DIALYSIS TOOLKIT

ILLINOIS DEPARTMENT OF PUBLIC HEALTH

IDPH

PROTECTING HEALTH, IMPROVING LIVES

PROJECT FIRSTLINE

CDC's National Training Collaborative
for Healthcare Infection Prevention & Control

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4

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INFECTION CONTROL IN DIALYSIS FACILITIES TOPICS :

1. Introduction to Project Firstline
2. Conversation starter to prevent infections in Dialysis patients
3. Patients with Catheters
4. Patients with Fistula or Grafts
5. Germs can live in Blood (English & Spanish)
6. Germs can live on Devices (English & Spanish)
7. Germs can live the Respiratory System (English & Spanish)
8. Germs live on the Skin (English & Spanish)
9. Germs can live on Dry surfaces (English & Spanish)
10. Germs live in water and on wet surfaces (English & Spanish)
11. Micro Learns- Blood
12. Hand Hygiene
13. Checklist to prevent CLASBI
14. Virus Strains
15. PPE; Donning & Doffing
16. CDC Approach to BSI Prevention in Dialysis Facilities
17. Checklist Dialysis Station Routine Disinfection
18. Environmental Surface Disinfection in Dialysis Facilities
19. How to read a disinfectant label (English & Spanish)

PROJECT FIRSTLINE IS FOR YOU

The Illinois Department of Public Health, through CDC's Project Firstline, offers new infection control training resources for dialysis facilities. These materials, designed by and healthcare professionals, help teams recognize infection risks and make the right decisions.For a full range of free materials such as infographics, interactive scenarios, micro-learns, and web-based training (with some offering free CEUs), visit the IDPH Project Firstline page.

CDC

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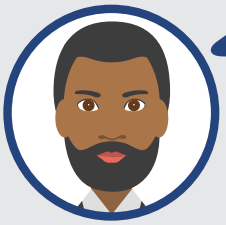
CS320288-A

Conversation Starter

to Prevent Infections in Dialysis Patients

Preventing infections is important for patient safety. The Centers for Disease Control and Prevention (CDC) wants dialysis patients and dialysis centers to start a conversation about preventing infections. Family members can also start the conversation. We hope this guide can be a starting point to improve awareness about patient safety issues.



How does this facility involve patients and their families in infection control activities? Are patients encouraged to speak up when they see a concerning practice (for example, a staff member who does not wash her hands)?

Dialysis centers should educate and empower patients to help prevent infections and support a safe care environment. Talk to your social worker or facility administrator for ideas on how you can get involved.

How does this facility make sure that all patients receive necessary vaccines to prevent illness (such as Hepatitis B, seasonal flu, and pneumococcal vaccines)?

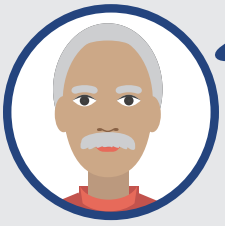
Patients on dialysis have weakened immune systems and should get certain vaccines to keep from getting sick.

How does this facility make sure that dialysis center staff are vaccinated against the flu every year?

Sick staff members can spread the flu to patients. Requiring dialysis center staff to get vaccinated each year can help prevent this spread. Dialysis centers should also have policies that support staff to stay home when they are sick.

Does this facility check all patients for hepatitis C infection?

All hemodialysis patients should be tested for hepatitis C when they start treatment at a center, and then every 6 months if they could become infected. Testing is the only way to know if patients have hepatitis C and to find out if the infection is spreading in the facility.



Does this facility prepare medications in a separate room away from dialysis stations to avoid contamination?

Medications for injection should be prepared away from patient treatment areas to keep them safe from germs. One way to do this is to prepare them in a separate room.

More information about injection safety can be found at: www.oneandonlycampaign.org/

CDC
Centers for Disease Control and Prevention

To learn more visit www.cdc.gov/dialysis

AAKP
American Association of Kidney Patients
aakp.org

Does this facility use the CDC recommendations to help prevent infections?

Regular use of CDC resources and recommendations can keep patients from getting serious infections. These recommendations include monitoring staff hand hygiene and vascular access care, training staff, and assisting patients in learning about these practices. Facilities should be using these recommendations and giving their staff feedback to know how they are doing.

More information can be found at: www.cdc.gov/dialysis/prevention-tools

How does this facility handle cleaning dialysis stations in between patient treatments – specifically, are dialysis stations cleaned while a patient is still in the chair?

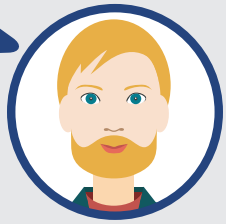
Dialysis stations need proper cleaning to prevent spread of germs between patients. CDC has steps for facilities to follow to make sure every station is safe for the next patient. Some steps should not start until the patient has completed their dialysis treatment and left the station.

More information can be found at: www.cdc.gov/dialysis/prevention-tools

Does this facility use a new, disposable dialyzer (artificial kidney) with each dialysis treatment? If not, can a patient opt out of reusing the dialyzer?

Reused dialyzers must be thoroughly cleaned and disinfected after each use, and mistakes can occur. Talk to your doctor about whether you could use a disposable dialyzer instead of a reused one.

How does this facility support patients to use a fistula instead of a catheter as early in their treatment as possible?



Sometimes it is medically necessary to use a catheter for dialysis. However, catheters can lead to serious infections and other problems. Fistulas and grafts are safer for most patients. Talk to your care team about what is right for you.

More information can be found at: www.aakp.org/store/item/understanding-your-hemodialysis-access-options.html

If there was an outbreak in this facility how would the facility communicate with patients? How would the facility partner with others such as the health department?

Contagious germs can spread through dialysis centers. Finding an outbreak (a sudden increase in numbers of sick persons) early and alerting public health can help to stop the spread of infection.

MAKING DIALYSIS SAFER COALITION

Patients with Catheters

6 TIPS to prevent Dialysis Infections

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov/ckd www.cdc.gov/dialysis/patient

TIP 1

Catheters have a higher risk of infection. Ask your doctor about getting a fistula or graft instead.

TIP 2

Learn how to take care of the catheter at home. Do not get it wet.

TIP 3

Wash your hands often, especially before and after dialysis treatment.

TIP 4

Know the steps your healthcare providers should take when using the catheter for treatment.

TIP 5

Know the signs and symptoms of infection and what to do if you think you might have an infection.

TIP 6

Know what to do if you have any problem with the catheter.

Patients with Fistulas or Grafts

6 TIPS to prevent Dialysis Infections

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov/ckd www.cdc.gov/dialysis/patient

TIP 1

Take care of your dialysis access site at home. Avoid scratching or picking it.

TIP 2

Wash your hands often, especially before and after dialysis treatment.

TIP 3

Wash or cleanse your dialysis access site prior to treatment.

TIP 4

Know the steps your healthcare providers should take when using your dialysis access for treatment.

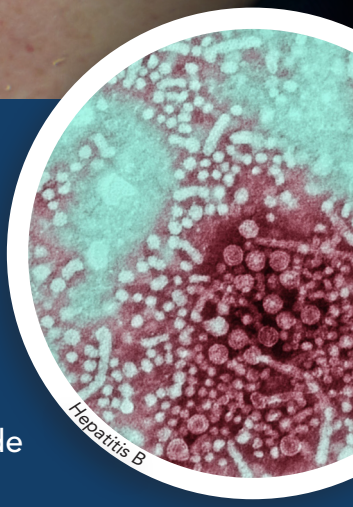
TIP 5

Know the signs and symptoms of infection and what to do if you think you might have an infection.

TIP 6

Know what to do if you have any problem with your dialysis access site.

GERMS CAN LIVE IN BLOOD.



WHERE IS THE RISK?

Know where germs live to stop spread and protect patients

- Viruses like HIV, hepatitis B, and hepatitis C can spread in healthcare when contaminated blood is on a sharp item.
- If that item causes a cut or break in someone else's skin (e.g., an accidental needlestick), germs can spread to that person and cause a new infection.
- Reusing needles or syringes is especially risky because germs in the blood can spread from one person to another.
- Blood in the environment – like on linens or a device – grows bacteria and spreads via touch or devices.

Germs That Can Live in Blood

- HIV
- Hepatitis B
- Hepatitis C
- Bacteria (when outside the body)

Healthcare Tasks Involving Blood

- Putting in an IV
- Giving an injection
- Surgery and procedures
- Changing soiled laundry

Infection Control Actions to Reduce Risk

- Hand hygiene
- Use of personal protective equipment (gloves, gowns, eye protection)
- Safe injections
- Cleaning and disinfection
- Textile management

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https://dph.illinois.gov/cdc-project-firs

LOS MICROBIOS PUEDEN VIVIR EN LA SANGRE.

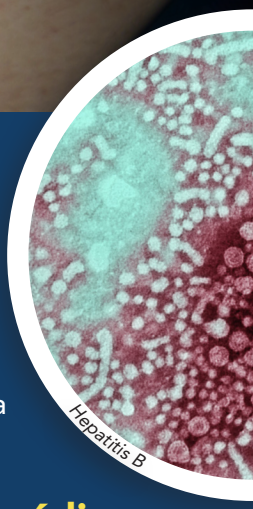
¿DÓNDE ESTÁ EL RIESGO?

Aprenda dónde viven los microbios para detener la propagación y proteger a los pacientes

- Los virus como el VIH, y los de la hepatitis B y la hepatitis C pueden propagarse en la atención médica cuando la sangre contaminada está en un elemento cortopunzante.
- Si ese objeto provoca un corte o una rotura en la piel de otra persona (por ejemplo, un pinchazo accidental con una aguja), los microbios pueden propagarse a esa persona y provocar una nueva infección.
- Reutilizar agujas o jeringas es especialmente arriesgado porque los microbios de la sangre pueden propagarse de una persona a otra.
- La sangre en el entorno -como en la ropa de cama o en un dispositivo- hace que se multipliquen las bacterias y se propaguen a través del tacto o de los dispositivos.

