

Guideline or Pathway: Guideline for obtaining sputum culture in pediatric patients with tracheostomies, Emergency Department/Inpatient

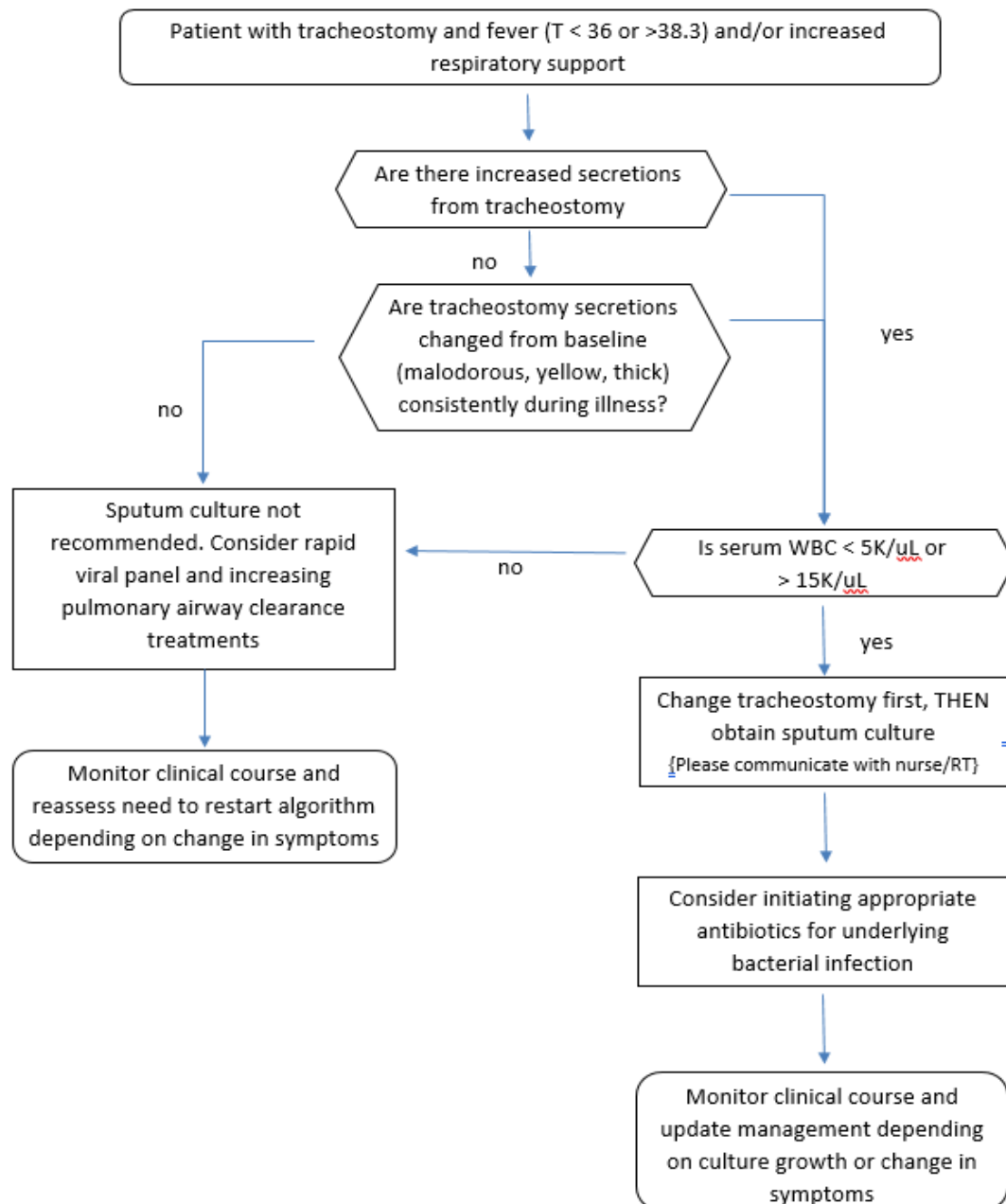
Updated: February, 01, 2022

Clinical algorithm:

Exclusion criteria:
 -New trach < 30days
 -Intubated/Critical care unit
 -Active antibiotic treatment

February 2022

Guideline for obtaining sputum culture in ED and general pediatric floors



Clinical pathway/guideline summary

CLINICAL PATHWAY/GUIDELINE NAME: Guideline for obtaining sputum culture in pediatric patients with tracheostomies, Emergency Department/Inpatient

PATIENT POPULATION AND DIAGNOSIS: pediatric patients with tracheostomies presenting with fever/hypothermia or increased respiratory support

APPLICABLE TO: Any spectrum health site where pediatric patients present or are admitted

BRIEF DESCRIPTION: There is a lack of guidance in the literature when one should obtain a sputum culture on a patient with a tracheostomy. We know that these patients are very likely to get viral infections, like all kids, and there is a lot of evidence of colonization of tracheostomies. It can therefore be challenging to interpret sputum culture results and clinical suspicion for bacterial infection should be high before obtaining a sputum culture. Based on ventilator associated tracheobronchitis and pneumonia guidelines, discussion with HDVCH pulmonology, ID and ED services we have come up with an algorithm to help clinicians decide if a patient with a tracheostomy is more likely to have a viral illness or a bacterial illness. We hope this algorithm will decrease low yield sputum cultures thereby improving antibiotic stewardship for this patient population.

OVERSIGHT TEAM LEADER(S): Dr. Baila Harris, Dr. Hovig Artinian, Dr. Chris Benner, Dr. Rosey Olivero

OWNING EXPERT IMPROVEMENT TEAM (EIT): Peds hospitalist EIT

MANAGING CLINICAL PRACTICE COUNCIL (CPC): Children's Health

CPC APPROVAL DATE: February 2022

OTHER TEAM(S) IMPACTED pediatric hospitalists, ED physicians, Nursing, Respiratory therapists.

OPTIMIZED EPIC ENHANCEMENTS: BPA for ordering sputum culture

IMPLEMENTATION DATE: 2/1/22

LAST REVISED: February 2022

FOR MORE INFORMATION, CONTACT: Dr. Baila Harris

Clinical pathways clinical approach

TESTING If a patient with tracheostomy presents with either fever/hypothermia and/or increased respiratory support clinicians may consider obtaining a sputum culture. Initial evaluation recommends assessing for any change in tracheostomy secretions. If there is a change in secretions, along with leukopenia or leukocytosis, recommend obtaining sputum culture. If there is no consistent change in secretions or no change in WBC, do not recommend sputum culture and clinicians should consider increasing pulmonary regimen and obtaining viral swab.

Of note, when sputum culture is indicated, recommend changing tracheostomy prior to obtaining culture in order to decrease risk of obtaining sample of bacteria that colonizes the tracheostomy and may not be causing clinical disease.

As there is not clear evidence regarding use of chest xrays in this clinical scenario it is not discussed on the algorithm and can be obtained per clinician's discretion.

TREATMENT AND MANAGEMENT: Treatment decisions are out of the scope of this algorithm as it focuses solely on when it is most appropriate to obtain a sputum culture. When there is a high suspicion for bacterial infection (change in secretions and leukopenia/leukocytosis) clinicians should consider starting appropriate antibiotics for given suspected diagnosis based on any patient or history specific details that influence antibiotic choice.

References:

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