.25.1/A.1)

Community NICU

- ♦ A nursery within a CCS-approved Pediatric Community, General Community or Special Hospital that has the capability of providing a full range of neonatal care services (intensive, intermediate, and continuing care as defined in Section 3.25.2/A.2), for severely ill neonates and infants and shall provide support to Intermediate NICUs that shall include, but not limited to, professional education and consultation. (3.25.2/A.1)

Transport and Regional Cooperation

ACOG/AAP

- ♦ An interhospital transport program should provide 24-hour service. It should include a receiving or program center responsible for ensuring that high-risk patients receive the appropriate level of care, a dispatching unit to coordinate the transport of patients between facilities, an appropriately equipped transport vehicle, and a specialized transport team. (pg. 69)
- ♦ The receiving center is responsible for the overall coordination of the regional program. It should ensure that interhospital transport is organized in a way that ensures that patients will receive the appropriate level of care. (pg. 72)
- ♦ Contingency plans should be in place to avoid a shortage of beds for patients needing tertiary care. These plans should include provisions for accepting or transferring patients among the cooperating centers or to an alternate receiving center, rather than only the receiving center affiliated with the referral center, when special circumstances warrant (eg, patient census or need for specialized services, such as extracorporeal membrane oxygenation). (pg. 72-73)
- ♦ The receiving center is responsible for providing referring physicians with:
 - Access by telephone on a 24-hour basis to communicate with receiving obstetric and neonatal units.
 - Follow-up on the neonate by telephone, letter, or fax, provided all federal, state, and local requirements are met.
 - A complete summary, including diagnosis, an outline of the hospital course, and recommendations for ongoing care for each patient at discharge.
 - Ongoing communication and follow-up. (pg. 73)



Perinatal Services Neonatal Care (Sub-Specialty)

Transport and Regional Cooperation

Title 22

Infant transport services between perinatal units.

- ♦ A transport team consisting of at least a physician, an RN or respiratory therapist. [70483 (a) (4-5)]
- ♦ Infant transport services are an indispensable part of intensive care newborn nursery service. [70481]
- ♦ A RN trained in intensive care of the newborn shall be available to serve on the transport team. [70485 (g)]
- ♦ Infant transport equipment shall include at least the following:
 - Infant transport incubator with self-contained power supply to maintain a neural thermal environment.
 - Oxygen supply with fail-safe monitor humidifier.
 - Oxygen analyzer.
 - Compressed air supply.
 - Temperature monitoring equipment.
 - Cardiopulmonary monitoring equipment.
 - Suction device.
 - Infusion pump.
 - Resuscitation equipment and supplies.
 - Intravenous fluids and supplies. [70487 (b) (1-10)]



Perinatal Services Neonatal Care (Sub-Specialty)

Transport and Regional Cooperation

CCS

- ♦ The medical director of the NICU, or a CCS-paneled neonatologist designee providing the neonatal transport, shall be responsible for:
 - Selecting the method of transport to be used
 - The medical care of infants during transport
 - Designating neonatal transport team members to be utilized for transport of unstable, potentially unstable and stable infants
- ♦ The transport team for unstable and potentially unstable infants shall:
 - Include a physician, a NNP, or a RN functioning in an expanded role under standardized procedures in accordance with CCR, Title 16, Division 14, Article 7, Sections 1470 through 1474 who:
 - Shall have advanced skills which include, but are not limited to, endotracheal intubation, needle aspiration, and Transport placement of an umbilical venous catheter
 - Shall have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA and shall function in an expanded role under standardized procedures in accordance with CCR, Title 16, Division 14, Article 7, Sections 1470 through 1474
 - Also include at least one other professional who may be a physician who has completed three or more years of a postgraduate pediatric residence training program, a NNP, a neonatal RN with advanced neonatal skills and/or an RCP. Transport team members shall be determined by the neonatologist. The composition of the team shall be balanced to provide all required skills
 - The transport team shall be in attendance during the entire transport procedure.
- ♦ A stable infant may be transported by a R.N. who has NICU experience and who shall have evidence of current successful completion of the Neonatal Resuscitation Program course of the AAP and AHA. (3.25.1/H.17) & (3.25.2/H.16)
- ♦ The Regional and Community NICU medical director shall ensure, either directly or through written agreements with another NICU or agency that a mechanism for neonatal transport exists
 - The Regional and Community NICU neonatal transport team program or the written neonatal transport agreement shall be updated and signed annually by the medical directors of NICUs involved in the agreement.
 - The medical director of the neonatal transport program shall be responsible for a written neonatal transport plan which shall include, but is not limited to, the following:
 - A summary of the neonatal transport training program
 - Annual evaluation and documentation of competency in neonatal transport team members by the Regional NICU medical director or CCS-paneled neonatologist designee
 - Requirement of a minimum number of preceptored neonatal transports for new neonatal transport team members
 - Maintenance of written records of each neonatal transport completed shall be available for review by CCS program staff



