

# Standard Precautions

Last Updated 2019

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



# Objectives

- Describe all 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

# 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/antiseptics
- **Handwashing:** Washing hands with plain soap and water
- **Antiseptic hand wash:** 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 /antiseptics:** Extended period of hand hygiene with antiseptic agent

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

# Indications for Hand Hygiene

- **Wash hands** with soap and water when hands are
  - Contaminated
  - Soiled
  - Before and after eating
  - After toileting wash with soap and water
- **If hands are *not* visibly soiled**, use an **alcohol-based hand rub** for routinely decontaminating hands
- During outbreaks and if infection rates are high, consider using only handwashing with soap and water
  - *Examples: C.difficile* infections, Norovirus

# Indications for Hand Hygiene – 2

## 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

# 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  $\frac{1}{4}$  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

- Require routine cleaning of environmental surfaces as indicated 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 lecture)

## Standard Precautions Element 3

# Injection Safety

- Injection safety **protects patients**
- Injection safety **protects health care workers**

# Hepatitis B and C Outbreaks Associated with Unsafe Infection 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



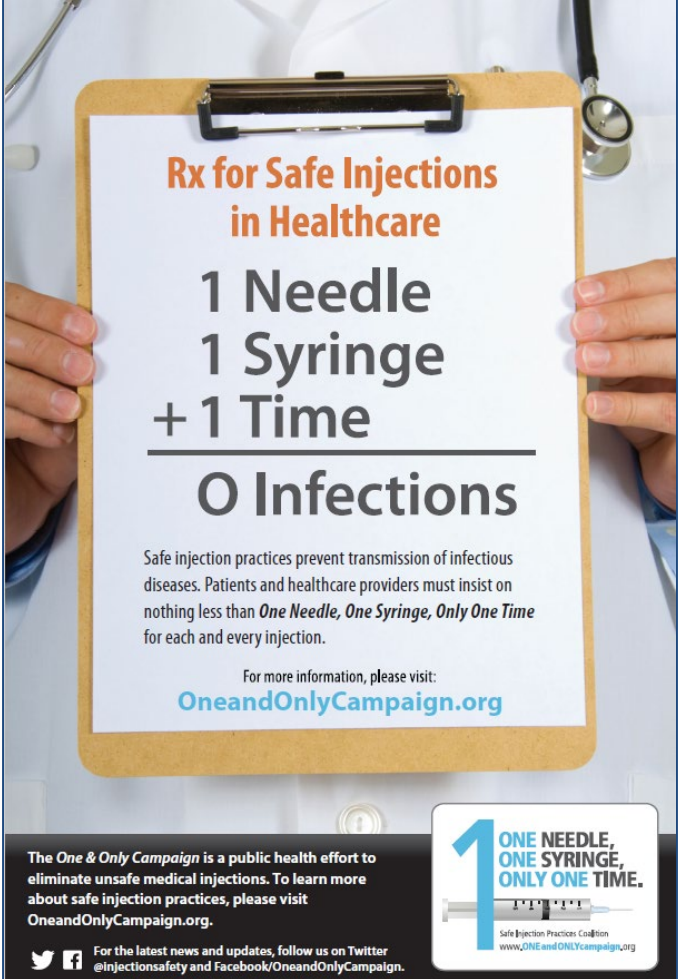
# Aseptic Technique for the Preparation and Administration of Injected Medications

- Perform hand hygiene
- Draw up medications 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



**Rx for Safe Injections  
in Healthcare**

**1 Needle  
1 Syringe  
+ 1 Time**

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**0 Infections**

Safe injection practices prevent transmission of infectious diseases. Patients and healthcare providers must insist on nothing less than *One Needle, One Syringe, Only One Time* for each and every injection.

For more information, please visit:  
[OneandOnlyCampaign.org](http://OneandOnlyCampaign.org)

The *One & Only Campaign* is a public health effort to eliminate unsafe medical injections. To learn more about safe injection practices, please visit [OneandOnlyCampaign.org](http://OneandOnlyCampaign.org).

For the latest news and updates, follow us on Twitter @injectionsafety and Facebook/OneandOnlyCampaign.

