Aspirus Infection Prevention

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Aspirus Infection Prevention

- This module will cover the following topics as a supplement to the Rapid Regulatory Module content:
  - Multidrug Resistant Organisms
  - Healthcare-Associated Infections (HAI)
  - Surgical Site Infection Prevention
  - Care and Handling of Contaminated Instrumentation
  - Work Practice Controls to prevent infection
  - Respiratory Pathogens

Who is your Infection Preventionist?
Each facility has an infection prevention subject matter expert who helps support practices that reduce and eliminate infection harm to staff and patients.

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HAI Prevention

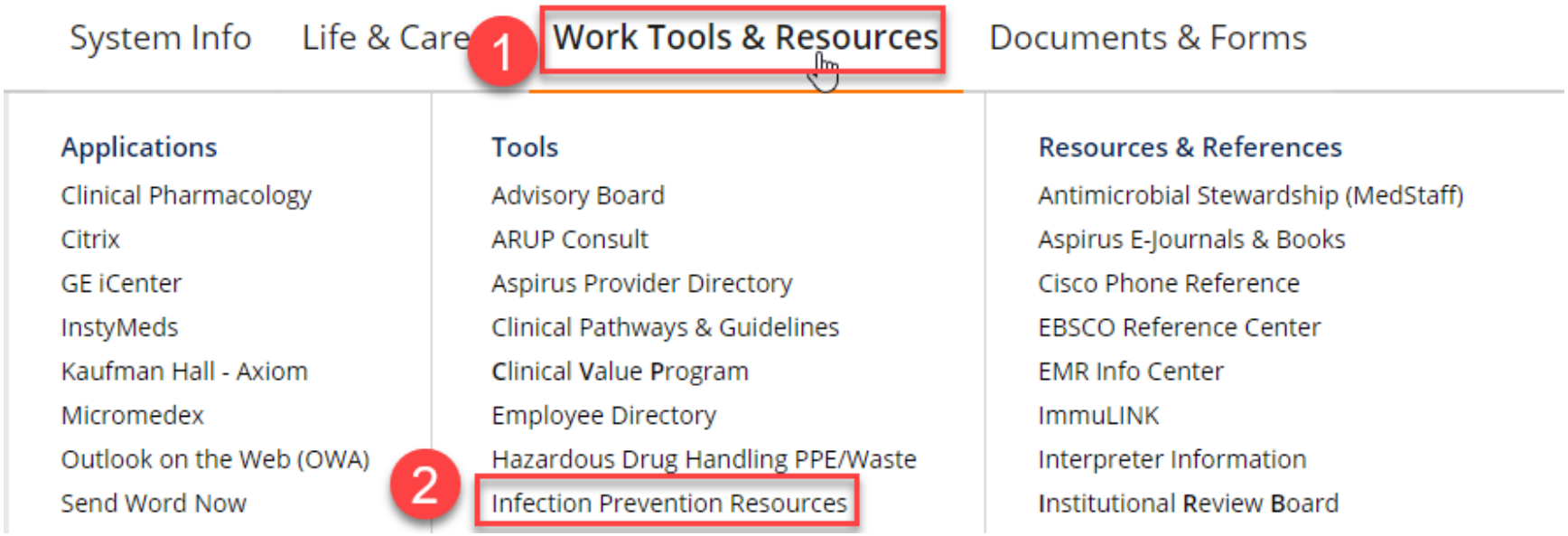
Aspirus Intranet site - ***Infection Prevention Resources***

- There are HAI prevention resources located on the Aspirus Intranet for healthcare staff to access, review, and implement.

- The HAI toolkit provides the tools to promote efficient, effective, and highly reliable patient care through evidence-based practices for prevention of HAIs.

- The toolkit also provides the analysis, communication, and action planning tools for bedside health care staff to implement when a HAI is identified:
  - GAP Analysis Template
  - CIR Huddle form, SBAR, and action plan.

Intranet Resource Page



Infection Prevention Resources

HAI Toolkit

Please use the Infection Prevention resources below to help you as you perform the tasks associated with your job. Thank you for doing your part in support of our patient safety, employee health and infection prevention initiatives.

Hover over the ⓘ for a description of each tool.

Search:

Tool	Type	About
Action Plan Template for Infection Prevention	Additional Tools	ⓘ
GAP Analysis Template	Additional Tools	ⓘ
Introduction to Toolkit for Preventing a HAI	Additional Tools	ⓘ
SBAR for Infection Prevention	Additional Tools	ⓘ
C-diff Testing Protocol	C-Difficile	ⓘ
CDC CDI GAP Assessment Tool	C-Difficile	ⓘ
Cdiff Critical Incident Review Template	C-Difficile	ⓘ
When To Test For UTI	CAUTI	ⓘ

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Check out these Infection Prevention Resources

Watch for more updates!