Perinatal Services Neonatal Care (Sub-Specialty)

Transport & Regional Cooperation

CCS

- The NICU shall agree to accept on a space and staff available basis, any infant requiring a level of care beyond that which can be provided by a hospital with which the NICU has transport agreements and/or by the Regional Perinatal Dispatch Center shall be followed. (3.25.1/H.16)
- ♦ A Regional NICU shall enter into written agreements, approved by the CCS program, with affiliated Community NICUs and/or Intermediate NICUs. All Regional Cooperation Agreements shall specify mutual responsibility for at least the following:
 - Joint education and training of perinatal health professionals
 - Joint development of guidelines for obtaining consultation by perinatal, neonatal, and other specialty disciplines as necessary
 - Joint development of guidelines for maternal and neonatal patient referral and transport to and from each facility/NICU
 - Joint identification, development and review of protocols, policies and procedures related to the care of the high-risk obstetric and neonatal patient, at least every two years
 - Joint review of outcome data, based on CCS requirements, at least annually. (3.25.1/B.3)
- ♦ A Community NICU shall enter into written agreements, approved by the CCS program, with affiliated CCS-approved Regional NICU(s) and may additionally enter into written agreements, approved by the CCS program with affiliated Intermediate NICUs. All Regional Cooperation Agreements shall specify mutual responsibility for at least the following:
 - Joint education and training of perinatal health professionals
 - Joint development of guidelines for obtaining consultation by perinatal, neonatal, and other specialty disciplines as necessary
 - Joint development of guidelines for maternal and neonatal patient referral and transport to and from each facility/NICU
 - Joint identification, development and review of protocols, policies and procedures related to the care of the high-risk obstetric and neonatal patient, at least every two years
 - Joint review of outcome data, based on CCS requirements, at least annually. (3.25.2/B.6)



Perinatal Services Neonatal Care (Sub-Specialty)

Transport & Regional Cooperation

CCS

- ♦ The Regional Cooperation Agreement shall be developed, negotiated, signed, and dated prior to CCS approval by at least the following persons from each hospital:
 - Hospital Administrator
 - Medical Director of the NICU
 - Medical Director, Maternal-Fetal Medicine, (hospitals without licensed perinatal beds are exempt from this requirement)
 - Nurse Administrator. It shall be the mutual responsibility of the Regional and the Community or Intermediate NICUs to review annually and recommend any modifications of said agreement to reflect the evaluation of outcome. (3.25.1/B.1)

High-Risk Infant Follow-up Program

- ♦ The medical director of the Regional NICU or Community NICU shall have responsibility for ensuring that all high-risk infants discharged from the NICU are referred to an appropriate high-risk infant follow-up (HRIF) program.
- ♦ There shall be an organized HRIF program in the NICU's facility or there shall be a written agreement for the provision of services provided in high risk infant follow-up programs by another hospital or agency, including High Risk Infant Follow up Specific Care Centers.
- ♦ The HRIF program shall conform with the CCS high risk infant eligibility criteria and components of service, as per the CCS Manual of Procedures, Chapter 2.17.2, CCS Medical Eligibility Criteria. (3.25.1/L.1) & (3.25.1/J.1)

