

Infection Prevention in Ambulatory Dialysis Settings

The Mount Sinai Hospital

Melanie Altar, RN, MS, CNL
Infection Preventionist

Leah Shayer, MPH
Infection Preventionist

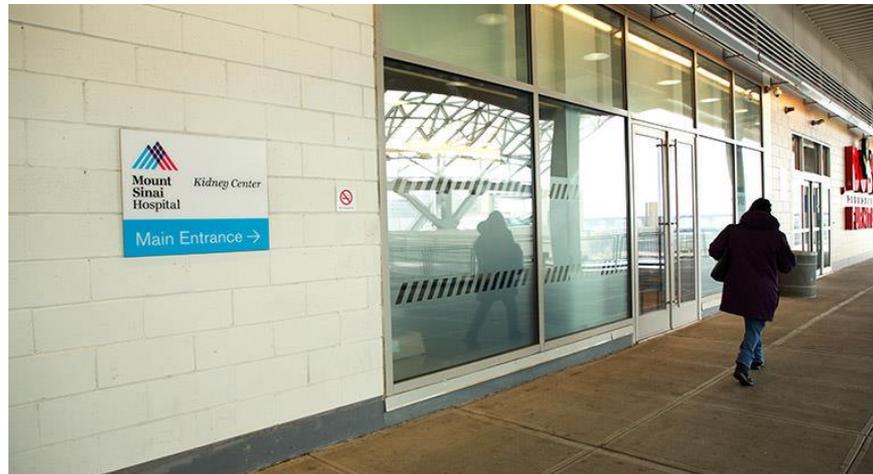
APIC Greater NY Meeting
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Ambulatory Dialysis at Mount Sinai Hospital

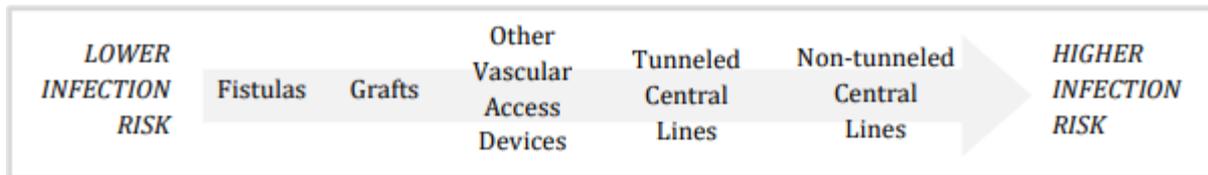
- ▶ Adult outpatient dialysis facility with approx. 200 patients per month enrolled
- ▶ Pediatric outpatient dialysis located within the main hospital, less than 10 patients per month enrolled



Infection Risk Factors for Dialysis Patients

Dialysis patients are at increased risk of infection due to:

- The need for access for dialysis administration
 - Dialyzed three days a week
 - Access via central venous catheters, AV fistulas, or AV grafts
- Weakened immune systems
- Frequent hospitalizations and surgical interventions



Risk of

- **Hepatitis B and C**
 - Hepatitis B and C viruses can live on surfaces and be spread without visible blood
- **Bloodstream infections**
 - Bacteria can enter the bloodstream through a vascular access

Infection Prevention Practices

- ▶ Hand hygiene
- ▶ Wear personal protective equipment (PPE) for all patient care
- ▶ Promote vascular access safety
 - Sterile access and dressing changes
 - Patient education
 - Clinical review of type of access
- ▶ Separate **clean areas** from **contaminated areas**
- ▶ Clean and disinfect the dialysis station between patients
 - All disinfection with bleach due to risk of bloodborne pathogen transmission



Personal Protective Equipment (PPE)

- ▶ RNs wear **gloves, gowns, mask and eye protection**:
 - During initiation and termination of dialysis
 - Manipulation of access
 - When cleaning dialyzers
 - When handling lab samples
- ▶ PPE should be changed if it becomes dirty. Gowns and gloves are changed in between patients.
- ▶ Hand hygiene



Disinfecting the Dialysis Station

- ▶ All equipment and surfaces are considered to be contaminated and are disinfected with bleach after each session
- ▶ **Disinfect** the dialysis station including chairs, trays, countertops, and machines
 - Special attention to high touch surfaces (ie control panels)
 - Empty and disinfect prime waste containers; saline is disposed in designated soiled sink
 - Tubing is disposed as regulated medical waste



Use a bleach concentration of at least 1:100 for disinfection



Preventing the Spread of Hepatitis B

- ▶ EHS recommendations: staff should be vaccinated for HBV if not immune
- ▶ Patients are assigned to stations according to HBV serologic status
- ▶ Dialyze HBV+ patients in a separate room with dedicated equipment
 - Staff members caring for patients with HBV+ should not care for HBV susceptible patients during the same shift

Isolation Precautions

- ▶ A dedicated isolation room for patients with active infections or history of MDROs
 - Patients with active C. diff or other GI infections are assigned a bathroom
- ▶ The senior clinical nurse checks the patient census daily in EPIC to determine which patients will require isolation.
 - Utilizes infection flag in EPIC
 - Reach out to Infection Prevention to review case



STOP **Contact Precautions** **ALTO**

Visitors must report to the nurses' station before entering this room.
Las visitas deben anunciarse en el mostrador de enfermería antes de entrar a esta habitación.