Multi Drug Resistant Organisms (MDROs)

What is it?

- Bacteria that have developed resistance to multiple drugs or antibiotics

Who is at risk?

- Patients in the hospital
- Patients that have other health conditions
- Immunocompromised patients
- Patients who have been treated with antibiotics

Contact Precautions?

- Yes

Methicillin Resistant Staphylococcus Aureus (MRSA)

Gram Negative Bacilli That Produce Extended Spectrum Beta Lactamase (ESBL)

Vancomycin Resistant Enterococcus (VRE)

Carbapenem-resistant enterobacteriaceae (CRE)

Multi Drug Resistant Organisms (MDROs)

Colonization Versus Infection

- Colonized patients usually have no symptoms and it does not require antibiotic therapy
- Most patients with an MDRO are only “colonized” with the bacteria, but do not develop “infection” unless the skin or other barriers are broken
- Once colonized, chronically ill patients (e.g. diabetes, kidney failure, etc.) often remain permanently colonized; Patients who develop a MDRO infection and are successfully treated often remain colonized

Transmission of MDROs

- Transmission of MDROs (MRSA, VRE, ESBL, CRE) in the health care setting can occur when health care workers touch patients and/or surfaces, equipment or objects in patient rooms, do not clean their hands and then touch other patients
- This is the primary transmission route

- Bacteria can live for days to months on surfaces
  - These contaminated surfaces serve as a source for transmission
- Cleaning patient care equipment and surfaces properly will reduce spread
- Complying with isolation precautions and hand hygiene will help reduce spread
  - Wear a gown and gloves when crossing the threshold
  - Remove gloves and gowns immediately before leaving the patient's room. These are removed inside the patient's room
  - Hand hygiene should be done on entrance and exit of room, and after removing gloves

Clostridioides difficile (C. diff)

What is it?

- Anaerobic, gram-positive bacilli that produces 2 toxins
- Symptoms of infection: watery diarrhea, loss of appetite, nausea, and abdominal pain, variety of illnesses and even death

Colonization versus Infection

- Colonization (no symptoms) occurs in less than 3% of healthy adults and between 4 to-20% of residents of long-term care facilities

Who is at risk?

- People who are more likely to get an infection are:
- Those with certain medical problems and the elderly
- Are on or have recently taken broad spectrum antibiotics
- Have frequent hospitalizations or are residents of nursing homes

Enteric Precautions?