Quality Improvement

See Specialty Neonatal Intensive Care Section

Policy & Procedure

ACOG/AAP

- ♦ In addition to policies for basic care and specialty facilities, the following provisions apply to hospitals providing specialty care:
 - A systematic program for tracking and scheduling ophthalmologic examinations of pre-term neonates at risk for retinopathy of prematurity is useful and strongly encouraged to reduce vision loss from retinopathy of prematurity that usually responds to timely treatment. (pg. 264)
 - Physicians and nursery staff should be competent in the recognition of signs of neonatal withdrawal. There are a number of useful systematic scoring schemata for assessing severity and each nursery unit should have a written policy for implementation of a scoring system for neonatal withdrawal and appropriate treatment. (pg. 265)
 - It is critical that neonates with hypoxic cardiorespiratory failure receive care in institutions that have appropriately skilled personnel – including physicians, nurses, and respiratory therapists who are qualified to use multiple modes of ventilation – and readily accessible radiologic and laboratory support. Neonates who are not benefiting from conventional therapies should be transferred in a timely manner to the appropriate level III NICU capable of providing alternative treatments. Institution-specific guidelines for transfers should be developed. (pg. 271)



Perinatal Services Neonatal Care (Sub-Specialty)

Policy & Procedure

ACOG/AAP

- The number of routine painful or stressful events neonates are exposed to should be minimized using protocols that limit painful or stressful disruptions in care. (pg. 284)
- A guideline for immunization of both preterm and term neonates requiring prolonged hospital stays, should be implemented in each neonatal intensive care unit. (pg. 284)
- It is prudent that each institution establish guidelines for discharge of high-risk neonates. These should allow for individual physician judgment and flexibility. (pg. 292)

Title 22

- ♦ There shall be written policies and procedures developed and maintained by the person responsible for the service in consultation with other appropriate health professionals and administration. [70483 (b)]
- ♦ Procedures shall be approved by the medical staff and administration where such is appropriate. Such policies and procedures shall include but not be limited to: [70483 (b)]
 - Relationships to other services in the hospital.
 - Admission to the intensive care newborn nursery.
 - Consultation to perinatal units.
 - Infection control and relationship to the hospital infection committee.
 - Transfer of infants to and from perinatal units.
 - Provision for family-centered infant care by parent or surrogate.
 - Prevention and treatment of neonatal hemorrhagic disease.
 - Visiting privileges.
 - Resuscitation of the newborn.
 - Administering and monitoring of oxygen and respiratory therapy.
 - Transfusion.
 - PKU screening.
 - Rhesus (Rh) hemolytic disease identification, reporting, and prevention.
 - Management of hyperbilirubinemia.
 - Discharge and continuity of care with referral to community supportive services. [70483(b) (1-15)]
 - Pediatric-pathology-radiologic conference.
 - Routine and special care of the infant.
 - Handwashing technique.
 - Individual bassinet technique.
 - Gavage feedings.
 - Intravenous therapy.
 - Formula preparation and storage.
 - Respiratory care procedures. [70483 (b) (16-23)]
- ♦ The responsibility and the accountability of the intensive care newborn nursery service to the medical staff and administration shall be defined. [70483 (c)]
- ♦ Infants with diarrhea of the newborn as defined in section 2564, Title 17, California Code of Regulations or who have draining lesions shall be isolated. [70483 (e)]



Perinatal Services Neonatal Care (Sub-Specialty)

Policy & Procedure

Title 22

- ♦ Infants suspected of having airborne infections shall be separated from other infants in the nursery. [70483 (f)]
- ♦ All infections shall be reported to the hospital infection control committee promptly. [7048(g)]
- ♦ There shall be discharge planning and provisions for follow-up care. [70483 (i)]
- ♦ Oxygen shall be administered to newborn infants only on the written order of a physician. The order shall include the concentration (volume percent) or desired arterial partial pressure of oxygen and be reviewed, modified or discontinued after 24 hours. [70483 (j)]
- ♦ The intensive care newborn nursery is considered an electrically sensitive area and shall meet the requirements of section 70853 of these regulations. [70483 (k)]
- ♦ Periodically, an appropriate committee of the medical staff shall evaluate the services provided and make appropriate recommendations to the executive committee of the medical staff and administration. [70483 (m)]



Perinatal Services Neonatal Care (Sub-Specialty)