**1 ONE NEEDLE,  
ONE SYRINGE,  
ONLY ONE TIME.**

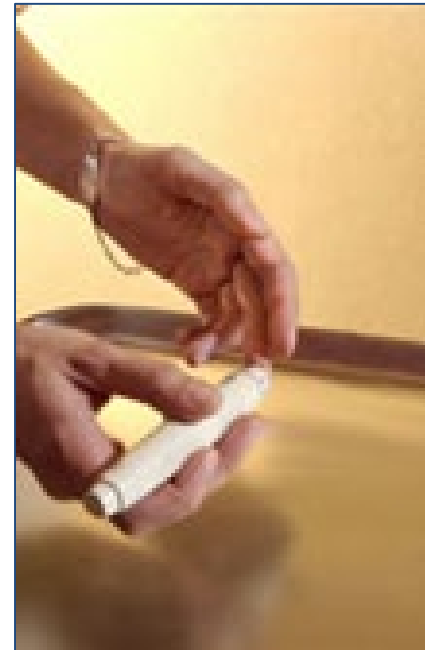
Safe Injection Practices Coalition  
[www.ONEandONLYcampaign.org](http://www.ONEandONLYcampaign.org)

CDC One and Only Campaign

<http://www.oneandonlycampaign.org>

# Injection Safety for Diabetic Patients

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



# Always Clean the Tops of Medication Vials Before Entry

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

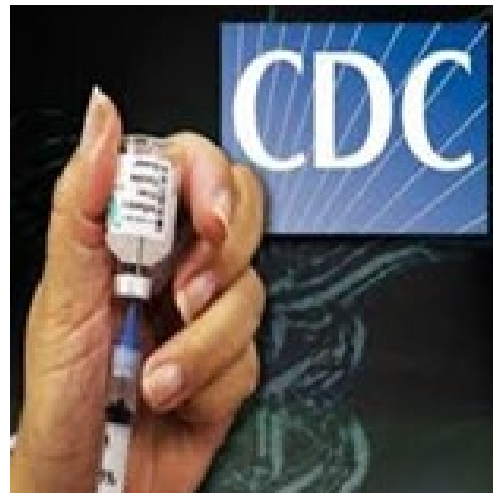
# Single-Dose Vials: One Patient and Only Once

- 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.gov/injectionsafety](https://www.cdc.gov/injectionsafety)

# 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.gov/injectionsafety](https://www.cdc.gov/injectionsafety)

## 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

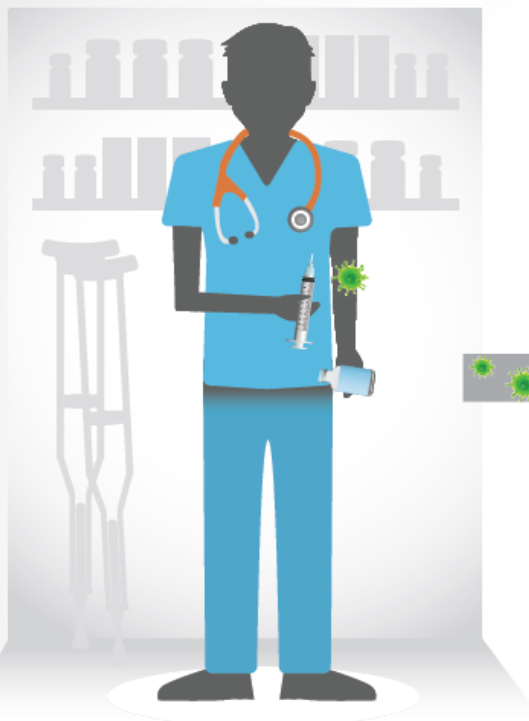
- Do not use bags of intravenous solution as a common source of supply for more than one patient
- Everything from the medication bag to the patient's IV catheter is a single interconnected unit