Microbios que pueden vivir en la sangre

- VIH
- Hepatitis B
- Hepatitis C
- Bacterias (cuando están fuera del cuerpo)



Tareas de la atención médica relacionadas con la sangre

- Colocación de una vía intravenosa
- Poner una inyección
- Cirugía y procedimientos
- **Cambio de ropa sucia**

Acciones de control de infecciones para reducir los riesgos

- Higiene de las manos
- Uso de equipo de protección personal (guantes, batas, protección ocular)
- Uso seguro de las inyecciones
- Limpieza y desinfección
- Gestión de artículos de tela

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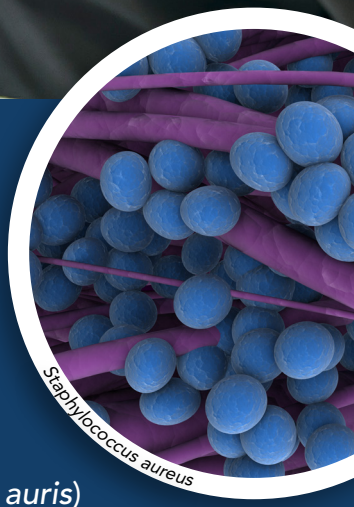
GERMS CAN LIVE ON DEVICES.

WHERE IS THE RISK?

Know where germs live to stop spread and protect patients

- When a device, like a pulse oximeter, is used on a patient's body to provide care, any germs on that device can be spread to places in or on the patient's body.
- When a device is put *into* a patient's body, like an IV needle, endoscope, or artificial hip, any germs on the device can spread into the body.
- If not handled correctly, shared medical devices can spread germs from one patient to another.



Germs That Can Live on Devices

- *Staphylococcus aureus* (staph, including *MRSA*)
- *Streptococcus* (strep)
- *Candida* (including *C. auris*)
- Gut bacteria like *E. coli*, *Klebsiella*, and *C. difficile* (*C. diff*)

Healthcare Tasks Involving Devices

- Surgery and procedures like colonoscopies
- Starting IVs
- Taking vital signs

Infection Control Actions to Reduce Risk

- Cleaning and disinfection
- Device sterilization
- Hand hygiene
- Use of personal protective equipment (gloves)

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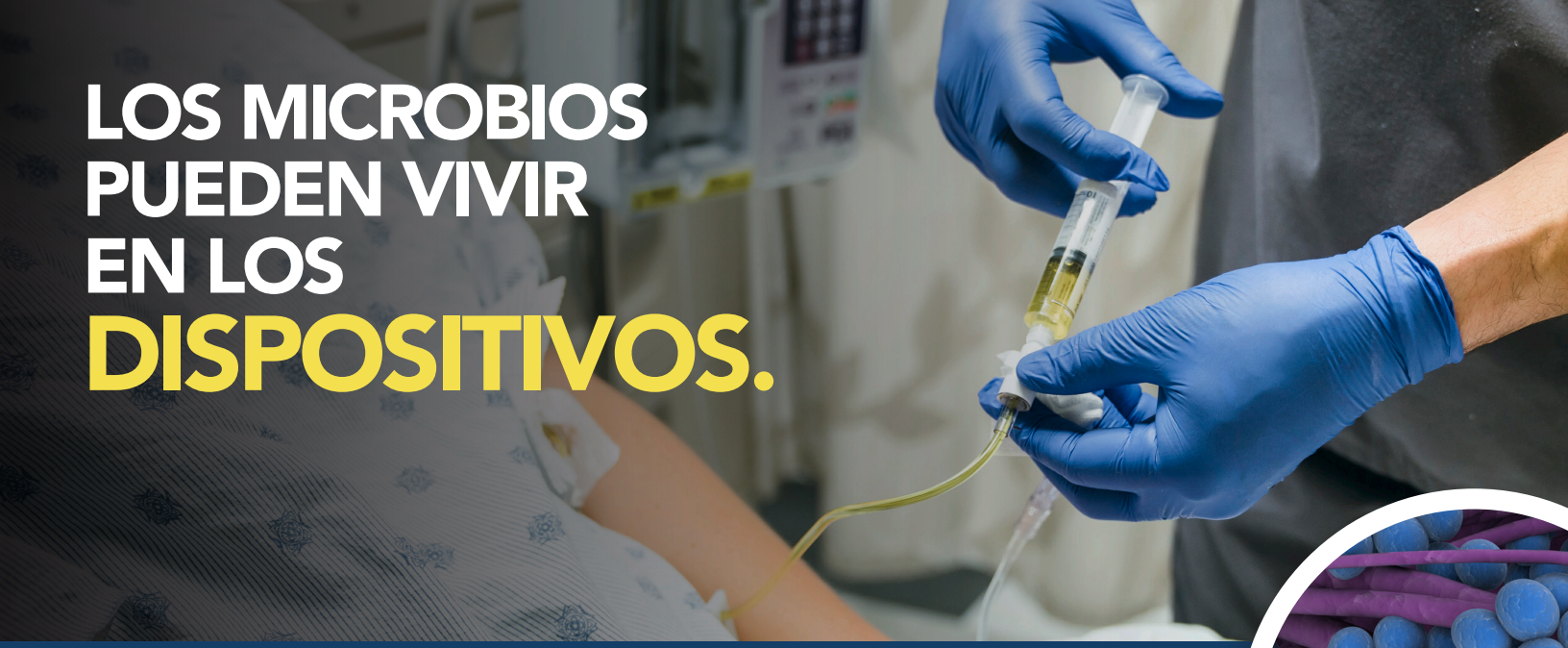
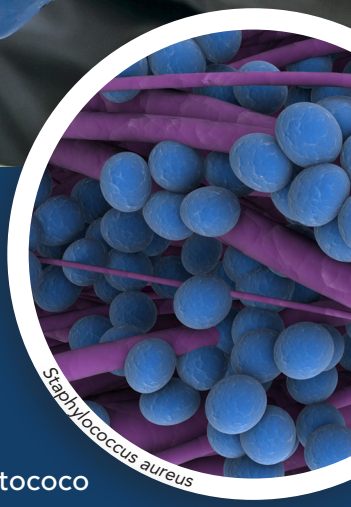
LOS MICROBIOS PUEDEN VIVIR EN LOS DISPOSITIVOS.





¿DÓNDE ESTÁ EL RIESGO?

Aprenda dónde viven los microbios para detener la propagación y proteger a los pacientes

- Cuando un dispositivo, como un oxímetro de pulso, se utiliza en el cuerpo de un paciente como parte de la atención, cualquier microbio que haya en ese dispositivo puede propagarse a lugares del cuerpo del paciente.
- Cuando se introduce un dispositivo en el cuerpo de un paciente, como una aguja intravenosa, un endoscopio o una prótesis de cadera, los microbios presentes en el dispositivo pueden propagarse por el cuerpo.
- Si no se manejan correctamente, los dispositivos médicos compartidos pueden propagar microbios de un paciente a otro.

Microbios que pueden vivir en los dispositivos

- *Staphylococcus aureus* (estafilococo, incluida la SARM)
- *Streptococcus* (estreptococo o strep)
- *Cándida* (incluida la *C. auris*)
- Bacterias intestinales como *E. coli*, *Klebsiella* y *C. difficile* (*C. diff*)

Tareas de la atención médica relacionadas con los dispositivos

- Cirugía y procedimientos como las colonoscopias
- Introducción de las vías intravenosas
- Tomar los signos vitales

Acciones de control de infecciones para reducir los riesgos

- Limpieza y desinfección
- Esterilización de dispositivos
- Higiene de las manos
- Uso de equipo de protección personal (guantes)

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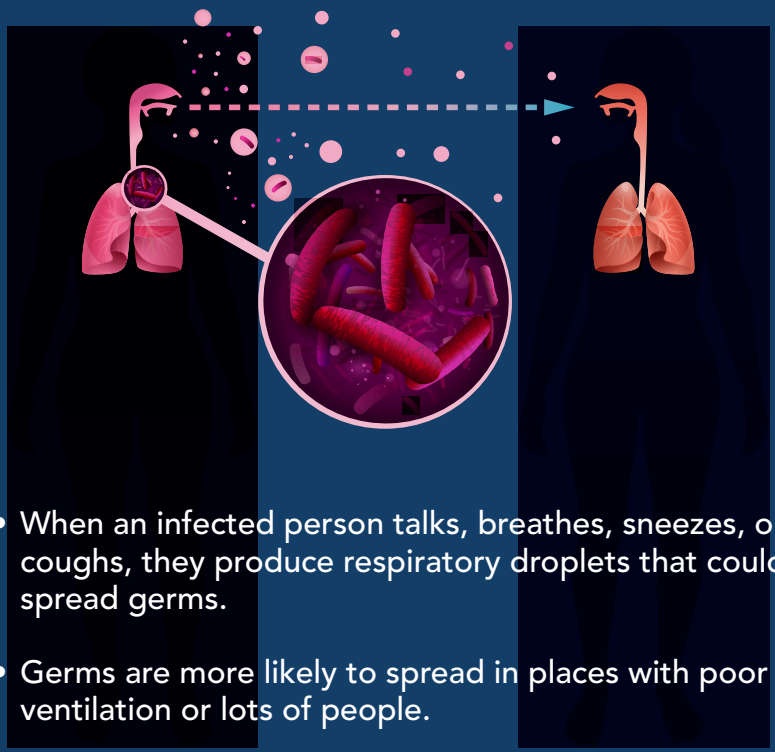
GERMS CAN LIVE IN THE RESPIRATORY SYSTEM.