Policy & Procedure

CCS

- ♦ There shall be a Regional and Community NICU Policies and Procedures Manual which shall be:
 - Updated, reviewed, and signed at least on an annual basis by the medical director and nurse manager of the Regional NICU
 - Readily available in the NICU for all NICU staff
- ♦ The written Policies and Procedures Manual for the Regional NICU shall address/include, but not be limited to, the following:
 - Criteria delineating the clinical privileges granted to attending CCS-paneled physicians other than neonatologists. Criteria shall include definitions of:
 - Those infants requiring intermediate or continuing care who may be managed by a CCS-paneled pediatrician
 - Those infants requiring consultation by a neonatologist
 - Criteria for admission of infants to the NICU
 - Criteria for infant discharge from the NICU and infant transfer to/from the NICU
 - Criteria for monitoring infants in the NICU
 - Pain management and sedation for operative/medical procedures
 - Criteria for NICU staff to provide neonatal resuscitation in the delivery room and written protocol for the provision of skilled neonatal resuscitation in the delivery room
 - Mechanism for bioethical review of neonatal patients when indicated
 - Mechanism for infection surveillance, prevention, and control in the NICU
 - Discharge planning process which includes the roles of the designated coordinator for discharge planning and the NICU multidisciplinary team members with the parent or caretaker and the referring physician, primary care physician, and any specialized follow-up agency, including CCS Special Care Centers and the Early Start Program
 - Parent visitation in the NICU
 - Mechanism for the referral to the hospital's child abuse and neglect team or Child Protective Services on a 24-hour basis
 - A written plan that facilitates a family-centered and culturally competent approach to NICU care by the professional staff which includes, but is not limited to, the following:
 - A system that will encourage and provide for inclusion of the parent(s) or primary caretaker(s) in the decision-making process relating to the care and interventions of their infant as early as possible
 - A method for the parent(s) or primary caretaker(s) to provide input and feedback to the NICU multidisciplinary team members regarding their infant's care and experiences in the NICU
 - A system to ensure that all infants who are provided care in the NICU receive a hearing screening test prior to hospital discharge, in accordance with the California NHSP and as mandated by California Health and Safety Code, Section 123975
 - A system to ensure that an ophthalmology examination is performed on infants at risk for retinopathy of prematurity, as defined by the most recent joint statement of the AAP, the American Association for Pediatric Ophthalmology and Strabismus, and the American Academy of Ophthalmology. The ophthalmology examination shall be performed by a CCS paneled ophthalmologist with experience in the examination of pre-term infants. (3.25.1/H.18) & (3.25.2/I.19)

Perinatal Services

Quality, Safety and Performance Initiatives



Perinatal Services Quality, Safety and Performance initiatives

Quality, Safety and Performance Initiatives

TIOP-III pgs 123-134

Improving perinatal outcomes in the United States requires progress on three interrelated, but conceptually distinct, dimension: 1) increasing knowledge about the biological, clinical and health services determinants of adverse outcomes, and about ways to prevent or avoid them; 2) increasing adoption of evidence-based best practices by health care providers; and 3) improving access to care for women of childbearing age and their babies. Over the last two decades, public policy has appropriately focused on access to care. But attention also must be paid to improving the quality of services that are provided.

The Policy Agenda

- **Improving preconception care**

Some of the most important risk factors for adverse birth outcomes—including maternal obesity, chronic illnesses, tobacco, alcohol and illicit substance use, and sexually transmitted infections—affect many mothers long before they become pregnant. The prevalence of the risk factors, which are all highly correlated with poverty, minority-status, low educational attainment and related social problems, appears to be increasing, at least in some populations. Health services that address the needs of high-risk women after they become pregnant may come too late to improve outcomes sufficiently. Programs that provide education and support, and that assist and empower women are needed. Yet such interventions must cross the boundaries of health, education, social service and income-support programs, none of which are particularly amenable to such boundary-crossing, and most of which have inadequate resources themselves. In most instances, governmental or political systems do not provide much support for such complicated and expensive interventions, which touch unavoidably on issues of race, class and sexuality. In the entire comprehensive and compendious bulk of the Patient Protection and Affordable Care Act, for example, such programs receive hardly a mention.

- **Quality improvement in prenatal and neonatal care**

On December 29, 2009, the Department of Health and Human Services (HHS) published in the *Federal Register* a notice of an “Initial Core Set of Children’s Health Care Quality Measures.” This is the first step in a lengthy and substantially more complex process outlined in CHIPRA. The initial set of quality measures published by HHS is fragmentary, often vague and focused much more on the use of care than its quality. As emphasized several times in the notice, implementing the measures is also purely voluntary—at least until 2013. However, if the experience in quality improvement in other areas of the health care system is any guide, this important step is the start of a process that should yield more comprehensive and scientifically-based quality standards; the development of a timely national data system that will permit providers to evaluate their own performance relative to national norms and peer group activity; and, eventually, development of a set of formal requirements for providers receiving reimbursement from Medicaid, CHIP or other public programs.