 **Clean hands when entering and exiting the room**
Limpíese las manos al entrar y salir del cuarto

 **Put on a gown first and then gloves**
Póngase la bata primero y luego los guantes

 **Disinfect shared patient equipment**
Desinfecte equipo que se comparta entre pacientes

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STOP **Special Contact Precautions** **ALTO**

Visitors must report to the nurses' station before entering this room.
Las visitas deben anunciarse en el mostrador de enfermería antes de entrar a esta habitación.

 **Clean hands before entering the room**
Limpíese las manos al entrar al cuarto

 **Put on a gown first and then gloves**
Póngase la bata primero y luego los guantes

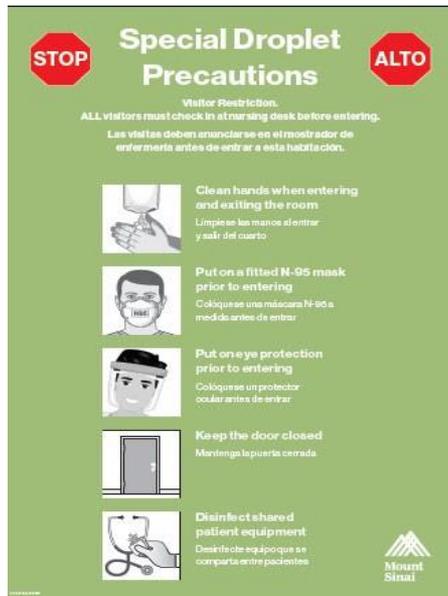
 **Clean hands with soap and water when exiting**
Limpíese las manos con agua y jabón al salir

 **Use bleach to disinfect room and shared patient equipment**
Utilice cloro para desinfectar el cuarto y el equipo que se comparta entre pacientes

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COVID-19 Precautions

- ▶ During high surge periods, there is a designated shift for patients with COVID-19
 - Last shift of the day on Tues/Thurs/Sat
- ▶ When rates of COVID-19 are lower, patients who have not completed their isolation period receive dialysis in the dedicated isolation room.



STOP **Special Droplet Precautions** **ALTO**

Visitor Restriction:
ALL visitors must check in at nursing desk before entering.
Las visitas deben anunciarse en el mostrador de enfermería antes de entrar a esta habitación.

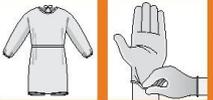
-  Clean hands when entering and exiting the room.
Limpíese las manos al entrar y salir del cuarto.
-  Put on a fitted N-95 mask prior to entering.
Colóquese una máscara N-95 a medida antes de entrar.
-  Put on eye protection prior to entering.
Colóquese un protector ocular antes de entrar.
-  Keep the door closed.
Mantenga la puerta cerrada.
-  Disinfect shared patient equipment.
Desinfecte equipo que se comparta entre pacientes.

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STOP **Contact Precautions** **ALTO**

Visitor Restriction:
Visitors must report to the nurses' station before entering this room.
Las visitas deben anunciarse en el mostrador de enfermería antes de entrar a esta habitación.

-  Clean hands when entering and exiting the room.
Limpíese las manos al entrar y salir del cuarto.
-  Put on a gown and gloves.
Póngase una bata y guantes.
-  Disinfect shared patient equipment.
Desinfecte equipo que se comparta entre pacientes.

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Dialysis NHSN Event Reporting

Events include the following:

- **Positive blood culture:** Report all positive blood cultures from specimens collected as an outpatient or collected within one calendar day after a hospital admission. Positive blood cultures meeting the criteria above should be reported regardless of whether or not a true infection is suspected or whether the infection is thought to be related to hemodialysis.
- **IV antimicrobial start:** Date of first outpatient dose of an antimicrobial course.
- **Pus, redness, or increased swelling at the vascular access site:** Report each new outpatient episode where the patient has one or more symptoms of the following, at any vascular access site, regardless of whether the patient receives treatment for infection.

Process for data collection and reporting

1. Denominator data is collected on the first two business days of the month.
2. Vascular Access Coordinator sends Outpatient Dialysis antibiotic use, positive CVC infection cases, denominator data and AKI data for the previous month
3. IP reviews report and compares to data pulled from SoftLab
4. IP reports out denominator data and events to NHSN
5. Data is shared at monthly quality meetings

References

- ▶ Centers for Disease Control and Prevention, “Infection Prevention in Dialysis Settings”. *Continuing Education Training Course for Outpatient Hemodialysis Healthcare Workers August 2012* [Infection-Prevention-Dialysis-Settings-rev-8-29-12.ppt \(live.com\)](#)
- ▶ National Healthcare Safety Network, “Dialysis Event Surveillance Protocol”. January 2022 [NHSN Dialysis Event Surveillance Protocol \(cdc.gov\)](#)
- ▶ Mount Sinai Hospital, Policy IP -Section J -17, “ Mount Sinai Kidney Center”