Dialysis Infection Prevention

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OUR MISSION:
To promote, protect, and improve the health and safety of all Hoosiers.

OUR VISION:
Every Hoosier reaches optimal health regardless of where they live, learn, work, or play.
Objectives

• Describe importance of hand hygiene and PPE for both staff and patients
• Identify needs for increased precautions
• Describe prevention of cross-contamination in the environment
• Describe infection risks for fistulas, grafts and catheters
• Describe cleaning and disinfecting dialysis station
• Describe safe injection and preparation of medications
Patients who undergo dialysis treatment have an increased risk for infections.

Hemodialysis patients are at a high risk for infection because the process of hemodialysis requires frequent use of catheters or insertion of needles to access the bloodstream.

Hemodialysis patients have weakened immune systems, which increases their risk for infection, and they may require frequent hospitalizations and surgery where they might acquire an infection.

Hemodialysis is a patient's lifeline.

Our role as infection preventionist:
- Identify gaps in infection controls
- Decrease possible infection
- Ensure patient safety
- Administer vaccinations of staff and patients
National Burden of Dialysis Infections: A Cause for Concern

• In the U.S., there are about 370,000 people relying on hemodialysis (HD).
• About 75,000 people receive hemodialysis through a central line.
• Among patients being treated with HD, 98% used in-center HD and 2% used home HD.
• Central lines have a higher risk of infection than a fistula or graft.
• CDC estimates 37,000 central line-associated bloodstream infections may have occurred in U.S. hemodialysis patients in 2008.

Hemodialysis

https://www.niddk.nih.gov/health-information/kidney-disease/kidney-failure/hemodialysis
The audit tools and checklists below are intended to promote CDC-recommended practices for infection prevention in hemodialysis facilities. The audit tools and checklists can be used by individuals when assessing staff practices. They can also be used by facility staff themselves to help guide their practices.
5 Moments for Hand Hygiene

• Hands are the main pathways of germ transmission during healthcare.

• Hand hygiene is therefore the most important measure to avoid the transmission of harmful germs and prevent healthcare-associated infections.
Hand Hygiene Steps

- When entering or leaving the treatment floor
- After removing gloves
- Before and after direct patient contact
- After completing tasks at one patient station before moving to another station
- Before procedures, such as administering intravenous medications
- Before and after contact with vascular access
- Before and after dressing changes
- After contact with items/surfaces at patient stations
# Dialysis Audit Tool: Hand Hygiene

## Guide to Hand Hygiene Opportunities in Hemodialysis

<table>
<thead>
<tr>
<th>Hand hygiene opportunity category</th>
<th>Specific examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prior to touching a patient</td>
<td>- Prior to entering station to provide care to patient</td>
</tr>
<tr>
<td></td>
<td>- Prior to entering patient's room</td>
</tr>
<tr>
<td>2. Prior to aseptic procedures</td>
<td>- Prior to cannulating or accessing catheters</td>
</tr>
<tr>
<td></td>
<td>- Prior to performing catheter site care</td>
</tr>
<tr>
<td></td>
<td>- Prior to accessing intravenous therapy</td>
</tr>
<tr>
<td></td>
<td>- Prior to administering IV medications or infusions</td>
</tr>
<tr>
<td>3. After body fluid exposure risk</td>
<td>- After exposure to any blood or body fluids</td>
</tr>
<tr>
<td></td>
<td>- After contact with other contaminated fluids (e.g., spent dialysate)</td>
</tr>
<tr>
<td></td>
<td>- After handling used dialyzers, blood tubing, or prime buckets</td>
</tr>
<tr>
<td></td>
<td>- After performing wound care or dressing changes</td>
</tr>
<tr>
<td>4. After touching a patient</td>
<td>- After touching patient's body or clothing</td>
</tr>
<tr>
<td>5. After touching patient surroundings</td>
<td>- After touching dialysis machine</td>
</tr>
<tr>
<td></td>
<td>- After touching other items within dialysis station</td>
</tr>
<tr>
<td></td>
<td>- After using hand dryer or paper towels</td>
</tr>
<tr>
<td></td>
<td>- After leaving station</td>
</tr>
<tr>
<td></td>
<td>- After removing gloves</td>
</tr>
</tbody>
</table>