- Yes, patient remains in isolation until discharged, or per facility protocol

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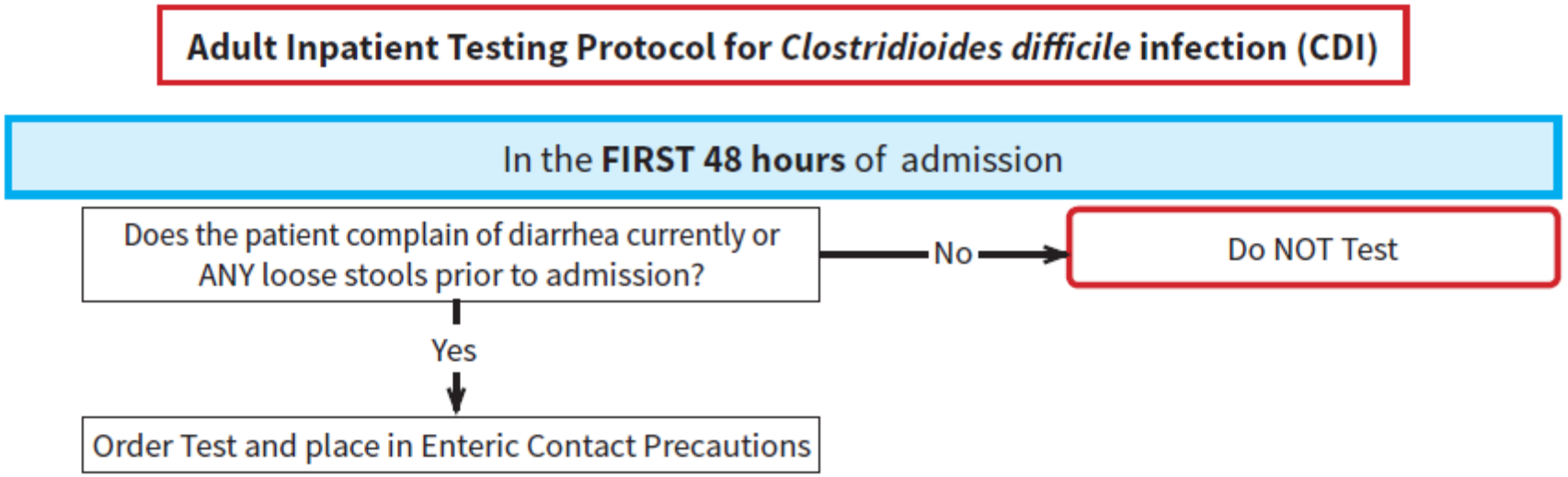
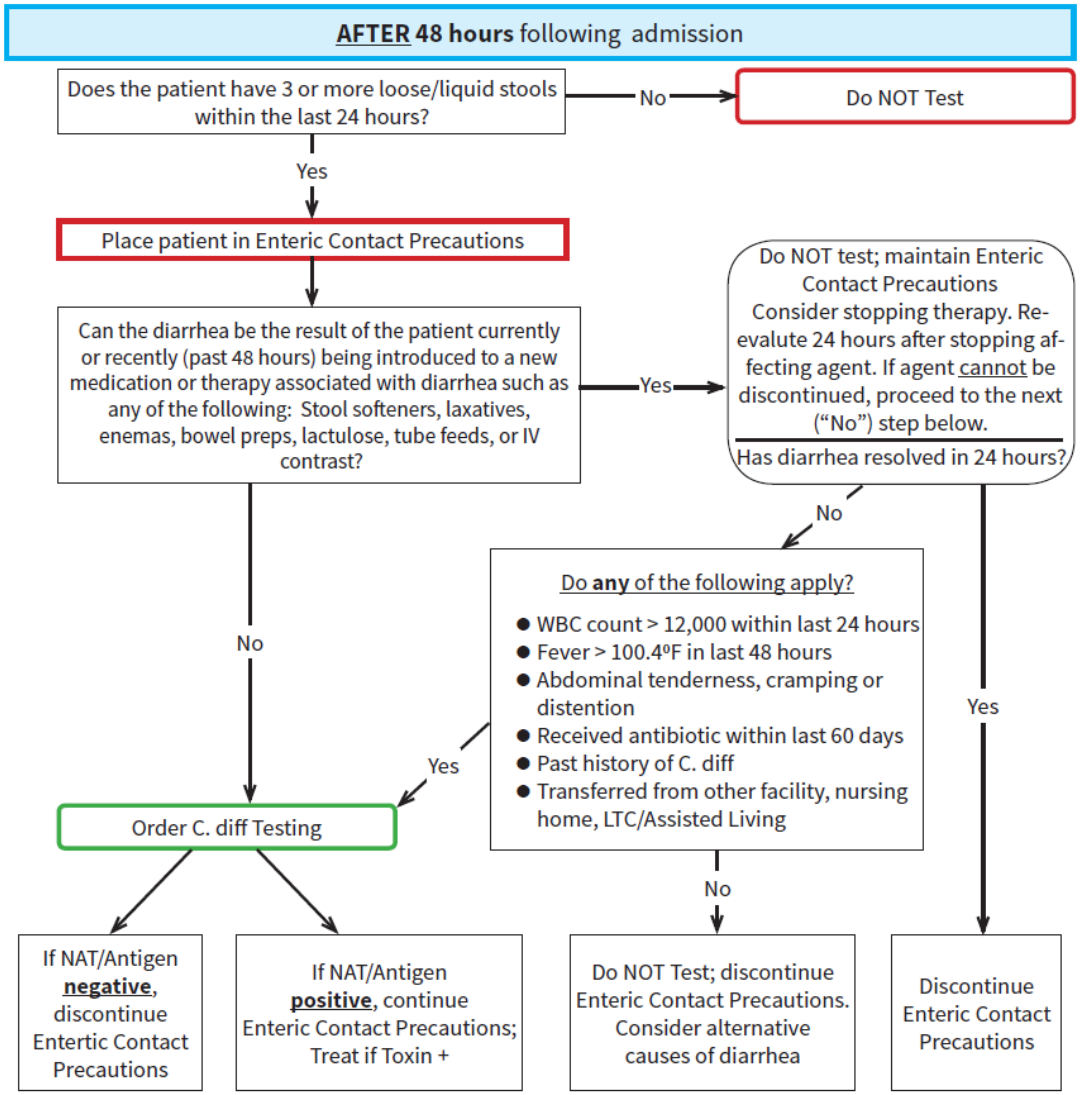
C. diff Prevention

- Follow Antimicrobial Stewardship guidelines
- Use the testing requirements for C. diff Infection and place the patient on Enteric Contact Precautions if C. diff is suspected
- Hand hygiene with soap and water is key
- Clean and disinfect environmental surfaces and equipment using sporicidal disinfectants effective against the organism
- A UV light may be used in conjunction with a sporicidal disinfectant
- Visitors
  - Wear gloves and gowns while visiting the patient
  - Must wash hands with soap and water when leaving the patient's room

System C. diff Algorithm
FIRST 48 Hours



System C. diff Algorithm
AFTER 48 Hours



Central Line Bloodstream Infection (CLABSI)

