

# LPCH Prevention of Hospital-Acquired Infection part 1 (Clinical)



## LPCH Prevention of Hospital-Acquired Infections (Clinical) — Part 1



**When you complete this course, you will be able to:**

- Recognize the basic principles of infection prevention and control
- Incorporate bloodborne pathogen and aerosol transmissible diseases exposure prevention strategies to your workflow
- Define Multi-Drug Resistant Organism (MDRO)
- Identify two MDROs in hospital setting
- Identify the elements of Central Line Associated Bloodstream Infection (CLABSI) Prevention Bundle





OBJECTIVES

**When you complete this course, you will be able to (continued)**

- Identify the elements of the Surgical Site Infection (SSI) Prevention Bundle
- Identify the elements of Catheter Associated Urinary Tract Infection (CAUTI) Prevention Bundle
- Describe three measures to prevent breast milk exposure
- Access Infection Prevention & Control Policies and Procedures online



# Infection Prevention Patient Safety

The NPSG sets proven preventative guidelines:

NPSG.07.01.01 - Hand cleaning guidelines from Centers for Disease Control & Prevention (CDC) or World Health Organization (WHO)

NPSG.07.03.01 - Prevent infections that are difficult to treat (Multi-Drug Resistant Organisms referred to as MDROs)

NPSG.07.04.01 - Prevent infection of the blood from central lines

NPSG.07.05.01 - Prevent infection after surgery

NPSG.07.06.01 - Prevent infections of the urinary tract that are caused by catheters



# Preventing Hospital Acquired Infections

Hover over each icon to learn key facts about preventing Hospital Acquired Infections. You must view *all items* to proceed



## Next (Slide Layer)

- HAIs are not reimbursed to the reporting facility by the Centers for Medicare and Medicaid (CMS)
  - According to the CDC, there were an estimated 687,000 HAIs in U.S. acute care hospitals in 2015. About 72,000 hospital patients with HAIs died during their hospitalizations
  - Hospital Acquired Infections or HAIs are serious infections that patients get while receiving medical or surgical treatment in a healthcare facility like Lucile Packard Children's Health Stanford (LPCH)
  - California Department of Public Health mandates acute care facilities to report HAIs to CDC via National Healthcare Safety Network (NHSN)
  - Quality outcome measures are publicly posted for consumers to see and used as a guide to make informed decisions when choosing a healthcare plan
  - LPCH is focused on prevention and elimination of Healthcare Acquired Conditions (HACs) which includes HAIs like CLABSI, SSI, CAUTI, and VAP
-

- The Mission Zero initiative was established in 2011, in support of HAC and HAI reduction and elimination within LPCH
- LPCH has adopted the Solutions for Patient Safety (SPS) infection prevention bundles to support our Patient Care Services in eliminating HAIs
- A healthcare bundle is a set of evidence based practices that when consistently followed has been shown to lead to better outcomes

# Hand Hygiene



## Importance of Hand Hygiene

Hand hygiene is the **single most important** strategy to prevent the spread of germs and fight healthcare acquired infections

Hand hygiene must be performed **where you are delivering care** (at the point of care)

