
Imperial County Antimicrobial Resistance Prevention Collaborative February 7, 2019

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Agenda

8:30-8:45AM	Check-in
8:45-9AM	Welcome and Introductions
9-9:15AM	Clinic Visits and Assessment Updates
9:15-10:30AM	Environmental Cleaning and Disinfection Strategies: Discuss High-Level Disinfection and Sterilization Practices
10:30-11AM	Activity: “What’s Wrong With This Picture?”
11-11:10AM	Break
11:10-11:40AM	Outpatient Antibiotic Stewardship
11:40-12PM	Next Steps
12-12:30PM	Open Discussion (Optional)



WELCOME AND INTRODUCTIONS



CLINIC VISITS AND ASSESSMENT UPDATES

Clinic Visits

- A total of 20 onsite assessments
 - 17 outpatient clinics, 3 hemodialysis clinics
- Standardized tool with questions regarding infection control program and infrastructure, surveillance and disease reporting, and infection prevention processes
- Facility Checklist for Core Elements of Outpatient Antibiotic Stewardship

Outpatient: Common Gaps / Areas for Improvement

- Adherence monitoring and feedback for
 - Hand hygiene
 - Personal protective equipment
 - Safe injection practices
 - Point-of-care testing
 - Device reprocessing procedures
- Appropriate cleaning of reusable devices
- Appropriate high-level disinfection of reusable devices

Data Summary: Adherence Monitoring

ICAR Tool (Select Questions)

Facility routinely audits (monitors and documents) adherence to:	# Yes (%)
Hand hygiene	8 (47)
Proper PPE selection and use	4 (24)
<i>HCP are required to demonstrate competency with selection and use of PPE following each training</i>	12 (71)
Safe injection practices	3 (18)
<i>Facility has policies and procedures to track HCP access to controlled substances to prevent narcotics theft/diversion</i>	1 (6)
Recommended point-of-care testing	10 (59)
Reprocessing procedures	4 (24)
Facility provides feedback from audits to personnel regarding their:	# Yes (%)
Hand hygiene performance	5 (29)
Performance with selection and use of PPE	4 (24)
Safe injection practices	3 (18)
Recommended point-of-care practices	8 (47)
Reprocessing procedures	2 (12)

Data Summary: Cleaning and Processing

ICAR Tool (Select Questions)

Sterilization of Reusable Devices		# Yes (%)
	Devices are thoroughly cleaned according to manufacturer instructions and visually inspected for residual soil prior to sterilization.	4 (24)
	Cleaning is performed as soon as practical after use (e.g., at the point of use) to prevent soiled materials from becoming dried onto devices.	4 (24)
	Facility has a process to perform initial cleaning of devices (to prevent soiled materials from becoming dried onto devices) prior to transport to the off-site facility.	3 (18)
High-Level Disinfection of Reusable Devices		# Yes (%)
	Devices are disinfected at the appropriate temperature as specified by manufacturer instructions.	1 (6)

Dialysis:

Common Gaps / Areas for Improvement

- Isolation room for patients with conditions other than hepatitis
- Policy that mandates blood culture collection before antimicrobial administration any time a BSI is suspected
- Routine application of antibiotic ointment or povidone-iodine ointment to catheter exit sites during dressing changes
- Use of a clean room that is physically separate from the treatment area for storage and preparation of injectable medications



ENVIRONMENTAL CLEANING AND DISINFECTION STRATEGIES



Objectives

- Recognize the role of the environment in transmission of healthcare-associated infections (HAI)
- Discuss strategies to ensure effectiveness of cleaning and disinfection
- Discuss appropriate reprocessing of reusable medical equipment and devices (disinfection and sterilization)
- Identify and address other infection hazards in the health care environment
- Discuss the importance of a multidisciplinary team

Role of Environmental Surfaces in Disease Transmission

Contaminated Environmental Surface Leading to Patient/Resident Infection

1. Surface must become contaminated by contact or droplet spread
2. Organism must survive on the surface
3. Surface must be touched by another person who picks up sufficient inoculum
4. Person must omit or poorly perform hand hygiene
5. Person must transmit the organism to another person or object in sufficient quantity to cause disease

Pathogen Survival in the Environment

- Multiple factors influence duration of survival:
 - Type of microbe
 - Temperature
 - Humidity
- *C.difficile* spores are shed in high numbers, are resistant to desiccation and some disinfectants, and can live on surfaces for up to 5 months

Linen

- New laundry technologies allow linen washing without requirements for hot water and chlorines
 - Hot water: 160°F x 25 minutes
 - Cold water: 71-77°F with 125ppm chlorine or oxygen-activated bleach rinse
 - Detergents not required to have stated antimicrobial claims

CDC Guidelines for Environmental Infection Control in Health-Care Facilities
<https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines.pdf>

Title 22, Division 5, Chapter 1, Article 8 §70825. Laundry Service

<https://govt.westlaw.com/calregs/Document>

Bedside Curtains

- Bacteria and fungi can survive on polyester, cotton, wool, and other fabrics
- Privacy curtains are considered high-touch surfaces and can become rapidly contaminated especially when used in transmission-based precautions isolation rooms
- Hands can become contaminated after handling curtains
 - Study found 50% of hands contaminated after handling curtains

Floors and Carpets

- Non-carpeted floors
 - Disinfection of floors offers no advantage over regular detergent/water cleaning

Carpets

- Evidence linking carpets to HAI rates is limited; **no recommendation against carpet use**
- Carpets have been shown to become contaminated
- Vacuuming and steam cleaning temporarily reduces the number of organisms

How to Reduce Environmental Bioburden

- Clean and disinfect high-touch surfaces daily
- Improve cleaning and disinfection of rooms after discharge of patients/residents known to carry healthcare-associated pathogens
- Clean and disinfect portable equipment
- Improve cleaning and disinfection of all rooms

Cleaning Policy Considerations

- Include in policy the surfaces and equipment that can reasonably be expected to be contaminated by bacteria (high touch surfaces)
 - Bedrail
 - Call bell
 - Light switches
 - Doorknobs
 - TV remote
 - IV pump
 - Toilet, commode chair
 - IV poles
 - Computer keyboard
 - Telephone
 - Over bed table
 - Respiratory and other bedside equipment
 - Chairs
- Define responsibility and frequency for cleaning and disinfecting patient care equipment and surfaces

Cleaning *Before* Disinfection

- Cleaning removes large numbers of microorganisms from a surface that would otherwise interfere with the disinfection process
- Disinfectants are not as effective in the presence of organic material

Important: A thorough cleaning must occur before a surface can be disinfected!

