Lower Respiratory Tract Infection (LRTI) with Tracheostomy Care Guideline

CHOC Children's

Inclusion Criteria: Established tracheostomy, evidence of lower respiratory tract infection, all ages, all locations
Exclusion Criteria: Non-established ("fresh") tracheostomy site

Assessment: Vital signs, SaO2, blood gas if 1) baseline SaO2 <90%, 2) increased O2 requirement, 3) increased ventilator support from baseline, or 4) change in respiratory, cardiac, or neuro status
Interventions: CHANGE TRACH, then obtain trach aspirate for culture and Gram stain (including quant. WBC), 2 view CXR, MRSA/VRE screening cultures, check previous MRSA status and culture results, notify Trach Specialty Nurse upon admission

Admission location based on clinical status & level of respiratory support required

CXR positive for new infiltrates?

- Yes → Pneumonia LRTI → Check CBC, Blood culture, CRP → If history or CXR consistent with aspiration pneumonitis, start H2 blocker (continue if on chronic prophylaxis)
- No → Non-pneumonia LRTI, aka "Tracheitis" → Check CBC, Blood Culture, CRP

O2 PRN, Mechanical vent PRN, Bronchodilator as appropriate (test for effect), Airway clearance, humidification

Cefepime 50 mg/kg/dose IV q8hr (Max: 2 gm/dose)

For suspected aspiration – Piperacillin-Tazobactam (Zosyn) 100 mg/kg/dose IV q 6hr (Max: 4 gm/dose)

For MRSA coverage add Clindamycin 10mg/kg/dose IV q 6hr (Max: 600mg/dose)

Adjust antibiotics based on gram stain WBC and trach aspirate culture results

Continued Considerations
- Consider laryngoscopy, bronchoscopy, if appropriate
- Re-evaluate ventilator settings and current therapies

Discharge Criteria
- FiO2 < 0.4, or within 25% of baseline
- Liberation from mechanical ventilation (if applicable with demonstrated toleration of spontaneous ventilation
- Clinical improvement
- Ability to continue antibiotics, either IV or enteral, in non-acute care setting (e.g. home, subacute unit, group home)
- Followup care planned in coordination with patient's medical home
- Reconciliation of respiratory devices with parent/caregiver

At High Risk For:
- Trach/airway plugging
- Device-related pressure injuries

Recommendations/ Considerations
- Use previous culture results if known
- Steroids are not recommended
- Empiric antibiotic coverage for hospital acquired Gram negative pathogens including *Pseudomonas* and Gram positive pathogens, including MRSA coverage if recent positive history or strongly clinically suspected.
- For ventilated/critically ill patients, consider H2 blocker if not being fed enterally or on steroids
- Pulmonary consult for persistent clinical evidence of airway obstruction; consider granuloma as source
- ENT consult for trach site granulomas
- Care planning and interventions should be implemented as appropriate.
- Use Mepilex transfer dressing around trach, if needed.

Patient/Family Education
- Trach care
- Suctioning technique
- Review signs and symptoms of respiratory distress with parents/ care givers
- Tracheostomy Home Care Instructions - located on PAWS

Approved Evidence Based Medicine Committee
1-15-14; 5-17-17
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References for Lower Respiratory Tract Infection (LRTI) with Tracheostomy Care Guideline

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