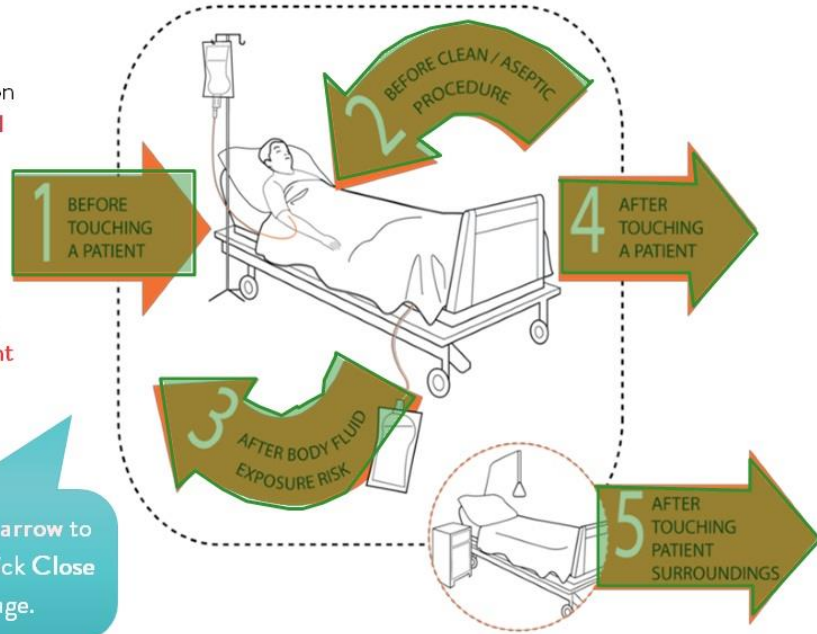




# Five Moments for Hand Hygiene

NPSG 07.01.01

World Health Organization has identified **five critical moments** when **hand hygiene** is indicated to protect the **patient, healthcare worker, patient zone** (patient's immediate surroundings) and **hospital environment**



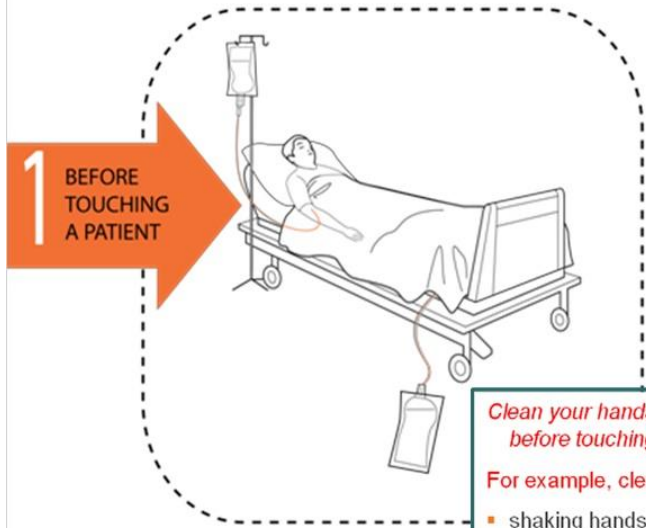
Click each numbered arrow to learn more, and then click **Close** to return to the main page.



# Five Moments for Hand Hygiene

NPSG 07.01.01

**CLOSE**



**1** BEFORE TOUCHING A PATIENT

*Clean your hands before or when entering the patient zone and before touching the patient*

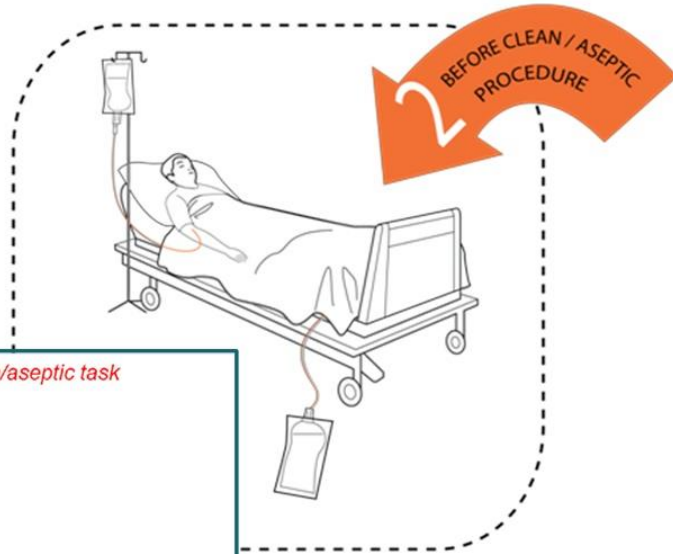
**For example, clean your hands before:**

