

ASEPTIC TECHNIQUE AND TRANSMISSION BASED PRECAUTIONS

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OBJECTIVES

- Aseptic Technique
 - Define aseptic technique
 - Understand importance of aseptic technique
 - Recognize breaches in aseptic technique
- Transmission Based Precautions
 - Describe rationale for TBP
 - Evaluate proper PPE use in TBP
 - Discuss lapses in TBP

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DISCLOSURE

- The groundhog lied! Come on spring!



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ASEPTIC TECHNIQUE

To protect patients from harmful bacteria and other pathogens during medical procedures, healthcare providers use aseptic technique.

Aseptic technique means using practices and procedures to prevent contamination from pathogens. It involves applying the strictest rules to minimize the risk of infection.



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ASEPTIC TECHNIQUE

- Handling surgical equipment
- Inserting a central venous catheter
- Vaginal deliveries
- Handling dialysis catheters
- Performing dialysis
- Inserting a chest tube
- Inserting a urinary catheter
- Inserting other draining devices
- Surgical techniques

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ASEPTIC TECHNIQUE

- Barriers
- Patient and equipment preparation
- Environmental controls
- Contact guidelines

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BARRIERS

- Protect patients from transfer of pathogens for HCW, environment or both
- Sterile gloves
- Sterile gowns
- Masks
- Sterile drapes
- Must be donned to prevent contamination
- Packages must be opened to prevent contamination

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SURGICAL SKIN PREPARATION

- Use skin preparation solutions
 - Packaged to control delivery
 - Unit dose
 - Swabs
 - Other similar applicators
- Provide clear and explicit instructions and warnings
- Ensure ETOH based prep does not soak in to hair or linens
 - Place sterile towels to absorb rips, then remove before draping
- Ensure ETOH based prep is completely dry
 - May take a few minutes
 - Chloraprep in three minutes
 - Three minute time out (timer in room)
- Verify all above is completed before starting procedure

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CMS Guidelines

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PATIENT AND EQUIPMENT PREPARATION

- Equipment sterilization
 - Or appropriate covering and draping
- Instrument sterilization
 - Pre-cleaning
 - Transport
 - Decontamination
 - Sterilization
- Preoperative showers
 - Product
 - Patient compliance
- Nasal decolonization

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ENVIRONMENTAL CONTROLS

- Doors closed
 - Constant opening
 - Supplies
 - Personnel
 - visiting
- Positive pressure
 - Supply greater than exhaust
 - Air pulled from OR into adjacent areas
 - Laminar flow
- No unnecessary personnel
 - Count number of times door is opened

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CONTACT GUIDELINES

- Sterile barriers
 - Once HCW don sterile barriers, they can only touch sterile items
- Urinary catheters
 - Sterile gloves
 - Sterile packaging
 - Drape under patient
 - Skin preparation
 - Minimize people in room
 - Carefully insert, avoid touching non sterile surfaces

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CONTACT GUIDELINES - CHAMPS

- **C**hange or remove the urinary catheter when indicated
 - Assess and document need
- **H**and hygiene
 - B&A patient contact
 - B&A manipulation of tubing
 - Before donning sterile gloves
 - After removing sterile gloves
 - After removing clean gloves
- **A**septic catheter insertion

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CHAMPS

- **Maintenance**
 - Closed drainage system
 - Unobstructed urine flow
 - Dedicated measuring device for emptying
 - Bag below level of bladder
 - Bag and tubing off floor
- **Periurethral care**
 - Minimally BID
- **Specimen collection**
 - Clean gloves for specimen collection
 - Collect specimen sterily

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LEADS — CENTRAL LINE INSERTION

- **Line insertion**
 - Avoid femoral
 - Aseptic insertion
 - All in room in sterile attire
 - Full sterile drape
- **Evaluate necessity of line daily**
 - Remove as soon as not medical necessity
- **Assess and maintain dressing integrity**
 - CHG dressings
 - Replace wet, bloody, non-intact dressing

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LEADS — CENTRAL LINE INSERTION

- **Decrease number of blood cultures drawn from line**
 - Lines have biofilm within 12 hours
 - Improper treatment - antibiotic resistance
- **Scrub the hub**
 - Alcohol pads or 15 seconds
 - Alcohol impregnated sponges in continuous caps

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TRANSMISSION BASED PRECAUTIONS

- Second tier of basic infection control
- Used in addition to standard precautions
- Used for patient who may be infected or colonized with certain infectious agents
- Additional precautions to prevent transmission

