Standard and Transmission-Based Precautions

ACH IP Course, 2022

Infection Prevention Training for ACH
Healthcare-Associated Infections Program
Center for Health Care Quality California
Department of Public Health

Standard Precautions

Objectives

- Describe the 6 elements of Standard precautions
- Review adherence monitoring results and tools for select Standard precautions care practices

What are the Standard Precautions?

Part of **Core** practices – **Use all the time, in all settings**

1. Hand hygiene
2. Environmental cleaning and disinfection
3. Injection and medication safety
4. Assess the risk of transmission in task to be performed to select appropriate personal protective equipment (PPE) including gloves, gowns, face masks
5. Minimizing potential exposures
   - Using respiratory hygiene and cough etiquette
6. Reprocessing of reusable medical equipment between each patient and when soiled

Core IPC Practices - CDC HICPAC, 2017 (PDF)
(www.cdc.gov/hicpac/pdf/core-practices.pdf)

Standard Precautions Element 1

Hand Hygiene

- **Hands of health care workers** are the most common mode of transmission of pathogens

Many HAI are preventable with hand hygiene!

Hand Hygiene Efforts

- Hand hygiene has been known to prevent spread of infection for 150 years
- CDC, the World Health Organization, and many other authorities have promulgated hand hygiene guidelines
- Healthcare facilities have hand hygiene policies and procedures
- Lots of studies, intervention trials, observation and measurement

Hand hygiene adherence in health care remains inconsistent. Many opportunities for improvement.

Hand Hygiene Terminology

- **Hand hygiene:** Performing handwashing, antiseptic handwash, alcohol-based hand rub, or surgical hand hygiene/antisepsis
- **Handwashing:** Washing hands with soap and water
- **Antiseptic handwashing:** Washing hands with water and soap or other detergents containing an antiseptic agent
- **Alcohol-based hand rub:** Rubbing hands with an alcohol-containing preparation
- **Surgical scrub /antisepsis:** Extended period of hand hygiene with antiseptic agent

Guideline for Hand Hygiene in Health-care Settings.
MMWR, vol. 51, no. RR-16, 2002

Alcohol-based Hand Rub or Handwashing?

- If hands are *not* visibly soiled, the use of **alcohol-based hand sanitizer rubs** is the recommended preferred method for routinely decontaminating hands of **health care workers**
- **Handwashing** with soap and water should occur
  - When hands are visibly soiled or dirty
  - When hands are known to be contaminated with blood or body fluids
  - Before and after eating
  - After toileting
- During outbreaks of certain infection types or pathogens, consider using only handwashing with soap and water
  - Examples: norovirus, *C.difficile*

Hand Hygiene for Patient Care

Before

- Patient contact
- Donning gloves
- Accessing devices
- Giving medication

After

- Contact with a patient's skin and/or environment
- Contact with body fluids or excretions, non-intact skin, wound dressings
- Removing gloves

Efficacy of Hand Hygiene Products

*less effective in presence of organic material

Recommended Hand Hygiene Technique

Hand rub

- Apply to palm of one hand, rub hands together covering all surfaces until dry
- Volume based on manufacturer recommendation

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

Recommended Hand Hygiene Technique

Hand rub

- Apply to palm of one hand, rub hands together covering all surfaces until dry
- Volume based on manufacturer recommendation

Recommended Hand Hygiene Technique

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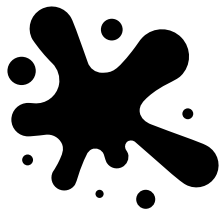


Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

1

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

2

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

3

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

4

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

5

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

6

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

7

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

8

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

9

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

10

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

11

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

12

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

13

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

14

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

15

Recommended Hand Hygiene Technique

Handwashing

- Wet hands with water, apply soap, rub hands together, paying close attention to between the fingers and nails, for at least **15** seconds
- Rinse and dry with disposable towel
- Use towel to turn off faucet

Nails

- Artificial nails and gel polishes should **not** be worn by health care personnel
- Polish may be worn but must be intact (not chipped)
- Nail tips should be kept to ¼ inch in length

Gloving and Hand Hygiene

- Always wear gloves when contact with blood or infectious material is possible
- Remove gloves after caring for each patient
  - Remove gloves, perform hand hygiene, and re-glove when transitioning care from a soiled to a clean area
- Perform hand hygiene upon removing gloves
- Do not wash gloves
- Do not reuse gloves

How to Improve Hand Hygiene Compliance

- Make hand hygiene a facility priority
  - Ensure competency
- Encourage patients and families to remind health care workers to clean their hands
- Make hand rubs easily available (e.g., place at entrance to patient room, at bedside)
- Monitor adherence to hand hygiene and provide feedback of gaps
  - Train/re-train secret shoppers
  - Explore electronic hand hygiene monitoring systems

Standard Precautions Element 2

Environmental Cleaning and Disinfection

- Ensure routine cleaning of environmental surfaces as indicted by level of patient contact and degree of soiling
  - Clean high touch areas more frequently
  - Promptly clean and decontaminate spills of blood and other potentially infectious materials
- Select EPA-registered disinfectants with activity against pathogens most likely to contaminate the patient area
  - Follow manufacturers' instructions for proper cleaning and disinfecting products

(More details will be provided in another module)

Standard Precautions Element 3

Injection Safety

- Injection safety, or safe injection practices, is a set of measures taken to perform injections in an optimally safe manner for patients, healthcare personnel, and others.
  - Injection safety **protects patients**
  - Injection safety **protects health care workers**

Hepatitis B and C Outbreaks Associated with Unsafe Injection Practices

- CDC aware of 44 outbreaks of hepatitis B and C in non-hospital settings in U.S., 2008-2015
- Outbreaks due to injection safety breaches
  - Reuse of syringes
  - Contaminated medication vials used for more than one patient
  - Use of single-dose vials for more than one patient
  - Drug diversion by HCP/employees

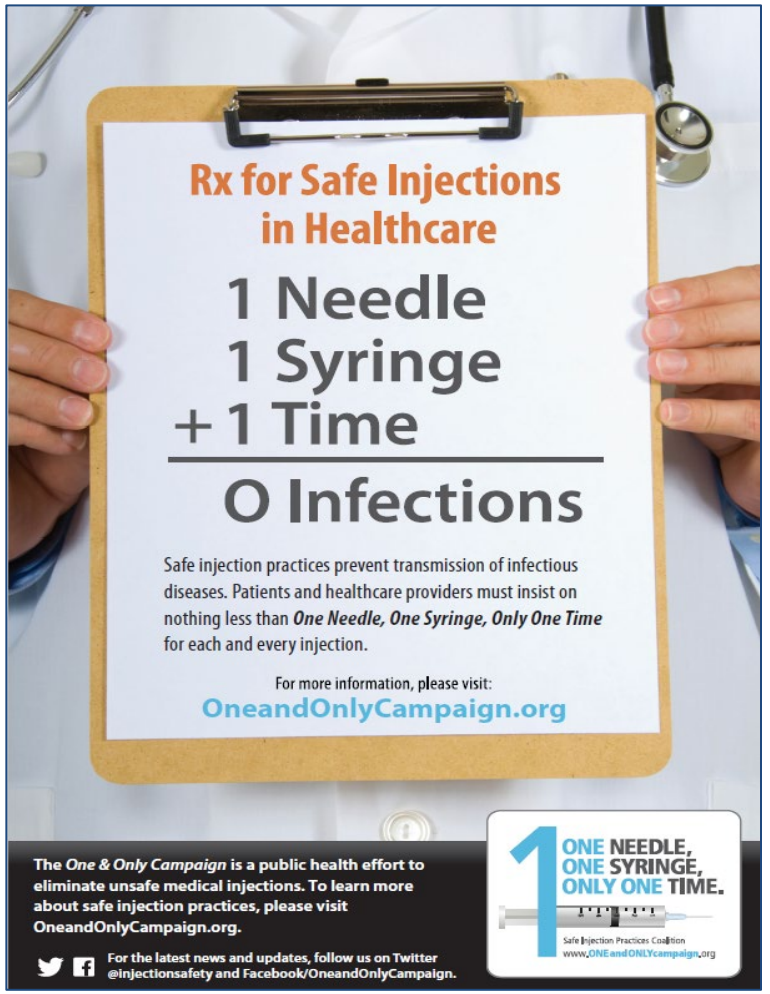
CDC, 2015

Aseptic Technique for the Preparation and Administration of Injected Medications

- Hand hygiene should be performed prior to medication preparation and administration of injected medications
- Medications should be drawn up into syringes in a designated clean medication area
  - Area must **not** be adjacent to areas where potentially contaminated items are placed

Needles and Syringes: One Time Use ONLY

- **Needles** used for only **one patient**
- **Syringes** used for only **one patient**
  - Includes manufactured prefilled syringes
  - Cartridge devices
  - Insulin pens

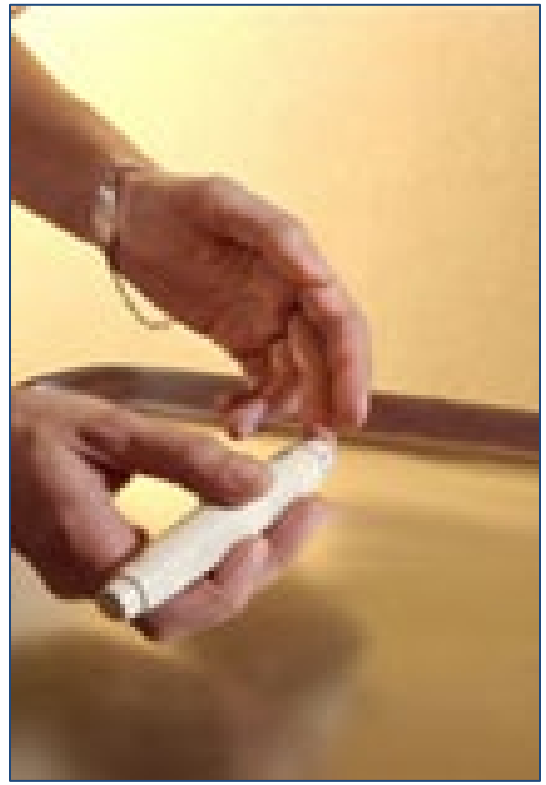


CDC One and Only Campaign
(www.cdc.gov/injectionsafety/one-and-only.html)

California Department of PublicHealth

Injection Safety for Persons with Diabetes

- Insulin pens containing more than one dose of insulin are only meant for one person
- For glucose testing, clean the glucometer after **every** use



Tops of Medication Vials Must be Cleaned Before Entry

Manufacturers guarantee sterility of medications and IV solutions but not the **outside** of medication vials or containers