- What is a Central Line?
  - A catheter, placed in a large vein, that may be used to draw blood, give fluids, or medications
  - It may be left in place for several weeks
  - Examples include: PICCs, Non-tunneled catheters (CVAD dual or triple lumens), Tunneled catheters (Hickmans, permacath), and implanted ports (port-a-cath)
- A bloodstream infection can occur when bacteria or other germs travel down a “central line” and enter the blood
- Possible signs and symptoms of a catheter-associated bloodstream infection are:
  - Fevers, chills, the skin around the catheter may become sore and red

Central Line Bundle

- A bundle approach is an evidence-based package of interventions for patients with central lines
- Components of the central line bundle
  - Hand Hygiene
  - Insertion Kit
  - Maximal Barrier Precautions during insertion (covering the patient from head to toe with a large sterile drape with a small opening for the site of insertion, inserter wears cap, mask, and sterile gown/gloves)
  - Chlorhexidine Skin Antisepsis (not approved for children <2 months)
  - Optimal site selection with avoidance, if possible, of the femoral vein for central venous access
  - Daily Evaluation of Line Necessity with Prompt Removal of Unnecessary Lines

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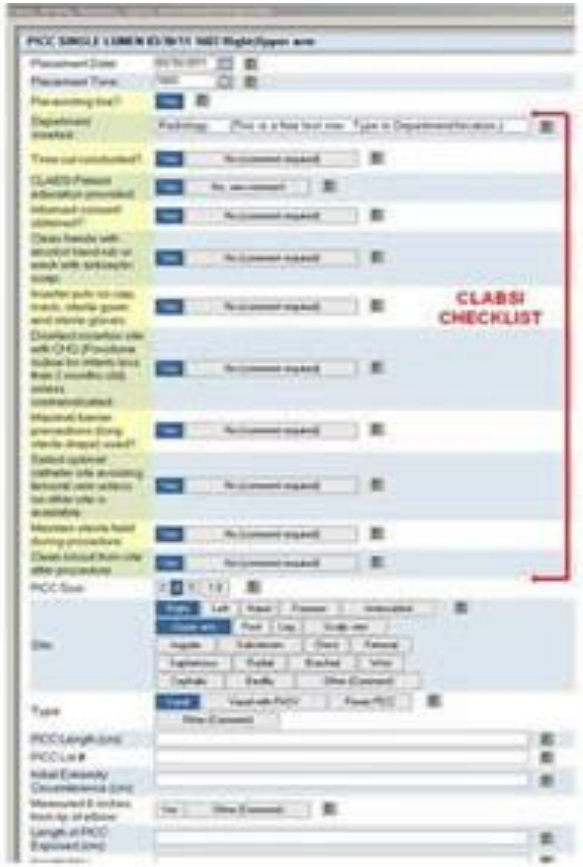
Central Line Checklist

- Use of a central line “checklist” is to ensure all insertion practices are followed
  - A central line insertion checklist must be filled out for all central lines inserted
  - The checklist can be found under all central line LDA Properties
  - Completed by the RN
  - A comment is required for any “No” response



Patient/Family Education Prior to Central Line Insertion

- ***Patient Education is required*** *for* Central Line-Associated Bloodstream Infection prevention, ***prior to*** central line insertion.

- Patient education is to be documented in the central line Lines Drains Airway (LDA) properties and inpatient education.

FAQs
(frequently asked questions)
about
"Catheter-Associated Bloodstream Infections"
(also known as "Central Line-Associated Bloodstream Infections")

What is a catheter-associated bloodstream infection?

A "central line" or "central catheter" is a tube that is placed into a patient's large vein, usually in the neck, chest, arm, or groin. The catheter is often used to draw blood, or give fluids or medications. It may be left in place for several weeks. A bloodstream infection can occur when bacteria or other germs travel down a "central line" and enter the blood. If you develop a catheter-associated blood-stream infection you may become ill with fevers and chills or the skin around the catheter may become sore and red.

Can a catheter-related bloodstream infection be treated?

A catheter-associated bloodstream infection is serious, but often can be successfully treated with antibiotics. The catheter might need to be removed if you develop an infection.

What are some of the things that hospitals are doing to prevent catheter-associated bloodstream infections?

To prevent catheter-associated bloodstream infections doctors and nurses will:

- Choose a vein where the catheter can be safely inserted and where the risk for infection is small.
- Clean their hands with soap and water or an alcohol-based hand rub before putting in the catheter.
- Wear a mask, cap, sterile gown, and sterile gloves when putting in the catheter to keep it sterile. The patient will be covered with a sterile sheet.
- Clean the patient's skin with an antiseptic cleanser before putting in the catheter.
- Clean their hands, wear gloves, and clean the catheter opening with an antiseptic solution before using the catheter to draw blood or give medications. Healthcare providers also clean their hands and wear gloves when changing the bandage that covers the area where the catheter enters the skin.
- Decide every day if the patient still needs to have the catheter. The catheter will be removed as soon as it is no longer needed.
- Carefully handle medications and fluids that are given through the catheter.

