ANTIBIOTIC PROPHYLAXIS for

Pediatric VADs

**BACKGROUND**

Peri and postoperative infection continue to be challenging issues post VAD implant in pediatrics. Infection in patients include VAD-specific infections such as driveline infection, VAD pocket infection or cannula infections, in addition to VAD-related infections like blood stream infection and endocarditis. Not all of these are related to infection at the time of implant, but appropriate prophylaxis can likely prevent early infections as well as prevent colonization. There is currently not a published guideline for the antibiotic prophylaxis for pediatric VAD implant.

**ACTION REVISED DATE:** 03/29/2021

**OBJECTIVES**

Provide an example of standardized perioperative infection prophylaxis regimens at time of VAD implantation.

**PROTOCOL**

**Pre-Operative**

**5-7 days prior to surgery or at first notification:**

* Consider screening for MRSA colonization
* Antiseptic bath with an agent like chlorhexidine.
* Consider antibacterial ointment (mupirocin) to each nostril twice daily for 48-72 hrs., and up to 5 days if MRSA colonized
* Assess for extra thoracic infections and necessity of indwelling catheters/lines.

**1 day prior to surgery:**

* If no antiseptic bath with an agent like chlorhexidine has been initiated previously; an antiseptic bath should be done the evening prior to surgery.

**Day of surgery:**

* Antiseptic bath and rinse the morning prior to surgery.

**Intraoperative**

* First line, no risk factors:
  + Anti-staphylococcal therapy (i.e. cefazolin) IV 1 hour prior to sternotomy / re-dose for surgeries lasting > 4 hours or after 120 minutes on bypass.
* For patients with prolonged/complicated pre-op course or as warranted by local epi or patient factors:
  + Second or third generation cephalosporin 1 hour prior to sternotomy / re-dose for surgeries lasting > 4 hours or after 120 minutes on bypass.
* For patients with known MRSA colonization:
  + MRSA-directed therapy (i.e. vancomycin) IV 1 hour prior to sternotomy / re-dose for surgeries lasting > 4 hours or after 120 minutes on bypass
  + +/- Second or third generation cephalosporin 1 hour prior to sternotomy / re-dose for surgeries lasting > 4 hours or after 120 minutes on bypass
* Driveline dressing and immobilization to be applied in the OR

**Post-Operative**

* See intraoperative above for antibiotic choice.
* Antibiotics for 48-72 hours of therapy (adjust for renal dysfunction per pharmacy)
  + Extended durations may be considered for prolonged open chest
* Consider antifungal therapy for 48- 72 hours if patient has been on ECLS support for more than 5-7 days.

**Note**

Local epidemiologic antibiograms and alternatives for antibiotic allergies should prompt modification of antimicrobials.

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***Disclaimer:*** *The ACTION network is focused on quality improvement efforts such as harmonizing best practice protocols, disseminating them among institutions, and helping centers to improve care practices at the local level. This protocol was developed as a consensus tool for pediatric VAD programs. The information in the protocols are based on center practices, individual opinions, experiences, and, where available, published literature. Centers may choose to adapt this protocol to include in their center-specific protocols with reference to ACTION with the understanding that these are meant as guidelines and not standard of care. (Revised 03/29/2021)*

**References**:

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