- Cleanse access diaphragms of medication vials using friction with 70% alcohol
- Allow the alcohol to **dry** before inserting a device into the vial
- Clean the tops of vials with alcohol even if they have lids or caps

Single-Dose Vials: One Patient and Only Once

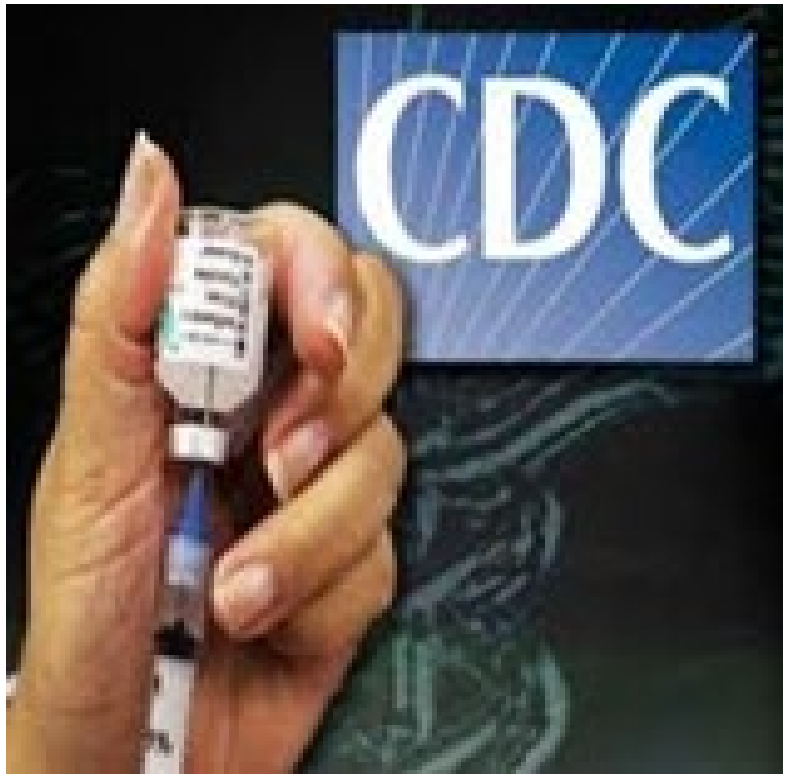
- Carefully read the vial label to determine if it is single-use
- Never enter a medication vial with a used syringe or needle
- If the vial says “single-dose” and has already been accessed, throw it away
- Single use medications should not be stored for future use
- Discard according to the manufacturer’s expiration date
- When in doubt, throw it out!

CDC Injection Safety

(www.cdc.gov/injectionsafety/one-and-only.html)

Multi-Dose Vials

- Limit the use of multi-dose vials
  - When possible, dedicate them to a single patient
- A multiple–dose vial is recognized by its FDA-approved label
- Discard multi-dose vials when the beyond-use date has been reached
- Any time the sterility of the vial is in question, throw it out



CDC Injection Safety
(www.cdc.gov/injectionsafety/one-and-only.html)

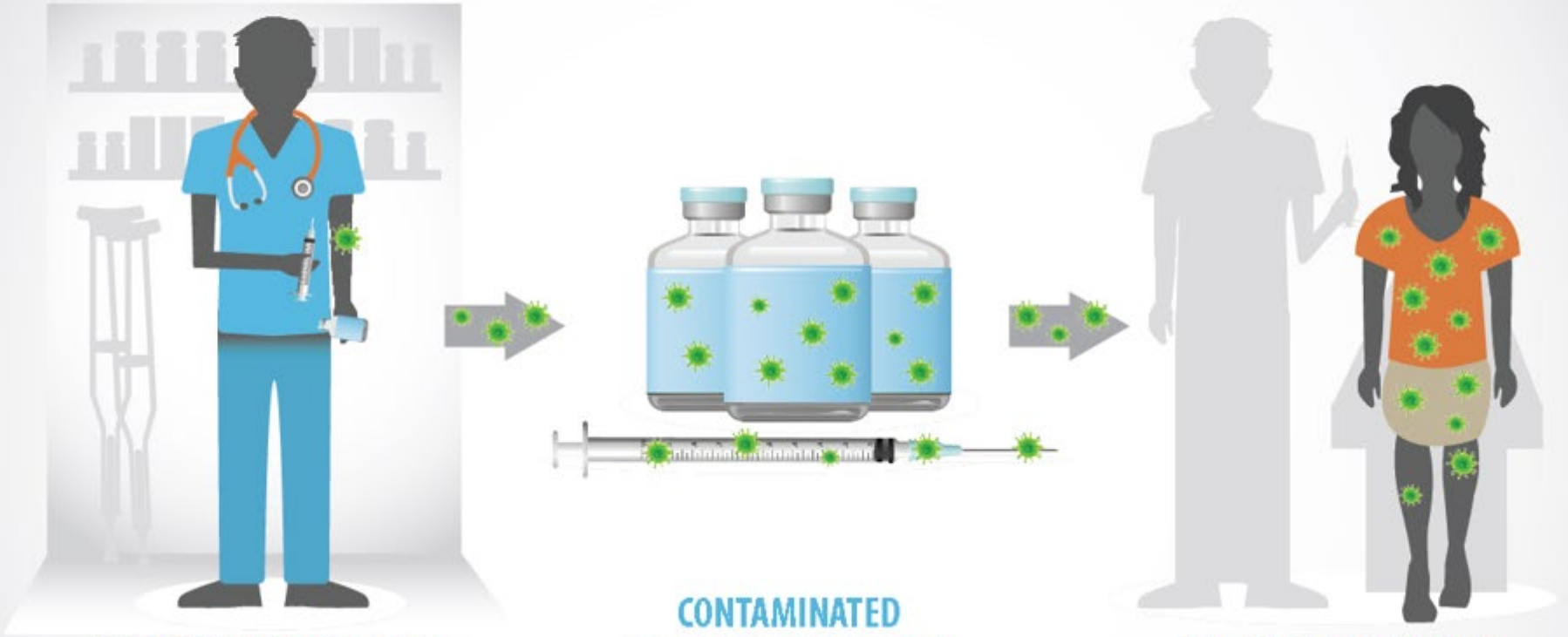
Multi-Dose Vials -2

- Multi-dose vials used for more than one patient must be kept in a centralized medication area
- Multi-dose vials should never enter the immediate patient treatment area (e.g., patient rooms, operating rooms)
- Multi-dose vials should be dated by the health care worker when first opened and discarded within 28 days
  - Unless the manufacturer specifies a different expiration date for an opened vial shorter than 28 days

Use Bags of Intravenous Solutions for One Patient Only

- Do not use bags of intravenous solution as a common source of supply for more than one patient
- Everything from the medication bag to the patient's IV catheter is a single interconnected unit

DRUG DIVERSION* SPREADS INFECTION FROM HEALTHCARE PROVIDERS TO PATIENTS



HEALTHCARE PROVIDER
with Hepatitis C or other bloodborne infection tampers with injectable drug

CONTAMINATED INJECTION EQUIPMENT AND SUPPLIES
present in the patient care environment

EXPOSURE OF PATIENT
results from use of contaminated drug or equipment for patient injection or infusion

*Drug diversion occurs when prescription medicines are obtained or used illegally by healthcare providers.

FOR MORE INFORMATION, VISIT WWW.ONEANDONLYCAMPAIGN.ORG

1 ONE NEEDLE, ONE SYRINGE, ONLY ONE TIME.
Safe Injection Practices Coalition
www.ONEandONLYcampaign.org

California Department of PublicHealth

Essential Elements of a Drug Diversion Prevention Program

- Multidisciplinary team including the administration, physician and nursing leadership, pharmacist, human resources, and the staff member primarily responsible for infection prevention
- Policies and procedures to prevent, detect, and properly report drug diversion
- A method of observing processes and auditing drug transaction data for diversion
- Prompt attention to suspicious activity or audit results
- Collaborative relationship with public health and regulatory officials
- Drug diversion education for all staff

Sharps Safety

- Sharps injuries occur most frequently due to **inappropriate sharps disposal** by healthcare workers, including
  - Insufficient maintenance of sharps containers
  - Improper design of sharps disposal container
  - Inappropriate placement of sharps disposal container
  - Overfilling sharps disposal container

Sharps Disposal Container Requirements

- Must be puncture-resistant, durable during installation and transport, and of appropriate size and shape for the task
- Must be clearly visible
- Must be easy to access by being placed in an upright position and easy to operate
- Must have ease of assembly, require minimal worker training requirements, be easy to operate, and have a flexible design

CDC Injection Safety Workbook (PDF)
(www.cdc.gov/sharpssafety/pdf/sharpsworkbook_2008.pdf)

Management of Needle Sticks and Other Exposures to Blood or Other Bodily Secretions

- Wash the needle stick site or cut with soap and water until clean
- Flush splashes to the nose, mouth, or skin with water
- Irrigate eyes with clean water, saline, or sterile irrigant
- Report the incident to your supervisor immediately
- Immediately seek medical evaluation per your facility's policy

Wear Facemask for Epidural Procedures

- Wear a facemask when placing a catheter or injecting material into the epidural or subdural space
  - Myelogram
  - Epidural or spinal anesthesia

Injection Safety Checklist

- Use to assess your facility's injection safety practices
- Download and share with all staff

CDC Injection Safety Workbook (PDF) (www.cdc.gov/sharpssafety/pdf/sharpsworkbook_2008.pdf)

INJECTION SAFETY CHECKLIST

The following Injection Safety checklist items are a subset of items that can be found in the *CDC Infection Prevention Checklist for Outpatient Settings: Minimum Expectations for Safe Care*.

The checklist, which is appropriate for both inpatient and outpatient settings, should be used to systematically assess adherence of healthcare providers to safe injection practices. Assessment of adherence should be conducted by direct observation of healthcare personnel during the performance of their duties.

Injection Safety	Practice Performed?	If answer is No, document plan for remediation
Proper hand hygiene, using alcohol-based hand rub or soap and water, is performed prior to preparing and administering medications.	Yes No	
Injections are prepared using aseptic technique in a clean area free from contamination or contact with blood, body fluids, or contaminated equipment.	Yes No	
Needles and syringes are used for only one patient (this includes manufactured prefilled syringes and cartridge devices such as insulin pens).	Yes No	
The rubber septum on a medication vial is disinfected with alcohol prior to piercing.	Yes No	
Medication vials are entered with a new needle and a new syringe, even when obtaining additional doses for the same patient.	Yes No	
Single-dose or single-use medication vials, ampules, and bags or bottles of intravenous solution are used for only one patient.	Yes No	
Medication administration tubing and connectors are used for only one patient.	Yes No	
Multi-dose vials are dated by healthcare when they are first opened and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial. Note: This is different from the expiration date printed on the vial.	Yes No	
Multi-dose vials are dedicated to individual patients whenever possible.	Yes No	
Multi-dose vials to be used for more than one patient are kept in a centralized medication area and do not enter the immediate patient treatment area (e.g., operating room, patient room/cubicle).	Yes No	

Join the CDC One & Only Campaign

- A partnership of health care organizations, patient advocacy organizations, industry partners, and other public health partners
- Commit to injection safety!

