Infection Control and Diabetic Care

This project is sponsored by the South Dakota Healthcare Associated Infections/Antibiotic Resistance Program

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CDC's National Training Collaborative for Healthcare Infection Control

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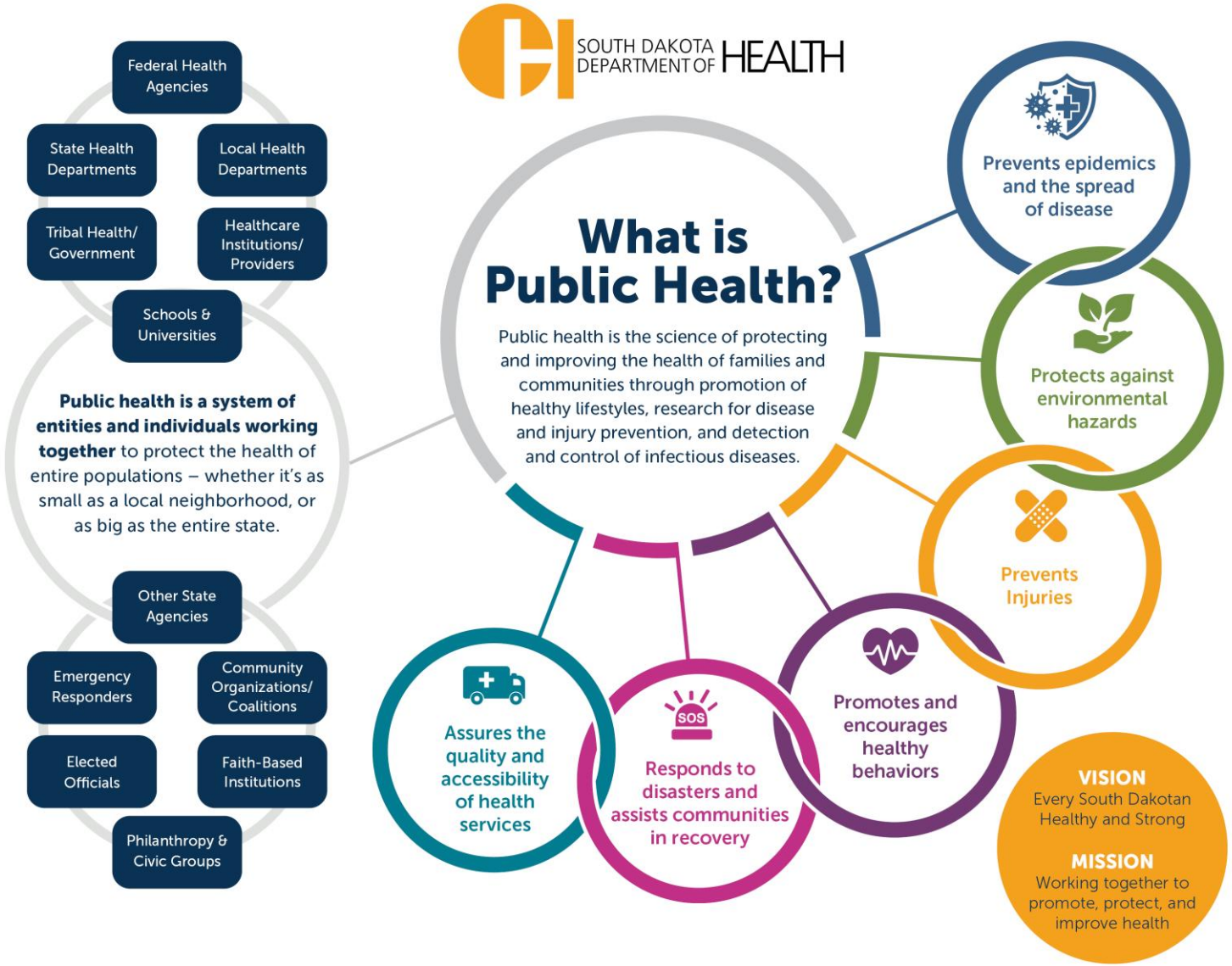
SOUTH DAKOTA DEPARTMENT OF HEALTH
Federal Health Agencies
State Health Departments
Local Health Departments
Tribal Health/ Government
Healthcare Institutions/ Providers
Schools & Universities
Public health is a system of entities and individuals working together to protect the health of entire populations – whether it's as small as a local neighborhood, or as big as the entire state.
Other State Agencies
Emergency Responders
Community Organizations/ Coalitions
Elected Officials
Faith-Based Institutions
Philanthropy & Civic Groups
What is Public Health?
Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases.
Prevents epidemics and the spread of disease
Protects against environmental hazards
Prevents Injuries
Promotes and encourages healthy behaviors
Responds to disasters and assists communities in recovery
SOS
Assures the quality and accessibility of health services
VISION
Every South Dakotan Healthy and Strong
MISSION
Working together to promote, protect, and improve health

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SOUTH DAKOTA
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Every South Dakotan Healthy and Strong

Objectives

- Understand the core principles of infection control in healthcare settings
- Identify key infection control challenges and solutions in healthcare
- Apply infection control strategies to improve patient and healthcare worker safety

WHERE ARE THE GERMS….

www.sdprojectfirstline.org/_files/ugd/468cf6_01bc3a32db564f6db940c0b6d1c114f0.pdf
www.sdprojectfirstline.org/_files/ugd/468cf6_81eda3af8ed74dd39bf066c6777fd4ae.pdf


CDC
PROJECT FIRSTLINE
Recognize Infection
RISKS in HEALTHCARE

ENVIRONMENTAL SURVIVAL OF KEY PATHOGENS ON HOSPITAL SURFACES

Pathogen	Survival Time
S. aureus (including MRSA)	7 days to >12 months
Enterococcus spp. (including VRE)	5 days to >46 months
Acinetobacter spp.	3 days to 11 months
Clostridium difficile (spores)	>5 months
Norovirus (and feline calicivirus)	8 hours to >2 weeks
Pseudomonas aeruginosa	6 hours to 16 months
Klebsiella spp.	2 hours to >30 months

Adapted from Hota B, et al. Clin Infect Dis 2004;39:1182-9 and Kramer A, et al. BMC Infectious Diseases 2006;6:130

What is the #1 thing we can do to prevent the spread of germs?