Detergents and Disinfectants

- Detergent
 - Used for cleaning
 - Contains surfactants; lifts dirt
 - Can become easily contaminated, does not kill microorganisms
 - Less toxic, generally less odor, less costly than disinfectant
- Disinfectant
 - Inhibit growth or kill microorganisms
 - More toxic, more costly than detergent

EPA Label Claim for Disinfectant

- The EPA label claim states if the product is
 - Virucidal
 - Bactericidal
 - Tuberculocidal
 - Fungicidal
 - Sporicidal
- Clarifies manufacturer's instructions for use, including wet contact time required to achieve the desired degree of microbial killing

Importance of Wet Contact Time

- Wet contact times is the time required for a disinfectant to kill microorganisms on a pre-cleaned surface
- Disinfectant must remain wet long enough to achieve the claimed level of surface disinfection
- Follow manufacturer's guidelines for achieving the appropriate wet contact time

Selection of Disinfectant

Consider

- Nature of the item to be disinfected
- Amount of organic soil present
- Number of microorganisms present
- Innate resistance of microorganisms to the inactivating effects of the disinfectant
- Type and concentration of disinfectant
- Duration of disinfectant contact time
- Other specific indications and directions for use

Best Practices for Cleaning a Room

- Ensure proper **hand hygiene** and use of **gloves**
- Focus on **frequently touched surfaces**
 - See example list in [CDC Environmental Cleaning Toolkit](https://www.cdc.gov/hai/toolkits/Evaluating-Environmental-Cleaning.html) (<https://www.cdc.gov/hai/toolkits/Evaluating-Environmental-Cleaning.html>)
- Work from **clean-to-dirty** and **high-to-low** areas
- Avoid generating aerosols
- **Change** cleaning cloths

Best Practices for Cleaning a Room (continued)

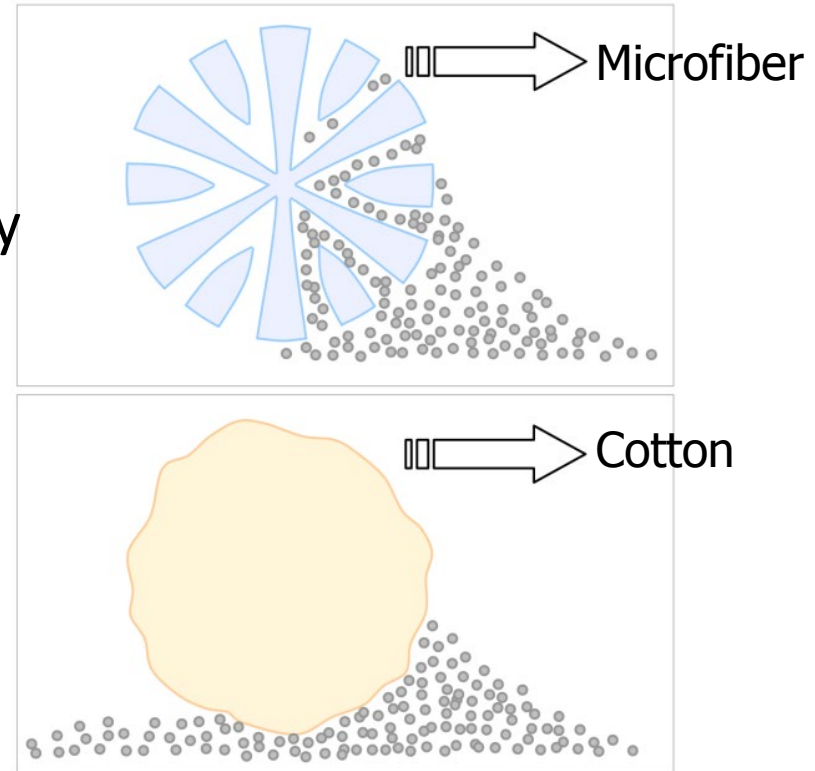
- Ensure cleaning **equipment and supplies are clean**
- Ensure **proper use of cleaning and disinfecting products**
- ***Remember:*** A surface must be physically cleaned before it can be disinfected
- **Communicate** issues to your supervisors

Ensure Environmental Cleaning Staff Perform Hand Hygiene

- Emphasize the importance of hand hygiene for all staff in infection prevention
- Change perception that hand hygiene is to protect staff → hand hygiene is to protect the patient/resident
- Orient EVS staff thoroughly to infection control principles and practices prior to starting work in a clinical area

Microfiber vs. Cotton

- Microfiber comprised of densely constructed synthetic strands
- Microfiber cleans 50% better than comparable cotton
 - Attracts dust
 - Easier to use, lighter
 - Designed for repeat usage
- UC Davis study found microfiber was initially more expensive than cotton, but cleaned better, used less water and chemicals, and decreased labor costs.



Monitor Adherence

- CDPH HAI Program developed a tool to monitor adherence of cleaning practices
<http://www.cdph.ca.gov/programs/hai/Pages/AdherenceMonitoringTools.asp>



Healthcare-Associated Infections Program Adherence Monitoring Environmental Cleaning and Disinfection

Assessment completed by:

Date:

Unit:

Regular monitoring with feedback of results to staff can maintain or improve adherence to environmental cleaning practices. Use this tool to identify gaps and opportunities for improvement. Monitoring may be performed in any type of patient care location.

Instructions: Observe at least two different environmental services (EVS) staff members. Observe each practice and check a box if adherent, Yes or No. In the column on the right, record the total number of "Yes" for adherent practices observed and the total number of observations ("Yes" + "No"). Calculate adherence percentage in the last row.