[CDC One & Only Campaign](www.cdc.gov/injectionsafety/one-and-only.html)
(www.cdc.gov/injectionsafety/one-and-only.html)

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Standard Precautions Element 4

Personal Protective Equipment

- HCP need immediate **access** to PPE and **training** to be able to select proper PPE based on
  - The nature of the patient interaction
  - Potential for exposure to blood, body fluids or other infectious material
- Types of PPE
  - Gloves
  - Gowns
  - Face masks and respirators
  - Goggles and face shields

PPE Education Resources

Educational Materials Include:

- How to Safely Put On PPE Video
  (youtube.com/watch?v=H4jQUBAlBrI)
- How To Safely Take Off PPE Video
  (youtu.be/PQxOc13DxvQ)
- How to Put On and Take Off PPE Fact Sheet (PDF)
  (www.cdc.gov/coronavirus/2019-ncov/downloads/A_FS_HCP_COVID19_PPE.pdf)
- How to Put On and Take Off PPE Poster (PDF)
  (www.cdc.gov/hai/pdfs/ppe/PPE-Sequence.pdf)
- PPE Illustrations (PDF)
  (www.cdc.gov/hai/prevent/ppe.html)
- CDC- Protecting Healthcare Personnel
  (www.cdc.gov/hai/prevent/ppe.html)

PPE - Gloves

- Gloves should be worn when it can be reasonably anticipated that a healthcare provider may have hand contact with
  - Blood, body fluids, or other potentially infectious material
  - Mucous membranes
  - Non-intact skin
  - Potentially contaminated skin
  - Potentially contaminated equipment

PPE - Gowns

- A gown should be worn during procedures and activities that could cause contact with blood, body fluids, secretions, or excretions
  - Appropriate to the task
  - To protect skin
  - To prevent soiling of clothing
- Except in specific circumstances, gowns should be removed promptly in the care area and not worn in the corridors or nursing station
- Gowns should not be worn for the care of more than one patient

PPE – Masks and Protective Shields

- Use protective eyewear and a mask, or a face shield
  - To protect the mucous membranes of the eyes, nose and mouth
  - During procedures and activities that could generate splashes or sprays of blood, body fluids, secretions and excretions
- Select masks, goggles, face shields, and combinations of each according to the need anticipated by the task performed

PPE Removal

- Remove and discard PPE, other than respirators, upon completing a task before leaving the patient's room or care area.
  - If a respirator is used, it should be removed and discarded (or reprocessed if reusable) after leaving the patient room or care area and closing the door.
- Do not use the same gown or pair of gloves for care of more than one patient.
- Remove and discard disposable gloves upon completion of a task or when soiled during the process of care
  - Do not wash gloves for the purpose of reuse

Standard Precautions Element 5

Minimize Potential Exposure

- Use **respiratory hygiene and cough etiquette**
- Prompt patients/residents and visitors with symptoms of respiratory infection to contain their secretions and perform hand hygiene after contact with respiratory secretions
  - Provide tissues, masks, hand hygiene supplies and instructional signage or hand outs at point of entry and throughout the facility
- If possible, separate patients/residents with respiratory symptoms as soon as possible

Standard Precautions Element 6

Reprocessing of Reusable Medical Devices

- Clean and reprocess (disinfect or sterilize) reusable medical equipment prior to use on another patient or resident
  - Blood glucose meters and other point-of-care devices
  - Blood pressure cuffs
  - Oximeter probes
  - Surgical instruments
  - Endoscopes
- Maintain separation between clean and soiled equipment to prevent cross contamination

(More details will be provided in another module)

Monitoring Standard Precautions

Hand Hygiene Results of CDPH HAI Program Observations

Monitoring Hand Hygiene

Discip line	What type of HH opportunity was observed? (select/ ☑ 1 per line) *Remember: Hand hygiene should be performed before and after glove use	✔ Successful ⃠ Missed
N	☐ entering room* ☐ before task ☐ after body fluids ☐ after care* ☑ leaving room	✔
N	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	⃠
CNA	☐ entering room* ☐ before task ☐ after body fluids ☐ after care* ☑ leaving room	✔
CNA	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	⃠
CNA	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	⃠
CNA	☐ entering room* ☐ before task ☐ after body fluids ☐ after care* ☑ leaving room	✔
MD	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	⃠
MD	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	⃠
N	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	✔
N	☑ entering room* ☐ before task ☐ after body fluids ☐ after care* ☐ leaving room	⃠

Total # HH Successful ("# ✔"): 4	Total # HH Opportunities Observed: 10	Adherence: __40_____% (Total # HH Successful ÷Total # HH Opportunities Observed x 100)

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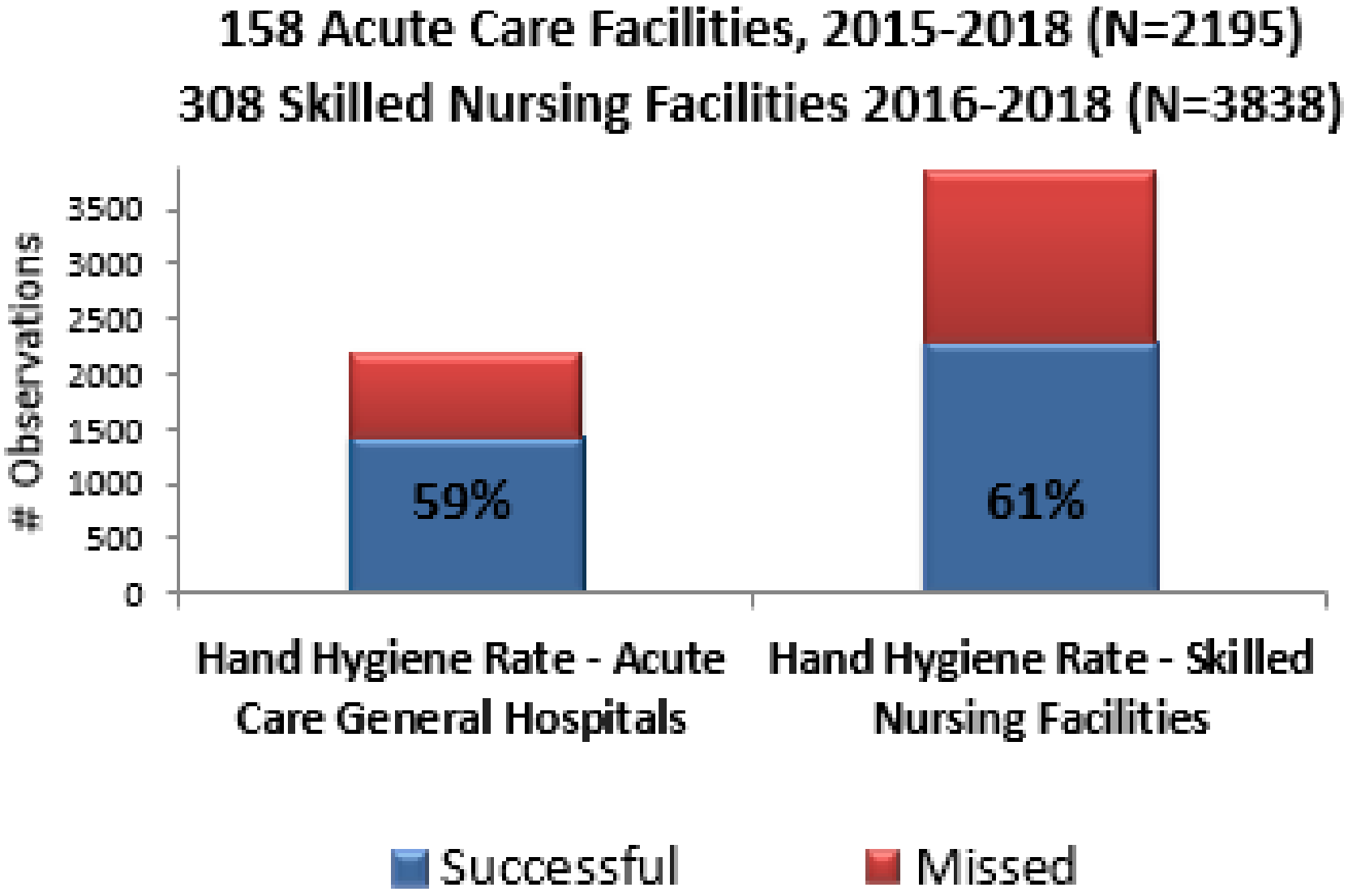
Hand Hygiene Adherence Monitoring



Summary: Standard precautions are part of the Core Practices that apply to all care settings and all patient care (regardless of a patient's suspected or confirmed infectious state)

Core Infection Prevention Practices

For Use in <u>All</u> Health Care Settings At All Times

- ❑ Visible, tangible **leadership** support for infection control
- ❑ Infection prevention **training** for all HCP
- ❑ Patient, family, caregiver HAI prevention **education**
- ❑ Performance **monitoring** and **feedback**
- ❑ Early, prompt **removal of invasive devices**
- ❑ Occupational health

- ❑ **Standard precautions**
  - ❑ Hand hygiene
  - ❑ Environmental cleaning and disinfection
  - ❑ Injection safety, medication safety
  - ❑ Assess risk, use PPE appropriately
  - ❑ Minimize potential exposures
  - ❑ Clean and reprocess reusable medical equipment
- ❑ **Transmission-based precautions** as necessary

CDC HICPAC Core Practices Recommendations
(www.cdc.gov/hicpac/recommendations/core-practices.html)

California Department of PublicHealth

Transmission-Based Precautions

Objectives

- Describe Transmission-based (isolation) precautions
- Review correct donning and doffing of personal protective equipment (PPE)
- Discuss COVID-19 precautions
- Understand Enhanced Standard precautions used in California skilled nursing facilities
- Review adherence monitoring to assess Transmission-based precautions practices in healthcare facilities

What are Transmission-based Precautions?