WET SURFACES
DRY SURFACES
DIRT AND DUST
DEVICES AND EQUIPMENT


SKIN
LUNGS & AIRWAY
BLOOD
GUT

Strategies for Preventing HAIs

Hand hygiene- Clinical Safety: Hand Hygiene for Healthcare Workers | Clean Hands | CDC

Personal Protective Equipment- Personal Protective Equipment (PPE) 103

Antibiotic Stewardship- Antibiotic Resistance and Stewardship | South Dakota Department of Health

Standard Precautions- Standard Precautions for All Patient Care | Infection Control | CDC

Surveillance and Monitoring- Tools and resources | Infection Control | CDC

CDC's Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings | Infection Control | CDC

Environmental Cleaning & Disinfection- Environmental Infection Control Guidelines | Infection Control | CDC

Education & Training (Healthcare & Patients)- Training | SD Project Firstline

Project Firstline | Project Firstline | CDC

How we stop the spread

Standard Precautions, every client, every interaction, every time.

Who are we protecting when using standard precautions?

Hand Hygiene and PPE

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5 Moments for Hand Hygiene

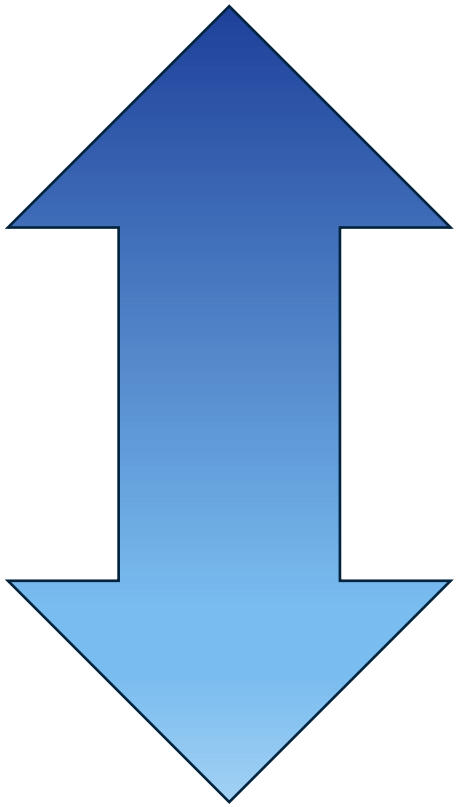
tem/five-m ts-for-ha iene

Hand Hygiene Product Efficacy

Best

Better

Good

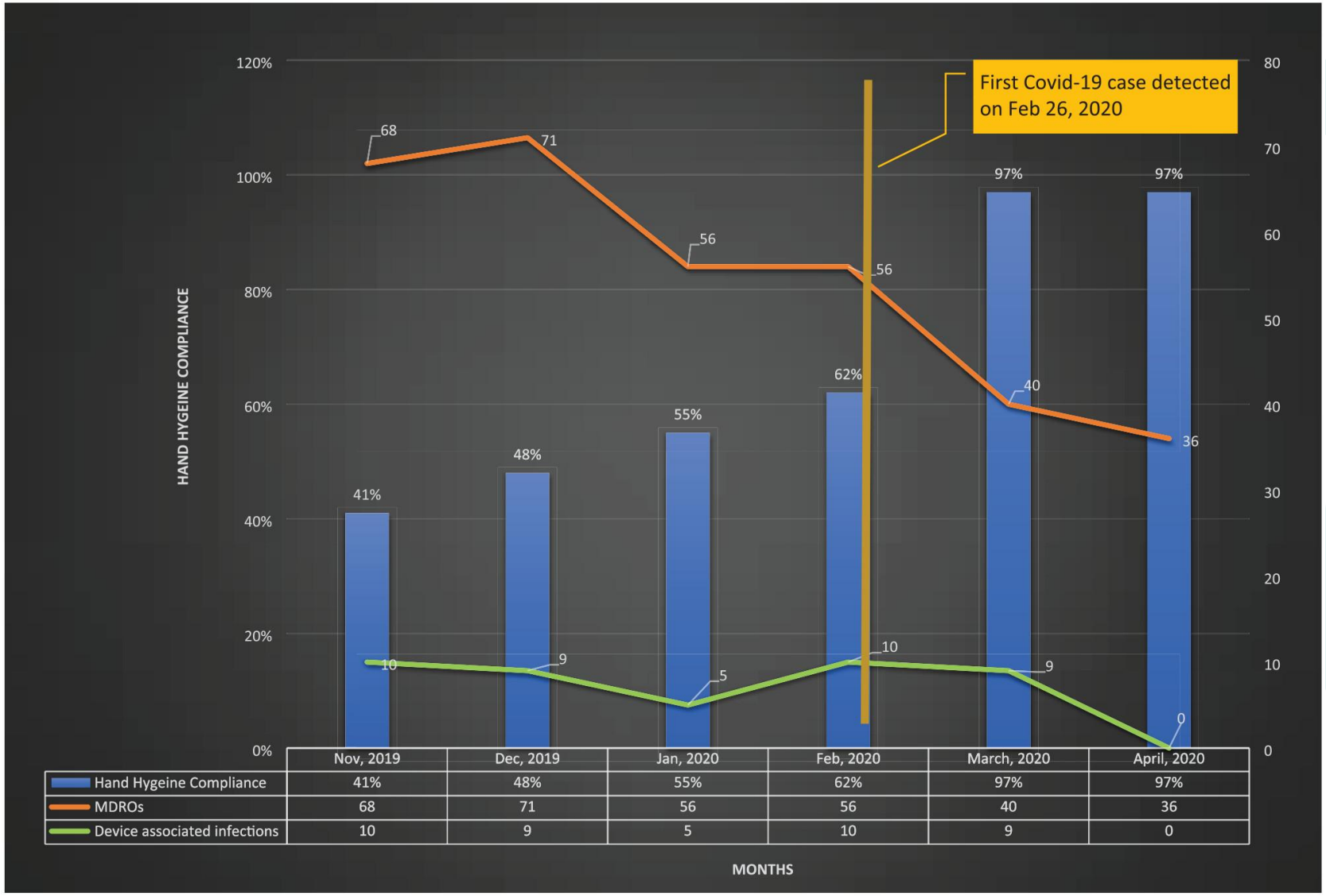


Alcohol based hand sanitizer

Antimicrobial soap

Plain Soap

Hand hygiene compliance trends before and after COVID-10 outbreak



	Nov, 2019	Dec, 2019	Jan, 2020	Feb, 2020	March, 2020	April, 2020
Hand Hygeine Compliance	41%	48%	55%	62%	97%	97%
MDROs	68	71	56	56	40	36
Device associated infections	10	9	5	10	9	0