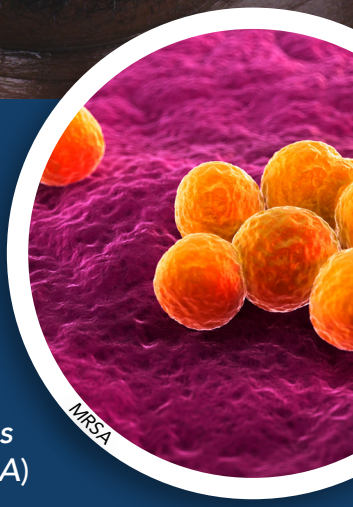
WHERE IS THE RISK?

Know where germs live to stop spread and protect patients



- When an infected person talks, breathes, sneezes, or coughs, they produce respiratory droplets that could spread germs.
- Germs are more likely to spread in places with poor ventilation or lots of people.
- Germs in the nose and mouth can be spread to the skin and hands when people touch their faces, which can then spread to surfaces or other people.

Germs That Can Live in the Respiratory System



- *Pseudomonas*
- *Staphylococcus aureus* (staph, including *MRSA*) (tip of the nose)
- Viruses, like influenza and SARS-CoV-2

Healthcare Tasks Involving the Respiratory System

- Oral care (e.g., toothbrushing)
- CPAP use for sleep apnea
- Intubation
- Giving nebulized medication

Infection Control Actions to Reduce Risk

- Hand hygiene
- Use of personal protective equipment (respirators, eye protection)
- Source control (masking)
- Cleaning and disinfection
- Respiratory hygiene/cough etiquette
- Ventilation

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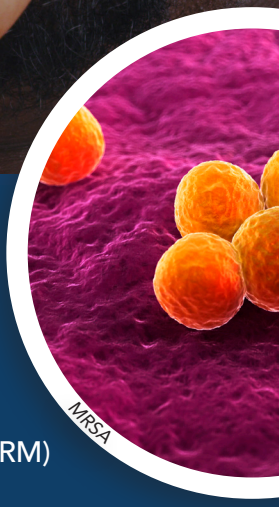
LOS MICROBIOS PUEDEN VIVIR EN EL SISTEMA RESPIRATORIO.



¿DÓNDE ESTÁ EL RIESGO?

Aprenda dónde viven los microbios para detener la propagación y proteger a los pacientes

- Cuando una persona infectada habla, respira, estornuda o tose, produce gotitas respiratorias que pueden propagar los microbios.
- Es más probable que los microbios se propaguen en lugares con poca ventilación o con mucha gente.
- Los microbios presentes en la nariz y la boca pueden propagarse a la piel y a las manos cuando las personas se tocan la cara, lo que puede propagarlos a las superficies o a otras personas.

Microbios que pueden vivir en el sistema respiratorio

- *Pseudomonas*
- *Staphylococcus aureus* (estafilococo, incluida la SARM) (punta de la nariz)
- Virus, como el de la influenza (gripe) y el SARS-CoV-2

Tareas de la atención médica relacionadas con el sistema respiratorio

- Cuidado bucal (por ejemplo, cepillado de dientes)
- Uso de presión positiva continua en las vías respiratorias para la apnea del sueño
- Intubación
- Administración de medicamentos nebulizados

Acciones de control de infecciones para reducir los riesgos

- Higiene de las manos
- Uso de equipo de protección personal (respiradores, protección ocular)
- Control de la fuente (uso de mascarillas)
- Limpieza y desinfección
- Higiene respiratoria/etiqueta para la tos
- Ventilación

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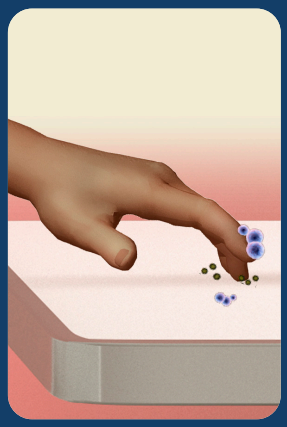
GERMS LIVE ON THE SKIN.

WHERE IS THE RISK?

Know where germs live to stop spread and protect patients

Germs spread through touch.

- Many germs grow on healthy skin.
- Germs on skin can get onto surfaces, other people, and things that will touch other people.
- Skin – especially hands – carries many germs and spreads them easily.
- When one's hands touch surfaces, germs can spread from those surfaces to that person and to others.

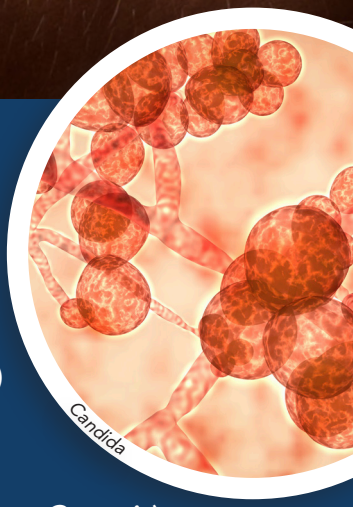


Germs spread by bypassing or breaking down the body's defenses.

- 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.

Germs That Live on Skin

- *Staphylococcus aureus* (staph, including *MRSA*)
- *Streptococcus* (strep)
- *Candida* (including *C. auris*)



Healthcare Tasks Involving Skin

- Anything that involves touch
- Needlesticks
- Surgery

Infection Control Actions to Reduce Risk

- Hand hygiene
- Appropriate glove use
- Injection safety
- Cleaning and disinfection
- Source control (covering cuts and wounds)

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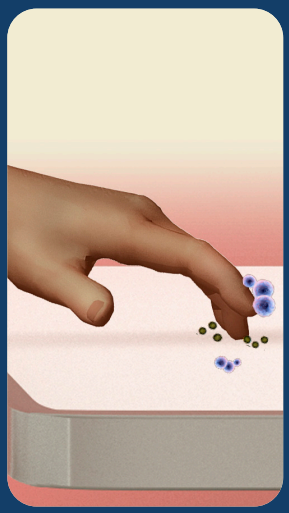
LOS MICROBIOS VIVEN EN LA PIEL.

¿DÓNDE ESTÁ EL RIESGO?

Aprenda dónde viven los microbios para detener la propagación y proteger a los pacientes

Los microbios se propagan a través del tacto.

- Muchos microbios se multiplican en la piel sana.
- Los microbios que se encuentran en la piel pueden llegar a las superficies, a otras personas y a las cosas que entren en contacto con otras personas.
- La piel -especialmente las manos- es portadora de muchos microbios y los propaga con facilidad.
- Cuando las manos tocan superficies, los microbios pueden propagarse desde esas superficies a esa persona y a otras.

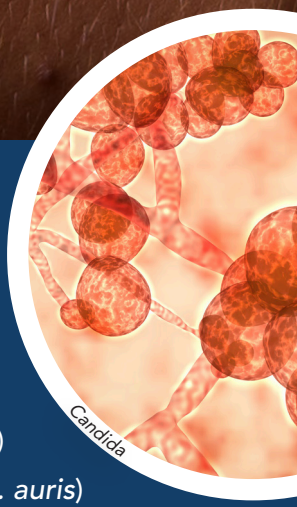


Los microbios se propagan al evadir o debilitar las defensas del cuerpo.

- Las tareas de la atención médica suelen implicar la penetración de la piel.
- La perforación de la piel -por la inserción de una vía intravenosa, la extracción de sangre, una intervención quirúrgica o un traumatismo- crea una vía de propagación para que los microbios se transmitan adentro del cuerpo.

Microbios que viven en la piel

- *Staphylococcus aureus* (estafilococo, incluida la SARM)
- *Streptococcus* (estreptococo o strep)
- *Cándida* (incluida la *C. auris*)



Tareas de la atención médica relacionadas con la piel

- Todo lo que implique el tacto
- Pinchazos con agujas
- **Cirugía**

Acciones de control de infecciones para reducir los riesgos

- Higiene de las manos
- Uso adecuado de los guantes
- Uso seguro de las inyecciones
- Limpieza y desinfección
- Control de la fuente (con la cobertura de cortes y heridas)

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GERMS CAN LIVE ON DRY SURFACES.

WHERE IS THE RISK?

Know where germs live to stop spread and protect patients

- Germs found on the body, in the air, and in stool can often be found on dry surfaces, and some can live for a long time.
- Dry surfaces include "high-touch" surfaces like bed rails, door handles, and light switches. They also include countertops, bed curtains, floors, and things that might not be touched as often.
- Hands can pick up germs from dry surfaces and move them to other surfaces and people.
- Germs from dry surfaces can also get onto devices that are used on or in patients.

Germs That Live on Dry Surfaces

- *Clostridioides difficile* (*C. diff*)
- Norovirus
- *Candida* (including *C. auris*)
- Rotavirus

Healthcare Tasks Involving Dry Surfaces

- Anything involving touch
- Using devices
- Patient transport

Infection Control Actions to Reduce Risk

- Cleaning and disinfection
- Device sterilization
- Hand hygiene
- Use of personal protective equipment (gloves and gowns)

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LOS MICROBIOS PUEDEN VIVIR EN LAS SUPERFICIES SECAS.

¿DÓNDE ESTÁ EL RIESGO?