Environmental Cleaning Practices		EVS Staff 1	EVS Staff 2	EVS Staff 3	Adherence by Task	
					# Yes	# Observed
ES1.	The room is clean, dust free, and uncluttered.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
ES2.	Detergent/disinfectant solution is mixed and stored according to manufacturer's instructions.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
ES3.	Solution remains in wet contact with surfaces according to manufacturer's instructions.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
ES4.	Cleaning process avoids contamination of solutions and cleaning tools; a clean cloth is used in each patient area, and the cloth is changed when visibly soiled.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
ES5.	Environmental Services staff use appropriate personal protective equipment (e.g. Gowns and gloves are used for patients/residents on contact precautions upon entry to the contact precautions room.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
ES6.	High-touch surfaces* are thoroughly cleaned and disinfected after each patient.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

***Some examples of high touch surfaces:**

Bed rails	Chair	Room inner door knob/handle	PPE container(s)	Toilet bedpan cleaner
Tray table	Room sink	Bathroom door knob/handle	Bathroom sink	In-room medical carts
IV pole ("grab area")	Room light switch	Bathroom light switch	Toilet seat	In-room cabinets
Call button	TV remote	Bathroom handrails	Toilet flush handle	In-room computers/keyboards
Bedside table handle				

of Correct Practice Observed ("# Yes"): _____

Total # Environmental Services Observations ("# Observed"): _____

Adherence _____%

(Up to 15 Total)

(Total "# Yes" ÷ Total "# Observed" x 100)

If practice could not be observed (i.e. cell is blank), do not count in total # Observed.

Additional Resources: www.CDPH.ca.gov/HAI

Environmental Cleaning

Welcome to the California Department of Public Health (CDPH) Healthcare-Associated Infections (HAI) Program environmental cleaning in healthcare facilities web page. The purpose of this page is to answer questions and provide information on maintaining a clean and sanitary environment in healthcare facilities for patients, visitors and staff. Reducing bioburden in the environment decreases potential for transmission of harmful organisms. Information is presented as frequently asked questions (FAQ) with references and links to additional information. The initial content on this page will emphasize the importance of environmental cleaning for stopping the spread of *C. difficile* diarrheal infections (CDI).

Additional content will be added in the coming months. For questions, suggestions, or more information, please email HAIProgram@cdph.ca.gov.



Role of Environmental Surfaces in Disease Transmission



Effective Cleaning Strategies



Monitoring Cleaning

Reprocessing Reusable Medical Equipment

Terminology

- Cleaning: removal of debris (e.g., dirt, food, blood, saliva); reduces the amount of organic matter that contributes to proliferation of bacteria and viruses
- Disinfection: removes most organisms present on surfaces that can cause infection or disease
- Sterilization: Killing or removal of all organisms

Cleaning, Disinfection, and Sterilization in Healthcare Settings

- Health care devices and equipment are designated
 - Non-critical
 - Semi-critical
 - Critical
- Categories determine level of reprocessing required

Non-Critical Devices

- In contact only with intact skin
- Require intermediate- or low-level disinfection
- Include
 - Blood pressure cuffs
 - Stethoscopes
 - Durable mobile patient equipment

Semi-Critical Devices

- In contact with non-intact skin or mucous membranes
- Require **high level disinfection** or sterilization
- Include
 - Bronchoscopes
 - GI endoscopes
 - Vaginal and rectal ultrasonic probes
 - Respiratory therapy equipment
 - Anesthesia equipment

Critical Devices

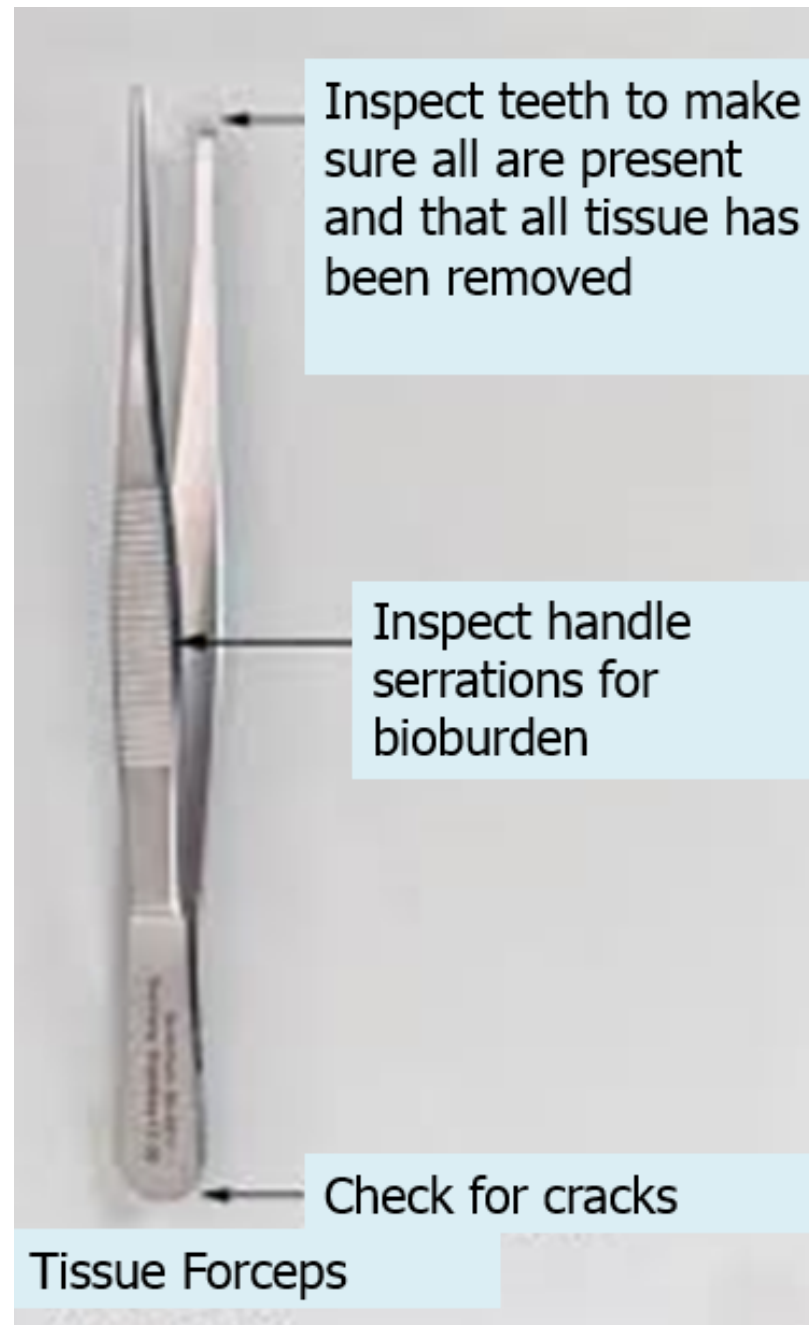
- Enter sterile tissue or the vascular system
- Require sterilization
- Include
 - Surgical instruments and accessories
 - Biopsy forceps
 - Cardiac and urinary catheters
 - Implants