What can I do to help prevent a catheter-associated bloodstream infection?

- Ask your doctors and nurses to explain why you need the cath-eter and how long you will have it.
- Ask your doctors and nurses if they will be using all of the pre-vention methods discussed above.
- Make sure that all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you.

If you do not see your providers clean their hands, please ask them to do so.

- If the bandage comes off or becomes wet or dirty, tell your nurse or doctor immediately.
- Inform your nurse or doctor if the area around your catheter is sore or red.
- Do not let family and friends who visit touch the catheter or the tubing.
- Make sure family and friends clean their hands with soap and water or an alcohol-based hand rub before and after visiting you.

What do I need to do when I go home from the hospital?

Some patients are sent home from the hospital with a catheter in order to continue their treatment. If you go home with a catheter, your doctors and nurses will explain everything you need to know about taking care of your catheter.

- Make sure you understand how to care for the catheter before leaving the hospital. For example, ask for instructions on shower-ing or bathing with the catheter and how to change the catheter dressing.
- Make sure you know who to contact if you have questions or problems after you get home.
- Make sure you wash your hands with soap and water or an alcohol-based hand rub before handling your catheter.
- Watch for the signs and symptoms of catheter-associated blood-stream infection, such as soreness or redness at the catheter site or fever, and call your healthcare provider immediately if any occur.

If you have additional questions, please ask your doctor or nurse.

Co-sponsored by:

SHEA · IDSA · American Hospital Association · APIC · CDC · The Joint Commission

Access Cleaning

- Bloodstream infection “outbreaks” have been associated with failure to adequately decontaminate catheter hubs or failure to change them at appropriate intervals
  - Perform Hand Hygiene and wear gloves
  - Ensure the line is clean before accessing:
    - Use disinfecting port protectors

      OR

    - Scrub with 70% alcohol **<u>for 15 seconds</u>** (“Scrub the hub”)

Daily Assessment of Line Necessity

- Daily review of line necessity will prevent unnecessary delays in removing central lines
  - Use guidelines to assess and document DAILY the necessity of the line
  - Contact the provider to discuss discontinuation of the catheter unless line necessity is addressed in provider documentation
  - After discussion with the provider, document in the EHR the reason the line will be maintained, if that is the decision

- **The Joint Commission considers evaluating and removing nonessential central lines one of the most critical requirements for patient safety**

Resource: Policy Stat Central Venous Access Device Care (CVAD) Policy & Procedure (System)

Surgical Site Infections (SSI)
Factors For Infection

- Microbial
  - The source of contamination may come from the patient themselves (such as normal flora), from the healthcare personnel, the environment, or surgical instruments
- Patient
  - Immune status and preexisting conditions
- Surgical
  - Type of procedure, introduction of foreign material, and amount of damage to tissues

Risk for Developing SSI

Patient	
• Preoperative Infections	• Malnutrition
• Glucose Control & Diabetes	• Prolonged preoperative hospital stay
• Smoking	• Colonization with S. aureus
• Obesity	• Perioperative transfusions

Reduce Risk of SSI

Operative Strategies

- Preoperative aseptic showering or bathing
- Preoperative hair removal; if hair removal is necessary, use electric clippers outside the OR
- Patient skin preparation in OR
- Administer appropriate dose of antibiotic prophylaxis within the 60 minutes before the surgery begins, and the antibiotics should be discontinued within 24 hours postoperatively
- Perioperative glycemic control in patients with and without diabetes
- Personnel perform a surgical scrub
- Operating room environment
- Prevent exposure to infected surgical personnel
- Instrument sterilization
- Surgical attire and drapes
- Aseptic technique
- Surgical technique
- Surgical site contamination
- Surgical drains

Postoperative Prevention Strategies

- Peri-operative antibiotics should be discontinued within 24 hours postoperatively
- Maintain blood glucose levels <200 mg/dL
- Perform hand hygiene before and after care
- Optimal surgical incision care and dressing changes
- Inspect incision site every day for signs of infection
  - Redness around the area of incision, increased pain, purulent or foul drainage from incision site, fever/chills
- Blood glucose testing or dressing change

Joint Commission National Patient Safety Goal (NPSG) for Prevention of Surgical Site Infections

- The Joint Commission requires all patients undergoing surgery to have preoperative education on Surgical Site Infection Prevention
  - Clinicians can find the education topic and related handout per education policies at each facility
  - **Documentation of education needs to be in the medical record**



Catheter Associated Urinary Tract Infection (CAUTI)

- What is a CAUTI?
  - A UTI in which a bacteria or organism enter the urinary tract system through a catheter
  - Catheter was in place for more than 2 consecutive days
  - Must be an indwelling catheter
- Possible signs and symptoms:
  - fever, suprapubic tenderness, costovertebral angle pain or tenderness, urinary urgency, urinary frequency and dysuria