Aprenda dónde viven los microbios para detener la propagación y proteger a los pacientes

- Los microbios que se encuentran en el cuerpo, en el aire y en las heces suelen encontrarse en superficies secas, y algunos pueden vivir durante mucho tiempo.
- Las superficies secas son las que se tocan con frecuencia, como las barandillas de las camas, las manijas de las puertas y los interruptores de la luz. También incluyen los mesones, las cortinas de las camas, los pisos y las cosas que no se tocan tan a menudo.
- Las manos pueden recoger microbios de las superficies secas y trasladarlos a otras superficies y personas.
- Los microbios de las superficies secas también pueden llegar a los dispositivos que se utilizan en o sobre los pacientes.

Microbios que viven en las superficies secas

- *Clostridioides difficile* (*C. diff*)
- Norovirus
- *Cándida* (incluida la *C. auris*)
- Rotavirus

Tareas de la atención médica relacionadas con las superficies secas

- Todo lo que implique el tacto
- Uso de dispositivos
- **Traslado de pacientes**

Acciones de control de infecciones para reducir los riesgos

- Limpieza y desinfección
- Esterilización de dispositivos
- Higiene de las manos
- Uso de equipo de protección personal (guantes y batas)

PROJECT FIRSTLINE
CDC's National Training Collaborative for Healthcare Infection Prevention & Control

IDPH

https://dph.illinois.gov/cdc-project-firstli

GERMS LIVE IN WATER AND ON WET SURFACES.

WHERE IS THE RISK?

Know where germs live to stop spread and protect patients

- Tap water is safe to drink, but it is not sterile. It always has some germs in it.
- Most of the time, the germs in tap water aren't a problem for healthy people, but they can cause illness in patients with very weak immune systems.
- Germs in water can spread to surfaces and people and cause harm.
- If medical instruments and equipment (e.g., devices and central lines) get wet, bacteria can grow. When those devices are used, that bacteria can then get into a patient's body or blood and cause infection.

Germs That Live in Water

- *Acinetobacter*
- *Serratia*
- *Pseudomonas*
- *Legionella*

Healthcare Tasks Involving Water

- Toileting
- Cleaning
- Handwashing

Infection Control Actions to Reduce Risk

- Cleaning and disinfection
- Device sterilization
- Hand hygiene
- Use of personal protective equipment (gloves, gowns, eye protection)

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH
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PROTECTING HEALTH, IMPROVING LIVES

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LOS MICROBIOS VIVEN EN EL AGUA Y EN SUPERFICIES HÚMEDAS.

¿DÓNDE ESTÁ EL RIESGO?

Aprenda dónde viven los microbios para detener la propagación y proteger a los pacientes

- El agua del grifo es potable, pero no es estéril. Siempre tiene algunos microbios.
- La mayoría de las veces, los microbios del agua del grifo no son un problema para las personas sanas, pero pueden causar enfermedades en pacientes con sistemas inmunitarios muy débiles.
- Los microbios presentes en el agua pueden propagarse a las superficies y a las personas y causar daños.
- Si los instrumentos y equipos médicos (por ejemplo, los dispositivos y las líneas centrales) se mojan, las bacterias pueden multiplicarse. Cuando se utilizan esos dispositivos, esas bacterias pueden entrar en el cuerpo o la sangre del paciente y causar una infección.

Microbios que viven en el agua

- *Acinetobacter*
- *Serratia*
- *Pseudomonas*
- *Legionella*

Tareas de la atención médica relacionadas con el agua

- Aseo
- Limpieza
- **Lavado de manos**

Acciones de control de infecciones para reducir los riesgos

- Limpieza y desinfección
- Esterilización de dispositivos
- Higiene de las manos
- Uso de equipo de protección personal (guantes, batas, protección ocular)

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Infection Control Micro-Learns

User Guide

About the Micro-Learns

The Project Firstline *Infection Control Micro-Learns* are a series of guided infection control discussions that provide brief, on-the-job educational opportunities. Each micro-learn focuses on a single infection control topic and connects infection control concepts to immediate, practical value. Healthcare workers can easily apply the key points to their daily work and perform the recommended actions to keep germs from spreading.

Using the Micro-Learns

The micro-learns can be incorporated into existing opportunities where groups of healthcare workers gather, such as pre-shift "huddles" or team meetings. The sessions should be led or facilitated by an experienced team member with infection control expertise.

Each micro-learn package includes an adaptable discussion guide for the facilitator and one job aid.

Discussion Guide. The discussion guide is not a script. Facilitators are encouraged to adapt the guide for their audience by incorporating relevant and practical questions and ideas. For instance, facilitators can connect the content to the audience's job duties, facility-specific cases or issues, resources and points of contact, or other information.

Job Aid. The one-page, visual job aid helps to reinforce the key messages of the micro-learn. Facilitators are encouraged to make the job aid available after the micro-learn session, such as in digital or hard copy form.

Notes for Facilitators

- Before presenting a micro-learn, check the policies and protocols at your facility and adapt the content accordingly.
- Build on your knowledge, experience, and awareness to connect the content to local context or relevant recent events so that your audience can apply the concepts confidently.
- The micro-learns reinforce infection control concepts when risks are observed in patients or in the patient environment, not necessarily in visitors or other staff members.
- Remind your audience that if they see a patient in distress—e.g., with shortness of breath, bleeding, or otherwise at risk of immediate harm—they should respond to the emergency according to facility protocols.

Blood Micro-Learn Discussion Guide:

What to do when you see blood

Use the talking points below and accompanying job aid to engage your team in short, focused discussion. Adapt to meet your needs.

1. Introduce the topic

*Share key information about the topic that your audience should **know and connect to your local context:***

- Always assume blood is infectious. People who are infected with bloodborne pathogens don't always have symptoms, but their blood and some body fluids still have virus in them.
- The pathogens in blood that are the most concerning infection risks in health care are HIV, hepatitis B, and hepatitis C.
- Bloodborne pathogens can be spread when infected blood enters the body, like:
  - From a needlestick
  - Through breaks or cracks in the skin, or
  - By splashes or sprays to the eyes, nose, or mouth

2. Expand on the topic

*Share information about what your audience should **do**:*

- Because we always assume blood is infectious, infection control actions for blood focus on preventing infected blood from entering the body and limiting its spread in the environment and between people.
- Don't touch blood without gloves on.
- When you see blood, look for sharps.
  - If you see sharps, safely dispose of them in a sharps container.
  - If you're approaching a place where a procedure was done, be careful handling drapes, linens, or other items that might be hiding a needle or other used sharps.
- When you're using sharps, plan ahead. Pick one location to keep sharps in before you start a procedure so you can keep track of them and know where to find the sharps containers to dispose of them safely as soon as you're finished.

3. Discuss with your team

Find out how your audience feels about the topic. Sample questions include:

- What do you usually do when you see blood? Do you worry that you might catch something? When might you call for help or assistance?
- Do you have all the tools and information you need to do your job safely?
- As a team, how can we help each other take the right infection control actions when we see blood to keep germs from spreading?

4. Wrap up and reinforce

Reinforce key takeaways:

- Always assume blood is infectious.
- Don't touch blood without gloves on.

Share related facility-specific information and cue to follow-up opportunities:

- Connect content with information such as where to find sharps containers, what to do and whom to call if there is an exposure, recent cases or examples of issues, or other relevant information.
- Share reminders, prompts, and opportunities for further learning as appropriate, including the Project Firstline website at cdc.gov/projectfirstline.

What Should You Do If You See Blood?

Use Gloves If You're Going to Touch Blood

After completing your task, remove gloves right away and clean your hands.

Use the Right PPE If Splashes and Sprays Are Likely

The PPE you use should protect your skin, eyes, nose, and mouth.

Always Act As If Blood Is Infectious

Clean Your Hands

Always clean hands after tasks involving blood – gloves are not a substitute for hand hygiene.

Look for Sharps

Handle needles and sharp items carefully and safely dispose of them in a sharps container.

Learn More

Germs Can Live in Blood: http://bit.ly/3GUqFKo
CDC One and Only Campaign: https://bit.ly/3QAS6w6

www.cdc.gov/ProjectFirstline

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

PROJECT FIRSTLINE

HOW TO ENGAGE YOUR PATIENTS:

Make hand hygiene a topic of conversation with your patients.

ADDRESS HAND HYGIENE BEFORE YOU BEGIN CARE

Explain how and why you clean your hands before, after, and sometimes during patient care.

DISCUSS AND ACT

Let your patients know it's OK to ask you about hand hygiene. They might request that you clean your hands. Put them at ease and clean your hands for them!

Discuss how and why patients should also clean their hands.

THANK THEM FOR BEING ENGAGED IN THEIR CARE

Hand hygiene works better when patients and healthcare providers work together.

Contact CDC:

www.cdc.gov/info
800-CDC-INFO
(800-232-4636)
TTY 888-232-6348

CLEAN HANDS COUNT

Learn more at:

www.cdc.gov/HandHygiene

This material was developed by CDC. The Clean Hands Count Campaign is made possible by a partnership between the CDC Foundation and GOJO.

CLEAN HANDS COUNT

FOR HEALTHCARE PROVIDERS

Protect yourself and your patients from potentially deadly germs.

CLEAN HANDS COUNT

No matter where you treat patients, clean hands count.