Rigorous Hand Hygiene Practices Among Health Care Workers Reduce Hospital-Associated Infections During the COVID-19 Pandemic - Rozina Roshan, Anam Shahil Feroz, Zohra Rafique, Nazleen Virani, 2020

Hands Remain Contaminated if Hand Hygiene is Missed or Poorly Performed

- Missed Opportunities
- Poor Hand Hygiene
- Transient Microrganisms

Transmission from One Patient to Another via Healthcare Worker Hands

- Contact with Patient or Object
- Invasive Devices

BEFORE Patient Contact

- Shaking hands
- Stroking a child's forehead
- Helping a patient move
- Before performing activities of daily living.
- Applying an oxygen mask
- Giving physiotherapy
- Taking pulse, blood pressure, chest auscultation, or abdominal palpation
- Recording ECG

BEFORE Clean / Aseptic Procedures

- Brushing the patient's teeth
- Instilling eye drops
- Skin lesion care
- Wound dressing
- Administering injection
- Catheter insertion
- Opening a vascular access system or a draining system
- Secretion aspiration
- Preparation of food, medication, pharmaceutical products, sterile material

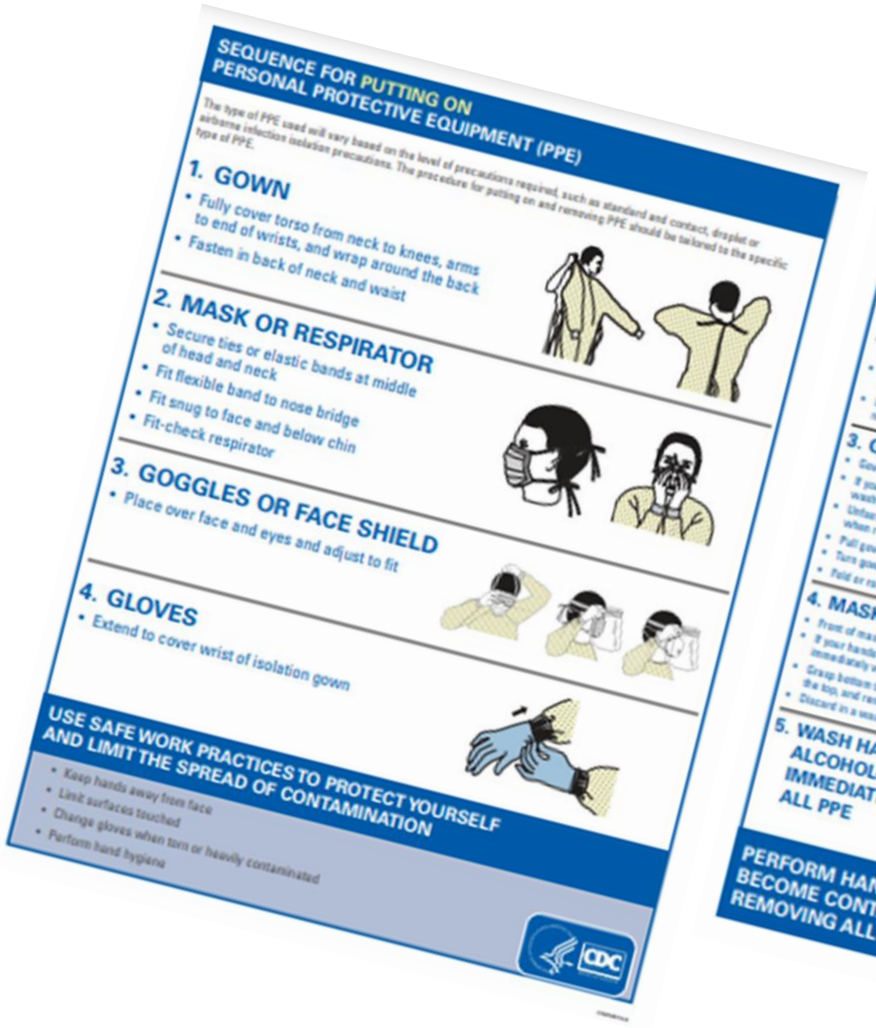
AFTER Body Fluid Exposure Risk

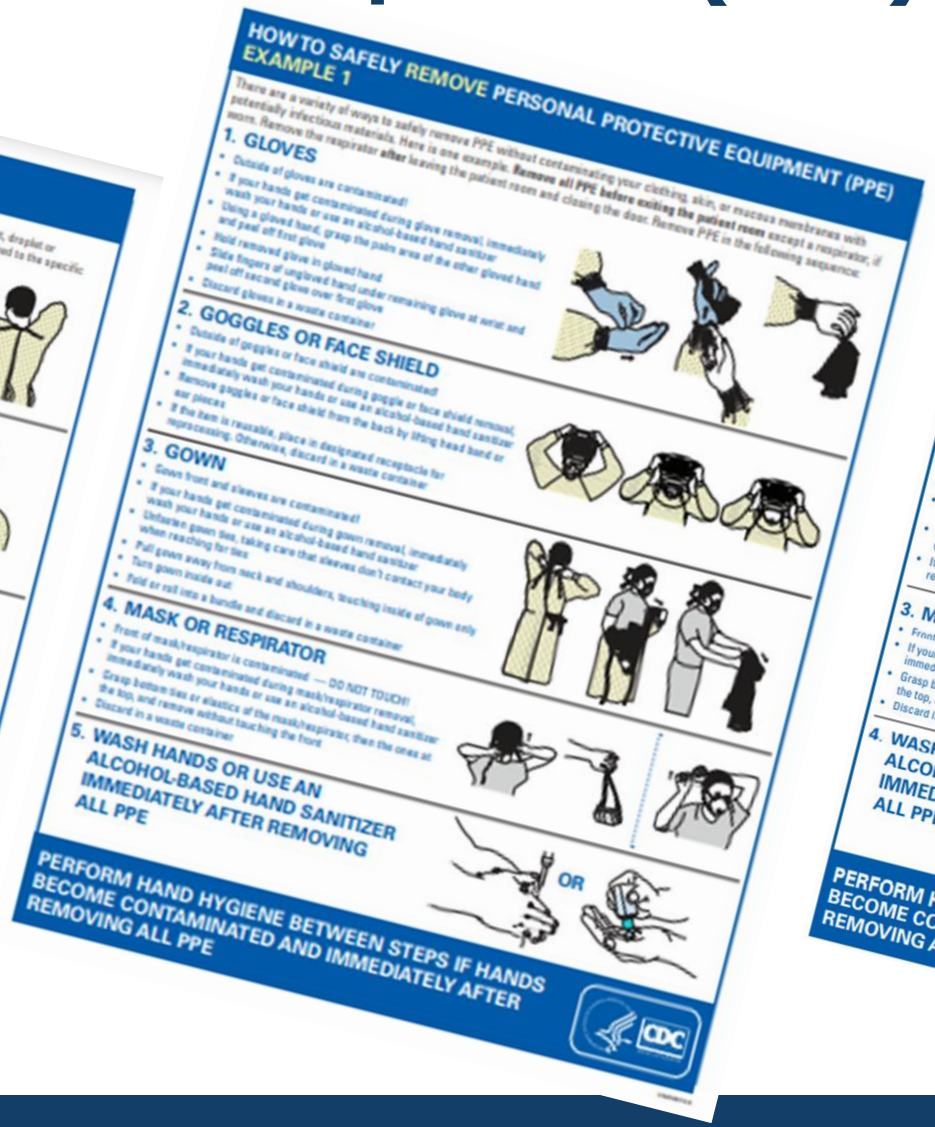
- Brushing the patient's teeth
- Instilling eye drops
- Secretion aspiration
- Skin lesion care
- Wound dressing
- Administering injection
- Drawing and manipulating any fluid sample
- Opening a draining system
- Endotracheal tube insertion and removal
- Clearing up urine, feces, vomit
- Handling waste (bandages, napkins, incontinence pads)
- Cleaning of contaminated and visibly soiled material or areas (soiled linen, bathroom, urinal, bedpan, medical instruments)