Prevent Catheter Associated Urinary Tract Infections (CAUTI)

Indications for insertion of a catheter at Aspirus

- Perioperative Care up to 24 hours following a procedure
- Required HOURLY assessment of urine output
- Obstruction
- Chronic urinary retention
  - Neurogenic bladder
- Acute urinary retention
  - continuous irrigation
- Healing of wounds with incontinence
  - Urinary incontinence in a patient with Stage III or IV pressure ulcers on the trunk,
  - perineal wounds, necrotizing infections or skin grafts
- Hospice/Palliative/Comfort care
  - Active order for hospice, palliative, or comfort measures
- Patient requires pelvic/spinal immobilization
  - Spinal cord injury, pelvic injury

Interventions for CAUTI Reduction

Use less invasive options if possible

- external catheters, urinals, straight cathing, scales, etc

Insertion

- Standardize insertion criteria/necessity
- Ensure competency by nursing staff

Maintenance

- Evaluate the need for catheter daily
- Following aseptic insertion of urinary catheter, maintain closed drainage system.
- Use aseptic technique when emptying collection bag
- Maintain unobstructed urine flow
- Do not clean periurethral area with antiseptics to prevent CAUTI. Routine hygiene is appropriate

Removal

- A nurse driven protocol for removal to get the catheters out as quickly as possible

Culture appropriately – improve the "Culture of Culturing"

Resource: Policy Stat
Urinary Bladder Care Protocol (System)

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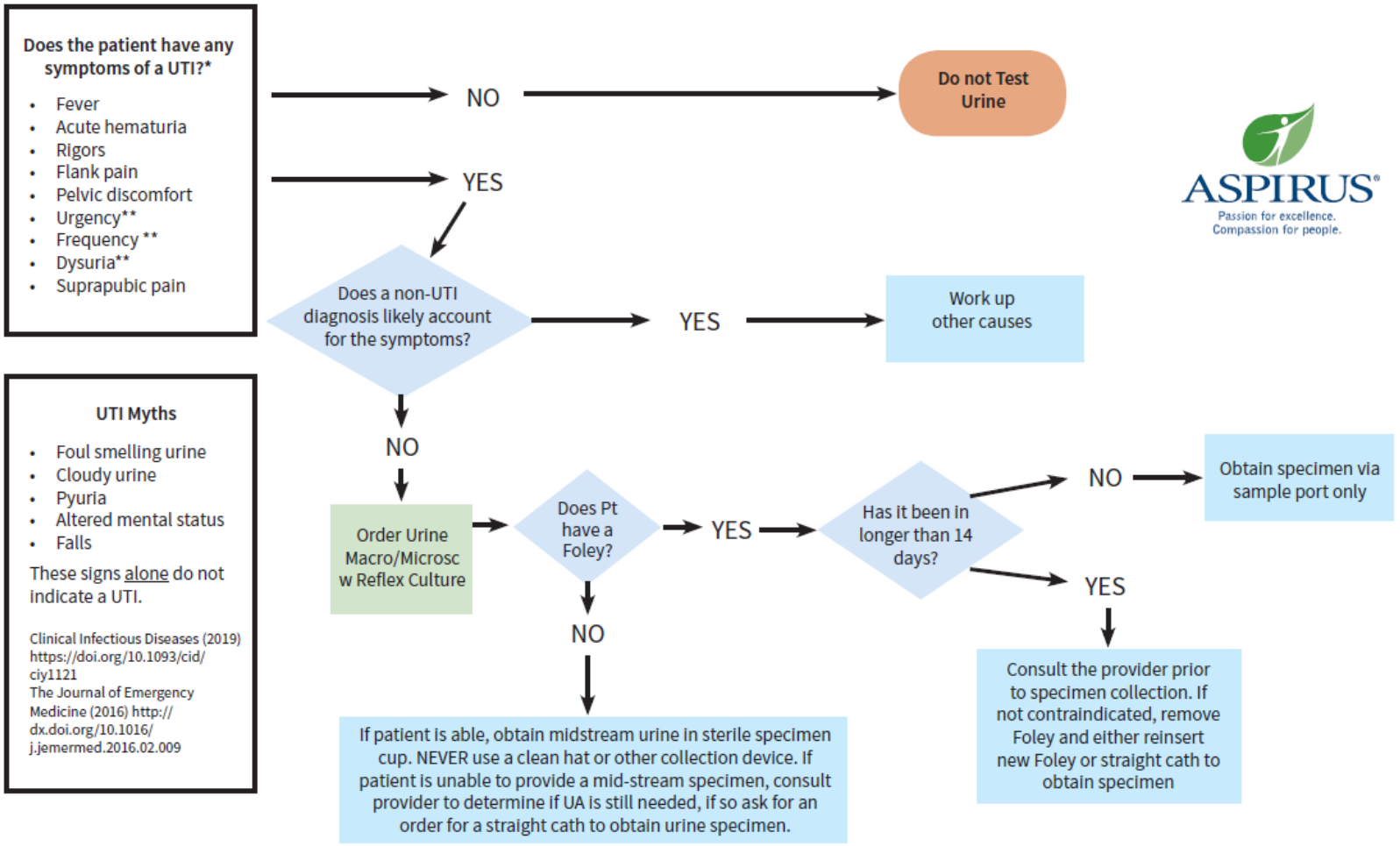
When to test for a UTI