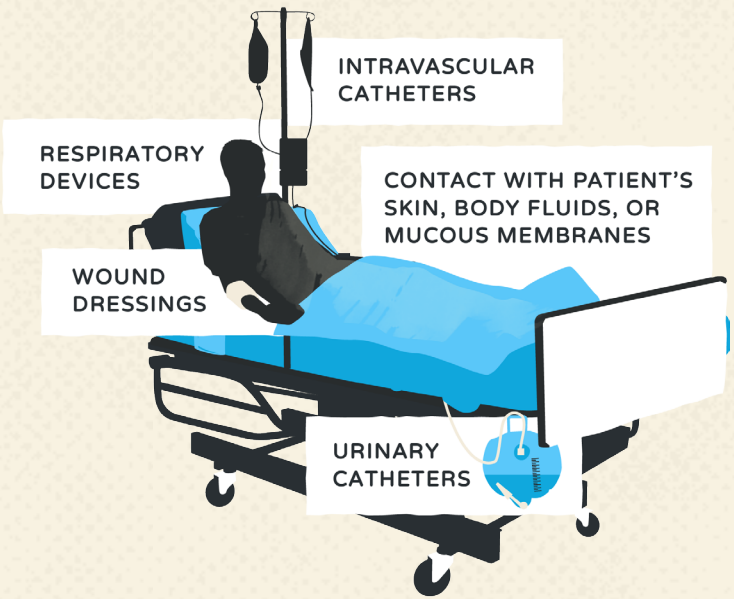
Your hand hygiene affects patients wherever they go...

Did you know...?

- Studies show that some healthcare providers practice hand hygiene **less than half of the times they should.**
- Healthcare providers might need to clean their hands as many as **100 times per 12-hour shift,** depending on the number of patients and intensity of care. Know what it could take to keep your patients safe.

Practice hand hygiene before and after every patient contact.

Clean hands count in the **Patient Zone:**



When using alcohol-based hand sanitizer:

Did you know...?

- **Always use gloves when caring for patients with *C. difficile*.** In addition, when there is an outbreak of *C. difficile* in your facility, wash your hands with soap and water after removing your gloves.
- **For alcohol-based hand sanitizer,** your hands should stay wet for around 20 seconds if you used the right amount.
- When washing your hands with **soap and water,** avoid hot water, to prevent drying of skin, and use disposable towels to dry.

Wearing gloves is not a substitute for hand hygiene.

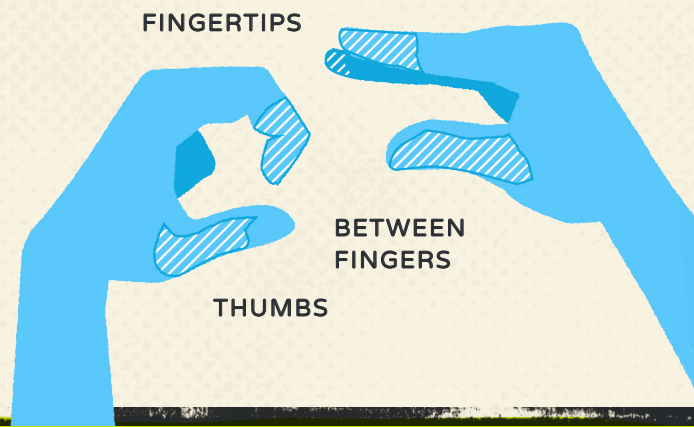
Dirty gloves can soil your hands. **Always clean your hands** after removing gloves.

It's also important to **remove or change your gloves if:**

- Gloves are damaged
- Moving from a contaminated body site to a clean body site
- Gloves look dirty, or have blood or bodily fluids on them after completing a task

Areas you might miss:

These areas are most often missed by healthcare providers when using alcohol-based hand sanitizer.



Checklist for Prevention of Central Line Associated Blood Stream Infections

Based on 2011 CDC guideline for prevention of intravascular catheter-associated bloodstream infections:
https://www.cdc.gov/infectioncontrol/guidelines/bsi/index.html
Strategies to Prevent Central Line–Associated Bloodstream Infections in Acute Care Hospitals: 2014 Update
http://www.jstor.org/stable/10.1086/676533

For Clinicians:

Follow proper insertion practices

- ☐ Perform hand hygiene before insertion.
- ☐ Adhere to aseptic technique.
- ☐ Use maximal sterile barrier precautions (i.e., mask, cap, gown, sterile gloves, and sterile full body drape).
- ☐ Choose the best insertion site to minimize infections and noninfectious complications based on individual patient characteristics.
    - Avoid femoral site in obese adult patients.
- ☐ Prepare the insertion site with >0.5% chlorhexidine with alcohol.
- ☐ Place a sterile gauze dressing or a sterile, transparent, semipermeable dressing over the insertion site.
- ☐ For patients 18 years of age or older, use a chlorhexidine impregnated dressing with an FDA cleared label that specifies a clinical indication for reducing CLABSI for short term non-tunneled catheters unless the facility is demonstrating success at preventing CLABSI with baseline prevention practices.

Handle and maintain central lines appropriately

- ☐ Comply with hand hygiene requirements.
- ☐ Bathe ICU patients over 2 months of age with a chlorhexidine preparation on a daily basis.
- ☐ Scrub the access port or hub with friction immediately prior to each use with an appropriate antiseptic (chlorhexidine, povidone iodine, an iodophor, or 70% alcohol).
- ☐ Use only sterile devices to access catheters.
- ☐ Immediately replace dressings that are wet, soiled, or dislodged.
- ☐ Perform routine dressing changes using aseptic technique with clean or sterile gloves.
    - Change gauze dressings at least every two days or semipermeable dressings at least every seven days.
    - For patients 18 years of age or older, use a chlorhexidine impregnated dressing with an FDA cleared label that specifies a clinical indication for reducing CLABSI for short-term non-tunneled catheters unless the facility is demonstrating success at preventing CLABSI with baseline prevention practices.
- ☐ Change administrations sets for continuous infusions no more frequently than every 4 days, but at least every 7 days.
    - If blood or blood products or fat emulsions are administered change tubing every 24 hours.
    - If propofol is administered, change tubing every 6-12 hours or when the vial is changed.

Promptly remove unnecessary central lines

- ☐ Perform daily audits to assess whether each central line is still needed.

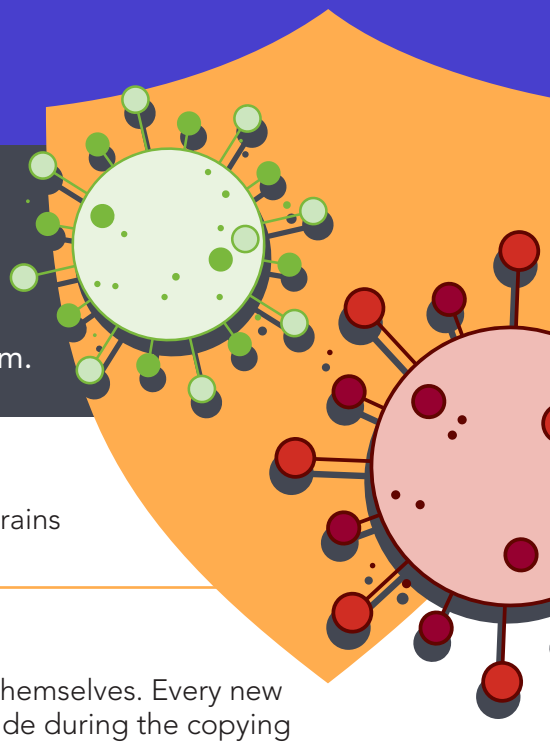
For Healthcare Organizations:

- ☐ Educate healthcare personnel about indications for central lines, proper procedures for insertion and maintenance, and appropriate infection prevention measures.
- ☐ Designate personnel who demonstrate competency for the insertion and maintenance of central lines.
- ☐ Periodically assess knowledge of and adherence to guidelines for all personnel involved in the insertion and maintenance of central lines.
- ☐ Provide a checklist to clinicians to ensure adherence to aseptic insertion practices.
- ☐ Reeducate personnel at regular intervals about central line insertion, handling and maintenance, and whenever related policies, procedures, supplies, or equipment changes.
- ☐ Empower staff to stop non-emergent insertion if proper procedures are not followed.
- ☐ Ensure efficient access to supplies for central line insertion and maintenance (i.e. create a bundle with all needed supplies).
- ☐ Use hospital-specific or collaborative-based performance measures to ensure compliance with recommended practices.

Supplemental strategies for consideration:

- ☐ Antimicrobial/Antiseptic impregnated catheters
- ☐ Antiseptic impregnated caps for access ports

VIRUS STRAINS



Viruses constantly change through mutation, and new variants, or strains, of a virus are expected to occur over time. The following frequently asked questions and answers can help you understand more about virus strains, including what they mean for infection control and whether you should be doing things differently for them.

Q **Are strains common with viruses?**

A Viruses have new strains all the time. That's why there are different strains of influenza every year, and why you can get a cold more than once.

Q **How are strains created?**

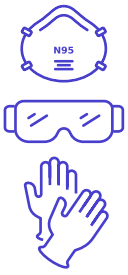
A Viruses have genes that carry instructions for making new copies of themselves. Every new copy contains those instructions as well. Sometimes mistakes are made during the copying process. When the instructions are copied wrong, the new viruses come out slightly different, with the mistake included in the instruction genes. Some mistakes make the virus not work anymore, so it's a dead end. When the new virus is still able to function even with the mistake, that's how a new strain is created, since all of the copies from that virus will carry that mistake.

Q **What about the new strains of SARS-CoV-2? Do they spread more easily?**

A Researchers are working hard to understand how these new strains of SARS-CoV-2 are different. Some of the new strains of SARS-CoV-2 allow the virus to spread more easily or make it resistant to treatments or vaccines, so it is even more important to continue using the recommended infection control actions.

Q **What can we do to protect ourselves and our patients from the new strains?**

A Even though new strains of SARS-CoV-2 are around, the basic pieces of the virus are still the same. This means that the recommended infection control actions for health care still work and are still needed to help stop the spread of COVID-19. This includes the following:



Using PPE. An N95 respirator will prevent you from breathing in virus that's in respiratory droplets, and eye protection keeps respiratory droplets from landing on your eyes. Using gloves and gowns protects you and also keeps you from spreading germs into your work environment.