- Isolation based on modes of disease transmission
- Updated regularly by CDC (last updated 7-2019)
  - 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (PDF)
    (www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf)
- Describes care precautions for infected/colonized patients/residents
- Using proper Transmission-based precautions prevents the spread of infection and transmission of organisms

Types of Transmission-based Precautions

To prevent spread of infectious diseases and pathogens, use

1. **Contact precautions**
   - When mode of transmission is direct contact with a patient or contaminated environment
   - Examples when needed: *C. difficile*, high-concern multi-drug resistant organisms (MDRO)
2. **Droplet precautions**
   - When mode of transmission is respiratory droplets
   - Examples when needed: Influenza, pertussis
3. **Airborne precautions**
   - When mode of transmission is small aerosolized particles
   - Examples when needed: measles, tuberculosis (TB)

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Chlamydia pneumoniae	Standard		Outbreaks in institutionalized populations reported, rarely [1051, 1052].
Cholera (see Gastroenteritis)			
Closed-cavity infection Open drain in place; limited or minor drainage	Standard		Contact Precautions if there is copious uncontained drainage.
Closed-cavity infection No drain or closed drainage system in place	Standard		
Clostridium botulinum	Standard		Not transmitted from person to person.
Clostridium difficile (see Gastroenteritis, *C. difficile*)	Contact + Standard	Duration of illness	
Clostridium perfringens	Standard		Not transmitted from person to person.

Appendix A: 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (PDF)
(www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf)

CMS Requires Transmission-based Precautions

- All hospitals and skilled nursing facilities must be capable of implementing Transmission-based precautions when needed to safely care for patients/residents.
  - **Hospitals -** Part 42 Subpart C - Basic Hospital Functions Section § 482.42
  - **SNF** - Part 43 Subpart B - Long Term Care Facilities Section § 483.65

Transmission-based Precautions Training

- Healthcare facilities are expected to **train** staff on
  - Disease transmission
  - Correct use of Transmission-based Precautions
- Staff need to be trained upon hire and at least annually
- Training should include assessment of **competency**
  - With return demonstration

How to Implement Transmission-Based Precautions

- Implement Transmission-based precautions
  - Based on the patient's clinical presentation and **likely** infection diagnoses
    - Examples: Syndromes such as diarrhea, meningitis, fever and rash, respiratory infection
  - As soon as possible upon entry to the healthcare facility
    - Includes: Reception or triage areas in emergency departments, ambulatory clinics or physicians' offices
- Transmission-based precautions are **ALWAYS** used **IN ADDITION** to Standard Precautions

How to Implement Transmission-Based Precautions - 2

- Place patients who may need transmission-based precautions into a single-patient room while awaiting clinical assessment (as possible)
- Adjust or discontinue precautions when more clinical information becomes available (such as laboratory results)
- Notify accepting facilities and the transporting agency about suspected infections and the need for transmission-based precautions when patients are transferred

Contact Precautions

- **Intended f**or patients who may be infected or colonized with certain infectious agents at increased risk for contact transmission
  - Addresses appropriate patient placement
  - Gown and glove use for all patient care
  - Limits patient transport and movement
  - Recommends disposable or dedicated care equipment
  - Prioritizes cleaning and disinfection of frequently-touched surfaces and equipment
- Used in addition to Standard precautions

How to Implement Contact Precautions

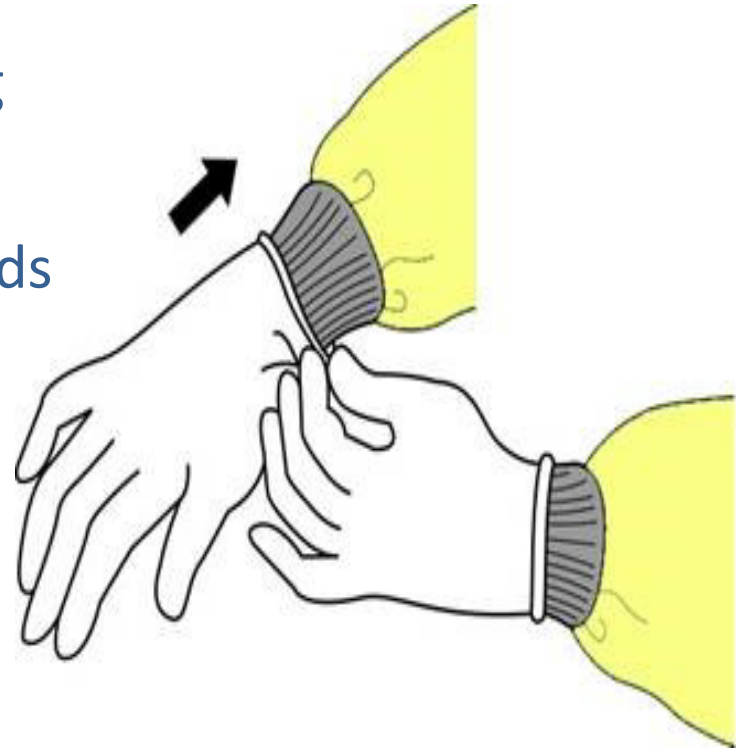
- Place appropriate signage at the entrance to the room
- Perform hand hygiene before donning PPE
- Don gown and gloves prior to entry into room and discarded prior to exit
  - Perform hand hygiene prior to donning gloves and after removing gloves
- Single room preferred
  - Alternatives include spatial separation or cohorting

How to Don a Gown

- Select appropriate type and size
- Opening is in the back
- Secure at neck and waist
- If gown is too small, use two gowns
  - Gown #1 ties in front
  - Gown #2 ties in back

How to Don Gloves

- Select correct type and size
  - Gloves should be available to staff in different sizes
  - Using gloves that are too small can result glove ripping
  - Using gloves that that are too big may result in gloves slipping and exposing wrists to blood and/or body fluids
- Don gloves last
- Insert hands into gloves
- Extend gloves over isolation gown cuffs



Droplet Precautions

- **Intended** to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions
  - Droplets produced through coughing, sneezing, and talking
  - Examples when needed include patients with influenza, pertussis, mumps, or meningococcal disease
- No special air handling or ventilation required
- Used in addition to Standard precautions

How to Implement Droplet Precautions

- Place appropriate signage at the entrance to the room
- Perform hand hygiene before donning PPE
- Don surgical or procedure mask prior to entry into room and discard prior to exit
- Single room preferred
- Transport patients in a surgical mask
- Note: some diseases may require both Contact and Droplet Precautions
  - Examples include pneumonia due to adenovirus or group A *Streptococcus*

How to Don a Mask

- Place over nose, mouth and chin
- Fit flexible nose piece over nose bridge
- Secure on head with ties or elastic (ear loops)
- Adjust to fit
  - Don’t touch the outside of the mask. If adjusting to keep it out of your eyes, pull down from the chin, and keep your fingers away from your eyes
- If wearing a respirator (N95), ***do not*** put a mask under the N95.

Airborne Precautions

- Intended to prevent transmission by inhalation of infectious agents that can remain suspended in the air
  - Examples:
    - Herpes zoster, varicella zoster, tuberculosis
- Requirements include
  - Door to room must remain closed
  - Increased ventilation rate
  - Air exhausted directly to the outside or through HEPA filtration
  - Facility respiratory protection program: education, fit-testing
- Use in addition to Standard precautions

Transmission-Based Airborne Precautions in California

- CAL OSHA requires facilities follow an airborne transmissible diseases (ATD) standard for diseases that require Airborne precautions
  - Includes placement of patients into airborne isolation infection rooms (AIIR)
  - Includes use of N95 or higher-level respirator
- For facilities without AIIR, patients must be transferred to an appropriate facility within 5 hours

§5199. Aerosol Transmissible Diseases
(www.dir.ca.gov/title8/5199.html)

N95 and Other Respirators

N95 Respirator- accepted by Cal/OSHA for ATD (Note: KN95 is not acceptable as a respirator)

Reusable elastomeric respirators can be considered as an alternative for augmenting the total supply of respirators available for use by HCP

A PAPR is an air-purifying respirator that can be used to protect HCP who cannot be fit tested for N95 respirator, or for use during high hazard aerosol generating procedures such as intubation

CDC, N95 and Other Respirators
(www.cdc.gov/coronavirus/2019-ncov/hcp/n95-other-respirators.html)

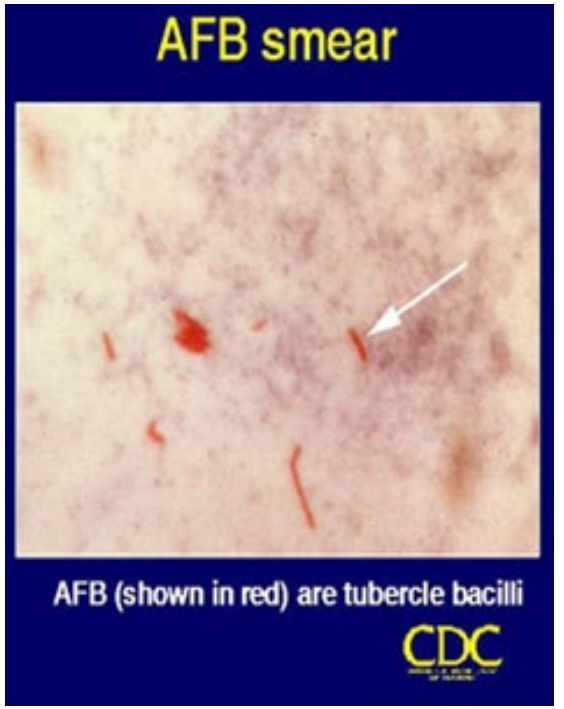
Cal/OSHA ATD Standard

- Healthcare facilities are required to have a respiratory protection plan (additional details are outlined in the ATD Standard)
- The ATD respiratory protection **training plan** must incorporate :
  a. An accessible copy of the ATD standard
  b. List of ATDs and signs and symptoms
  c. Modes of transmission of ATD
  d. A list of tasks and activities that may expose HCP
  e. Methods to reduce exposure to ATD
     - Work practice controls, decontamination, PPE
  f. How to select, don, remove, handle and dispose of PPE
  g. Description of employer's TB surveillance procedures

§5199. Aerosol Transmissible Diseases
(www.dir.ca.gov/title8/5199.html)

Pulmonary Tuberculosis (TB)