Cleaning Medical Instruments and Devices

- Disinfection or sterilization cannot be achieved without cleaning first
 - Organic material dilutes disinfectants
 - Bioburden must be reduced for processes to be effective
- Clean all medical instruments and devices by
 - Removing visible soil
 - Disconnecting or separating instrument parts
 - Avoiding organic material drying on equipment by rinsing or soaking in an enzymatic solution

Cleaning Medical Instruments

- Use a soap or enzymatic agent to remove bioburden from all areas
- Ensure all surfaces are scrubbed during cleaning (friction with soap removes protein matter)

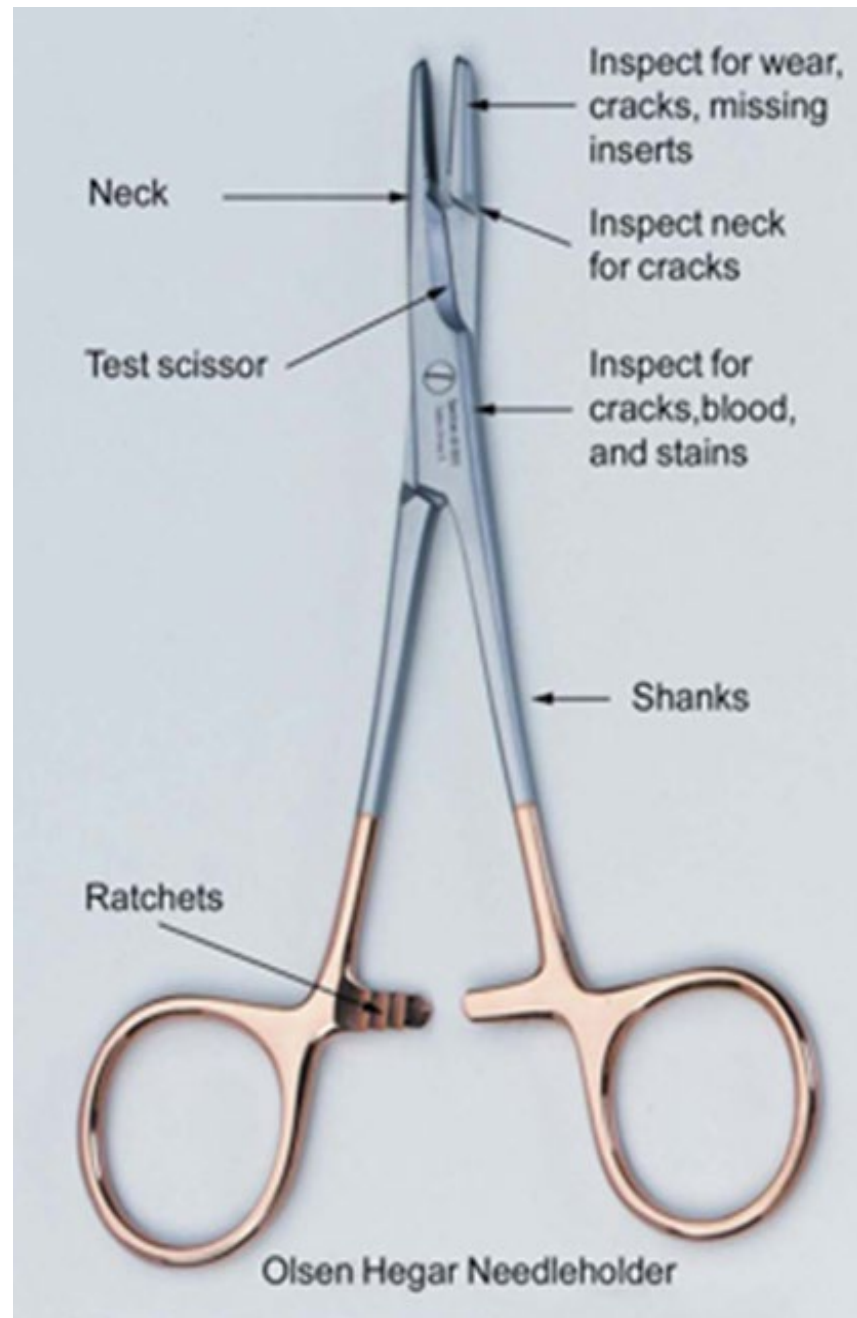


HICPAC /CDC Guideline for Disinfection and Sterilization in Healthcare Facilities. 2008

Checking Medical Instruments

Check all sterilized instruments for damage or remaining bioburden:

- Before use
- After cleaning
- After sterilization



HICPAC /CDC Guideline for Disinfection and Sterilization in Healthcare Facilities. 2008