Source control. Masking keeps respiratory droplets out of the air, so the germs in them can't spread to other people or the environment.

Physical distance. Maintaining physical distance helps people avoid breathing in each other's respiratory droplets.

Cleaning your hands. Soap and water and alcohol-based hand sanitizer break apart the envelope that holds the virus together, so it can't spread.

Ventilation. Good indoor ventilation is important for clearing air that might have respiratory droplets in it.

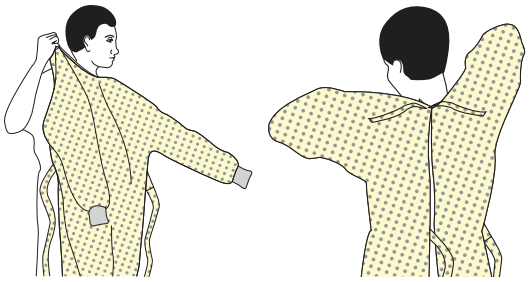
Cleaning and disinfection. Disinfecting products on the EPA's list N are known to kill SARS-CoV-2, including the new strains.

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

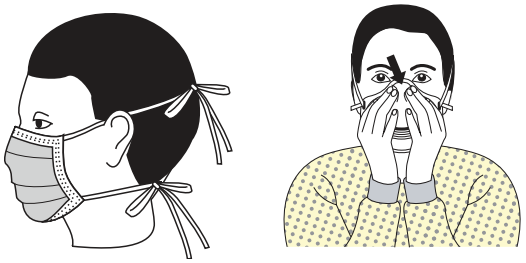
1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

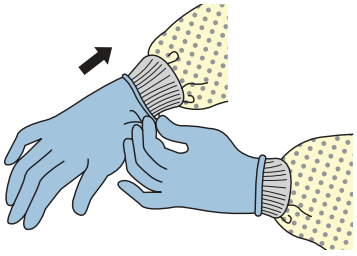


3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit

4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene

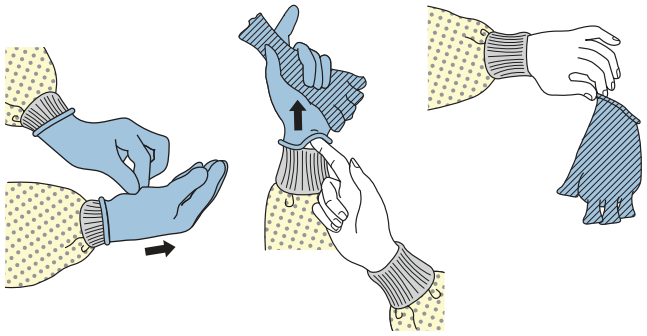
CS250672-E

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container

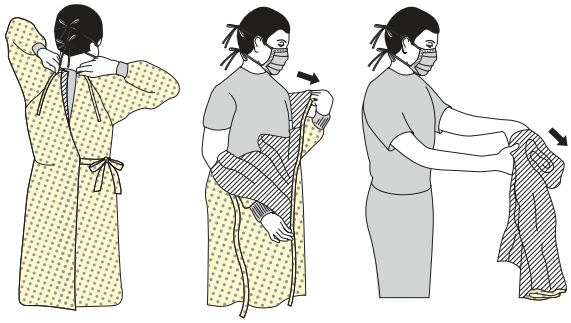


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

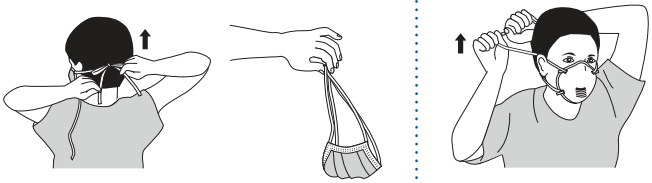
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

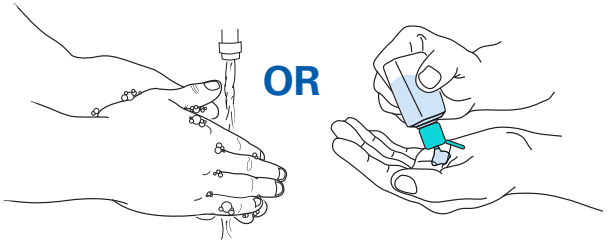


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

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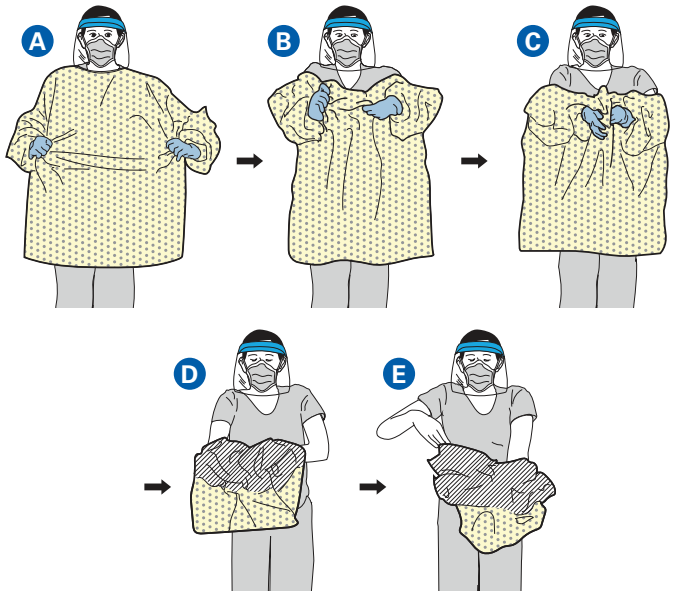
HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container

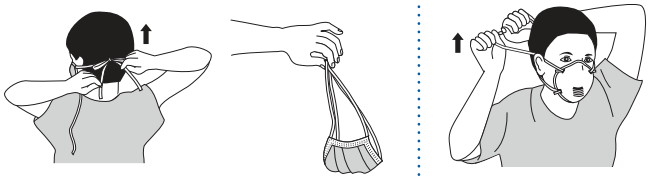


2. GOGGLES OR FACE SHIELD

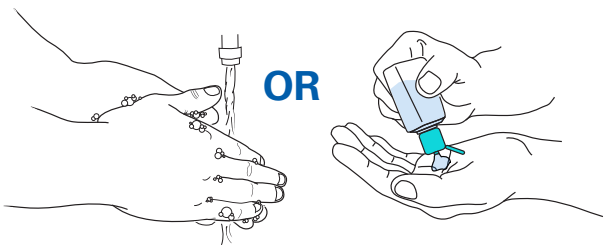
- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

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CDC Approach to BSI Prevention in Dialysis Facilities

(i.e., the Core Interventions for Dialysis Bloodstream Infection (BSI) Prevention)

1. Surveillance and feedback using NHSN
Conduct monthly surveillance for BSIs and other dialysis events using CDC's National Healthcare Safety Network (NHSN). Calculate facility rates and compare to rates in other NHSN facilities. Actively share results with front-line clinical staff.

2. Hand hygiene observations
Perform observations of hand hygiene opportunities monthly and share results with clinical staff.

3. Catheter/vascular access care observations
Perform observations of vascular access care and catheter accessing quarterly. Assess staff adherence to aseptic technique when connecting and disconnecting catheters and during dressing changes. Share results with clinical staff.

4. Staff education and competency
Train staff on infection control topics, including access care and aseptic technique. Perform competency evaluation for skills such as catheter care and accessing every 6-12 months and upon hire.

5. Patient education/engagement
Provide standardized education to all patients on infection prevention topics including vascular access care, hand hygiene, risks related to catheter use, recognizing signs of infection, and instructions for access management when away from the dialysis unit.

6. Catheter reduction
Incorporate efforts (e.g., through patient education, vascular access coordinator) to reduce catheters by identifying and addressing barriers to permanent vascular access placement and catheter removal.

7. Chlorhexidine for skin antisepsis
Use an alcohol-based chlorhexidine (>0.5%) solution as the first line skin antiseptic agent for central line insertion and during dressing changes.*

8. Catheter hub disinfection
Scrub catheter hubs with an appropriate antiseptic after cap is removed and before accessing. Perform every time catheter is accessed or disconnected.**

9. Antimicrobial ointment
Apply antibiotic ointment or povidone-iodine ointment to catheter exit sites during dressing change.***

* Povidone-iodine (preferably with alcohol) or 70% alcohol are alternatives for patients with chlorhexidine intolerance.

** If closed needleless connector device is used, disinfect device per manufacturer's instructions.

*** See information on selecting an antimicrobial ointment for hemodialysis catheter exit sites on CDC's Dialysis Safety website (http://www.cdc.gov/dialysis/prevention-tools/core-interventions.html#sites). Use of chlorhexidine-impregnated sponge dressing might be an alternative.

For more information about the Core Interventions for Dialysis Bloodstream Infection (BSI) Prevention, please visit http://www.cdc.gov/dialysis

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Checklist: Dialysis Station Routine Disinfection

This list can be used if there is no visible soil on surfaces at the dialysis station. If visible blood or other soil is present, surfaces must be cleaned prior to disinfection. The proper steps for cleaning and disinfecting surfaces that have visible soil on them are not described herein. Additional or different steps might be warranted in an outbreak situation. Consider gathering necessary supplies[1] prior to Part A.

Part A: Before Beginning Routine Disinfection of the Dialysis Station

- [ ] Disconnect and takedown used blood tubing and dialyzer from the dialysis machine.
- [ ] Discard tubing and dialyzers in a leak-proof container[2].
- [ ] Check that there is no visible soil or blood on surfaces.
- [ ] Ensure that the priming bucket has been emptied[3].
- [ ] Ensure that the patient has left the dialysis station[4].
- [ ] Discard all single-use supplies. Move any reusable supplies to an area where they will be cleaned and disinfected before being stored or returned to a dialysis station[5].
- [ ] Remove gloves and perform hand hygiene.