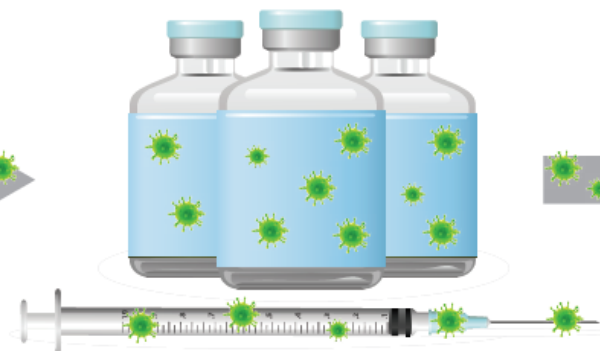
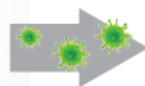
# Wear Facemask for Epidural Procedures

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

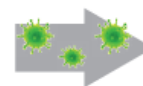
# DRUG DIVERSION\* SPREADS INFECTION FROM HEALTHCARE PROVIDERS TO PATIENTS



**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](http://WWW.ONEANDONLYCAMPAIGN.ORG)



# Essential Elements of a Drug Diversion Prevention Program

- Multidisciplinary team including Pharmacy, Employee Health, Infection Preventionist, Safety Officer, Risk Manager, HR and Administration
- Policies to prevent, detect, and properly report drug diversion
- A method of observing processes and auditing drug transaction data for diversion
- Prompt attention to suspicious 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 in every area
  - 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 storage and assembly, require minimal worker training requirements, be easy to operate, and have a flexible design

CDC Injection Safety Workbook

[https://www.cdc.gov/sharpsafety/pdf/sharpsworkbook\\_2008.pdf](https://www.cdc.gov/sharpsafety/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

# Injection Safety Checklist

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

## 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 personnel 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
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 (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 HCP when they are first opened and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial. <i>Note: This is different from the expiration date printed on the vial.</i>	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). <i>Note: If multi-dose vials enter the immediate patient treatment area they should be dedicated for single-patient use and discarded immediately after use.</i>	Yes No	<a href="http://www.cdc.gov/injectionsafety/PDF/SIPC_Checklist.pdf">www.cdc.gov/injectionsafety/PDF/SIPC_Checklist.pdf</a>

# 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](https://www.cdc.gov/injectionsafety/1anonly.html)

(<https://www.cdc.gov/injectionsafety/1anonly.html>)



## 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 - Gloves

- Wear gloves when it can be reasonably anticipated that you may have hand contact with
  - Blood or other potentially infectious material
  - Mucous membranes
  - Non-intact skin
  - Potentially contaminated skin
  - Potentially contaminated equipment

## PPE - Gowns

- Wear a gown 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

# 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 lecture)**

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# Monitoring Standard Precautions

