Monroe Carell Jr.
Children's Hospital
at Vanderbilt

Infection Control Bundles

CLABSI, CAUTI, & VAP

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Infection Prevention Bundles

Situation:

Children's Hospital is a part of the Ohio Children's Hospitals' Solutions for Patient Safety (OCHSPS) Hospital Engagement Network (HEN). This is the only pediatric specific HEN funded by CMS. Currently 33 children's hospitals are a part of the network, with 50 additional hospitals expected to join in January. The main goal of the network is to reduce healthcare acquired conditions (HACs), as well as readmissions, through best practice sharing. A major subset of HACs is healthcare acquired infections, which include central line associated blood stream infections (CLABSIs), catheter associated urinary tract infections (CAUTIs), and ventilator associated pneumonia (VAP).

Background:

Multiple efforts have been made to standardize the insertion and maintenance of central lines, catheters, and ventilators in order to reduce associated infections within Children's Hospital. OCHSPS disseminated suggestions for such infection prevention bundles based on best practices. These suggestions were reviewed and compared against internal practices and policies.

Assessment:

After extensive collaboration with multiple stakeholders including managers, assistant managers, educators and frontline staff, formal infection prevention bundles have been developed for CAUTI, CLABSI and VAP. These bundles are outlined in a document to be rolled out in mid-December.

Recommendation:

A staged rollout of the bundles will occur being December 11th. An individual infection and its associated bundle will be highlighted for one week, with a complete rollout of all bundles to be complete after three weeks. Audits of bundle compliance will begin in January to identify potential opportunities for improvement.

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Catheter-Associated Urinary Tract Infections (CAUTI)

Insertion

⇒ Obtain order prior to placement or within 24 hours in emergent situations
⇒ 2nd person assistance for difficult placements
⇒ Perform hand hygiene
⇒ Obtain and utilize foley insertion kit if available, including:
    Sterile gloves, PPE if necessary
    Povidone/iodine prep
⇒ Obtain new catheter and sterile gloves if 1st catheter contaminated
⇒ Inflate balloon after placement per manufacture recommendations
⇒ Conduct patient/family education

Maintenance

⇒ Daily assessment of need
⇒ Perform perineal/meatal care q12 and PRN
⇒ Keep catheter anchored at all times
⇒ Keep drainage port clean and clamped and do not let it touch receiving container
⇒ Maintain drainage system above floor level and below bladder level
⇒ Empty collection bag q12, before transport and PRN
⇒ When accessing:
    Utilize aseptic technique
    Perform hand hygiene
    Scrub with CHG to disinfect access port
⇒ Minimize UC access

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Central Line-Associated Blood Stream Infection (CLABSI)

Insertion

⇒ Select site based on patient needs & condition; femoral avoided if possible
⇒ Perform hand hygiene
⇒ Proceduralist and assistant wear cap, mask, sterile gloves, sterile gown
⇒ Nursing personnel in room wear cap, mask
⇒ Obtain central line kit with insertion tools
⇒ Perform time out
⇒ Prep site with CHG if not contraindicated and allow to dry
⇒ Place sterile full body drape over patient
⇒ Place sterile dressing after insertion
⇒ Confirm placement with X-ray
⇒ Conduct patient/family education

Maintenance

⇒ Daily assessment of need
⇒ Perform hand hygiene and don clean gloves before contacting site
⇒ Assess insertion site and catheter each shift
⇒ Perform sterile dressing changes using CHG impregnated dressings for all patients >2 months of age, unless contraindicated
⇒ Perform regularly (q7 days for transparent/q24 hours for gauze *OR* if damp, soiled, non-occlusive)
  * *ONLY* when damp, soiled, non-occlusive for **NICU** PICC lines
⇒ Minimize access and bundle labs
⇒ Prior to access, scrub to disinfect access port with CHG (5 times around, 5 times across) and allow to dry
⇒ Change tubing, needleless devices and fluids per protocol

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Ventilator-Associated Pneumonia (VAP)

Maintenance

⇒ Daily assessment for spontaneous breathing trial/extubation
⇒ Perform hand hygiene and don clean gloves when opening circuit
⇒ Elevate HOB 30° (15° for neonates)
⇒ Keep ventilator circuit free of water
⇒ Keep ventilator circuit cap and ambu bag/mask in clean plastic bag *with nothing else* when not in use
⇒ Keep ventilator circuit from contact with all other surfaces when disconnected from patient
⇒ Change ventilator circuit when soiled (Minimum of every 14 days for NICU)
⇒ Perform oral care every 4 hours
⇒ Use separate suction set up for ETT & oral suction systems
⇒ Perform hypopharyngeal suctioning:
  * **Before** repositioning the ETT
  * **Before** deflating the cuff
  * **Before** repositioning the patient
⇒ Use in-line suction device and keep connected to suction tubing, or capped, at all times
⇒ Do not lavage for suctioning, unless ordered by MD
⇒ Clean all high touch surfaces with appropriate disinfectant wipes
⇒ Conduct patient/family education