Please make note of the following during this session:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CDC Dialysis Collaborative**

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Hand hygiene opportunity</th>
<th>Opportunity successful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Describe any missed attempts (e.g., during medication prep, between patients, after contamination with blood, etc.):

**Discipline:** medication prep, between patients, after contamination with blood, etc.

**Duration of observation period =** minutes

**Number of successful hand hygiene opportunities observed =**

**Total number of patients observed during audit =**

**Total number of hand hygiene opportunities observed during audit =**

**See hand hygiene opportunities on backpage**

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*National Center for Emerging and Zoonotic Infectious Diseases*

*Division of Healthcare-associated Infections Prevention*
Personal Protective Equipment (PPE)

• Proper PPE should always be worn by staff to avoid exposure to potentially infectious blood and body fluids when connecting or disconnecting catheters.

• A mask should always be worn by patients during catheter access/care and a glove when holding pressure to access sites.
Isolation Room

• Dialyze hepatitis B (HBsAg+) patients in a separate room using separate machines, equipment, instruments and supplies.

• Be sure to use a separate gown when treating these patients.

• Staff members caring for patients with hepatitis B (HBsAg+) should not care for HBV-susceptible patients at the same time (e.g., during the same shift or during patient changeover):
  o Routine serologic testing for hepatitis B virus and hepatitis C virus infections
  o Vaccination of susceptible patients against hepatitis B
  o Isolation of patients who test positive for hepatitis B surface antigen

• *HBsAg+ means hepatitis B surface antigen (a lab test for hepatitis B virus) was positive.

• *HBV-susceptible means anyone who has never been infected and lacks immunity to hepatitis B virus.
Cleaning and Disinfecting the Dialysis Station

• **Cleaning** and **disinfection** reduce the risk of spreading an infection.

• **Cleaning** is done using cleaning detergent, water and friction and is intended to remove blood, body fluids and other contaminates from objects and surfaces.

• **Disinfection** is a process that kills many or all remaining infection-causing germs on clean objects and surfaces:
  - Use an EPA hospital-grade disinfectant.
  - Follow label instructions for proper dilution (follow manufacturer guidelines).

• **Wear gloves** during the cleaning/disinfection process.

*Refer to facility policy/procedure for disinfecting treatment area.*
• All equipment and surfaces are considered contaminated after a dialysis session and must be disinfected or discarded, including tape.
• After the patient leaves the station, **disinfect** the dialysis station including machine, tray and chair (working from clean to dirty).
• Wipe **all** surfaces.
• Surfaces should be wet with disinfectant and allowed to air dry.
• Give special attention to cleaning control panels on the dialysis machines and other commonly touched surfaces.
• Empty and disinfect all surfaces of prime waste containers.
Dialysis Checklist and Audit Tool: Station Routine Disinfection

**Checklist: Dialysis Station Routine Disinfection**

This list can be used if there is no written protocol for disinfection at the dialysis station. If a written protocol is in place, it must be followed. In the absence of clear protocol, the following specific and common-sense steps should be taken to reduce the risk of cross-contamination. Additional steps might be warranted in an outbreak situation. Consider gathering necessary supplies prior to initiating disinfection.

**Part A: Before Beginning Routine Disinfection of the Dialysis Station**

- Disconnect all blood tubing and dialyzer from the dialysis machine.
- Disconnect tubing and dialyzers in a leak-proof container. 
- Check that there is no visible soil or blood on surfaces.
- Ensure that the priming bucket has been emptied.
- Ensure that the patient has left the dialysis station.
- Disconnect 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.
- Remove gloves and perform hand hygiene.

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

- Wear clean gloves.
- Apply disinfectant to all surfaces in the dialysis station using a wiping motion with a clean cloth or paper towel.
- Ensure surfaces are visibly wet with disinfectant. Allow surfaces to air dry.
- Disinfect all surfaces of the emptied priming bucket. Allow the bucket to air dry before reassembling 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.