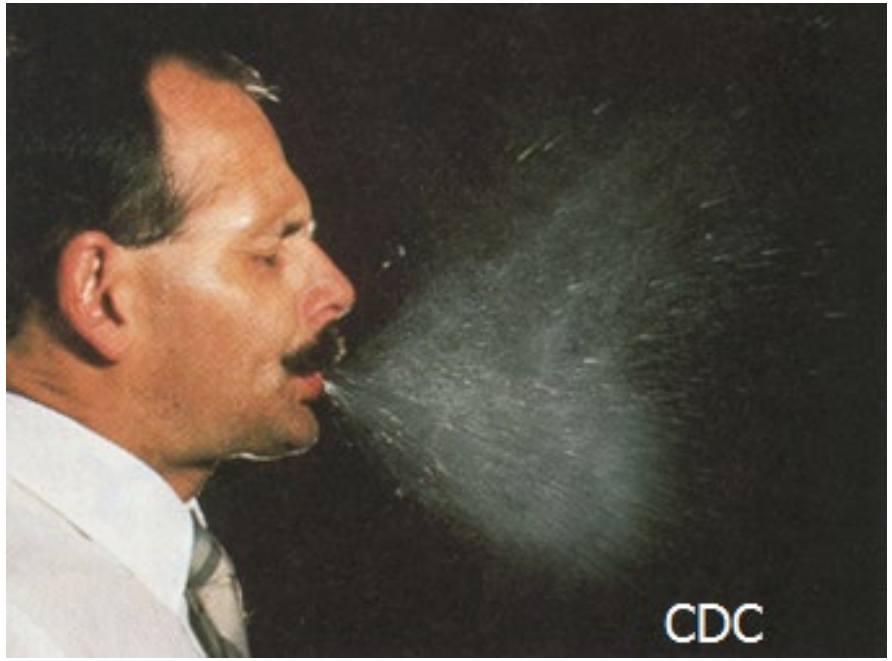
- Serious chronic illness caused by bacteria *Mycobacterium tuberculosis;* can be fatal if untreated
  - **A**cid **F**ast **B**acilli can be seen on a stained slide
- Transmitted by airborne route
  - Exposure occurs without patient contact
  - Small particle droplets can stay afloat for hours and travel on air currents
- Likelihood of transmission affected by
  - Infectiousness of patient
  - Environmental conditions
  - Duration of exposure



Transmission of TB

Increased risk of transmission from infected patients

- With forceful cough
- With laryngeal disease
- When Acid-fast bacilli (AFB) is seen in sputum
- When chest x-ray shows cavitation
- When fails to cover nose/mouth when coughing
- Undergoing cough-inducing procedures
- In small closed spaces with poor ventilation



Who is at Risk For TB Infection and Disease?

Highest Risk for Infection

- Medically under-served, low income
- High-risk minority populations
- Persons who inject drugs
- Close contacts to suspect/ known cases
- Foreign-born from high prevalence areas
- Health care workers serving high risk patients

Highest Risk for Progression to Disease

- HIV infected, or otherwise immune compromised
- Recently infected with TB
- Certain chronic medical conditions
- IV drug abusers
- Stressors, such as recent immigration
- History of inadequately treated TB infection

How to Implement Airborne Precautions

- Place only in single room with required air handling capacity
- Ensure appropriate signage
- Perform hand hygiene before donning PPE
- Don respirator (N-95 or PAPR) prior to entry into room and remove after exit
- Transport patient in a surgical mask

How to Don a Respirator

- **Select a respirator, preferably the size and type that the staff was fit tested for**
- Place over nose, mouth, and chin
- Fit flexible nose piece over nose bridge
- Secure on head with elastic
- Adjust to fit
- Perform a seal check (next slide)

N95 Respirator Seal Check

- Perform N95 seal check every time donning N95 respirator
- This must be done even if fit testing was completed
- If not sealing well, adjust straps

Instructions for seal check
(www.cdc.gov/niosh/docs/2018-130/)

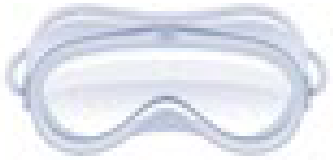
How to Perform a Respirator Seal Check

- Perform a “seal check” every time a respirator is put on
- When doing a seal check, hands are placed around the edges of the respirator and kept there until these steps are completed:
  - Inhale (breath in) → the respirator should collapse on the face
  - Exhale (breathing out) → there should **not** be any air felt escaping from around the respirator edges, and no air felt blowing into the eyes
  - If air leaking → readjust the respirator and recheck the seal
  - If air continues to be felt after readjusting → discard the respirator and get a new one. Seal check the new respirator before going into the room

CDC/NIOSH User Seal Check (PDF)
(www.cdc.gov/niosh/docs/2018-130/pdfs/2018-130.pdf)

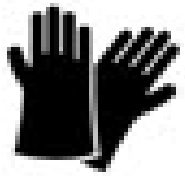
Transmission-based Precautions for COVID-19

Respirator
NIOSH approved N95 respirator



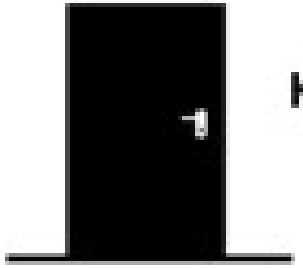
Eye Protection
Face shield or goggles

Gown

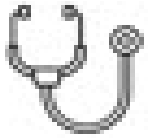


Gloves

Clean hands
Before entering and upon leaving room



KEEP DOOR CLOSED



Use resident dedicated or disposable equipment.
Clean and disinfect shared equipment.

California Department of PublicHealth

How to Don Eye and Face Protection

- Position goggles over eyes and secure to the head using the ear pieces or headband
- Position face shield over face and secure on brow with headband
- Adjust to fit comfortably
- Wear either goggles or face shield. Face shield will keep mask or N95 respirator clean

Sequence for Removing PPE

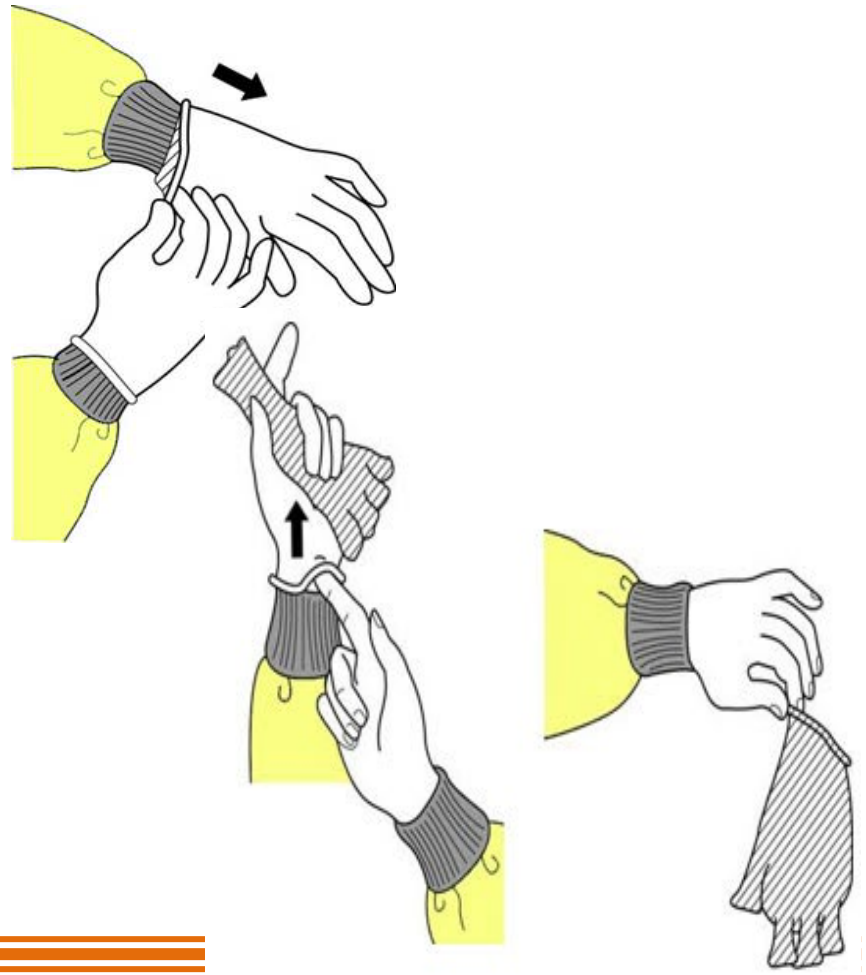
1. Remove gloves*
   - Perform hand hygiene
2. Remove gown*
   - Perform hand hygiene
3. Remove face shield/ goggles
   - Perform hand hygiene
4. Remove mask or respirator
   - Perform hand hygiene

*Gown and gloves may be removed together.

Considerations for Safe Removal of PPE

- After use, areas of PPE are considered “Dirty” or “Clean”
- Dirty or contaminated PPE areas
  - The outside and front of PPE
  - Likely to have been in contact with a patient, body fluids, medical materials, equipment, or surfaces with infectious organisms
- Clean PPE areas
  - The inside and outside back of PPE
  - Less likely to have been in contact with infectious organisms

How to Remove Gloves



Step 1: Grasp outside edge near wrist

Step 2: Peel away from hand, turning glove inside-out while removing it

Step 3: Hold in opposite gloved hand

Step 4: Slide ungloved finger under the wrist of the remaining glove

Step 5: Peel off from inside, creating a bag for both gloves

Step 6: Discard and perform hand hygiene

Gown Doffing with Consideration for Clean/Dirty Areas

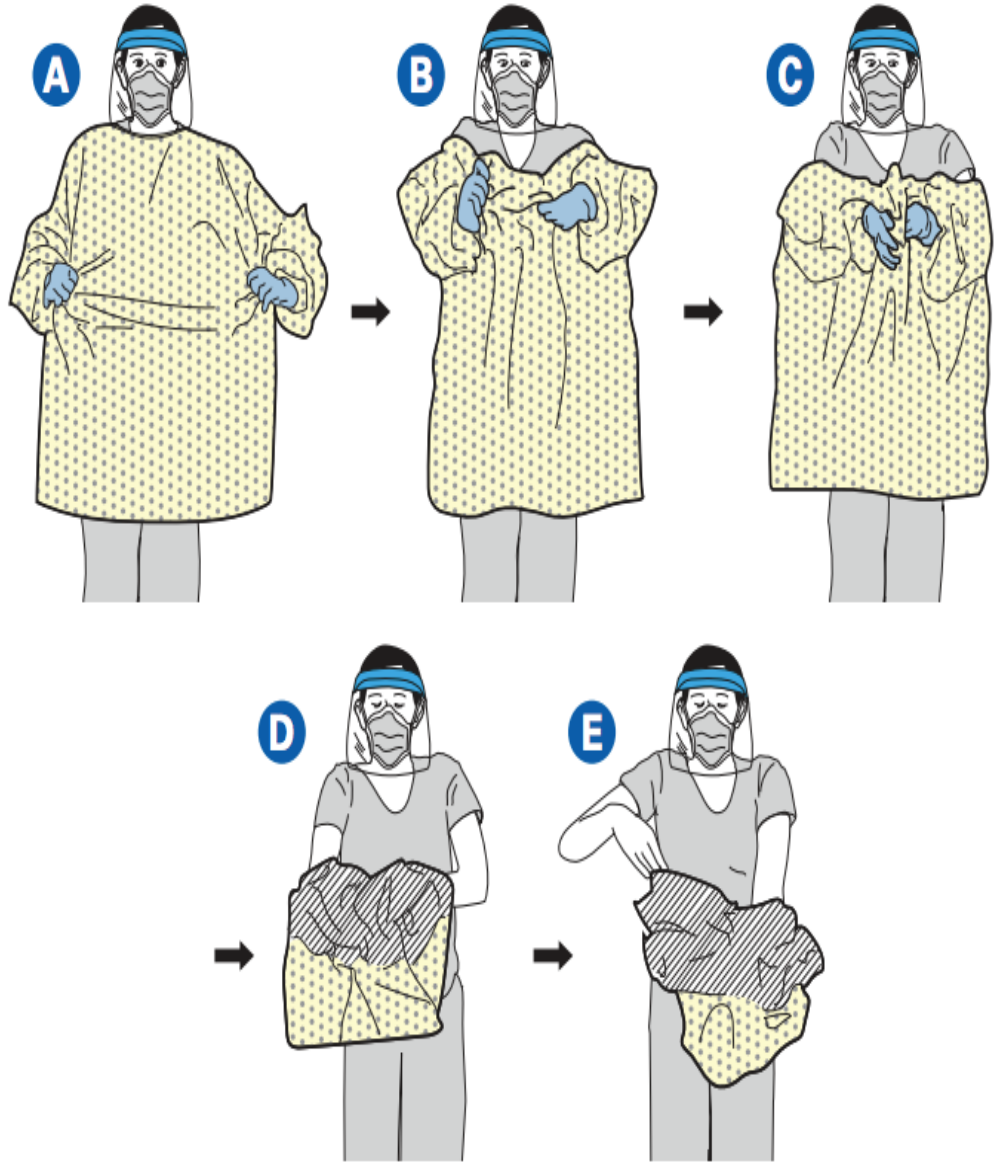
- The sleeve of the gown (dirty) should not touch the user's face while untying neck ties
- A 2nd person, if available, can help untie ties and watch for accidental self-contamination
- A PPE doffing observer can help keep staff safe during PPE removal