Identifying Instrument Damage

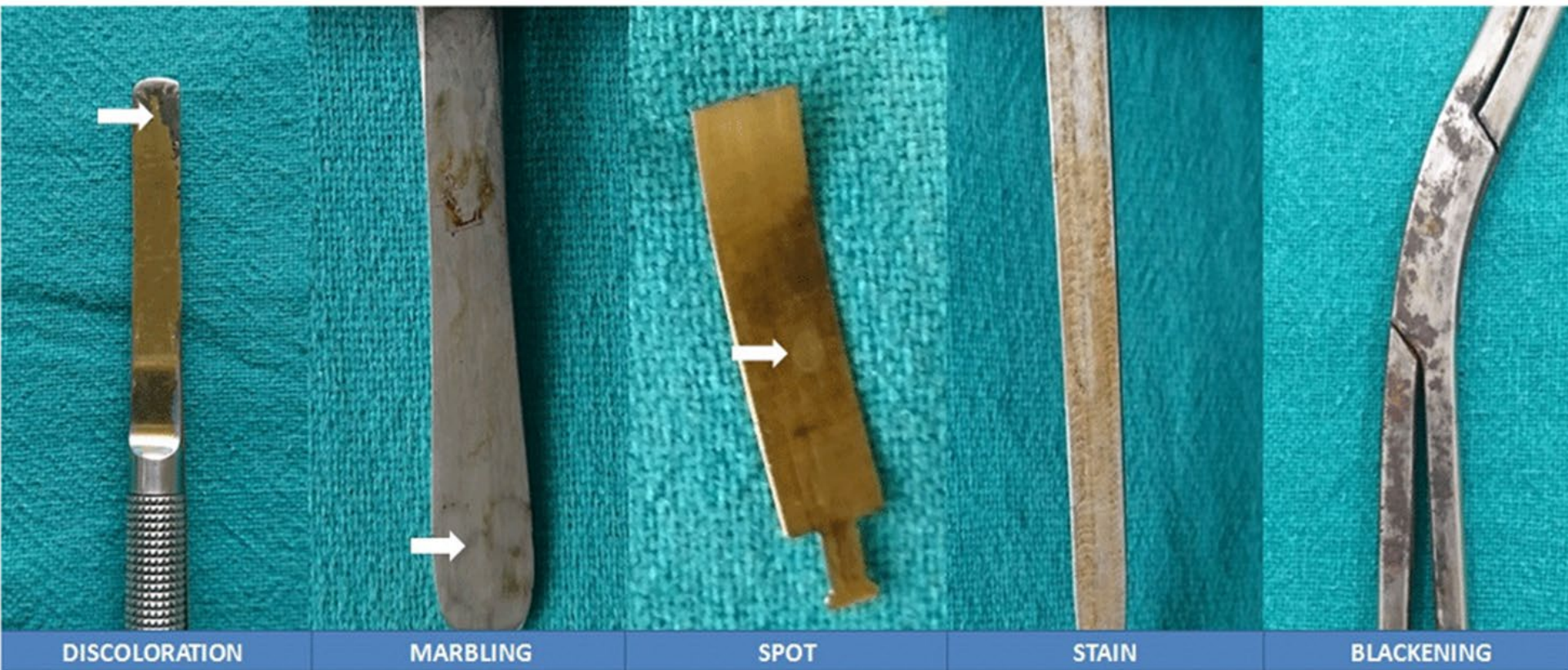
Sterilized instrument damage can appear as spotting, staining, corrosion or pitting.

- Spotting and staining: temporary, can interfere with sterilization
- Corrosion: damage to instrument
 - Can prevent sterilization (protects microbes)
 - Can cause instruments to break
- Pitting: damage to instrument, interferes with removal of microbes during sterilization

Damaged instruments should be repaired or replaced!

Example

Spotting, staining and corrosion on medical instruments



Example

Pitting on medical instruments

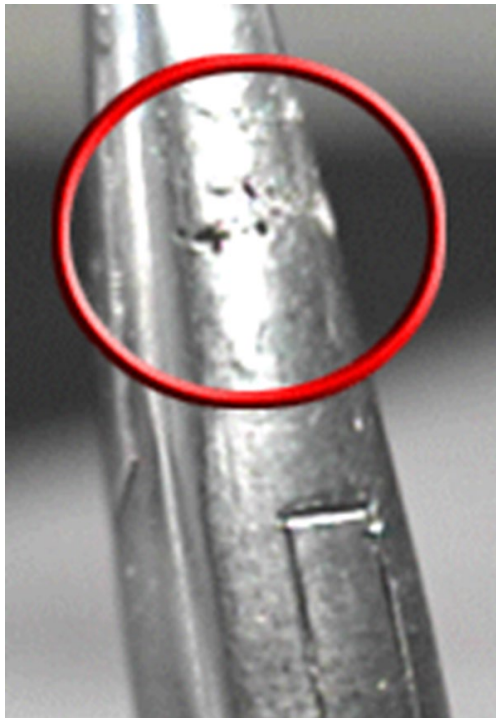


Photo from Mobile Instrument Service and Repair, Inc.

Personal Protection

When cleaning soiled medical instruments, wear:

- Long-sleeved impervious gowns
- Eyewear
- Mask or mask with face shield
- Gloves
- Cap
- Chemical goggles (when mixing or changing solution)

Disinfecting Medical Devices

- Disinfection eliminates or kills most bacteria, many virus types, some fungi (not prions)
- Cannot be accomplished without first cleaning
- Time-dependent process
- High, intermediate, and low levels of disinfection
- Must use EPA-approved disinfectant products
 - Product must have a tuberculocidal label claim

Low-Level Disinfection

- For non-critical devices and equipment (e.g., blood pressure cuffs, stethoscopes, patient care equipment)
- EPA-approved products for low-level disinfection include
 - Quaternary ammonium compounds (QUATS)
 - Phenolic compounds
 - Iodophor
- Ensure achievement of dilution and contact or “wet” time requirements

Intermediate-Level Disinfection

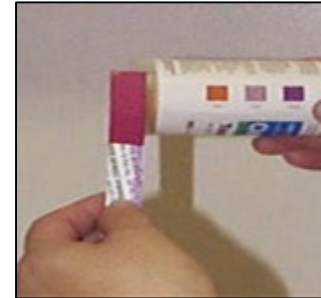
- For non-critical and some semi-critical devices and equipment
- EPA-approved products for intermediate-level disinfection include
 - Alcohols
 - Aldehydes
 - Chlorine compounds
 - Iodophor
 - Peracetic acid
 - Hydrogen Peroxide
 - Phenolic
- Ensure achievement of dilution and contact or “wet” time requirements

High-Level Disinfection

- For semi-critical devices and equipment (e.g., scopes)
- EPA-approved products for high-level disinfection include
 - Gluteraldehyde
 - Ortho-phthaldehyde (OPA)
 - Peracetic acid
 - Hydrogen peroxide
- Ensure achievement of temperature requirements

High-Level Disinfection - continued

- Test disinfectant product prior to each use
 - Can get diluted with frequent use
 - Follow facility policy
 - Test strips expire; monitor dates
- Change product as indicated by test and as manufacturer requires
- Maintain monitoring results log
- Ensure competency of staff



Steam Sterilization by Autoclave

- Achieves rapid heating and penetration
 - Short exposure times (<20 minutes) but temperature must be maintained throughout
 - No toxicity to workers
 - Inexpensive
 - Can damage delicate instruments
- Items to be sterilized must be:
 - Clean and free of protein or other organic material
 - Packaged so that the steam can penetrate
- Autoclave must be loaded correctly

Reprocessing Surgical Instruments

- Sterilize all surgical instruments according to published guidelines and manufacturer's recommendations
- Refer to CDC HICPAC 2008 Guideline for Disinfection and Sterilization in Healthcare Facilities for additional recommendations.