## Hand Hygiene Results of CDPH HAI Program Observations

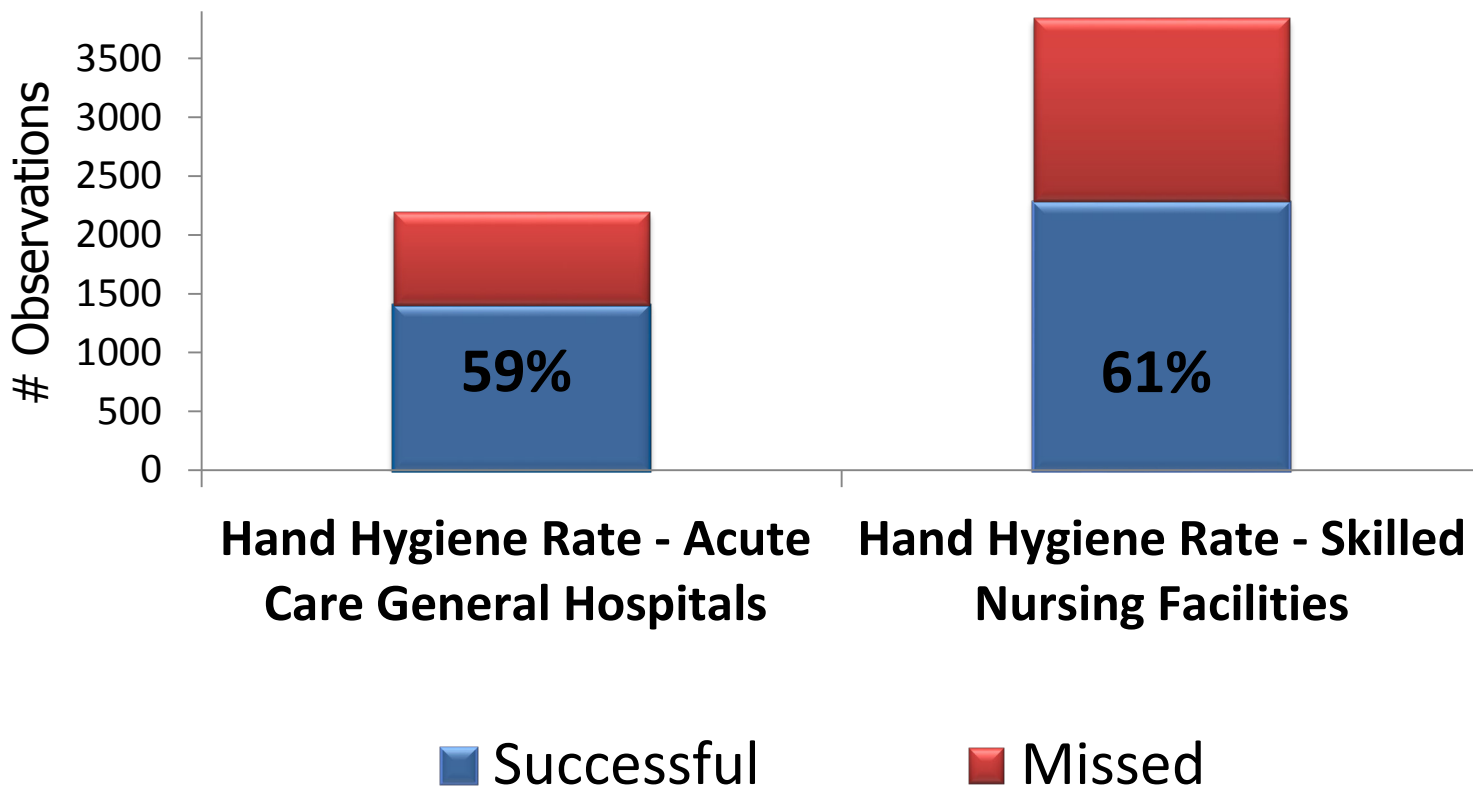


# Monitoring Hand Hygiene

Discipline	What type of HH opportunity was observed? (select/ <input checked="" type="checkbox"/> 1 per line)	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Missed
N	<input type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input checked="" type="checkbox"/> leaving room	<input checked="" type="checkbox"/>
N	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input type="checkbox"/>
CNA	<input type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input checked="" type="checkbox"/> leaving room	<input checked="" type="checkbox"/>
CNA	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input type="checkbox"/>
CNA	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input type="checkbox"/>
CNA	<input type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input checked="" type="checkbox"/> leaving room	<input checked="" type="checkbox"/>
MD	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input type="checkbox"/>
MD	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input type="checkbox"/>
N	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input checked="" type="checkbox"/>
N	<input checked="" type="checkbox"/> entering room* <input type="checkbox"/> before task <input type="checkbox"/> after body fluids <input type="checkbox"/> after care* <input type="checkbox"/> leaving room	<input type="checkbox"/>
Total # HH Successful (“# ✓”): <b>4</b>		Total # HH Opportunities Observed: <b>10</b>
Adherence: <b>40</b> % (Total # HH Successful ÷ Total # HH Opportunities Observed x 100)		

# Hand Hygiene Adherence Monitoring

**158 Acute Care Facilities, 2015-2018 (N=2195)**  
**308 Skilled Nursing Facilities 2016-2018 (N=3838)**



**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 All 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

# Questions?

For more information,  
please contact any  
HAI Program Liaison IP Team member

Or email

[HAIProgram@cdph.ca.gov](mailto:HAIProgram@cdph.ca.gov)