PART B: Routine Disinfection of the Dialysis Station – AFTER patient has left station

- [ ] Wear clean gloves.
- [ ] Apply disinfectant[6] to all surfaces[7] in the dialysis station using a wiping motion (with friction).
- [ ] Ensure surfaces are visibly wet with disinfectant. Allow surfaces to air-dry[8].
- [ ] Disinfect all surfaces of the emptied priming bucket[3]. Allow the bucket to air-dry before reconnection or reuse.
- [ ] Keep used or potentially contaminated items away from the disinfected surfaces.
- [ ] Remove gloves and perform hand hygiene.

Do not bring patient or clean supplies to station until these steps have been completed.

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Important Notes:

[1] Necessary supplies may include, but are not limited to: leak-proof disposal containers, gloves and other appropriate personal protective equipment (PPE), properly diluted Environmental Protection Agency (EPA)-registered hospital disinfectant, and wipes/clothes.

[2] If used dialyzers and blood tubing are transported out of the station before being discarded, they should be transported in a manner that prevents any leakage.

[3] Perform this step if machine is equipped with a bucket for prime waste. If waste-handling option (WHO) ports are used, separate steps for disinfection are required and are not described here (follow manufacturer's instructions).

[4] Patients should not be removed from the station until they have completed treatment and are clinically stable. If a patient cannot be moved safely, routine disinfection of the dialysis station should be delayed until the station can be vacated in a safe manner. If patients are moved to a separate seating area prior to removing cannulation needles or while trying to achieve hemostasis, the chairs and armrests in those areas must be disinfected in between patients.

[5] Disposal/removal of used supplies may occur before and/or after the patient has departed the station.

[6] Follow the manufacturer's label instructions for proper dilution, preparation, and use of the disinfectant.

[7] Surfaces to disinfect include but are not necessarily limited to: all surfaces in contact with the patient (e.g., dialysis chair, tray tables, blood pressure cuffs) and frequently contacted by healthcare personnel (e.g., control panel; top, front and sides of dialysis machine; touchscreens; countertops; computer keyboards).

[8] Air-drying is recommended to allow for sufficient contact time with the disinfecting agent.

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*Facility Name:*_____ *Observer:*_____

*Date:*_____ *Day: M W F Tu Th Sa* *Shift: 1st 2nd 3rd 4th* *Start time:*_____*AM / PM*

Audit Tool: Hemodialysis station routine disinfection observations*

(Use a "√" if action performed correctly, a "Φ" if not performed/ performed incorrectly. If not observed, leave blank. All applicable actions within a row must have "√" for the procedure to be counted as successful.")

*This audit tool applies when there is no visible soil on surfaces at the dialysis station. If visible blood or other soil is present, surfaces must be cleaned prior to disinfection.

Discipline	All supplies removed from station and prime bucket emptied	Gloves removed, hand hygiene performed	Station is empty before disinfection initiated**	New clean gloves worn	Disinfectant applied to all surfaces and prime bucket	All surfaces are wet with disinfectant	All surfaces allowed to dry	Gloves removed, hand hygiene performed	No supplies or patient brought to station until disinfection complete

Discipline: **P**=physician, **N**=nurse, **T**=technician, **S**=student, **O**=other

Duration of observation period: _____

Number of procedures performed correctly = _____

Total number of procedures observed during audit = _____

ADDITIONAL COMMENTS/OBSERVATIONS:

** Ensure the patient has left the dialysis station before disinfection is initiated.

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Environmental Surface Disinfection in Dialysis Facilities: Notes for Clinical Managers

✓ Select proper disinfectant(s) and determine correct dilution(s) for routine use.

- **Use only Environmental Protection Agency (EPA)-registered hospital disinfectants[a].**
  - EPA-registered hospital disinfectants have label instructions explaining how they should be used in healthcare settings.
  - EPA-registered sodium hypochlorite or other products for healthcare settings are available and are preferred over household bleach products that are not EPA-registered for disinfection of surfaces.
- **Low-level vs. intermediate-level disinfection:**
  - Routine disinfection of environmental surfaces can be accomplished using a low-level disinfectant (any EPA-registered hospital disinfectant). However, intermediate-level disinfectants must be available in the dialysis facility for disinfection of surfaces that are visibly soiled with blood or body fluids.
  - Intermediate-level disinfectants are sufficiently potent to inactivate mycobacteria and have a tuberculocidal label claim, whereas low-level disinfectants are not strong enough to inactivate these bacteria.
  - For convenience, consider selecting and routinely using hospital disinfectants that are tuberculocidal or have label claims of activity against hepatitis B virus (HBV) and human immunodeficiency virus (HIV). These products may be used to perform routine and intermediate-level disinfection.
- **Identify and instruct staff on the correct dilution of the disinfectant agent.**
  - Read the label carefully and follow the manufacturer's label instructions for proper dilution of the disinfectant. Note, label-specified dilutions for EPA-registered sodium hypochlorite (i.e., bleach) products might not necessarily conform to a 1:100 or 1:10 dilution. The manufacturer's instructions are specific to the product and should be followed. Some products do not require preparation or dilution and are sold as "ready to use."
  - Products with tuberculocidal, HBV, and HIV label claims will also have instructions for cleaning blood spills.

✓ Establish procedure for disinfecting dialysis station between patients.

- **Identify responsible staff.**
- **Ensure procedure allows for sufficient disinfectant to be applied to surfaces (surfaces should be visibly wet).**
- **Employ strategies to optimize cleaning and disinfection of the station.**
  - A sufficient patient-free interval is necessary at each station to facilitate adequate cleaning and disinfection. Routine surface disinfection should not commence until the patient has left the station.
  - A facility-wide patient-free interval between treatment shifts should be considered to ensure thorough disinfection of surfaces at the dialysis station and to minimize lapses in infection prevention that can occur when processes are performed in a hurried manner.
  - Routine disinfection of surfaces at the station should occur with *no patient present* to reduce the opportunities for cross-contamination and to avoid exposing patients to disinfectant fumes.
- **Important considerations regarding moving patients to a post-treatment seating area to facilitate more rapid station turnover:**
  - Patients should not be removed from the station until they have completed treatment and are clinically stable. If a patient cannot be moved safely, disinfection of the dialysis station should be delayed until the station can be vacated in a safe manner.

- If patients are moved to a separate seating area prior to removing cannulation needles or while trying to achieve hemostasis, the chairs and armrests in those areas must be disinfected in between patients. Avoid creating new opportunities for contamination of shared surfaces with blood or body fluids.

- **Establish procedure for cleaning and disinfection of priming buckets.**
  - Process should include emptying, cleaning (e.g., if blood is present), disinfection, and air-drying of bucket.
  - Disinfected priming buckets should be dry before reattaching to machine or use.
- **Establish procedure for cleaning and disinfection of reusable supplies.**
- **Disposable medical supplies brought to the dialysis station should be discarded.**
  - CDC recommends discarding these supplies instead of dedicating them to a patient.
  - Discard and dispose of these supplies in accordance with your state's regulated medical waste regulations.
- **For equipment such as computer touchscreens and keyboards, check with the manufacturer for instructions and compatibility of equipment with disinfecting agent.**
- **Determine staff personal protective equipment (PPE) needs based on disinfectant product labels.**

✓ Ensure staff have been properly trained on:

- **Dialysis station cleaning/disinfection protocol;**
- **How to prepare the appropriate "use-dilution" of the disinfectant;**
- **Application of sufficient disinfectant to achieve visibly wet surfaces per the product label;**
- **Proper use of PPE (e.g., gloves, gown); and**
- **Management of routine disinfection vs. surfaces with visible soil or blood[b].**

✓ Ensure that staff have access to proper supplies, which should include:

- **Leak-proof disposal containers;**
- **Gloves;**
- **Other appropriate PPE based on product label instructions;**
- **Properly diluted EPA-registered hospital disinfectants for routine/intermediate-level disinfection; and**
- **Wipes, cloths, spray bottles and/or buckets.**

Footnotes and Select References:

[a] Environmental Protection Agency. (2012, Oct 22). Selected EPA-registered Disinfectants. Retrieved from http://www.epa.gov/oppad001/chemregindex.htm.

[b] Centers for Disease Control and Prevention. Guidelines for Environmental Infection Control in Health-Care Facilities. MMWR 2004;52(RR10):1-42.