**Audit Tool: Hemodialysis station routine disinfection observations**

(Use a “+” if action performed correctly, a “−” 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 are written protocols in place for routine disinfection of dialysis stations. The station is cleaned and disinfected prior to disinfection.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>All supplies removed from station and patient bucket emptied</th>
<th>Gloves removed, hand hygiene performed</th>
<th>Station is empty, bucket disinfection initiated</th>
<th>New clean gloves worn</th>
<th>Disinfectant applied to all surfaces and priming bucket</th>
<th>All surfaces are wet with disinfectant</th>
<th>Hand hygiene</th>
<th>Hair nets removed, hand hygiene performed</th>
<th>All supplies or patient brought to station after disinfection complete</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Facility Name:**
**Date:**

**Observer:**
**Day:**
**Shift:**
**Start time:**
**Time:**
**Duration of observation period:**

**Number of procedures performed correctly:**

**Total number of procedures observed during audit:**

**Additional comments/observations:**

*Note: This audit tool is to be used in conjunction with written protocols for routine disinfection of dialysis stations.*
Types of Access Sites: Risk of Infection
Risk of Infections for Vein Access Types

**Arteriovenous (AV) fistula:** An access created by joining an artery and a vein, typically in the arm. This access type lasts longer than a graft and is less likely to become infected.

**Arteriovenous (AV) graft:** An access created when doctors put in a tube that connects an artery and a vein. This access type has a higher risk of infection than an AV fistula but lower than a central-line catheter.

**Central-line catheter:** An access created by inserting a tube into a vein. The tube is inserted through the skin into a vein in the neck, chest or groin and the tip of the tube ends near the heart. This access type has the highest risk of infection.

*Refer to facility policy/procedure to ensure aseptic technique is followed when prepping tape and during dressing changes.*
Scrub the Hub

**Catheter** refers to a central venous catheter (CVC) or a central line.

**Hub** refers to the end of the CVC that connects to the blood lines or cap.

**Cap** refers to a device that screws onto and occludes the hub.

**Limb** refers to the catheter portion that extends from the patient’s body to the hub.

**Blood lines** refer to the arterial and venous ends of the extracorporeal circuit that connect the patient’s catheter to the dialyzer.
**Important Take Away:**

**Aseptic Technique**

This includes practices that prevent the contamination of clean/sterile items and surfaces. Once tasks requiring aseptic technique have been started, care must be taken to avoid contamination of gloves and other clean/sterile items that can occur when touching dirty surfaces (e.g., positioning patient, using computer keyboard).

*Use an alcohol-based chlorhexidine (>0.5%) solution as the first-line skin antiseptic agent for central line insertion and during dressing changes. Povidone-iodine (preferably with alcohol) or 70% alcohol are alternatives for patients with chlorhexidine intolerance.

Scrub the hub! Which hubs should be scrubbed? Every port on the system, injection ports into bags or bottles, injection ports on administration sets, needless connectors and the hub of a catheter itself are potential portals of entry for infection. Closed catheter access systems are preferred as they are associated with fewer central line–associated bloodstream infections (CLABSIs) than open systems. Stopcocks and injection ports should be capped when not being used.

**SCRUB THE HUB YOU ARE ACCESSING EVERY TIME YOU ACCESS IT!**
**Checklist: Hemodialysis catheter connection**

- Wear mask (if required)
- Perform hand hygiene
- Put on new, clean gloves
- Clamp the catheter and remove caps
- Scrub catheter hub with antiseptic
- Allow hub antiseptic to dry
- Connect catheter to blood lines aseptically
- Remove gloves
- Perform hand hygiene

**Checklist: Hemodialysis catheter disconnection**

- Wear mask (if required)
- Perform hand hygiene
- Put on new, clean gloves
- Clamp the catheter
- Disconnect catheter from blood lines aseptically
- Scrub catheter hub with antiseptic
- Allow hub antiseptic to dry
- Attach new caps aseptically
- Remove gloves
- Perform hand hygiene