In fairness to HHS, the December 29, 2009 notice was published only a few months after CHIPRA was enacted, and there is now substantial activity going on both within the government and in many private-sector organizations to identify, refine and evaluate a range of new quality measures for women and children, which will then be subjected to a formal and relatively rigorous set of reviews within HHS before they are promulgated as the next generation of official standards. In the



Perinatal Services Quality, Safety and Performance initiatives

Quality, Safety and Performance Initiatives

TIOP-III pgs 123-134

meantime, using guidelines and standards from professional groups and other well-informed bodies, and the judgment of their own internal clinical leaders, many health care organizations are beginning to apply to their maternal and pediatric services the kinds of quality improvement processes that have been developed and refined in adult medical and surgical services during the last decade.

- **Reducing non-medically indicated (elective) deliveries before 39 weeks gestation**

One area in which the existence of clear professional guidelines for appropriate care has not yet produced marked quality improvement is in the reduction of elective deliveries before 39 weeks gestation. Despite clear guidelines from the American College of Obstetricians and Gynecologists since 1979 about not performing elective deliveries prior to 39 weeks, late preterm births (34 to 36 weeks), as well as early term births (37 to 38 weeks) continued to increase through 2006. As these data have become more widely known, and the risks of late pre-term and early term delivery have become better understood, a downward bending of the curve began in 2007. However, full compliance with these guidelines will require more concerted and systematic efforts from professional organizations and insurers to sustain a reverse of the increase. Advocates can play an important role in keeping those groups focused at both the national and, especially, state and local levels.

- **Re-regionalizing neonatal intensive care**

Efforts to improve the regionalization of perinatal services are even more problematic. Such regionalization was the single highest priority identified in the first edition of *Toward Improving the Outcome of Pregnancy*. Considerable progress in that direction was made in the 1970s and early '80s, but since then we have experienced a dramatic "deregionalization" of neonatal care in the United States. Between 1980 and 1995, while the number of very low-birthweight babies born in the United States increased 38 percent, the number of neonatal intensive care units (NICUs) increased 99 percent, and more than one-quarter of the NICUs in the United States in 1995 were too small to be likely to provide optimal care.

There are many reasons for this deregionalization of NICU services, but one of central importance relates directly to public policy. The publication of the first edition of *Toward Improving the Outcome of Pregnancy* in 1976, and related advocacy activities by the March of Dimes, professional groups and others, roughly coincided with the implementation of the National Health Planning and Resources Development Act of 1974. That law expanded and strengthened a national system of regional health planning, reinforced with Certificate-of-Need laws in every state. While the national health planning effort has widely (and not inaccurately) been perceived as a failure, regionalization of perinatal services was a high priority in many states, and the process achieved considerable success. The demise of organized health planning in the wave of deregulatory enthusiasm of the early 1980s destroyed whatever momentum the regionalization process might have attained. This preceded a period in which the organization and distribution of neonatal intensive care has moved in the opposite direction. More recently, the shortage of pediatric subspecialists and the success of flagship children's hospitals have fueled a boom in the regionalization of pediatric specialty services, but a similar pattern has not occurred with the youngest and smallest children. Without formal regulatory or legal mechanisms in most states requiring the regionalization of obstetric and neonatal services, progress will have to be made one region or one community at a time.



Perinatal Services Quality, Safety and Performance initiatives

Quality, Safety and Performance Initiatives

TIOP-III pgs 123-134

Conclusion and Recommendations

While universal access to prenatal care is essential—and still not achieved in the United States—it is not all we need to reduce adverse birth outcomes, including preterm birth and low birthweight. To realize such improvements, we recommend that:

1. Providers of perinatal care increasingly be held accountable for providing the most appropriate care, which reflects evidence-based guidelines and clinical standards;
2. Guidelines and standards continue to evolve on the basis of research, clinical innovation and rigorous evaluation;
3. Payers—private insurers, Medicaid and CHIP—play a more significant role in quality improvement in maternal and infant health;
4. Professional groups continue to encourage their members to improve their practice patterns. The national specialty societies, especially the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP) and the Association of Women’s Health, Obstetric and Neonatal Nurses (AWHONN), have had a long-standing interest and have intensified their leadership in the development and promulgation of quality standards;
5. Federal the state governments by encouraged to fund research on the etiology of preterm birth and to identify and replicate innovative and successful approaches to improve perinatal care through the adoption of quality standards. This includes the identification of model programs, barriers to better performance and mobilization of local coalitions and collaboratives;
6. Clinicians, health care facilities and professional organizations implement and evaluate relevant perinatal quality improvement measures developed by organizations such as The Joint Commission and the National Quality Forum (NQF); and
7. Key stakeholders create and/or engage in consensus building around core perinatal quality measures.

Opportunities for Action and Summary of Recommendations

TIOP-III pgs 135-137

Toward Improving the Outcome of Pregnancy: Enhancing Perinatal Health Through Quality, Safety and Performance Initiatives (TIOP III) is a monograph about the need to improve the quality of care along the entire perinatal continuum, from preconception through the postpartum period. Using examples of promising and successful initiatives at hospitals and health systems across the country, TIOP III illustrates specific strategies and interventions that incorporate robust process and systems change, including the power of statewide quality improvement collaboratives, to improve the quality of perinatal care.

TIOP III is a tool for the broadest possible audience—from clinicians on the frontline, to public health professionals, researchers, policy-makers, payers, patients and families—anyone committed to improving perinatal health. Each of these stakeholders has a unique role and responsibility in achieving this goal, but success ultimately depends on collaboration, cooperation and commitment to a shared vision of a national system that embraces evidence-based, high-quality and cost-effective care that meets the needs of patients and their families.

TIOP III encompasses a number of cross-cutting themes with action items that all stakeholders will embrace in their efforts to improve pregnancy outcomes. It contains a variety of



Perinatal Services Quality, Safety and Performance initiatives

Opportunities for Action and Summary of Recommendations

TIOP-III pgs 135-137

evidence-based activities and interventions that can be incorporated now into perinatal quality improvement efforts and initiatives in order to improve pregnancy outcomes. It is critical to focus on these themes and action items as the United States implements the quality, safety and performance initiatives needed to enhance perinatal health. They include:

- **Assuring the uptake of robust perinatal quality improvement and safety initiatives.**
 - Develop, disseminate and support validated perinatal quality and performance measures; collect standardized, comparable data; review practice and assure accountability.
 - Encourage and incentivize use of The Joint Commission Perinatal Care Core Measure Set, as well as other National Quality Forum-endorsed perinatal measures.
 - Define and disseminate evidence-based practices in perinatal care; implement standardized sets of evidence-based practices that, when performed collectively and reliably, have been shown to improve outcomes.
 - Promulgate effective health center initiatives, as well as coalitions and multidisciplinary statewide collaboratives that maximize the impact of perinatal quality improvement initiatives.
 - Promote timely feedback, increased public reporting and transparency of outcome measures in all perinatal quality improvement initiatives.
 - Promote research to provide evidence for clinical practices, compare alternative practices, and identify strategies to facilitate implementation of evidence-based practices.
- **Creating equity and decreasing disparities in perinatal care and outcomes.**
 - Promote equity and care across the spectrum of perinatal care that is culturally sensitive and developmentally and linguistically appropriate.
 - Improve access to quality health care services, regardless of patient's ability to pay.
- **Empowering women and families with information to enable the development of full partnerships between health care providers and patients and shared decision-making in perinatal care.**
 - Educate, empower and support families to become more active in their care and in perinatal quality improvement efforts.
- **Standardizing the regionalization of perinatal services.**
 - Develop standard definitions and guidelines across the country for levels of maternal and infant care that are consistently utilized, to help optimize the effective regionalization of maternal and newborn care.
- **Strengthening the national vital statistics system.**
 - Create a highly reliable and valid collection of maternal and newborn vital statistics; maintain and promote electronic health records to enable measurement and improvements in perinatal care.
 - Use electronic health records and an electronic infrastructure to enhance communication across integrated delivery systems or independent hospitals.