Monitoring Sterilization

- **Mechanical** indicators
 - Gauges, displays, printouts
 - Indicates if device working properly
 - Not indicator of sterility
- **Chemical** indicators
 - Change color with timed exposure to heat, steam
 - Used to show items have gone through sterilization process
 - Not indicator of sterility
- **Biological** indicators
 - Demonstrates bacterial spores on test strips or in vials/containers have all been killed
 - Indicator of sterility



Storage of Sterile Items

- Protect sterility until ready to use
 - Store to protect packages from dust, moisture, falling on floor
 - Transport only covered, dry packages
 - Handle to protect package integrity
 - Refrain from crushing packages or rubber-banding them for storage
 - Wrap sharp points in gauze
- Rotate sterile items: first in, first out
- Store and label for effective recall system
- Expiration date versus event-related sterilization
 - Needs a program flex from L&C



Are Medical Devices and Equipment Reprocessed Appropriately in YOUR facility?

- ✓ Educated, competent reprocessing staff
- ✓ Devices properly cleaned before disinfection/sterilization
- ✓ Use of appropriate PPE
- ✓ Low, intermediate, and high-level disinfectants used according to manufacturers instructions
- ✓ Sterile packages stored appropriately

You won't know if you don't monitor!

Adherence Monitoring Tools- Device Reprocessing

HEALTHCARE-ASSOCIATED INFECTIONS (HAI) PROGRAM

Monitoring Adherence to Health Care Practices that Prevent Infection



Device Reprocessing

Many areas of the healthcare facility may be performing device reprocessing. These adherence monitoring tools may be used in any area where device reprocessing, or high-level disinfection or sterilization of reusable devices are performed. Select the monitoring tool that best applies to the reprocessing area being observed.

- [Device Reprocessing Adherence Monitoring Tool \(PDF\)](#)
- [High-Level Disinfection of Reusable Devices Adherence Monitoring Tool \(PDF\)](#)
- [Sterilization of Reusable Devices Adherence Monitoring Tool \(PDF\)](#)
- [CDC Guideline for Disinfection and Sterilization in Healthcare Facilities \(PDF\)](#)
- [FDA regulations on reprocessing of single-use devices](#)

Summary

- **A properly cleaned care environment is essential to prevent or contain HAIs**
- **A surface must be physically cleaned before it can be disinfected**
- **Be aware of all locations performing sterilization and disinfection; ensure staff competency in appropriate reprocessing upon hire and annually**
- **Adherence monitoring with feedback of results to staff can maintain or improve adherence**



ACTIVITY:
“WHAT’S WRONG WITH THIS PICTURE?”



Scenario 1

- A patient is diagnosed at your clinic with **active *C.difficile* infection**. After he/she is discharged home, would you clean the high touch surfaces in the room with this cleaner?

ACTIVE INGREDIENTS:	
n-Alkyl (C14, 60%; C16, 30%; C12, 5%; C18, 5%)	
Dimethyl Benzyl Ammonium Chloride	0.184%**
n-Alkyl (C12, 68%; C14, 32%)	
Dimethyl Ethylbenzyl Ammonium Chloride ..	0.184%**
OTHER INGREDIENTS:	99.632%
TOTAL:	100.000%
**Does not include weight of dry wipe	
KEEP OUT OF REACH OF CHILDREN	
CAUTION: SEE BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS.	



Explanation

Answer: No.

Explanation: C.difficile infection produces spores; the room should be cleaned with a spore- killing product like bleach after the patient leaves.

This Clorox product is a non-bleach disinfectant.

ACTIVE INGREDIENTS:	
n-Alkyl (C14, 60%; C16, 30%; C12, 5%; C18, 5%)	
Dimethyl Benzyl Ammonium Chloride	0.184%**
n-Alkyl (C12, 68%; C14, 32%)	
Dimethyl Ethylbenzyl Ammonium Chloride	0.184%**
OTHER INGREDIENTS:	
.....	99.632%
TOTAL:	
.....	100.000%



Scenario 2



A patient in your clinic was treated in a private room for influenza. The clinic is very busy and you need to prepare the room for the next patient.

Should you use this container of disinfectant wipes to clean the room?

Explanation

Answer: No.