**Checklist: Hemodialysis catheter exit site care**

- Wear mask (if required) and remove dressing
- Perform hand hygiene
- Put on new, clean gloves
- Apply skin antiseptic
- Allow skin antiseptic to dry
- Do not contact exit site (after antisepsis)
- Apply antimicrobial ointment*
- Apply dressing aseptically
- Remove gloves
- Perform hand hygiene

* Use an ointment that does not interact with catheter material
### Dialysis Audit Tool: Catheter Connection/Disconnection and Exit Site Care

#### Audit Tool: Catheter connection and disconnection observations

(Use a ‘✓’ if action performed correctly, a ‘✗’ if not performed. If not observed, leave blank)

<table>
<thead>
<tr>
<th>Procedure observed</th>
<th>Catheter connected to hemodialysis machine (if connected only)</th>
<th>New bag attached correctly (after disconnecting)</th>
<th>Observe removed</th>
<th>Hand hygiene performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Duration of observation period:** __________ minutes

**Number of procedures performed correctly:** __________

**Total number of procedures observed during audit:** __________

**ADDITIONAL COMMENTS/OBSERVATIONS:**

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### Audit Tool: Catheter exit site care observations

(Use a ‘✓’ if action performed correctly, a ‘✗’ if not performed. If not observed, leave blank)

<table>
<thead>
<tr>
<th>Procedure observed</th>
<th>Hand hygiene performed</th>
<th>New clean gloves worn</th>
<th>Sterile technique (if required)</th>
<th>Antimicrobial ointment applied</th>
<th>Dressing applied aseptically</th>
<th>Gloves removed</th>
<th>Hand hygiene performed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Duration of observation period:** __________ minutes

**Number of procedures performed correctly:** __________

**Total number of procedures observed during audit:** __________

**ADDITIONAL COMMENTS/OBSERVATIONS:**

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Dialysis Checklist: Injectable Med Preparation and Administration

**Checklist: Hemodialysis injectable medication preparation**

- Ensure medication preparation area is clean
- Inspect medication vial and discard if sterility is questionable
- Perform hand hygiene
- Prepare medication aseptically
- Disinfect rubber septum of vial with alcohol
- Withdraw medication using a new needle and new syringe
- Discard single-dose vials and store multi-dose vials appropriately

**Checklist: Hemodialysis injectable medication administration**

- Injectable medications should be handled and transported from the medication preparation area in a manner that minimizes contamination risk. The provider administering the medication should also ensure the correct medication and dose are being administered to the correct patient.
- Perform hand hygiene
- Put on new, clean gloves
- Scrub injection port with antiseptic
- Attach syringe and administer medication aseptically
- Discard syringe
- Remove gloves
- Perform hand hygiene

*The following are appropriate antiseptics: alcohol, isopropanol, hydrogen peroxide, 70% alcohol.

Preparation of injectable medications is performed in an environment that is free of sources of contamination (e.g., blood, bodily fluids, contaminated equipment, etc.). The work area should be cleaned and vented properly.

In cases where the vial is open to the air, the rubber septum should be sterilized with an alcohol wipe to prevent contamination.

*If a single-dose vial is opened, it should be discarded and a new vial should be used.*
Dialysis Audit Tool: Injectable Med Preparation and Administration

### Audit Tool: Hemodialysis injectable medication administration

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

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Hand hygiene performed</th>
<th>Injection port disinfected w/ antiseptic</th>
<th>Medication administration aseptically</th>
<th>Syringe discarded at point of use</th>
<th>Gloves removed</th>
<th>Hand hygiene performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>P=physician, N=nurse, T=technician, S=student, O=other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Observation period:**

- Number of procedures performed correctly =
- Total number of procedures observed during audit =