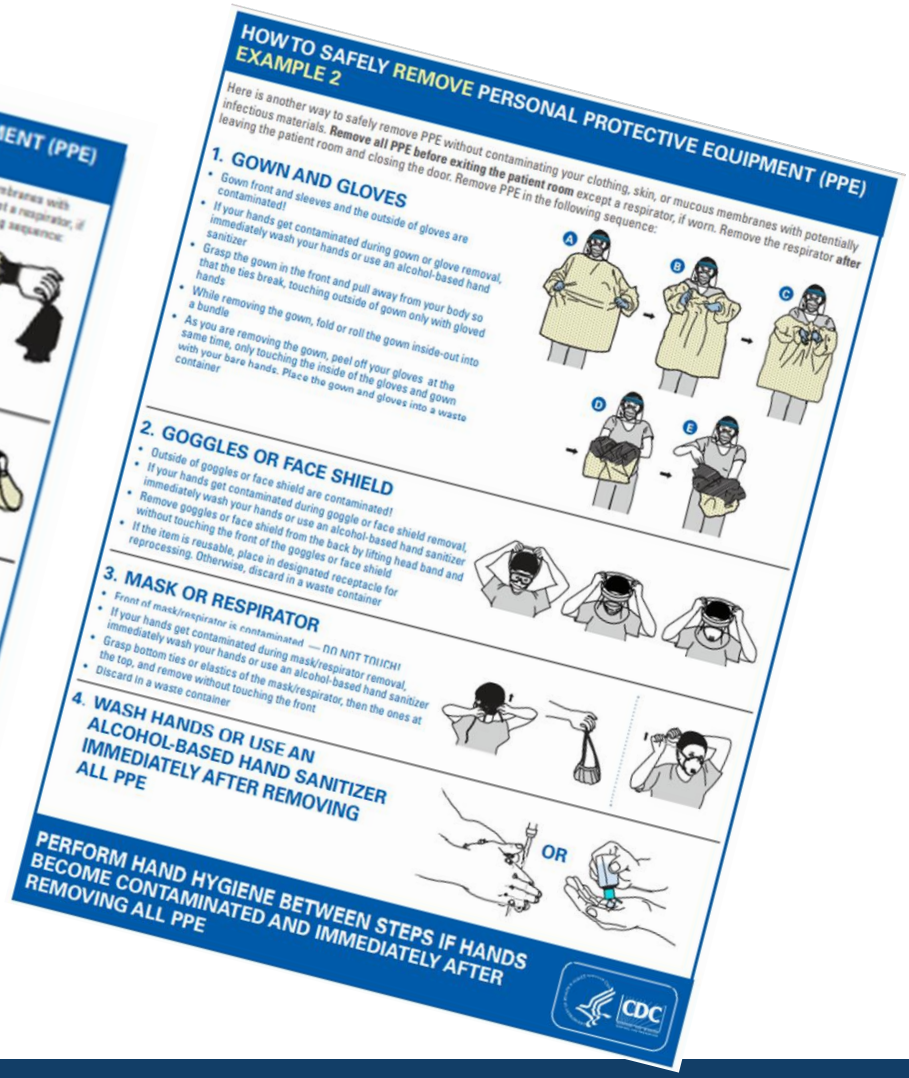
AFTER touching the care environment

- Changing bed linen, with the patient out of the bed
- IV perfusion adjustment
- Monitoring alarm
- Holding a bed rail, leaning against the bed
- Clearing the bedside table

Personal Protective Equipment (PPE)







Hand Hygiene and Glove Use

When to wear gloves

- According to Standard Precautions (when you anticipate contact with blood or other infectious materials, mucous membranes, non-intact skin, potentially contaminated skin or equipment).
- Gloves are not a substitute for hand hygiene.
- If your task requires gloves, perform hand hygiene before donning gloves and touching the patient or the patient's surroundings.
- Always clean your hands after removing gloves.
- Remember to remove gloves carefully to prevent hand contamination as dirty gloves can soil hands.

When to change gloves and clean hands

- If gloves become damaged.
- If gloves become soiled with blood or body fluids after a task.
- If moving from work on a soiled body site to a clean body site on the same patient or if a clinical indication for hand hygiene occurs.
- If moving from care on one patient to another patient.
- If they look dirty or have blood or body fluids on them after completing a task.
- Before exiting a patient room

Clinical Safety: Hand Hygiene for Healthcare Workers | Clean Hands | CDC

Glove Use Reminders

Perform hand hygiene:

- Prior to putting on gloves
- Immediately after removing gloves
- When a change of gloves is needed

Never wear the same pair of gloves in the care of more than one patient.

Do not double glove.

Cleaning and Disinfection

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CLEANING AND DISINFECTION

- **Cleaning** removal of foreign material (soil, dust, organic material) from objects and is normally accomplished using water and detergents.