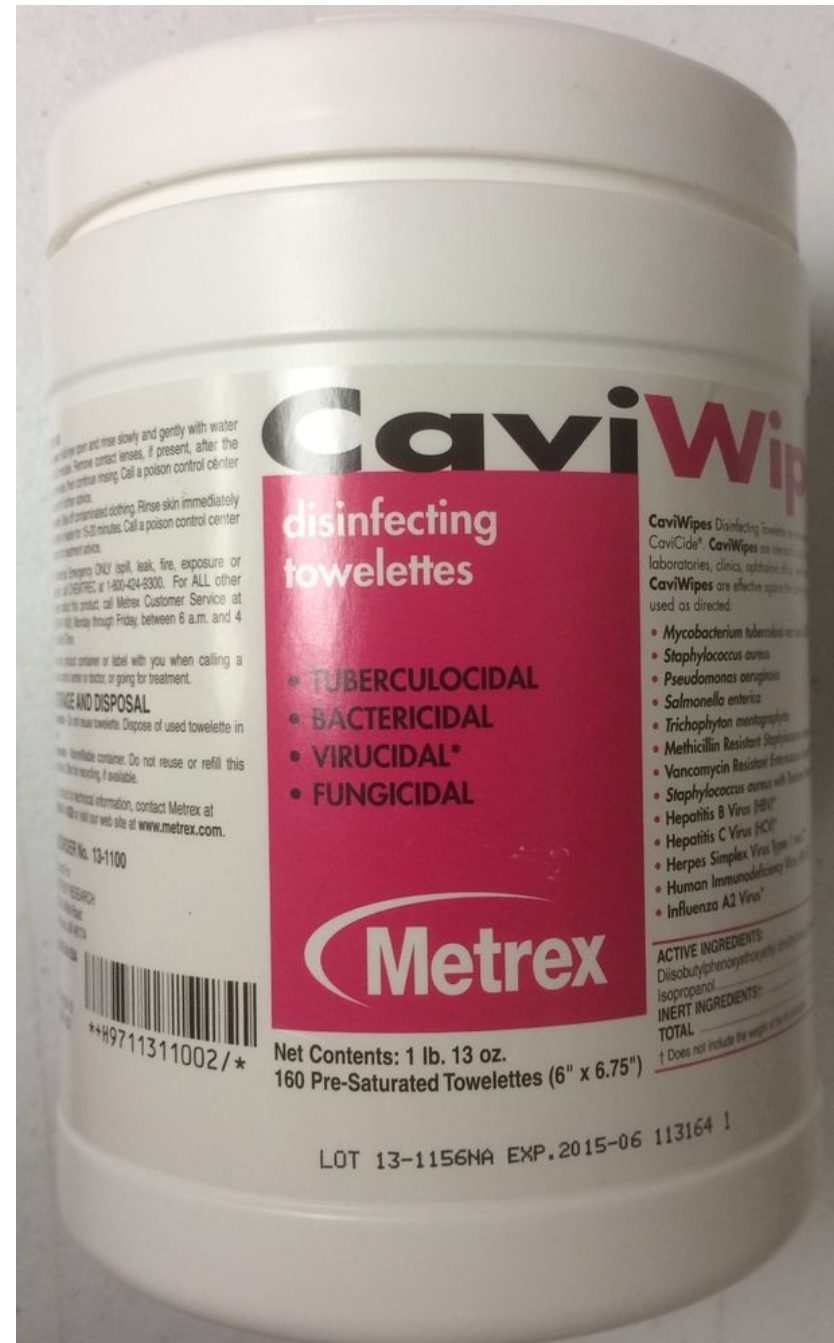
Explanation: The product selection is correct. CaviWipe is a quaternary agent (disinfectant) that is good for disinfecting surfaces from bacteria, viruses (like influenza), and fungi. In this case, you would not use THIS bottle because it expired in June of 2015.

Always check for the date of expiration on cleaning products!



Discussion

- How do you maintain education and training of EVS staff? What about for staff working evening or night shifts?
- How do you ensure quality of EVS services contracted to an agency outside facility?



Scenario 3



When your sharps container is $\frac{3}{4}$ full, should you replace it with a new sharps container?

Explanation

Answer: Yes.

Explanation: Once a sharps container is $\frac{3}{4}$ full, it should be closed by activating the safety closure and stored in a secure area for proper disposal.

Replace the old container with a new empty sharps container.



Scenario 4



A new afternoon staff member soaked some surgical scissors and forceps in bleach over the weekend.

If you scrub off the corroded areas really well, will this item be ready to sterilize?

Explanation

Answer: No.

Explanation: Once medical equipment is corroded or pitted, it has small crevasses and holes that cannot be adequately cleaned.



Discussion

If your medical instrument is damaged by corrosion or pitting, what should you do with it?



Discussion

If your medical instrument is damaged by corrosion or pitting, what should you do with it?

Damaged medical instruments can be discarded and replaced or professionally restored.



Scenario 5

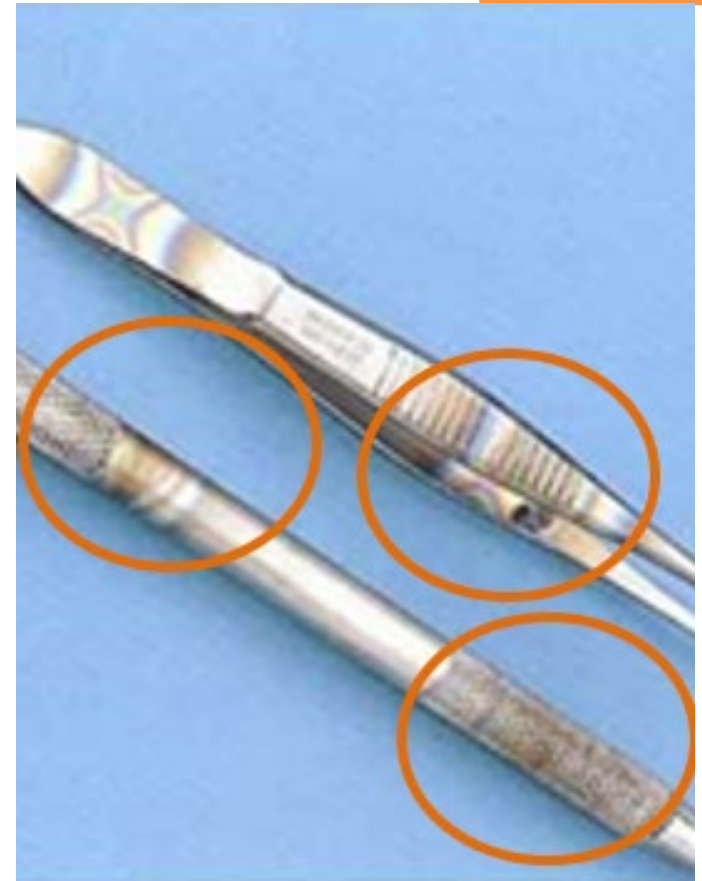


You remove these two instruments from a sealed, sterilized pack. The chemical strip indicates that the package was sterilized. After looking at these tools, should you proceed to use them?

Explain what you would do in this situation.

Explanation

- **Answer:** No. You would get a different medical instrument set.
- **Explanation:** Even though the chemical strip indicates that the items were sterilized, this set is stained and corroded with a pitted area on the tweezers. These instruments need to be repaired or replaced.