### ADDITIONAL COMMENTS/OBSERVATIONS:

---

**Day**

- E = Even, O = Odd

<table>
<thead>
<tr>
<th>Shift</th>
<th>Discipline</th>
<th>Med prep area is designated area</th>
<th>Med prep area is clean</th>
<th>All materials inspected</th>
<th>Hand hygiene performed</th>
<th>Septum of all syringes is (discarded entered with new needle and syringe)</th>
<th>Hand hygiene performed</th>
<th>All single dose vial(s) discarded in sharps container properly arranged</th>
</tr>
</thead>
</table>

**Duration of observation period:**

- Number of sessions performed correctly =
- Total number of sessions observed =

### ADDITIONAL COMMENTS/OBSERVATIONS:

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**Notes:**

- Medications should be preparedpidently from medication preparation areas or individual patient. Medications should be prepared in advance to the level of medication administration. Medications that are not immediately administered for any reason should be discarded for legal and ethical purposes.
- Administered aseptically and when possible. Medication storage and labeling are necessary. Medications should be stored in a designated, clean area that is free of obstructions, contamination sources (e.g., blood, body fluids, contaminated equipment, or water.

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### Dialysis Checklist: AV Fistula/Graft Cannulation and Decannulation

#### Checklist: Arteriovenous fistula/graft cannulation
- Clean site with soap and water
- Perform hand hygiene (staff)
- Put on new, clean gloves
- Apply skin antiseptic and allow it to dry
- Do not contact site (after antisepsis)
- Insert needles aseptically
- Connect to blood lines aseptically
- Remove gloves
- Perform hand hygiene

#### Checklist: Arteriovenous fistula/graft decannulation
- Perform hand hygiene (staff)
- Put on new, clean gloves
- Disconnect from blood lines aseptically
- Remove needles aseptically and activate needle retraction device
- Clean gloves worn (patient and/or staff) to compress site
- Apply clean gauze/bandage to site
- Remove gloves (staff and/or patient)
- Perform hand hygiene (staff and/or patient)
## Dialysis Audit Tool: AV Fistula/Graft Cannulation and Decannulation

### Audit Tool: Arteriovenous fistula/graft cannulation observations
(Use a "√" if action performed correctly, a "Ø" if not performed. If not observed, leave blank)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Skin cleansed with soap and water</th>
<th>Hand hygiene performed (staff)</th>
<th>No contact with fistula graft site (other antiseptic)</th>
<th>Cannulation performed appropriately</th>
<th>Gloves removed</th>
<th>Hand hygiene performed</th>
<th>Comments</th>
</tr>
</thead>
</table>

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

Duration of observation period = _______ minutes  
Number of procedures performed correctly = _______  
Total number of procedures observed during audit = _______

**ADDITIONAL COMMENTS/OBSERVATIONS:**

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### Audit Tool: Arteriovenous fistula/graft decannulation observations
(Use a "√" if action performed correctly, a "Ø" if not performed. If not observed, leave blank)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Hand hygiene performed (staff)</th>
<th>Skin, clean gloves removed</th>
<th>Disconnect from blood lines expeditiously</th>
<th>Bloodlines removed expeditiously</th>
<th>Clean gloves/face mask if patient not cleansed</th>
<th>Clean gloves/face mask if patient cleansed</th>
<th>Staff gloves removed</th>
<th>Staff hand hygiene performed</th>
<th>Patient gloves removed and hand hygiene performed if applicable</th>
<th>Comments</th>
</tr>
</thead>
</table>

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

Duration of observation period = _______ minutes  
Number of procedures performed correctly = _______  
Total number of procedures observed during audit = _______

**ADDITIONAL COMMENTS/OBSERVATIONS:**
Patient Education: 6 Tips to Prevent Infection

Fistulas or Grafts

1. Take care of your dialysis access site at home. Avoid scratching or picking it.
2. Wash your hands often, especially before and after dialysis treatment.
3. Wash or cleanse your dialysis access site prior to treatment.
4. Know the steps your healthcare providers should take when using your dialysis access for treatment.
5. Know the signs and symptoms of infection and what to do if you think you might have an infection.
6. Know what to do if you have any problem with your dialysis access site.