How to Remove Isolation Gown

- Unfasten ties
- Peel gown away from neck and shoulder
- Turn contaminated outside toward the inside
- Fold or roll into a bundle
- Discard
- Perform hand hygiene

How to Remove Gown and Gloves Together

- With gloved hands, grasp gown in front
- Pull gown away from body so ties break
- Fold or roll into a bundle; peel off gloves at same time
- Discard
- Perform hand hygiene



How to Remove Goggles or Face Shield

- Grasp ear or head pieces with ungloved hands
- Lift away from face
- Disinfect if reusing, starting with inside and then wiping the outside
- Place in designated receptacle for storing or disposal
- Perform hand hygiene

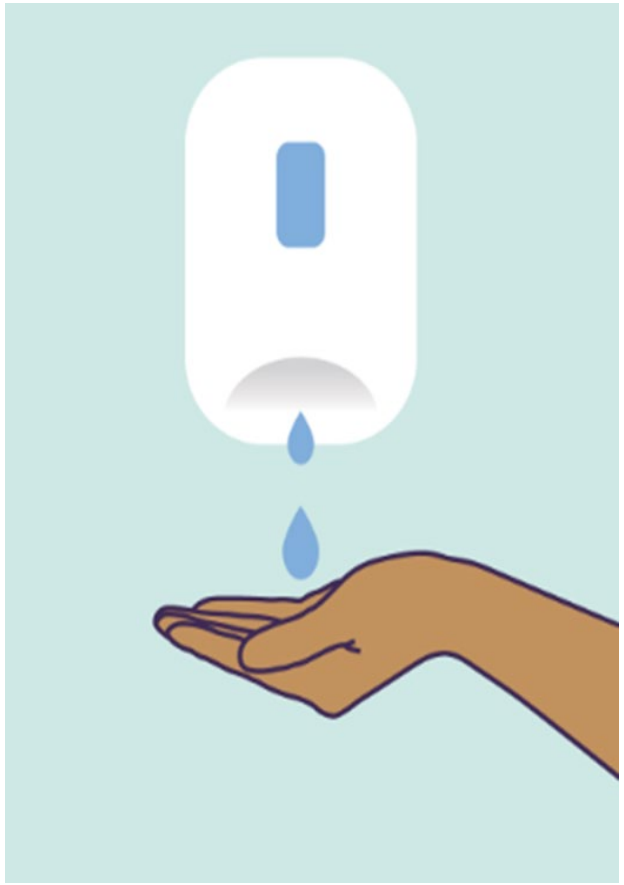
How to Remove a Respirator

- Remove **outside the room**
- Lift the bottom elastic over your head *first*
- Then lift off the top elastic
- Discard in trash
- Perform hand hygiene

Perform Hand Hygiene After Removing PPE

- Perform hand hygiene immediately after removing PPE and preferably after each step
- Use alcohol-based hand rub or wash with soap and water

NOTE: If hands become visibly contaminated during PPE removal, wash hands with soap and water before continuing PPE removal



PPE Education Resources

Educational Materials Include:

- How to Safely Put On PPE Video
  (youtube.com/watch?v=H4jQUBAlBrI)
- How To Safely Take Off PPE Video
  (youtu.be/PQxOc13DxvQ)
- How to Put On and Take Off PPE Fact Sheet (PDF)
  (www.cdc.gov/coronavirus/2019-ncov/downloads/A_FS_HCP_COVID19_PPE.pdf)
- How to Put On and Take Off PPE Poster (PDF)
  (www.cdc.gov/hai/pdfs/ppe/PPE-Sequence.pdf)
- PPE Illustrations (PDF)
  (www.cdc.gov/hai/prevent/ppe.html)
- CDC- Protecting Healthcare Personnel
  (www.cdc.gov/hai/prevent/ppe.html)

How to Safely Put on PPE

Demonstration of Donning (Putting On) Personal Protective Equipment (PPE)
(youtu.be/H4jQUBAlBrI)

How to Safely Take Off PPE

Demonstration of Doffing (Taking Off) Personal Protective Equipment (PPE)
(youtu.be/PQxOc13DxvQ)

Enhanced Standard Precautions for California Skilled Nursing Facilities

- Developed by CDPH and the California Association of Health Facilities (CAHF), last update in 2019
- Created to simplify precautions in SNF
  - Use in addition to Standard precautions when Standard precautions may be insufficient to prevent transmission
  - Incorporates aspects of Contact, Droplet, and Airborne precautions
  - Resident centered, rather than pathogen centered

(Enhanced Standard precautions will be discussed in detail in a separate training module)

AFL 22-21 Enhanced Standard Precautions (PDF)
(www.cdph.ca.gov/Programs/CHCQ/LCP/Pages/AFL-22-21.aspx)

Inter-facility Communication for Continuation of Transmission-based Precautions

- When transferring a patient or resident, the transferring facility must provide information to the receiving facility so Transmission-based precautions can be implemented upon arrival
- Inter-facility communication
  - Enables appropriate room placement
  - Provides important information about a patient's current clinical status
  - Provides a way to share a resident's history of infection and vaccination
  - Relays information about devices such as urinary catheters and central lines

Interfacility Communication Transfer Tool – Example

INFECTION CONTROL TRANSFER FORM

This form should be sent with the patient/resident upon transfer. It is NOT meant to be used as criteria for admission, only to foster the continuum of care once admission has been accepted.

Affix any patient labels here.

Demographics

Patient/Resident *(Last Name, First Name)*: ,		
Date of Birth:	**MRN:**	**Transfer Date:**
Sending Facility Name:		
Contact Name:	**Contact Phone:**	
Receiving Facility Name:		

Currently in Isolation Precautions? ☐ **Yes**
If Yes, check: ☐ Contact ☐ Droplet ☐ Airborne ☐ Other:

☐ **No** isolation precautions

Organisms

Did or does have (send documentation, e.g. culture and antimicrobial susceptibility test results with applicable dates):	Current (or previous) infection or colonization, or ruling out *
MRSA	☐
VRE	☐
Acinetobacter resistant to carbapenem antibiotics	☐
E coli, *Klebsiella* or *Enterobacter* resistant to carbapenem antibiotics (CRE)	☐
E coli or *Klebsiella* resistant to expanded-spectrum cephalosporins (ESBL)	☐
C difficile	☐
Other^:	☐ **(current or ruling out*)**
^e.g. lice, scabies, disseminated shingles, norovirus, influenza, TB, etc.	
***Additional information if known:**	

☐ **No** known MDRO or communicable diseases

CDPH Interfacility Transfer Form (PDF)

(www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/Interfacility%20Transfer%20Form%20061417.pdf)

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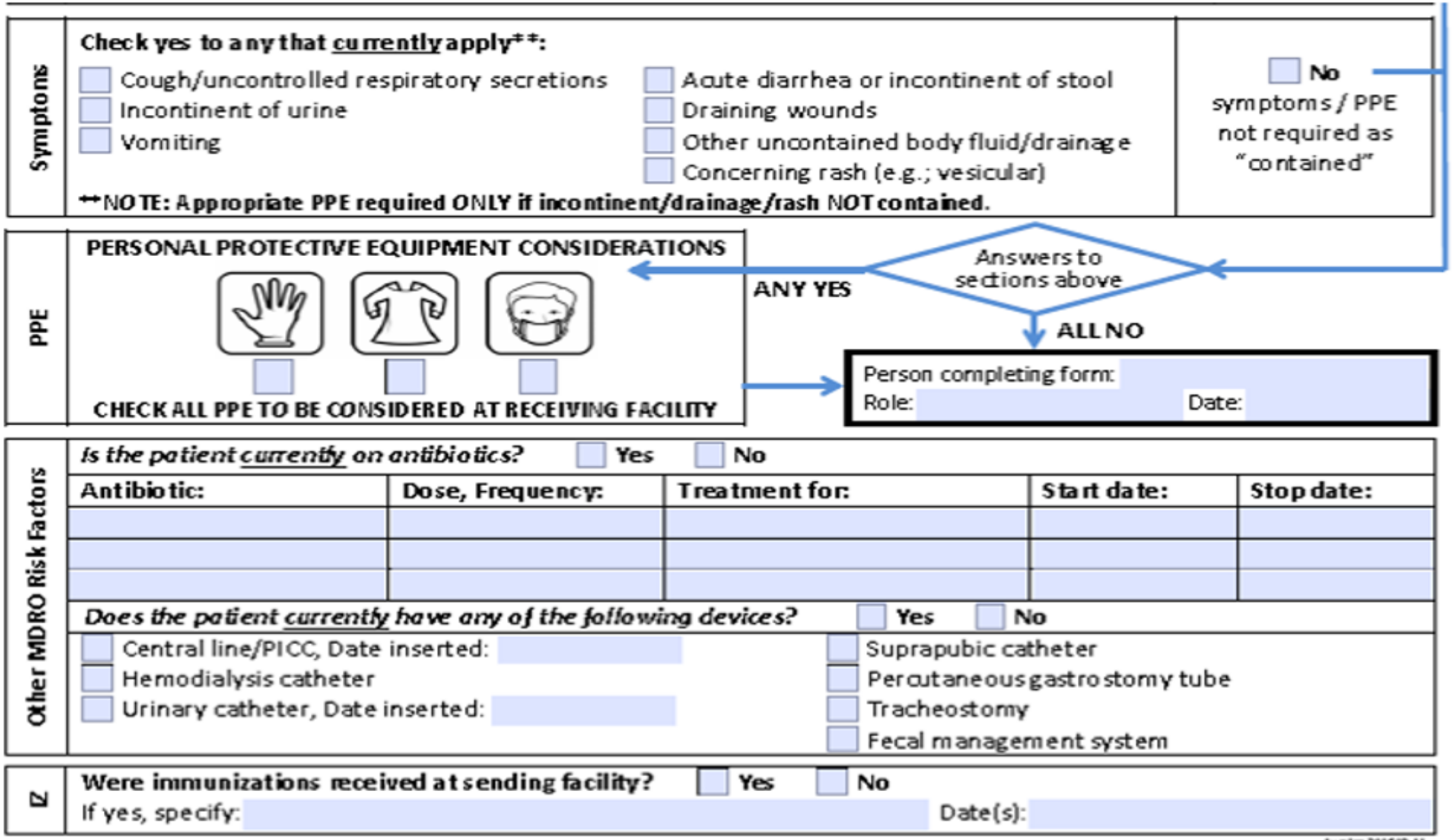
Interfacility Communication Transfer Tool – Example Page 2