* ASB screening/treatment is only recommended for pregnancy and urological procedures where mucosal bleeding is anticipated (e.g., TURP)



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**These symptoms can occur once the catheter is newly removed. Monitor these symptoms for continued or worsening status.

Cleaning Patient Care Equipment

- Some facilities may utilize the Cleaning Matrix
- This is a grid of patient use equipment
  - Provides a guide to show who is responsible for cleaning, how often it needs to be cleaned, what to clean with
  - Provides a guidance for contact times – times disinfectant should remain wet to be effective
  - Both common equipment and unit/department specific matrices are available
- Know what patient care equipment you are responsible for cleaning and how to clean it properly
- There may be product variance based on supply availability.
- If unfamiliar with the cleaning product or it isn't listed on the matrix, refer to the label for appropriate use on surface to be cleaned and contact time.

Example of AWH Cleaning Matrix

Common Equipment Cleaning Matrix

Item	Frequency	Responsibility	Cleaning Material
Accucheck/Glucometer and iStats	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Arjo Lifting Equipment	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Barcode Scanners/Mobile Meds/Epic handhelds	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Bladder Scanner	After each use	Clinical Staff	Orange Wipe
Carts for patient belongings	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Dopplers	After each use	Clinical Staff	Purple Wipe, Orange if enteric
EVA walkers	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Hover Machine/HoverMatt	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Manual blood pressure cuffs	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Otoscope/Ophthalmoscope	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Portable BP equipment/DinaMap	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Portable Ultrasound/Sonosite	After each use	Clinical Staff	Sonowipes
Scales	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Stethoscopes	After each use	Clinical Staff	Alcohol
Thermometers	After each use	Clinical Staff	Purple Wipe, Orange if enteric
Portable Finger Pulse Oximeter	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Portable Phones	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Walkers	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Wheel Chairs	After every patient use	Clinical Staff	Purple Wipe, Orange if enteric
Charge Phones	After every user	Clinical Staff	Purple Wipe, Orange if enteric
Department Keys	After every user	Clinical Staff	Purple Wipe, Orange if enteric
Viocera	After every user	Clinical Staff	Purple Wipe, Orange if enteric
Medication Drawers	At Discharge	Clinical Staff	Purple Wipe, Orange if enteric
Telemetry box/monitor	At Discharge	Clinical Staff	Purple Wipe, Orange if enteric
Unit Specific Equipment	Before Being put away	Clinical Staff	Purple Wipe, Orange if enteric
Computers on Wheels	Daily/After in Patient's Rooms	Clinical Staff	Purple Wipe, Orange if enteric
Crash Cart	After each use	Clinical staff - if not opened/SPD - if opened	Clinical - Orange wipe, Purple wipe; SPD - Oxycide
Commodes	Daily, When visibly soiled, At Discharge	Clinical staff-when visibly soiled/EVS - daily, discharge	Purple wipe, Orange wipe, Oxycide
Cords/Monitor Cables	After every patient use	EVS	Purple Wipe, Orange if enteric
Patient Fall Alarms/Posey Alarms and cables	At Discharge	EVS	Oxycide
Suction Canisters (exterior Canister)	At Discharge	EVS	Oxycide
Isolation Carts	At Discharge, before putting away	EVS	Oxycide
Nurse Alcoves - keyboard, phones	Daily	EVS	Oxycide
Bedside Vital Monitor (Dinamap)	Daily/At discharge	EVS	Oxycide
Cardiac monitors/GE monitors	Daily/At discharge	EVS	Alcavis
Pyxis Equipment and Keyboard; Medication Refrigerators	Daily	Pharmacy	Orange Wipe
Blood Warmers	After each use	SPD	Oxycide
Wound Vac	After each use	SPD	Purple Wipe
a-V Impulse™ (boots)	After every patient use	SPD	Oxycide
Feeding Pump/Kangaroo Pump	After every patient use	SPD	Orange Wipe
Hot/Ice Machine (K Pad)	After every patient use	SPD	Oxycide
IV/PCA Pump	After every patient use	SPD	Dispatch
Portable Suction Machine	After every patient use	SPD	Oxycide
SCD Machine	After every patient use	SPD	Oxycide
IV Pole	At Discharge	SPD	Purple Wipe, Oxycide

Contact Times

Purple wipe: 2 minutes, Orange wipe: 4 minutes, Alcohol: until dry

Care and Handling of Contaminated Reusable Instrumentation

How should contaminated reusable instruments be handled?