- shaking hands, stroking a child's forehead
- helping a patient to move around
- applying oxygen mask
- taking pulse, blood pressure, chest auscultation, abdominal palpation, recording ECG

# Five Moments for Hand Hygiene

NPSG 07.01.01

CLOSE



*Clean your hands before performing a clean/aseptic task*

**Examples of clean/aseptic task:**

- suctioning
- instilling eye drops
- skin lesion care, wound dressing
- catheter insertion, subcutaneous injection
- opening a vascular access system or a draining system
- food preparation, medication preparation, and administration

# Five Moments for Hand Hygiene

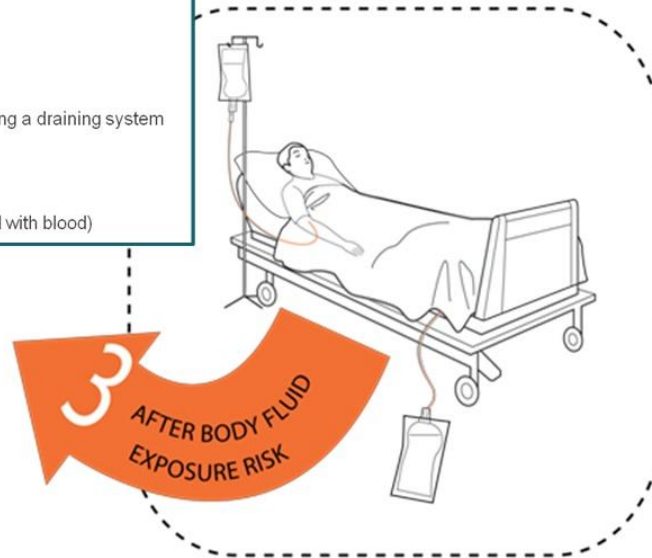
NPSG 07.01.01

CLOSE

*Clean your hands after performing your task and after glove removal*

**Examples of body fluid exposure risk:**

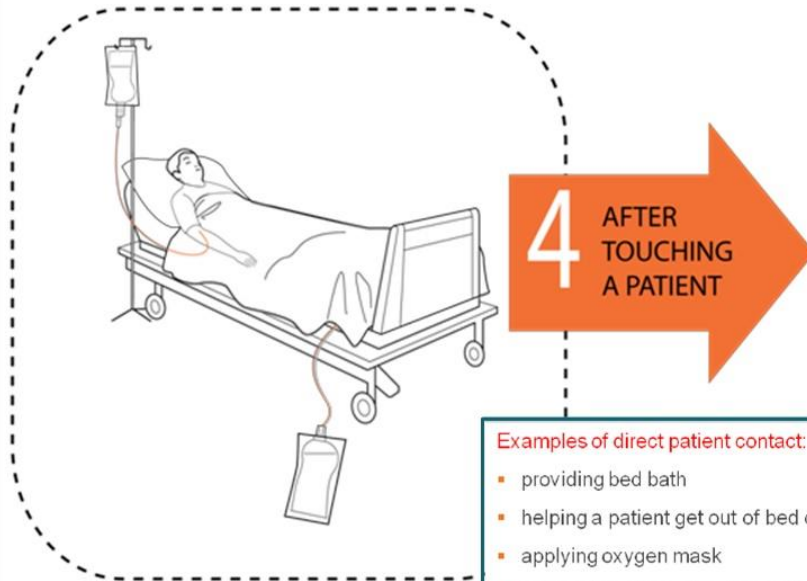
- subcutaneous injection, IV insertion
- skin lesion care, wound dressing
- drawing and manipulating any fluid sample, opening a draining system
- endotracheal tube insertion and removal
- clearing up urine, feces, vomit
- handling waste (incontinence pads, gauze soaked with blood)