Symptoms

Check yes to any that currently apply:**

- ☐ Cough/uncontrolled respiratory secretions
- ☐ Incontinent of urine
- ☐ Vomiting
- ☐ Acute diarrhea or incontinent of stool
- ☐ Draining wounds
- ☐ Other uncontained body fluid/drainage
- ☐ Concerning rash (e.g.; vesicular)

**NOTE: Appropriate PPE required ONLY if incontinent/drainage/rash NOT contained.

☐ No symptoms / PPE not required as "contained"

PPE

PERSONAL PROTECTIVE EQUIPMENT CONSIDERATIONS

☐ ☐ ☐

CHECK ALL PPE TO BE CONSIDERED AT RECEIVING FACILITY

Answers to sections above

ANY YES

ALL NO

Person completing form:

Role: Date:

Other MDRO Risk Factors

Is the patient currently on antibiotics? ☐ Yes ☐ No

Antibiotic:	Dose, Frequency:	Treatment for:	Start date:	Stop date:

Does the patient currently have any of the following devices? ☐ Yes ☐ No

- ☐ Central line/PICC, Date inserted:
- ☐ Hemodialysis catheter
- ☐ Urinary catheter, Date inserted:
- ☐ Suprapubic catheter
- ☐ Percutaneous gastrostomy tube
- ☐ Tracheostomy
- ☐ Fecal management system

IZ

Were immunizations received at sending facility? ☐ Yes ☐ No

If yes, specify: Date(s):

Are Facilities Routinely Performing Transmission-based Precautions Correctly?

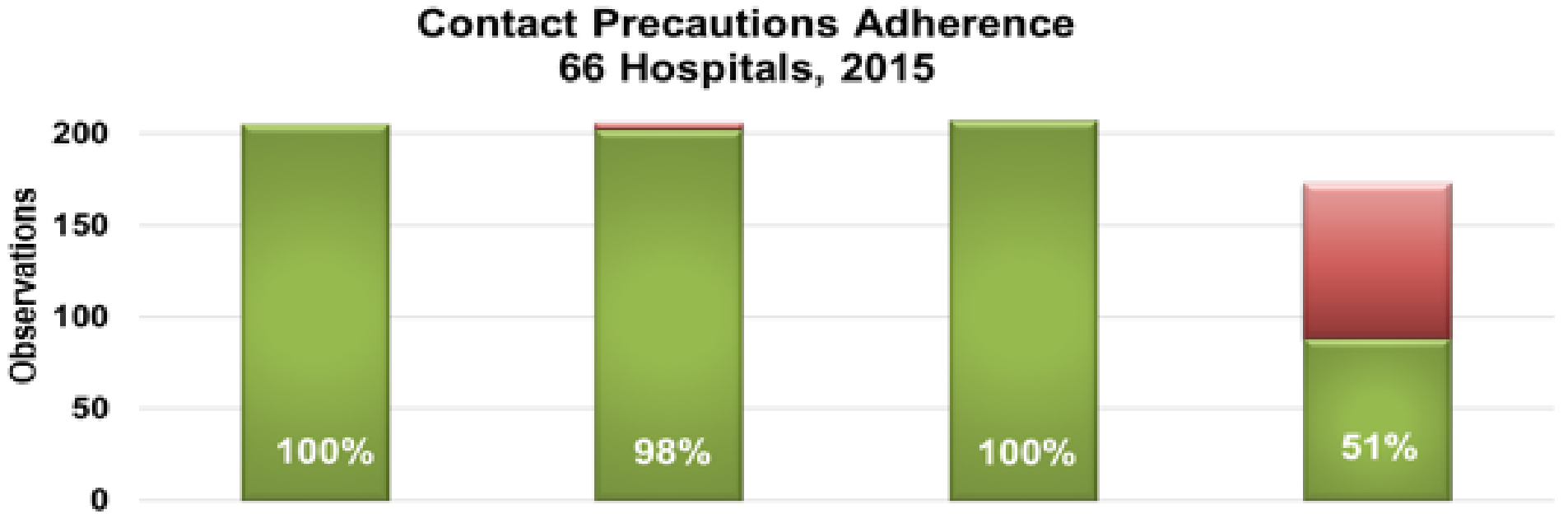
Results of CDPH HAI Program Observations

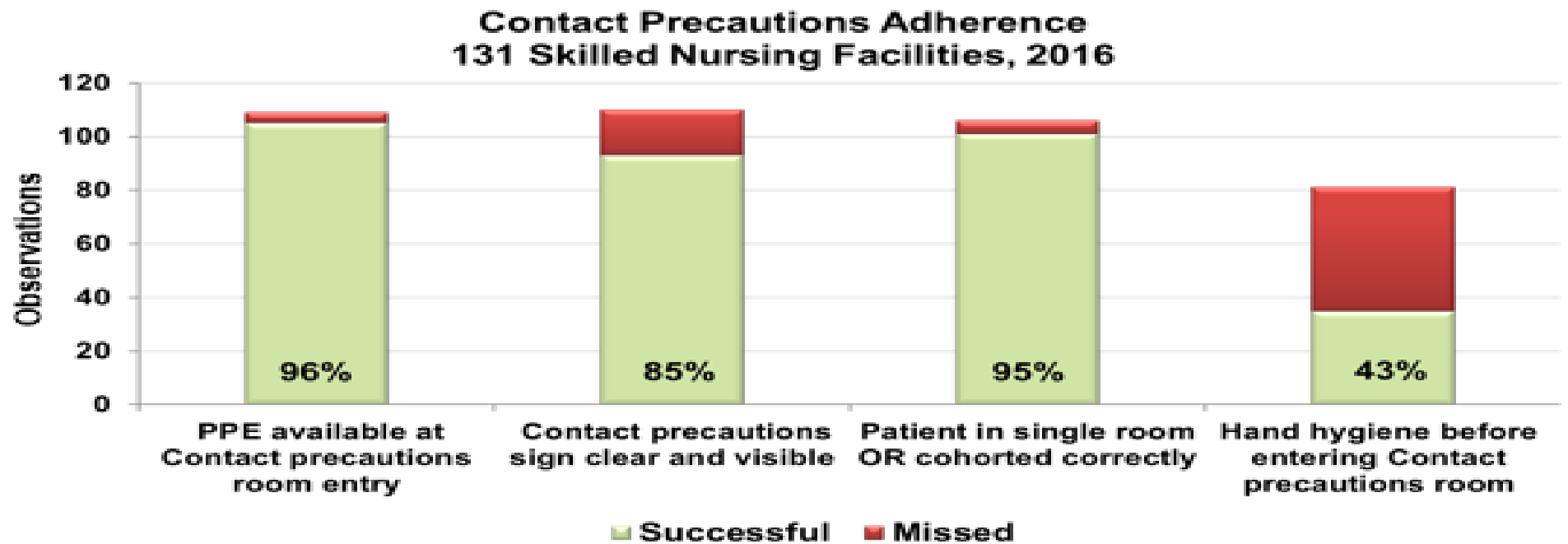
Monitoring Contact Precautions

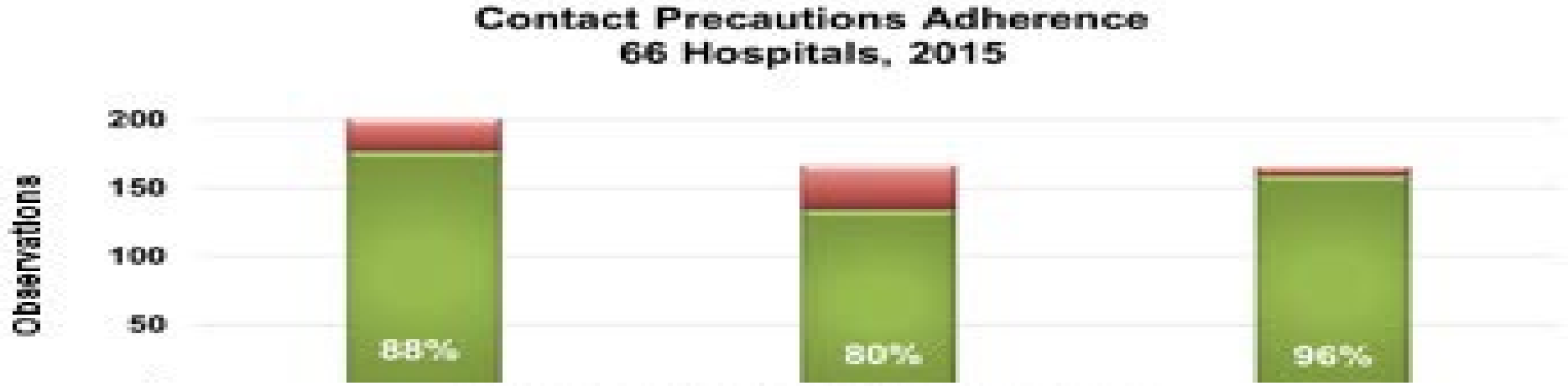
Contact Precautions Practices	Pt/Res 1	Pt/Res 2	Adherence by Task	
			#Yes	#Obs
Gloves and gowns are available near point of use.	(Yes) No	(Yes) No	2	2
Signs indicating the patient/resident is on contact precautions are clear and visible.	(Yes) No	(Yes) No	2	2
The patient/resident housed in single-room or cohorted based on a clinical risk assessment.	(Yes) No	(Yes) No	2	2
Hand hygiene is performed before entering the patient/resident care environment.	(Yes) No	Yes (No)	1	2
Gloves and gowns are donned before entering the patient/resident care environment.	(Yes) No	(Yes) No	2	2
Gloves and gowns are removed and discarded, **and** hand hygiene is performed before leaving the patient/resident care environment. *Soap & water if C. difficile* infection.	Yes (No)	Yes (No)	0	2
Dedicated or disposable noncritical patient-care equipment (e.g. blood pressure cuffs) is used	(Yes) No	(Yes) No	2	2
Total #Yes **11** Total #Observed **14** Total #Yes/Total #Observed = % Adherence **79** %				