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STANDARD PRECAUTIONS

- Perform hand hygiene
- Use PPE for expectation or potential exposure to infectious material
- Follow respiratory hygiene/cough etiquette
- Appropriate patient placement
- Properly handle, clean and disinfect patient care equipment
- Clean and disinfect the environment appropriately
- Handle textiles and laundry carefully
- Follow safe injection practices
- Wear surgical mask to perform LP
- Safe handling of needles and sharps

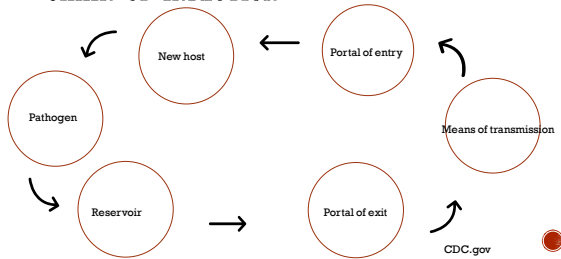
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CHAIN OF INFECTION



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ISOLATION PRECAUTIONS

- **Contact**
 - Patients with known or suspected infections that represent increased risk for contact transmission
 - MRSA
 - VRE
 - d/dt
- **Droplet**
 - Patients known or suspected to be infected with pathogens transmitted by respiratory droplets generated by coughing, sneezing or talking
 - Influenza
- **Airborne**
 - Patients known or suspected to be infected with pathogens transmitted by airborne route
 - TB
 - Chicken pox
 - Negative pressure room

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CONTACT PRECAUTIONS

- <https://www.cdc.gov/infectioncontrol/guidelines/isolation/appendix/type-duration-precautions.html>

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CONTACT

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Gastroenteritis <i>C. difficile</i>	Contact + Standard	Duration of illness	Discontinue antibiotics if appropriate. Do not share electronic thermometers [853, 854] ensure consistent environmental cleaning and disinfection. Hypochlorite solutions may be required for cleaning if transmission continues [847]. Handwashing with soap and water preferred because of the absence of sporicidal activity of alcohol in waterless antiseptic hand rubs [963].
Gastroenteritis Cryptosporidium species	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
Gastroenteritis <i>E. coli</i> Enteropathogenic O157:H7 and other Shiga toxin-producing strains	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
Lice Head (pediculosis)	Contact + Standard	Until 24 hours after initiation of effective therapy	See [This link is no longer active: https://www.cdc.gov/nceid/dpd/div1/parasites/lice/default.htm . Similar information may be found at CDC's Parasites ... List (accessed September 2018).]

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DROPLET

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Influenza Pandemic Influenza (also a human influenza virus)	Droplet + Standard		See [This link is no longer active: http://www.pandemicflu.gov . Similar information may be found at Interim Guidance for Infection Control in Health Care Settings When Care for Confirmed Cases, Probable Cases, and Cases Under Investigation for Infection with Novel Influenza A Viruses Associated with Severe Disease (accessed September 2018)] for current pandemic influenza guidance.
Meningitis Haemophilus influenzae, type b known or suspected	Droplet + Standard	Until 24 hours after initiation of effective therapy	

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AIRBORNE

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Herpes zoster (varicella-zoster) (shingles) Disseminated disease in any patient Localized disease in immunocompromised patient until disseminated infection subsided	Airborne + Contact + Standard	Duration of illness	Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for protection of immune HCWs; no recommendation for type of protection (i.e., surgical mask or respirator) for susceptible HCWs.
Varicella zoster	Airborne + Contact + Standard	Until lesions have crusted	Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for type of protection of immune HCWs; no recommendation for type of protection (i.e., surgical mask or respirator) for susceptible HCWs. Postexposure prophylaxis: provide postexposure vaccine ASAP (but within 120 hours); for susceptible exposed persons for whom vaccine is contraindicated (immunocompromised persons, pregnant women, newborns whose mother's varicella onset < 15 days before delivery or within 90 hours after delivery) provide VZIG, when available, within 96 hours. If unavailable, use PEP. Use barrier for exposed susceptible persons and provide exposed susceptible health care workers beginning 8 days after first exposure until 24 days after last exposure or 28 if received VZIG, regardless of postexposure vaccination. [2638]

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TRANSMISSION BASED PRECAUTIONS AND AMBULATORY CARE

- More control of patient population
 - Does facility refuse to take MRSA patients
- Sick or co-morbidities go to the hospital, or cancel
 - Patients should be afebrile
 - Incontinent patients most likely will go elsewhere
- Bronchoscopies might have more need for airborne precautions
 - Rule out TB

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• Contact



Droplet



Airborne-must be fit tested



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QUESTIONS?

Thank you!

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