- **Disinfection** elimination of many or all organisms except bacterial spores. Surfaces must be cleaned before they are disinfected.

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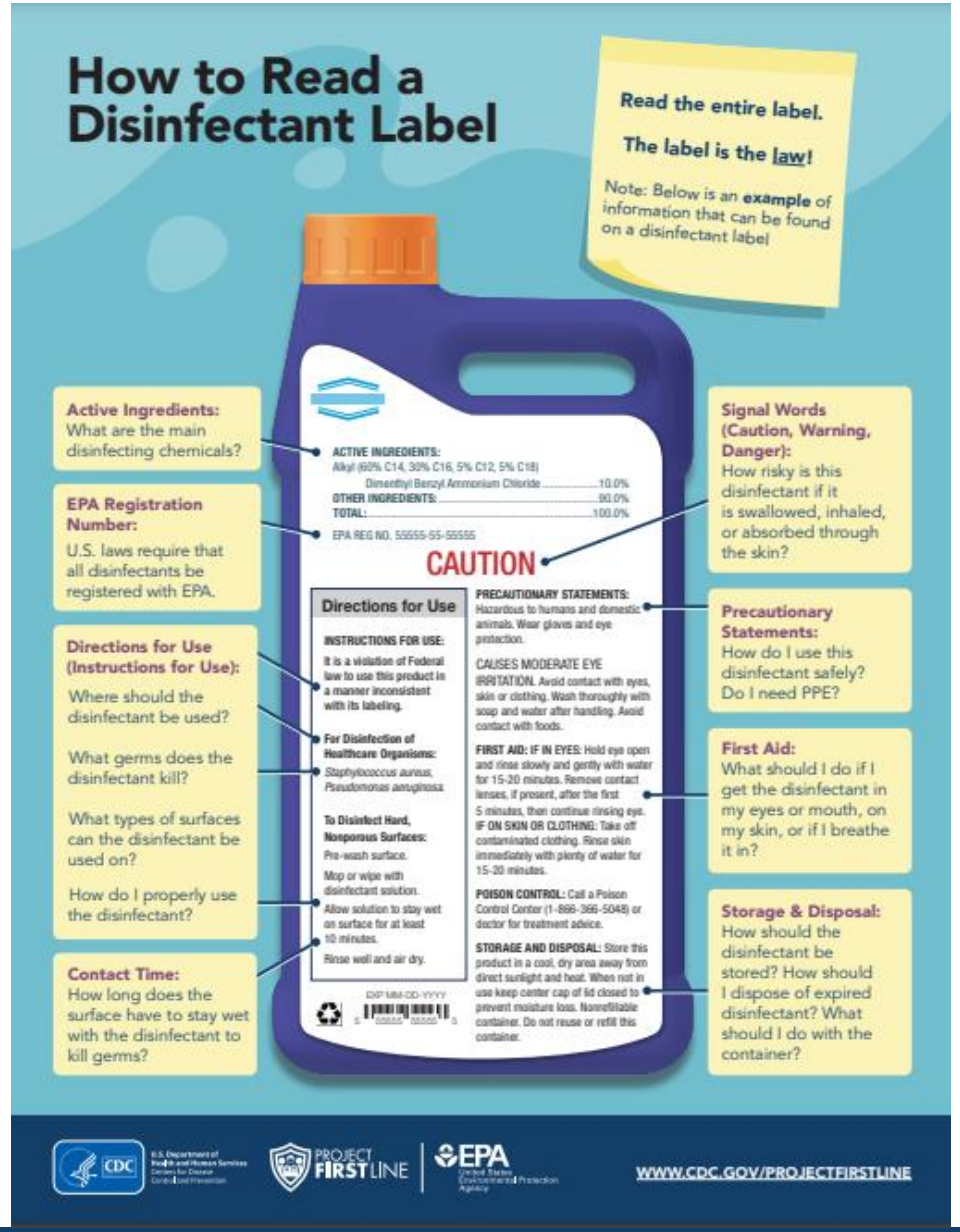

What is…
“CONTACT TIME”
“DWELL TIME”
“WET TIME”

Blood Borne Pathogens, Sharps and Exposures

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What are Bloodborne Pathogens (BBP)?

BBPs are microorganisms that cause disease and are present in human blood. They include, but are not limited to:

- Human immunodeficiency virus (HIV)
- Hepatitis B virus (HBV)
- Hepatitis C virus (HCV)

Always Assume Blood is Infectious

Bloodborne pathogens can be spread when infected blood enters the body, like:

– From a needlestick,

– Through breaks or cracks in the skin,

– By splashes or sprays to the eyes, nose, or mouth

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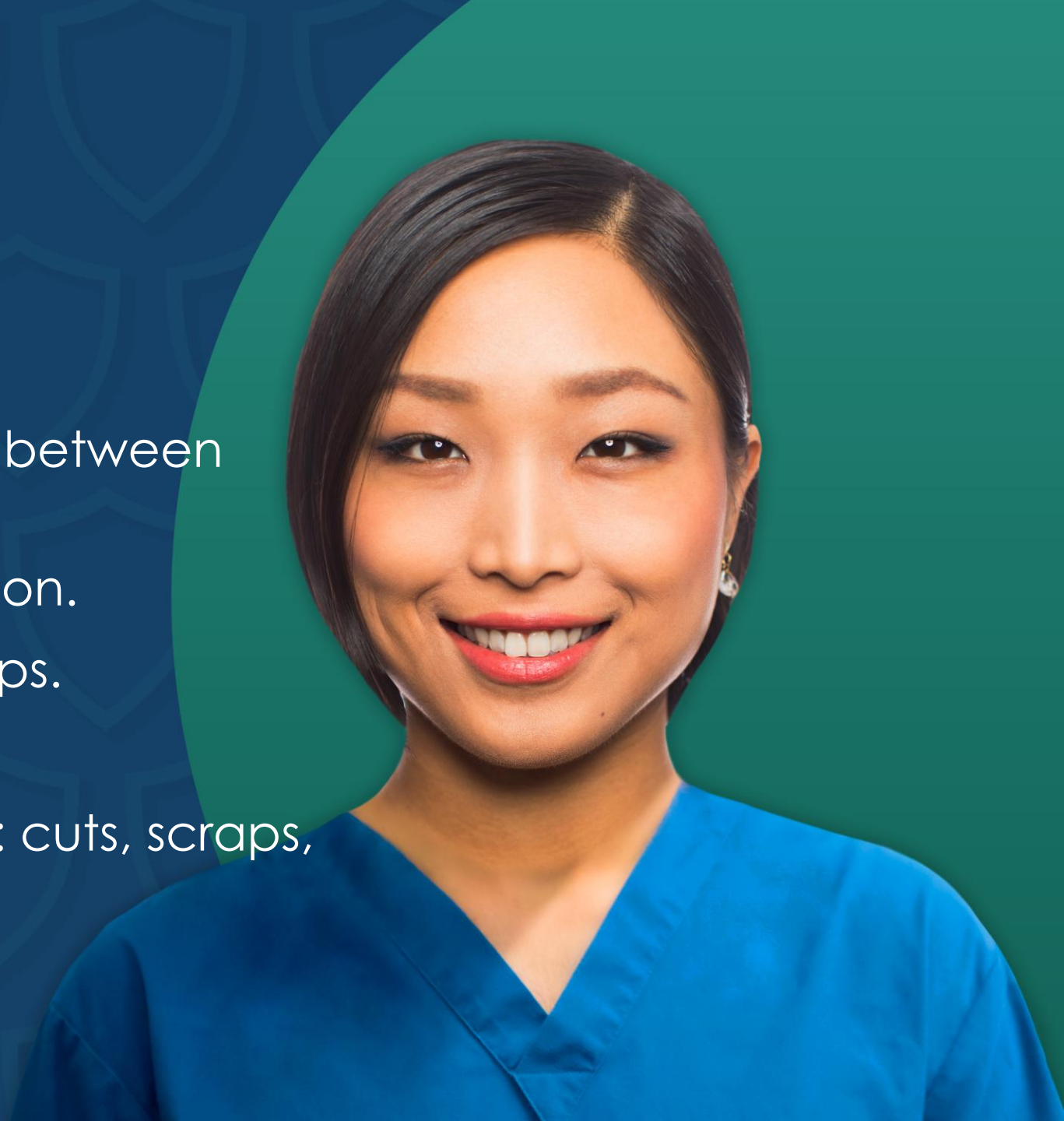
Prevent Infectious Blood From Entering Your Body

Limit spread in the environment and between people

- Don’t touch blood without gloves on.
- When you see blood, look for sharps.
- When using sharps, plan ahead.
- Sharps are more than just needles: cuts, scraps, sticks from any sharp object.



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If we see blood, what do we do?

- Take proper PPE measures
- Clean and disinfect the area according to what contains the blood.
  - If it's a hard surface such as a lab bench use the proper cleaning solutions in your workplace and know your wet times. Each cleaner has specific guidelines so know what is required of yours when you use it.
  - If the blood is on a linen material such as bedding or a patients gown properly place that material in a clearly labeled, leak proof container.
  - Never carry soiled linen against your body, do not try to shake out linen but instead carefully roll in so that any soiled area is contained and doesn't spread to the air or other surfaces.

Engineering Prevention Controls

- **Sharps disposal containers.**
  - They are made with puncture-resistant plastic or metal.
  - They have specially designed lids that only allow sharps to be deposited.
  - They are too small for a hand to enter.
  - It is important to place sharps disposal containers in areas where needed and making sure they are not overfilled.
- **Safety-engineered sharps devices.**
  - Using safety-engineered sharps devices can prevent injuries and resulting infections with bloodborne pathogens in both patients and healthcare workers.
  - Safety-engineered devices include retracting needles, sliding sheaths, and hinged needle shields.
  - Safety features are especially helpful when the device is not in use and during disposal.

What if Exposure Occurs?

- Wash needlesticks and cuts with soap and water.
- Flush splashes to the nose, mouth, or skin with water.
- Irrigate eyes with clean water, saline, or sterile irrigation.
- Report the incident to your supervisor.
- Immediately seek medical treatment.
- **Get answers about treating exposures**

Call the Clinicians' Post Exposure Prophylaxis (PEP) Line at **1-888-448-4911** if you have questions about proper medical treatment for workplace exposures.

https://www.cdc.gov/niosh/healthcare/risk-factors/bloodborne-infectious-diseases.html

Safe handling for medical waste disposal

This Photo by Unknown Author is licensed under CC BY-NC

- PPE is important during any task where blood exposure might occur.
- Medical Waste Disposal
- Laundry that may be contaminated in blood
  - Soiled laundry
  - Changing/Cleaning patients' rooms

Workplace Prevention Measures

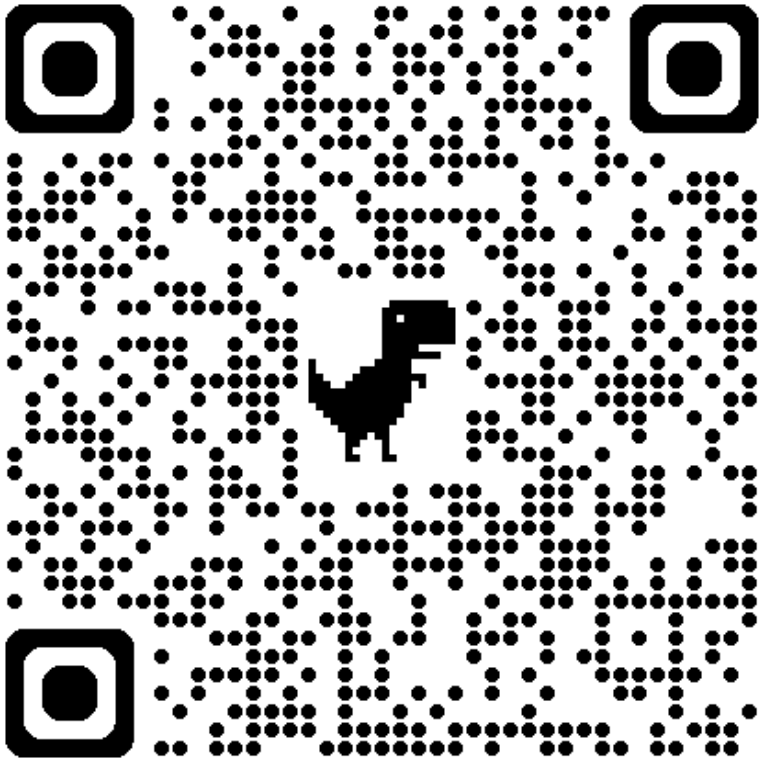
- Policies and procedures can help protect healthcare workers from bloodborne pathogens. Does your workplace/working environment have a policy and procedure in place?
- Policies and Procedures should include:
- **An exposure control plan** to identify work practices at risk of exposures to bloodborne pathogens.
- **Policies to reduce exposure risks**, such as:
- Clearly labeling biohazardous waste.
- Procedures for safely disposing of biohazardous waste.