# Five Moments for Hand Hygiene

NPSG 07.01.01

**CLOSE**



**4**  
AFTER  
TOUCHING  
A PATIENT

**Examples of direct patient contact:**

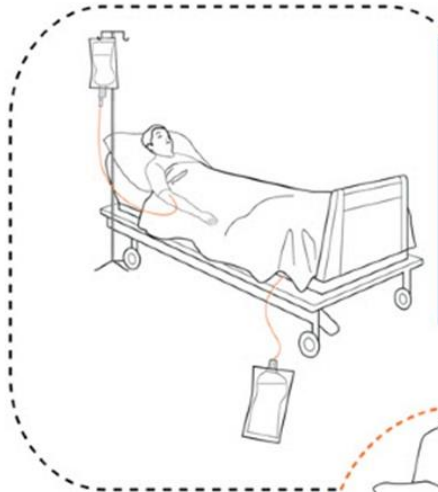
- providing bed bath
- helping a patient get out of bed or ambulate
- applying oxygen mask
- taking vital signs, chest auscultation
- performing physical assessment

*Clean your hands when you leave the patient zone*

# Five Moments for Hand Hygiene

NPSG 07.01.01

**CLOSE**



Examples of situations having in contact with patient surroundings:

- touching the door knob or cubicle curtain
- setting up bedside table for meals
- cleaning patient care equipment and medical devices (IV pumps, IV poles, vital signs machine, iStat, glucometer, stethoscope)
- holding a bed rail, telephone or call button



**5** AFTER  
TOUCHING  
PATIENT  
SURROUNDINGS

# Hand Hygiene Challenge



As Robert cares for his patient, he will work in and around potential opportunities to spread infection to himself, the patient, items in the environment, coworkers, and future patients.

To successfully complete this challenge, **click the button for the correct hand hygiene choice** Robert should take after each action he performs.

**Action 1:** Robert, RN, has finished his lunch break and is returning to work. He is about to enter the room of his patient Elsa, age five, who is currently under care for RSV.

Hand wash with soap and water

Hand rub with hand sanitizer

Do nothing

**Action 2:** Robert moves to Elsa's bed and performs a physical assessment, including checking lung and heart sounds, skin tone, and neurological function.

Hand wash with soap and water

Hand rub with hand sanitizer

Do nothing

**Action 3:** Robert provides a Nebulizer treatment and is ready to exit the room.

Hand wash with soap and water

Hand rub with hand sanitizer

Do nothing

## Preventing HAIs: Hand Hygiene

- Use hospital approved **alcohol-based hand sanitizer**
- Apply **friction** when rubbing your hands for at least **15 seconds**
- Alcohol-based hand rubs are **more effective** and **accessible** than soap and water

*Key things to remember when performing hand hygiene:*

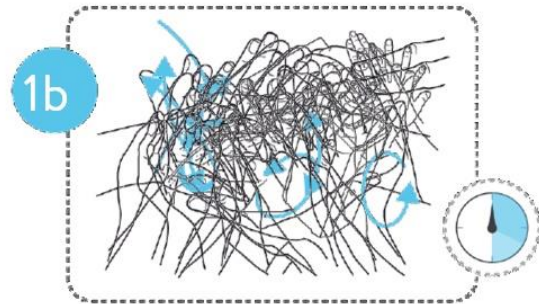
- Appropriate **technique**
- Time **duration**





# How to Hand Rub

1. Apply a palmful of the product in a cupped hand, covering all surfaces.
2. Rub hands, palm to palm.
3. Right palm over left dorsum with interlaced fingers and vice versa.
4. Palm to palm with fingers interlaced.
5. Backs of fingers to opposing palms with fingers interlocked.
6. Rotational rubbing of left thumb clasped in right palm and vice versa.
7. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.
8. Once dry, your hands are safe.