- Disposable instruments should be disposed of in the appropriate disposal container
- At Point of Use:
  - Gross soil should be removed as soon as possible
  - Instruments are contained in a puncture resistant, leak-proof, closeable container with a Biohazard label attached
- In designated area, immediately spray the instruments with an enzymatic product
  - Make sure to use the product and appropriate PPE according to manufacturer's recommendation
  - Make sure each instrument is in the "open position" to allow for saturation of all parts
- Outside of container should be disinfected if contamination occurs prior to transport to Central Sterile Processing (CSP)
- Some locations may utilize an inventory list for CSP

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Work Practice Controls

- Do not eat or drink in areas designated as patient care areas. These areas are considered contaminated!
- Clean areas are designated in the exposure control plan
- Do not apply lip balm, cosmetics, or handle contact lenses in the patient care areas
- Do not store food in refrigerators with patient care supplies or other potentially contaminated products

Respiratory Pathogen Symptoms

Tuberculosis (TB)

- Cough greater than 2 weeks
- Weight Loss
- Fatigue
- Fever
- Night sweats
- Chills
- Hemoptysis (bloody sputum

Novel Coronavirus – COVID-19

- Cough
- Fever
- Shortness of breath or difficulty breathing
- Chills, repeated shaking with chills
- Muscle pains
- Sore throat
- Headache
- New loss of taste or smell

Diseases Requiring Airborne Precautions Negative Pressure Room

- Influenza
  - During aerosol-generating procedures, such as bronchoscopy, sputum induction, intubation/extubation, open suctioning, CPR, and autopsies
  - Staff must wear respirators during these procedures, otherwise Droplet Isolation precautions are appropriate

Tuberculosis

Infectious

- The patient has symptoms of TB
- The patient can transmit the disease to others
- The disease is active
- The patient must be placed in Airborne Precautions

Non-Infectious

- The patient does not have symptoms of TB
- Someone with non-infectious TB does not appear or feel sick
- The disease cannot be transmitted to others
- The patient usually has a normal chest x-ray

Unintentional Exposure

Unintentional Exposure

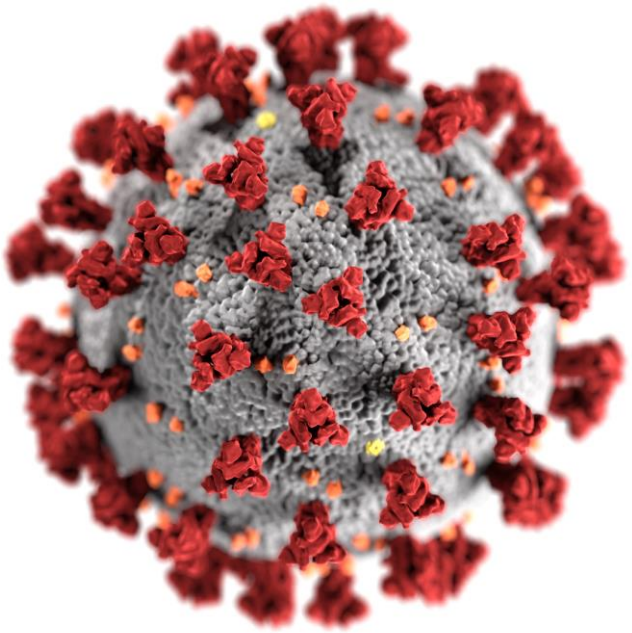
- Sometimes a patient may not be identified as having active TB or another infectious disease until after many healthcare workers have been exposed
- Prevention Strategy:
  - Always follow instructions on isolation signs and communicate precaution status of the patient during hand offs
- Your Employee Health in collaboration with Infection Control experts will follow up with possible exposures

Preventative Therapy

- TB:
  - Healthcare workers with a positive PPD, or a reactive or positive test after exposure should always be educated to seek medical attention
  - Preventative therapy may be recommended
- Other infectious diseases:
  - Not all will require preventative therapy; but guidance may include isolation or other methods to reduce spread

COVID-19

- Coronavirus disease 2019 (COVID-19) is a respiratory illness that can spread from person to person
- The virus that causes COVID-19 is a new coronavirus that was first identified in an outbreak in Wuhan, China (CDC, 2020)
- Closely linked to the SARS virus (WHO, 2020)



COVID-19 Disease Progression

- Most people will have mild illness; however, the risk of new oxygen therapy and intensive care treatment that requires mechanical ventilation has been the course with compromised patients
- See COVID-19 Intranet site for up-to-date policies on PPE and Patient Placement

COVID Site

Use the COVID site for attestation, training, policies, and job aid tools