Exposure Control Plan

This plan focuses on reducing exposure to blood and other disease-causing pathogens in human blood, body fluids, and tissues. It includes activities such as:

- Identifying employees at risk
- Decontaminating work surfaces and equipment
- Inspecting and replacing sharps disposal containers
- Providing guidelines for using personal protective equipment (PPE)
- Encouraging hepatitis B vaccination
- Establishing a procedure for reporting exposures
- Planning for immediate medical evaluation and follow-up

Exposure Control Plan



Do you have an exposure control plan?

Do you know where to find it?

Do you know what is in it?

Sharps Injury Prevention Programs

These programs are designed to minimize the risk of sharps injuries by addressing all aspects of the risk.

They include:

- Training on safe handling and disposal
- Providing puncture-resistant containers
- Establishing procedures for reporting injuries
- Analyzing sharps injury data
- Evaluating and selecting safety devices
- Educating healthcare personnel on sharps injury prevention

Scan the QR Code to access CDC Workbook for Designing, Implementing, and Evaluating a Sharps Injury Prevention Program

https://www.cdc.gov/infection-control/hcp/sharps-safety/program-workbook.html

Infection Prevention and Diabetes Care

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Point of Care

- Review of types of POC blood testing performed
- Equipment used
- Risk of exposure to pathogens
- Proper cleaning/disinfection
- Policies
- PPE

Germs spread by bypassing or breaking down the body's defenses.

- Healthcare tasks often involve breaking the skin.
- Breaking the skin - from putting in an IV, drawing blood, surgery, or trauma - creates a pathway for germs to spread into the body.

www.cdc.gov/measles

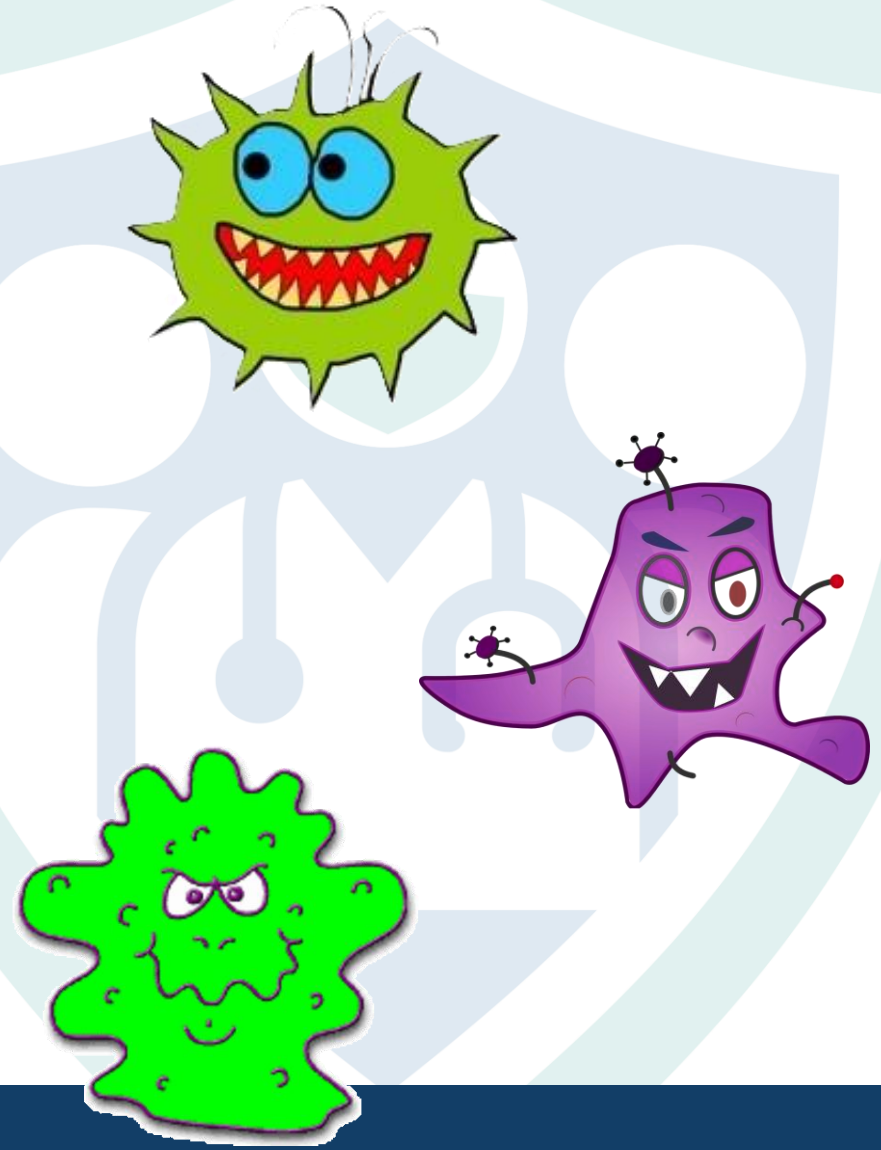
Wounds

When you see a draining wound

- Assume the liquid in a draining wound is infectious.
- Do not touch the liquid or the wound if you don't have to.
- Cover the wound and contain the drainage and protect the open tissue.
- Rarely, wounds should not be covered.
- Consult with the clinical team.

Draining wounds can be caused by or contain:

- MRSA and group A strep- germs that can spread easily by touch
- Klebsiella and VRE- germs commonly found in stool
- HIV, Hepatitis B and Hepatitis C- germs that spread by blood and bodily fluids



If you must touch the wound or drainage:

- Clean your hands and use gloves.
- Always clean your hands as soon as you take your gloves off.
- Determine if you need additional PPE, like a gown or eye protection.
- Use the appropriate cleaner and EPA approved disinfectant for surfaces, linens, etc.

Diabetic Wounds

Diabetic ulcers result from complications of diabetes including neuropathy and microvascular disease.

Ways pathogens spread to and from wounds

- Failure to clean hands at the right times.
- Improper selection and use of PPE.
- Improper use of medications (creams and ointments).
- Failure to clean and disinfect or sterilize shared equipment.
- Failure to separate clean and dirty supplies or equipment.
- Splashes or sprays generated during procedures contribute to environmental contamination.