# How to Hand Wash

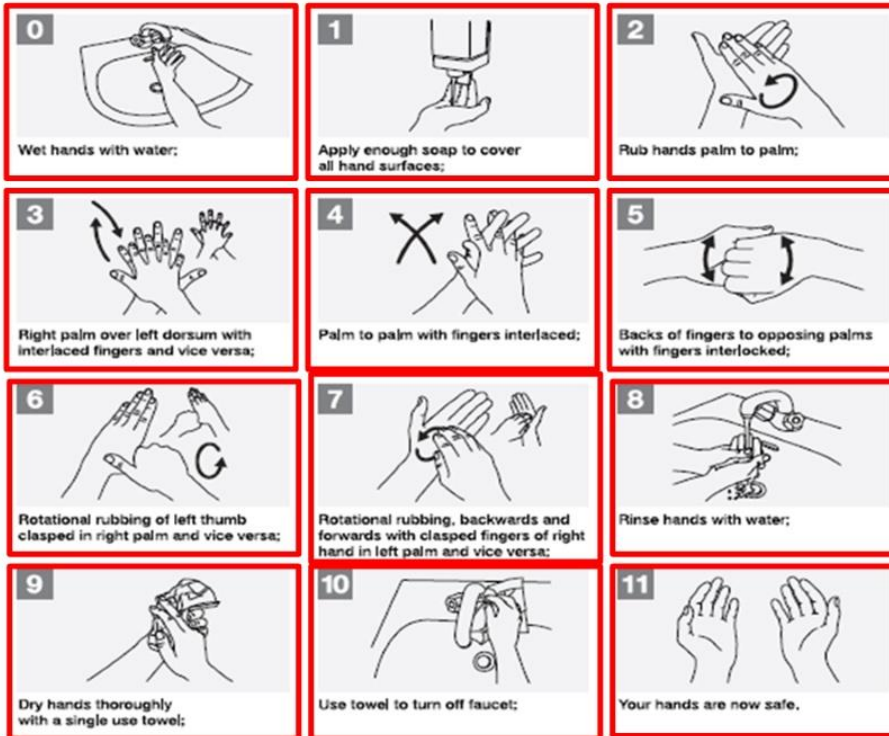
- Apply friction when rubbing your hands
- Wash your hands for at least **15 seconds with friction**

**Hint:** Singing "*Happy Birthday*" twice takes 15 seconds

**Click the button** to view the correct handwashing technique:

[View Hand Washing  
Technique](#)

# How to Hand Wash



# When to Use Soap and Water



Lucile Packard  
Children's Hospital  
Stanford

Wash your hands with soap and water when visibly soiled

Wash also at these times:

- Before and after your shift
- Before and after eating and drinking
- Before and after using the bathroom
- When your hands feel sticky after several uses of hand sanitizer
- After taking care of a patient with suspected or confirmed C. difficile, Norovirus, or infectious diarrhea

**Do not forget to use a paper towel when turning off the faucet**

# LPCH Hand Hygiene Policy

Select each image



## Jewelry

- The wearing of rings, bracelets, and watches should be kept to a minimum and will not interfere with hand hygiene or glove wearing. Refer to the neonatal standards of care policy for guidelines regarding neonatal units

# LPCH Hand Hygiene Policy

Select each image



## Hygienic Liquids

- Use hospital approved hand hygiene products (i.e. hand sanitizer, soap, lotion)
- If you develop sensitivity to LPCH hand hygiene products:

Report to your manager/supervisor as soon as possible

You may be directed to go to Occupational Health Services for evaluation

# LPCH Hand Hygiene Policy

Select each image



## Fingernails

- Keep natural nails clean and neatly trimmed. Nail polish or shellac shouldn't be chipped. Gel or shellac are *not permitted* in the perioperative setting
- Artificial fingernails or nail enhancements, including but not limited to overlays, wraps, tips, or attached decorations are *not permitted* in any patient care area

## Knowledge Check

True or False?

Hand hygiene is the #1 way to prevent the spread of infection.

- True
- False

**That is Correct**

Hand hygiene is the best way to prevent the spread of infection.