Catheters

1. Catheters have a higher risk of infection. Ask your doctor about getting a fistula or graft instead.
2. Learn how to take care of the catheter at home. Do not get it wet.
3. Wash your hands often, especially before and after dialysis treatment.
4. Know the steps your healthcare providers should take when using the catheter for treatment.
5. Know the signs and symptoms of infection and what to do if you think you might have an infection.
6. Know what to do if you have any problem with the catheter.
Infection Control Program

Infection control practices for hemodialysis units:

• Infection control precautions specifically designed to prevent transmission of bloodborne viruses and pathogenic bacteria among patients
• Routine serologic testing for hepatitis B virus and hepatitis C virus infections.
• Vaccination of susceptible patients against hepatitis B
• Isolation of patients who test positive for hepatitis B surface antigen
• Keep up-to-date on all vaccinations (hepatitis B, flu, PNA, COVID-19, etc.)

Surveillance for infections and other adverse events.

Infection control training and education:

• Healthcare providers
• Patients
Speaking Up: Making Dialysis Safer for Patients

- Patients on dialysis are encouraged to post this video on social media and share with family and friends.
- Dialysis clinics are encouraged to show the video during dialysis treatments, play it in waiting rooms and post links within patient and staff educational material.

Patient education video (Speak Up)

https://www.cdc.gov/dialysis/patient/speak-up-video.html#anchor_1579633659273
References


- https://www.google.com/search?q=hemodialysis+machines&amp;tbm=isch&amp;ved=2ahUKEwi401Wu8ar3AhWZUs0KHaGWVb8Q2-cCeqQlABAAGq=hemodialysis+machines&amp;qg=lcq=cnpbWcQARqAMnGkIvAxAnMg5yIYABAHEB4yBggAEcQHjIgC4AQBXeAmgQIABAYMcQJABAYUBAYAGD1RWqAcAB4AIABRYqBRZ1BATgYAOAisQntd3dIl6WItZ8ABAQ&sqcclient=image&amp;ei=9E5kYyiGG5mtfQahrZr4Dw&amp;biw=534&amp;bih=1156&amp;rlz=1C1GCEB_enUS918US918

- https://www.google.com/search?q=hemodialysis+cleaning+machines&amp;tbm=isch&amp;ved=2ahUKEwjnyM2B8qr3AhWPrmoFHSusDNEQ2-cCeqQlABAAGq=hemodialysis+cleaning+machines&amp;qg=lcq=cnpbWcQDDoHCCMQt7wMq5GCAQQBXaEogQIABAYUKUXWNonYKU4aABwAqAgAQiAGEB1BAyEwmAEoAEgqELZ3dzLXdpei1tpWfAAQE&amp;sqcclient=image&amp;ei=009YqfrK_YdqtsPq9iyiA0&amp;bih=534&amp;biw=1156&amp;rlz=1C1GCEB_enUS918US918


- https://www.nephroplus.com/09-know-your-hemodialysis/}

- https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.researchgate.net%2Ffigure%2FTypical-setting-for-hemodialysis-courtesy-of-Ehealthhut-C-www.ehealthhut.com_fig2_243212488&amp;psig=AOvVaw0s-FgsE8GlXeeG07Xt8f_a&amp;ust=1651026744134000&amp;source=images&amp;cd=vfe&amp;ved=2ahUKEwijx0YeG2LD3AhXzgokEHTTD3oQjRx6BAqAEAs

- https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6008a4.htm?s_cid=mm6008a4_w
Engaging Patients in the Infection Prevention Conversation


Scrub the Hub

https://www.jointcommission.org/-/media/tjc/documents/resources/health-services-research/clabsi-toolkit/clabsi_toolkit_tool_3-21_scrub_the_hubpdf.pdf?db=web&hash=79BF0D29BD4AAF13DEC3C3DE5AB90494&hash=79BF0D29BD4AAF13DEC3C3DE5AB90494

You can find resources and learn more about CDC’s work to reduce infections at www.CDC.gov/dialysis.

Questions?

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