For machines that are equipped with waste-handling option ports, see references below:

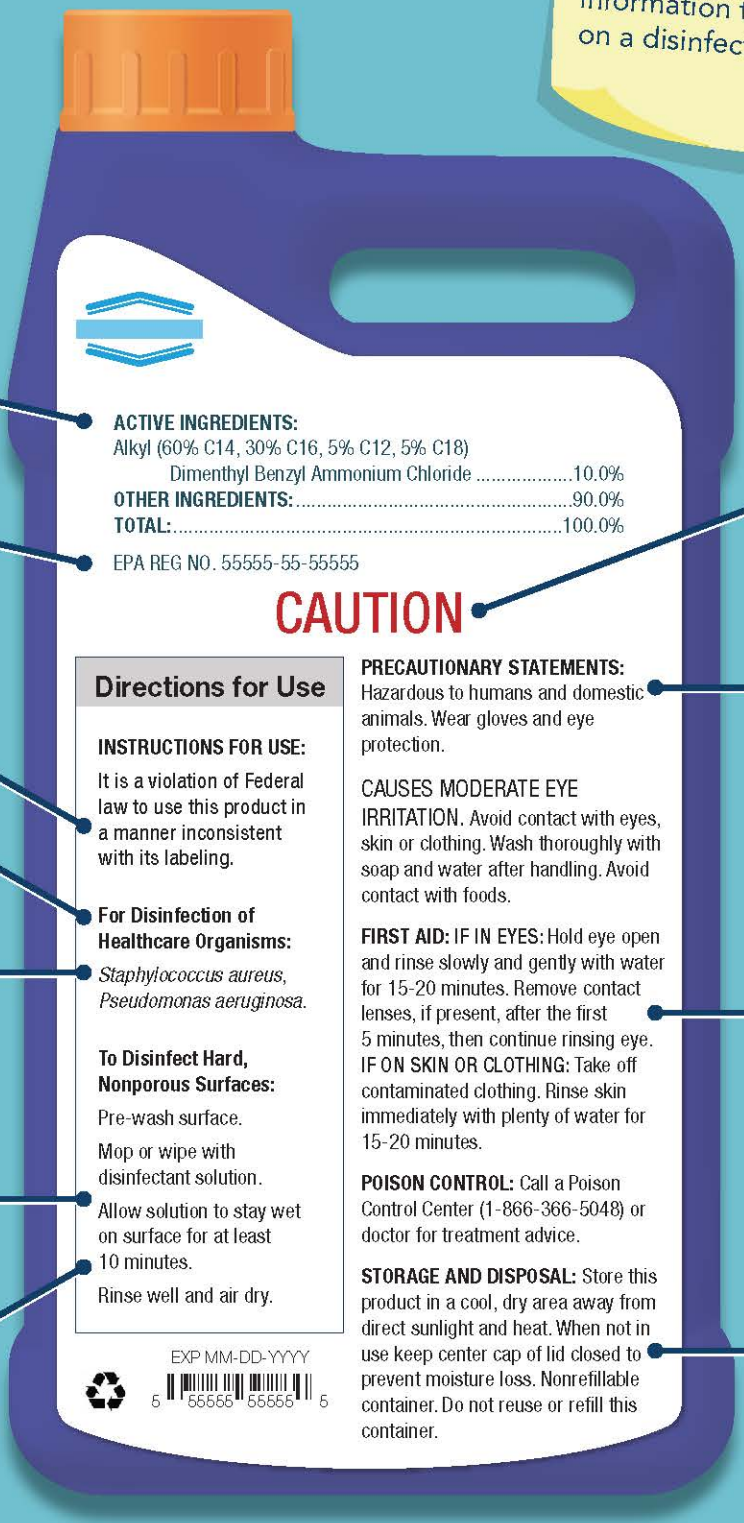
- Jochimsen EM, Frenette C, Delorme M, Arduino M, Aguero S, Carson L, Ismaïl J, Lapierre S, Czyziw E, Tokars JI, Jarvis WR. A cluster of bloodstream infections and pyrogenic reactions among hemodialysis patients traced to dialysis machine waste-handling option units. *Am J Nephrol* 1998; 18 (6): 485-9.
- Wang SA, Levine RB, Carson LA, Arduino MJ, Killar T, Grillo FG, Pearson ML, Jarvis WR. An outbreak of gram-negative bacteremia in hemodialysis patients traced to hemodialysis machine waste drain ports. *Infect Control Hosp Epidemiol* 1999; 20 (11): 746-51.
- CDC. Outbreaks of Gram-Negative Bacterial Bloodstream Infections Traced to Probable Contamination of Hemodialysis Machines -- Canada, 1995 United States, 1997; and Israel, 1997. *MMWR* 1998;47(03);55-5.

How to Read a Disinfectant Label

Read the entire label.

The label is the law!

Note: Below is an **example** of information that can be found on a disinfectant label



Active Ingredients:
What are the main disinfecting chemicals?

EPA Registration Number:
U.S. laws require that all disinfectants be registered with EPA.

Directions for Use (Instructions for Use):
Where should the disinfectant be used?

What germs does the disinfectant kill?

What types of surfaces can the disinfectant be used on?

How do I properly use the disinfectant?

Contact Time:
How long does the surface have to stay wet with the disinfectant to kill germs?

Signal Words (Caution, Warning, Danger):
How risky is this disinfectant if it is swallowed, inhaled, or absorbed through the skin?

Precautionary Statements:
How do I use this disinfectant safely? Do I need PPE?

First Aid:
What should I do if I get the disinfectant in my eyes or mouth, on my skin, or if I breathe it in?

Storage & Disposal:
How should the disinfectant be stored? How should I dispose of expired disinfectant? What should I do with the container?

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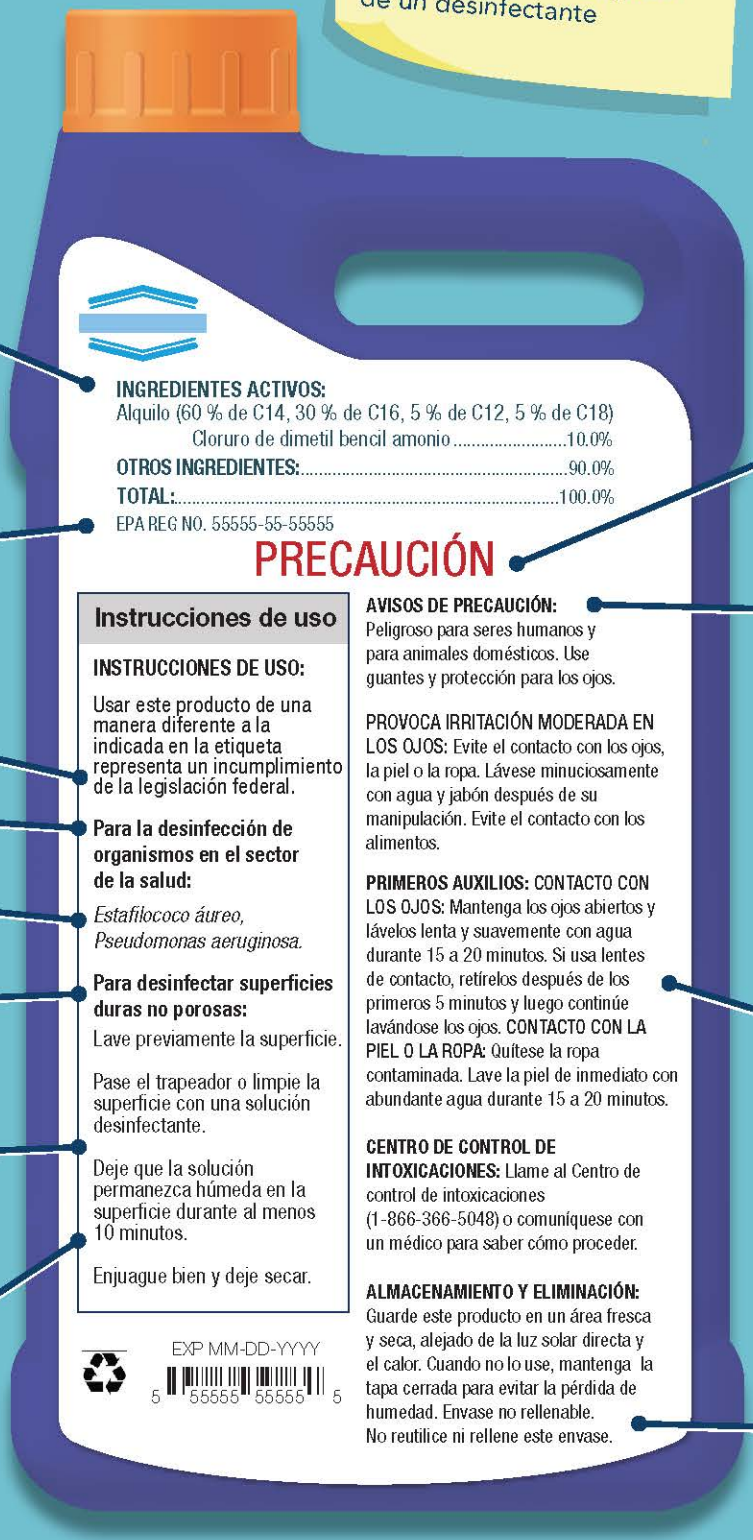
Cómo leer la etiqueta de un desinfectante

Lea toda la etiqueta.

¡La etiqueta es lo que vale!

Nota: A continuación, se muestra un **ejemplo** de la información que puede encontrarse en la etiqueta de un desinfectante



Ingredientes activos:

¿Cuáles son las principales sustancias químicas desinfectantes?

Número de registro de la EPA:

La legislación de los EE. UU. exige que todos los desinfectantes estén registrados en la EPA.

Instrucciones de uso:

¿Dónde se usa el desinfectante?

¿Qué microbios mata el desinfectante?

¿En qué tipos de superficies se puede usar el desinfectante?

¿Cómo uso adecuadamente el desinfectante?

Tiempo de contacto:

¿Durante cuánto tiempo debe permanecer húmeda la superficie con el desinfectante para matar los microbios?

Palabras de advertencia (Precaución, Advertencia, Peligro):

¿Qué tan peligroso es este desinfectante si se ingiere, inhala o absorbe a través de la piel?

Avisos de precaución:

¿Cómo uso este desinfectante de manera segura? ¿Debo usar un equipo de protección personal (EPP)?

Primeros auxilios:

¿Qué debo hacer si mis ojos, boca o piel entran en contacto con el desinfectante o si lo inhalo?

Almacenamiento y eliminación:

¿Cómo se debe guardar el desinfectante? ¿Cómo se deben eliminar los desinfectantes vencidos? ¿Qué debería hacer con el envase?

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