Continue

## Knowledge Check

Which of the following are standard precautions of the BBP Exposure Control Plan?

- Consider all patients as potentially infectious
- Consider all blood and body fluids potentially infectious
- Wear PPE when handling or anticipating exposure to blood, body fluids or OPIMS.
- All of the above

**That is Correct**

All of these are standard precautions.

Continue



## Knowledge Check

What are the steps for correct hand washing?

*Directions:*

Drag and drop each number below to place the steps into correct sequence and select SUBMIT

①    ②    ③    ④    ⑤    ⑥

- Use a paper towel to dry hands thoroughly
- Rinse completely
- Lather well for at least 15 seconds
- Turn the faucet handles with a paper towel
- Apply soap
- Wet hands

### Feedback

Here is the correct sequence for hand washing:

1. Wet hands
  2. Apply soap
  3. Lather well for at least 15 seconds
  4. Rinse completely
  5. Use a paper towel to dry hands thoroughly
  6. Turn the faucet handles with a paper towel
-

# Bloodborne Pathogens



## What Are Bloodborne Pathogens?

A **bloodborne pathogen (BBP)** is an organism that may be present in human blood, body fluids, and other potentially infectious materials (OPIMs) that **can cause disease in humans**

*Click the photo to learn more:*



## What Are Bloodborne Pathogens?

A **bloodborne pathogen (BBP)** is an organism that may be present in human blood, body fluids, and other potentially infectious materials (OPIMs) that **can cause disease in humans**

*Click the photo to learn more:*

Examples of BBPs:

Hepatitis B virus (HBV)  
Hepatitis C virus (HCV)  
Human Immunodeficiency  
Virus (HIV)

Healthcare workers are **at risk** for acquiring BBPs that can be transmitted via contact with **blood and body fluids**.

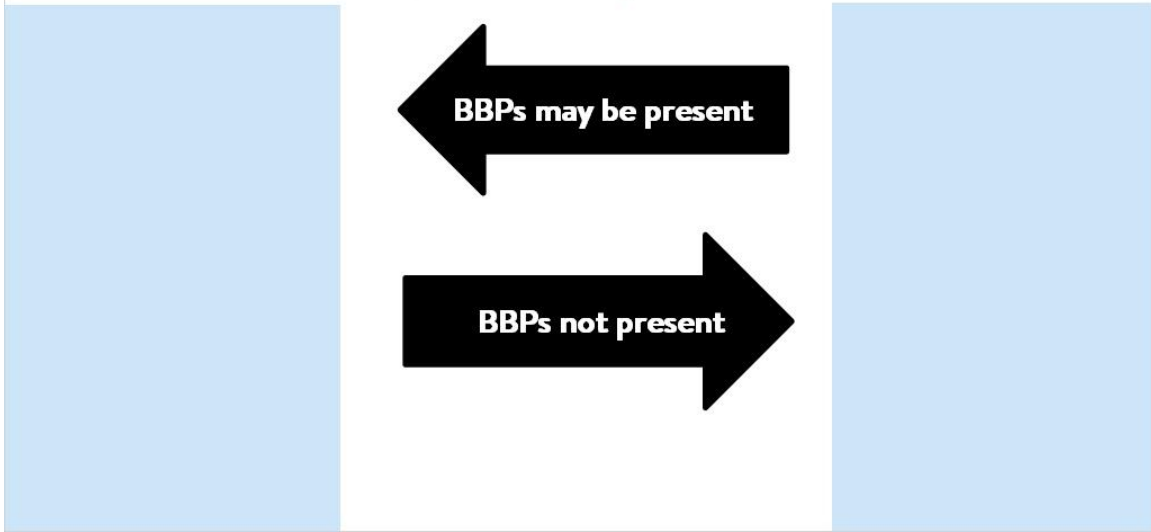


Next

## Where are Bloodborne Pathogens Found?

Blood	Vaginal secretions	Cerebrospinal fluid	Pleural fluid	Amniotic fluid
Synovial fluid	Semen	Pericardial fluid	Peritoneal fluid	Breast Milk
			Saliva	Vomit

*Drag and drop each item above to the left side of the arrow (if BBPs may be present in that substance) or to the right side (BBPs not present), and then **click SUBMIT**.*



## Where are Bloodborne Pathogens Found?

Bloodborne pathogens are found  
in all of these!