Perinatal Services Quality, Safety and Performance initiatives

Opportunities for Action and Summary of Recommendations

TIOP-III pgs 135-137

Each chapter in this book features specific recommendations across the continuum of perinatal care that applies to various stakeholders. While we have grouped the recommendations below according to different constituents in the health care system, we urge all stakeholders to implement as many as possible. Ultimately, it will take a team of engaged stakeholders committed to improving the outcomes of pregnancy to successfully catalyze and implement systems change.

- **Health Care Professionals and Hospitals**
 - Use best practices and evidence-based guidelines in safety and screening along the entire perinatal continuum, from preconception through postpartum care, making sure care is culturally sensitive, developmentally and linguistically appropriate, as well as patient- and family-centered.
 - Begin perinatal care before conception occurs and conduct regular screening—including at least two ultrasound examinations for every pregnant woman: one in the first and one in the second trimester—to confirm gestational dating, identify birth defects and genetic disorders, and reduce the risk of adverse pregnancy outcomes.
 - Provide women with appropriate antepartum interventions (e.g., antenatal steroids, prophylaxis with progesterone to prevent recurrent preterm birth), and intrapartum interventions, including utilization of evidence-based protocols for oxytocin, magnesium sulfate, shoulder dystocia, postpartum hemorrhage and elimination of non-medically indicated deliveries prior to 39 weeks of gestation.
 - Engage in constructive, culturally sensitive educational interactions with patients to empower them with information to assist in their participation in their own care and decision-making.
 - Embrace evidence-based safety initiatives in newborn intensive care units, including reducing nosocomial infections, improving communication/hand-offs and implementing practice simulations.
 - Include in postpartum care evidence-based risk reduction, such as smoking cessation programs, a renewed focus on the importance of breastfeeding and routine screening for postpartum depression and post-traumatic stress disorder.
- **Public Health**
 - Create a robust national vital statistics system, which includes data quality assessments, to ensure that reliable and accurate information is collected at the local, state and federal levels; ensure that all states implement the 2003 revised birth certificate; ensure that data are released in a timely manner.
 - Encourage transparency of provider and hospital performance measure; develop electronic health records and systems that allow for linkages with clinical systems to create a comprehensive system that captures data throughout the continuum of perinatal care, from preconception through postpartum care.
 - Embrace the interdependence of promoting equity and quality improvement to achieve the best health care and health outcomes.
 - Develop nationally consistent guidelines for regionalization of perinatal care and encourage states and hospitals to comply with these standards.
 - Create comprehensive services for prenatal, intrapartum and postpartum patients in need of counseling and treatment for behavioral disorders and mental illness.
 - Create comprehensive services for infants with developmental disabilities and birth defects and their families.



Perinatal Services Quality, Safety and Performance initiatives

Opportunities for Action and Summary of Recommendations

TIOP-III pgs 135-137

- **Research Scientists**
 - Evaluate best practices in perinatal care to facilitate the creation of evidence-based guidelines.
 - Develop a transdisciplinary research agenda involving basic science, as well as epidemiological, clinical, behavioral and social sciences to study the cases of and contributors to adverse birth outcomes, including genetics, stress, and racial and ethnic disparities.
 - Fund and evaluate multisite demonstration projects that employ evidence-based interventions.
 - Support Comparative Effectiveness Research to properly define quality outcomes and processes and to help payers incentivize providers for quality care.
- **Policy-makers and Payers**
 - Payers—private insurers and Medicaid—should play a more significant role in quality improvement in maternal and infant health.
 - Providers should be held accountable for providing care that reflects evidence-based guidelines and clinical standards.
 - Use electronic health records and technology to link clinical care, surveillance and outcomes research.
 - Implement, incentivize and evaluate perinatal quality improvement measures developed by organizations such as The Joint Commission and the National Quality Forum.
 - Identify and analyze innovative and successful approaches to improve perinatal care through the adoption of quality standards; catalogue and address barriers to better performance, and mobilize broadly based local, regional and national coalitions.
- **Patients and Families**
 - Encourage providers to embrace patient-and family-centered care, including; group prenatal care, family-centered birth and postpartum care, family support in the NICU and palliative care.
 - Urge providers to recognize and embrace the critical role of patients and families as partners in decision-making.
 - Empower patients and families to partner with health care providers by educating them to know their family history and to ask questions in an effort to predict, manage and reduce risks for potential adverse birth outcomes.
 - Encourage the health care system, as well as national organizations, to include families in perinatal quality improvement initiatives.