HOW IS ENVIRONMENTAL CLEANING & DISINFECTION LINKED TO ANTIMICROBIAL RESISTANCE?



Endoscopy-Associated Infections

- More healthcare-associated outbreaks are associated with endoscopes than any other medical device
 - Outbreaks often associated with disinfection process failures
- Scopes acquire high levels of contamination with use (bioburden) due to high bacteria levels in areas explored
- From 2013-2015, 69 CRE infections related to duodenoscopes
 - 13 deaths may have been partially attributable to the infection that developed after exposure to the scope

Factors Leading to Outbreaks from Endoscope and Bronchoscope Contamination

- Contaminated water supply
- Contaminated brushes for cleaning scope lumens
- Improper manual cleaning prior to disinfection
- Biofilm inside automatic washer
- Improper use of automatic washer
- Contaminated or expired disinfection reagent
- Inability or neglect to clean the suction channel
- Mechanical or design issues related to the endoscope/bronchoscope





OUTPATIENT ANTIBIOTIC STEWARDSHIP



CDC Core Elements for Outpatient Antibiotic Stewardship



Commitment

Demonstrate dedication to and accountability for optimizing antibiotic prescribing and patient safety.



Action for policy and practice

Implement at least one policy or practice to improve antibiotic prescribing, assess whether it is working, and modify as needed.



Tracking and reporting

Monitor antibiotic prescribing practices and offer regular feedback to clinicians, or have clinicians assess their own antibiotic prescribing practices themselves.



Education and expertise

Provide educational resources to clinicians and patients on antibiotic prescribing, and ensure access to needed expertise on optimizing antibiotic prescribing.

Commitment

Facility can demonstrate dedication to and accountability for optimizing antibiotic prescribing and antibiotic patient safety

Strategy	No. Clinics (%)
Identify a single leader to direct antibiotic stewardship activities within a facility	5 (31)
Include antibiotic stewardship-related duties in position descriptions or job evaluation criteria	2 (13)
Communicate with all clinic staff members to set patient expectations	3 (19)

Action

Facility implemented at least one policy or procedure to improve antibiotic prescribing

Strategy	No. Clinics (%)
Provide communications skills training for clinicians	6 (38)
Require explicit written justification in the medical record for non-recommended antibiotic prescribing	7 (44)
Provide clinical decision support	11 (69)
Use call centers, nurse hotlines, or pharmacist consultations as triage systems to prevent unnecessary visits	8 (50)

Tracking and Reporting

Facility monitors at least one aspect of antibiotic prescribing

Strategy	No. Clinics (%)
Track and report antibiotic prescribing for one or more high-priority conditions	9 (56)
Track and report the percentage for one or more high-priority conditions	3 (19)
Track and report, at the level of a health care system, complications of antibiotic use and antibiotic resistance trends among common outpatient bacterial pathogens	2 (13)
Assess and share performance on quality measures and established reduction goals addressing appropriate antibiotic prescribing from health care plans and payers	8 (50)

Education and Expertise

Facility provides resources to clinicians and patients on evidence-based antibiotic prescribing

Strategy	No. Clinics (%)
Provide face-to-face educational training	10 (63)
Provide continuing education activities for clinicians	5 (31)
Ensure timely access to persons with expertise	9 (56)

AR Material Tutorial Available on the Imperial County Collaborative Webpage



Collaborative Resources

- **Meeting Agenda and Materials**

- [Session 1: May 11, 2018 Agenda \(PDF\)](#)
- [Session 1: May 11, 2018 Slide Presentation \(PDF\)](#)
- [Session 2: August 31, 2018 Agenda \(PDF\)](#)
- [Session 2: August 31, 2018 Slide Presentation \(PDF\)](#)
- [Session 3: November 14, 2018 Agenda \(PDF\)](#)
- [Session 3: November 14, 2018 Slide Presentation \(PDF\)](#)
- [Session 3: November 14, 2018 Webinar Recording \(opens in YouTube\)](#)

https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/ImperialCountyAR_Collaborative.aspx

Discussion Questions – AR Materials

- How will you distribute and orient clinic providers to use AR materials? (Examples: one-on-one, during clinic staff meetings)
- How will clinic staff disseminate these materials to patients and/or families? (Examples: one-on-one during office visits, available in waiting room, community outreach events)
- Are there any other materials or tools you think would be helpful to promote appropriate antibiotic use in your facility?

How will you distribute and orient clinic providers to use AR materials?

- Staff meeting, Medical Directors' meetings
- Staff huddle, one-on-one education
- Shadow for implementation
- Post to information board
- In-service trainings
- Post in break room

How will clinic staff disseminate these materials to patients and/or families?

- Post in waiting room, distribution pack
- Give to patients as needed
- Post in patient rooms
- Include in discharge pamphlet, provide patient education
- Share at health fairs
- Newsletter feature
- Post on board, in lobbies, at nurses station
- Designate and train staff to distribute
- Laminated post

Are there any other materials or tools you think would be helpful to promote appropriate antibiotic use in your facility?

- “Questions to ask” poster
- Videos
- Hand hygiene pamphlets for patients
- Materials for specific specialties; for example, urology
- Access to templates for customization
- Photo-based materials, lower reading level
- Slide set /webinar to educate staff on materials

Local Examples

- Who has disseminated materials to staff? To patients?
 - What kind of approvals did you need?
 - How long did it take to train staff?
 - How much time do you spend with patients on educating via tool(s)?
- Who has plans to incorporate materials in the near future?
 - What steps have you taken to move forward?



COLLABORATIVE NEXT STEPS



Next Steps

- Join our email distribution list for all of the updates!
- Visit collaborative website for AR education materials, collaborative information, and announcements - https://www.cdph.ca.gov/Programs/CHCQ/HAI/Pages/ImperialCountyAR_Collaborative.aspx
- Tell us about your experience with tool implementation at your facility - *What is working? What do you need help with? What needs to be done for progress to be made?*

Next In-Person Meeting

SAVE THE DATE

Invite your colleagues!

Wednesday, May 22, 2019

8:30AM-12:30PM

Imperial County Public Health Department

935 Broadway, El Centro, CA 92243

Agenda to follow.

OPEN DISCUSSION (OPTIONAL)

Questions?

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