Blood

Semen

Vaginal secretions

Cerebrospinal fluid

Synovial fluid

Pleural fluid

Pericardial fluid

Peritoneal fluid

Amniotic fluid

Saliva

Breast milk

Vomit



# Bloodborne Pathogen Exposure Control Plan

Click the gloves from **1** to **4** to read each part of the  
*Bloodborne Pathogen Exposure Control Plan*





# Part 1

Close

## Standard Precautions

- Consider all patients as potentially infectious
- Consider all blood, body fluids potentially infectious
- Wear appropriate **Personal Protective Equipment (PPE)** when handling or anticipating exposure to blood, body fluids or OPIMs (Other potential infectious materials)



## Engineering Controls

### • Sharps Safety

- Sharps containers and waste receptacles are appropriately labeled with a **biohazard** sign
- Sharps containers are changed out when  $\frac{3}{4}$  full
- Proper handling of sharps—no needle recapping unless absolutely necessary for the procedure, and then only using the scoop method
- Activate sharps safety device prior to disposal
- Immediately dispose of sharps after use

### • Use of Needleless System and Needleless Devices

- Use of needleless IV tubing connectors and luer lock syringes and connectors



## Part 2

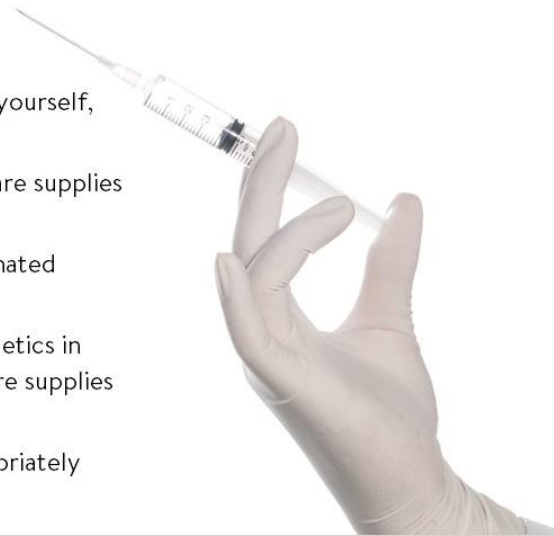
Close

### Employee Hepatitis B Vaccination

Hepatitis B vaccine is offered to all employees free of charge upon hire and anytime you decide to get vaccinated

### Work Practice Controls

- Perform excellent hand hygiene to protect yourself, your patient and the hospital environment
- Do not eat or drink in areas where patient care supplies are stored
  - Covered drinks are only allowed in designated patient care unit Hydration Stations
- Do not handle contact lenses, or apply cosmetics in patient care areas or areas where patient care supplies are stored
- Store and dispose of infectious waste appropriately



## Part 3

Close

### Use of Personal Protective Equipment (PPE)

- Wear PPE whenever there is a potential or anticipated exposure to blood or body fluids
- PPE includes but are not limited to *gown, gloves, mask, face shield, goggles, shoe covers, CAPR*



### Key Things to Remember when Wearing PPE to Protect Yourself

- Wear PPE appropriately and follow manufacturer's instructions for use
- Remove and dispose of PPE before leaving your work area or patient zone
- Remove and change PPE when they are *soiled, torn, damaged, or contaminated*