Hand Hygiene and Wound Care

- Before and after wound care.
- Before donning gloves.
- After doffing gloves.
- **Every time** gloves are changed.

Gloves are not a substitute for Hand Hygiene.

Supplies


MEDIHONEY
WOUND & BURN DRESSING
Dressing with Active Leptospermum Honey
MEDIHONEY Gel
Gel Dressing with Active Leptospermum Honey
Phytoplex
REMEDY
Net wt. 4 OZ (113 g)

Resources

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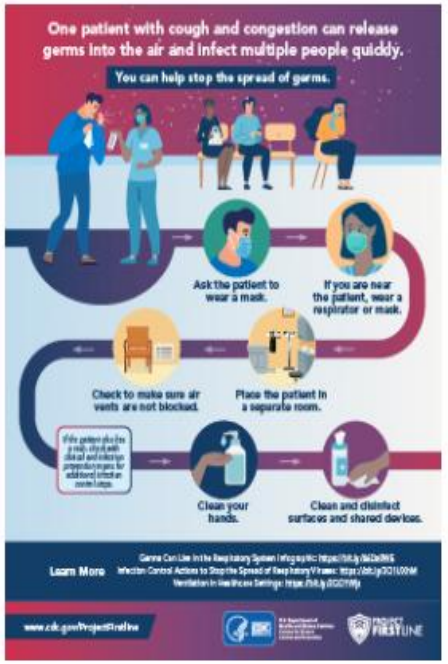
Micro-learns

[Blood Micro-Learn] [PDF – 3 Pages]

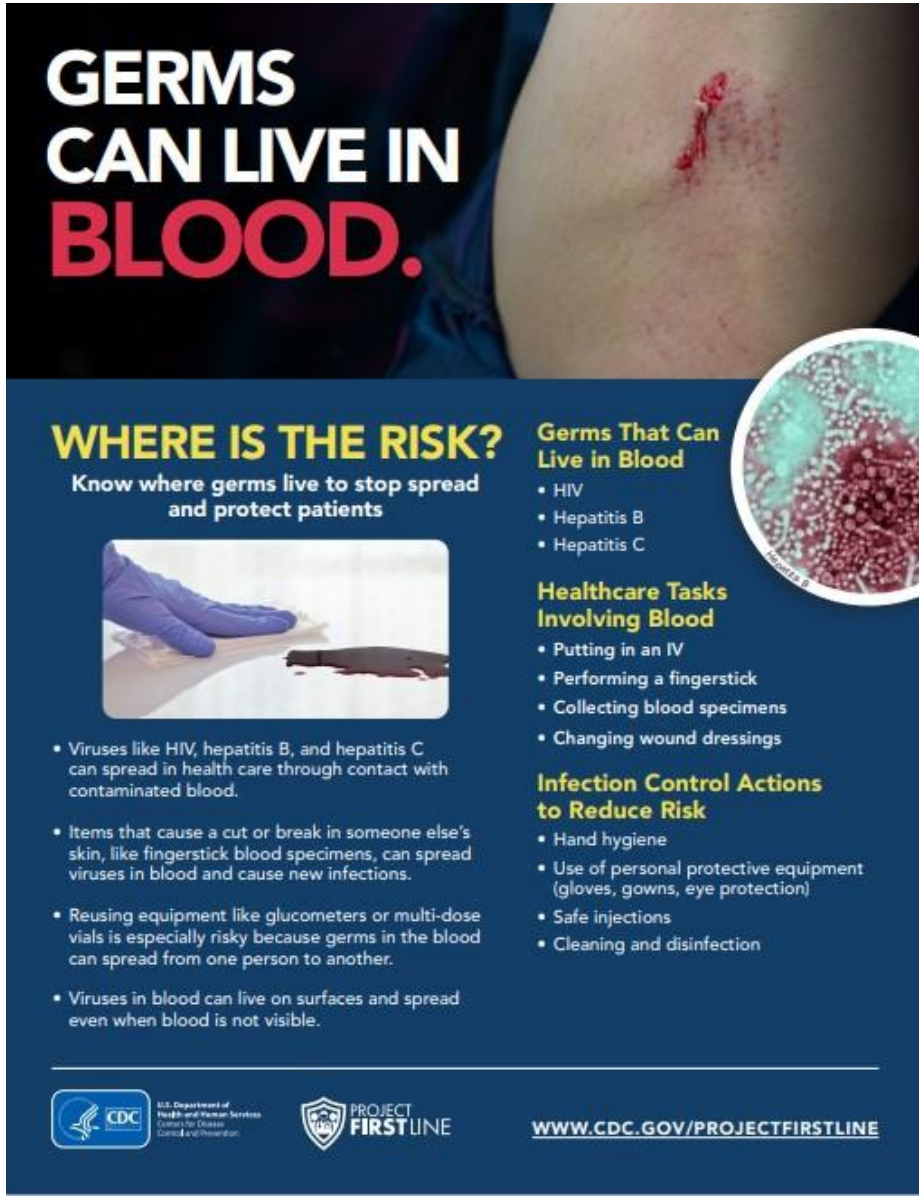
[Rash Micro-Learn] [PDF – 3 Pages]



[Cough and Congestion Micro-Learn] [PDF – 3 Pages]

[Draining Wound Micro-Learn] [PDF – 3 Pages]

[Diarrhea Micro-Learn] [PDF – 3 pages]



- CDC Project Firstline Infographic: Blood
- [Germs can live in blood (cdc.gov)]

Check out South Dakota Project Firstline
www.sdprojectfirstline.org

FREE infection prevention training.

FREE Dental, EMS & CHW CE Credits now available

QUESTIONS OR COMMENTS?

Thank you!

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References/Resources

https://www.cdc.gov/clean-hands/about/hand-hygiene-for-healthcare.html#cdc_behavioral_basics_steps-steps-to-take

https://www.cdc.gov/infection-control/about/index.html

https://www.cdc.gov/clean-hands/hcp/clinical-safety/index.html

https://cdn.who.int/media/docs/default-source/integrated-health-services-(ihs)/infection-prevention-and-control/your-5-moments-for-hand-hygiene-poster.pdf

https://www.cdc.gov/niosh/healthcare/risk-factors/bloodborne-infectious-diseases.html

https://www.cdc.gov/infection-control/hcp/sharps-safety/program-workbook.html

https://www.cdc.gov/infection-control/hcp/sharps-safety/program-workbook.html#:~:text=The%20complete%20Workbook%20for%20Designing,a%20Sharps%20Injury%20Prevention%20Program

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