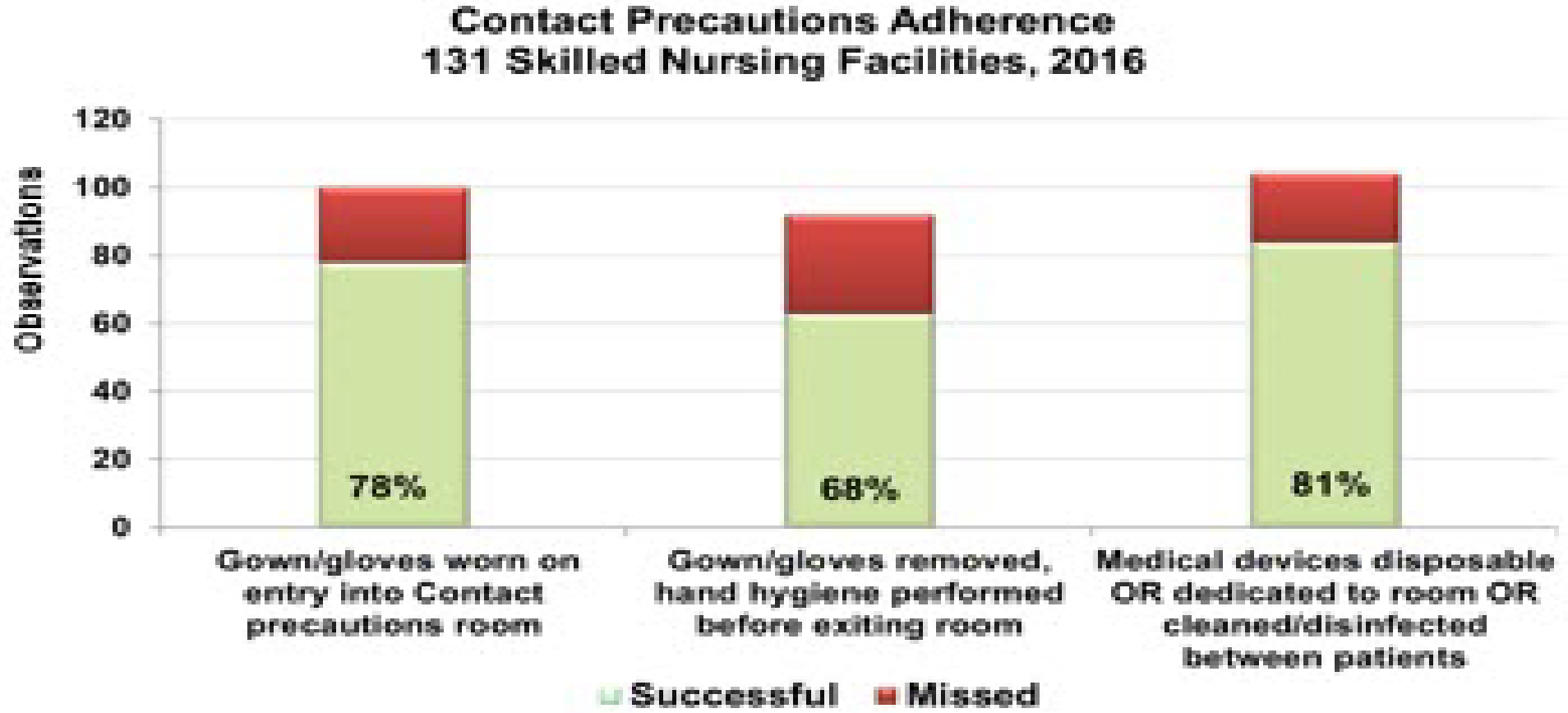
Contact Precautions Adherence Monitoring Form (PDF)
(www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/AdherenceMonitoringContactPrecautionsApproved101516.pdf)

California Department of PublicHealth

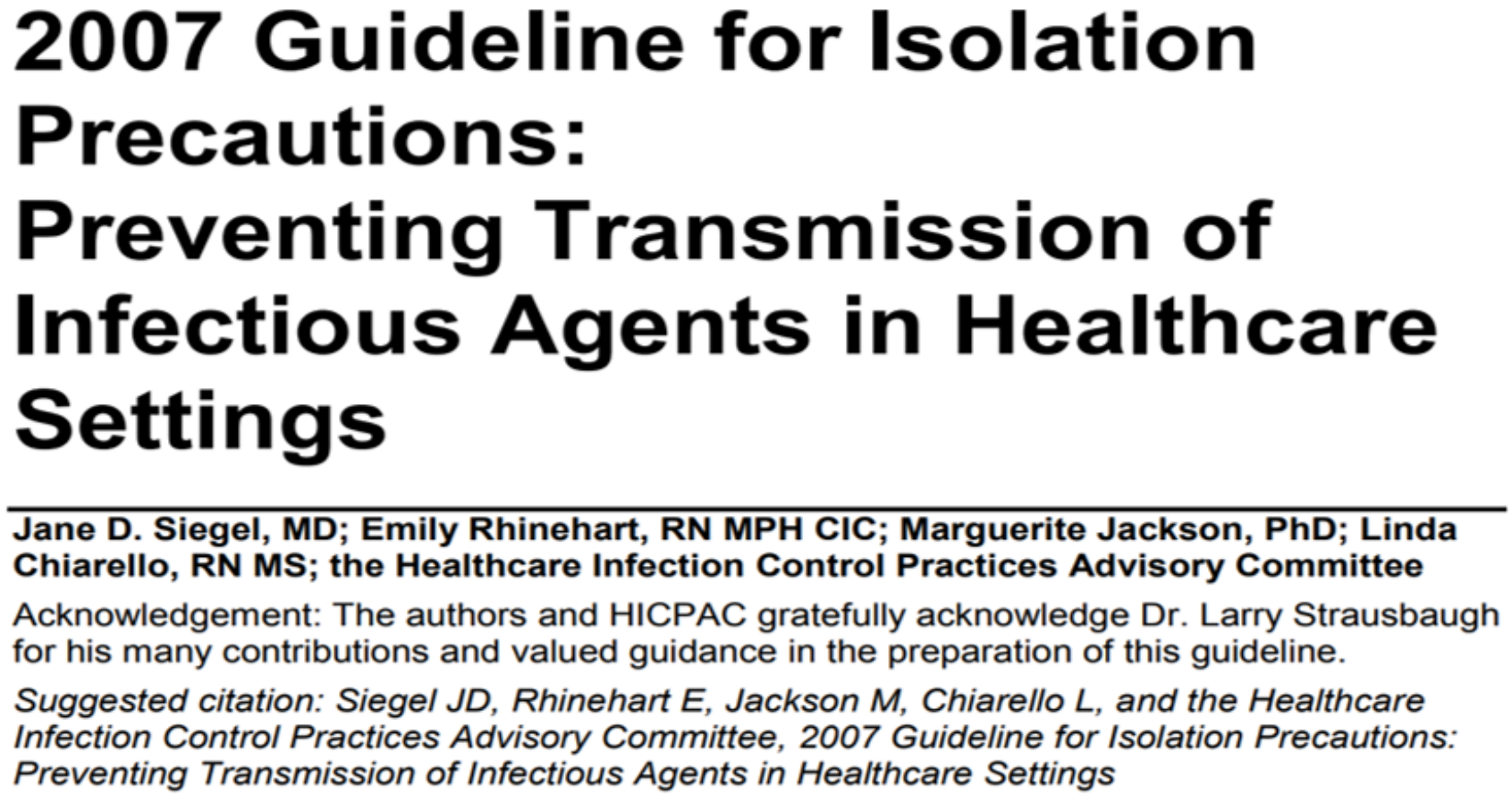

Contact Precautions Adherence
66 Hospitals, 2015
Observations
200
150
100
50
0
100%
98%
100%
51%


Contact Precautions Adherence
131 Skilled Nursing Facilities, 2016
Observations
120
100
80
60
40
20
0
96%
85%
95%
43%
PPE available at Contact precautions room entry
Contact precautions sign clear and visible
Patient in single room OR cohorted correctly
Hand hygiene before entering Contact precautions room
Successful
Missed


Contact Precautions Adherence
66 Hospitals, 2015
Observations
200
150
100
50
88%
80%
96%


Contact Precautions Adherence
131 Skilled Nursing Facilities, 2016
Observations
120
100
80
60
40
20
0
78%
68%
81%
Gown/gloves worn on entry into Contact precautions room
Gown/gloves removed, hand hygiene performed before exiting room
Medical devices disposable OR dedicated to room OR cleaned/disinfected between patients
Successful
Missed

Reference



2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

Jane D. Siegel, MD; Emily Rhinehart, RN MPH CIC; Marguerite Jackson, PhD; Linda Chiarello, RN MS; the Healthcare Infection Control Practices Advisory Committee

Acknowledgement: The authors and HICPAC gratefully acknowledge Dr. Larry Strausbaugh for his many contributions and valued guidance in the preparation of this guideline.

Suggested citation: Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee, 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (PDF)
(www.cdc.gov/infectioncontrol/pdf/guidelines/isolation-guidelines-H.pdf)

Summary

- Correct use of Standard and Transmission-based precautions prevents disease transmission
- Precautions for COVID-19 are a hybrid of Transmission-based and Standard precautions
- Enhanced Standard precautions in SNF allow for individualizing necessary precautions depending on each resident's ability to contain infectious body fluids
  - For many residents, the SNF is their home
- Adherence monitoring for Transmission-based precautions provides feedback to staff to improve performance prevent the spread of infection

Questions?

For more information,

please contact

HAIProgram@cdph.ca.gov

Include “ACH IP Training Course” in the subject line

Post Test

Now that you have completed this module,

Click on the “Post Test” link when it pops up

To Return to

Learning Stream

and take the post test

If the Post Test link does not pop up, you will be sent a link via e-mail