## Part 4

### Post Exposure Medical Evaluation and Treatment

- *Splashing/spraying* and *needle stick* injuries are the most common ways of healthcare worker exposure to BBPs
- If you ever get exposed to BBPs or sustain a needle stick injury *you must report the exposure incident to your manager/supervisor immediately*
- You may be directed to go to Occupational Health Services (OHS) or Emergency Department for prompt medical evaluation, treatment, and follow-up
- Treatment, Post-Exposure Prophylaxis (PEP) and follow-up may vary and will depend on the severity of healthcare worker exposure and health status of source patient

### Environmental and Equipment Cleaning and Disinfection

- It is crucial to clean and disinfect patient care equipment in between patients to prevent cross contamination
- Examples of patient care equipment: *BP machine, glucometer, iStat, stethoscope, thermometer, toys*
- Routine cleaning and disinfection of patient care areas and hospital environment is also important to prevent the spread of microorganisms
- Clean and dirty items should be separated in designated clean or dirty areas



## Part 4 - Cleaning and Disinfecting



Lucile Packard  
Children's Hospital  
Stanford



For **both** clinical and non-clinical settings, anything involved in patient care that is not disposable **MUST** be disinfected. Everyone is responsible for cleaning.

Remember the “back to basics” approach...

**if you TOUCH IT or MOVE IT,  
you CLEAN IT!!!**



## Part 4 - Cleaning and Disinfecting



How to disinfect:

- Wipe the surface and keep it wet to properly disinfect.
- Use several wipes as needed to assure that the surface stays wet for the 'contact time' necessary to kill germs and bacteria.

 Next

## Part 4 - Cleaning and Disinfecting

Close

How long should the contact surface stay wet to sufficiently disinfect?  
Drag a timer under each brand of wipes then click submit.

### Super Sani-Cloth Wipes

### Bleach Wipes

The interface shows two columns of products. On the left, under 'Super Sani-Cloth Wipes', there is a white container with a purple lid. On the right, under 'Bleach Wipes', there is a white container with a blue lid. To the left of the Super Sani-Cloth container are four timer icons: one for 1 min, one for 2 min, and two for 3 min and 5 min. Below each product container is a red-outlined square box for selecting a timer. A red 'Submit' button is located between the two product columns.

### 4.7 Drag and Drop

(Drag and Drop, 10 points, 1 attempt permitted)

---



## Part 4 - Cleaning and Disinfecting

How long should the contact surface stay wet to disinfect for each wipe? **Drag a timer** into the **red** boxes. The correct timer values will remain in the boxes until the wiper has finished timing.

**Correct**

That's right! Wet the surface for 2 minutes when using Sani-Wipes (purple top) and for 3 minutes with Clorox wipes (blue top).

Continue



## Access Bloodborne Pathogen and Exposure Control Plan

OSHA Bloodborne Pathogen Standard is accessible [here](#) in full,

or as a [fact sheet](#).

[https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_id=10051&p\\_table=STANDARDS](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=10051&p_table=STANDARDS)

[https://www.osha.gov/OshDoc/data\\_BloodborneFacts/bbfact01.pdf](https://www.osha.gov/OshDoc/data_BloodborneFacts/bbfact01.pdf)

The LPCH Bloodborne Pathogen Exposure Control Plan is available on the [intranet](#) and under the **Resources** tab on the right top corner.

The screenshot shows a search interface with three tabs: 'Procedures', 'Policy Toolkit', and 'Monthly Report'. A search bar contains the text 'bloodborne pathogen exposure'. Below the search bar, there are two dropdown menus: 'Results found in Policies & Procedures' and 'Preference for results in English'. The search results list a document titled 'Safety Manual: Bloodborne Pathogen Exposure Control Plan' with a PDF icon. The description states: 'The purpose of the Bloodborne Pathogen Exposure Control Plan is to define processes at and ... means to remove, inactivate or destroy bloodborne pathogens on a surface or item to the ...'. A link to the document is provided: 'stanfordchildrens.sharepoint.com/.../Bloodborne Pathogen Exposure C...