

# Fever

1. Definition
  - a. Typically  $>38.0^{\circ}\text{C}$
  - b. Best measured beneath tongue or rectally
  - c. Acute vs unknown origin
    - i. FUO- fever  $>7-10$  days
2. Signs and symptoms
  - a. History and physical
  - b. Age
  - c. Past medical history
    - i. 0-3 month- Maternal history- GBS status, Maternal infections/fevers
3. Causes-varies by age
  - a. Viral Pathogens
  - b. Bacterial Pathogens
    - i. 0-3 months- gram neg, GBS, listeria
    - ii.  $>3$  months- S. pneumonia, H. flu (not as much now with vaccine), GA strep
  - c. Autoimmune disease
  - d. Tumor/Cancer
  - e. Intracranial
    - i. Tumor
    - ii. Sub-dural hematoma
4. Epidemiology
  - a. 0-2 year old will have 4-6 episodes over that time
  - b. 0-3 month old might not be able to mount a fever
  - c. More common November-March
5. Pathogenesis
  - a. Reset of the thermoregulatory center in hypothalamus
    - i. Cutaneous vasoconstriction
    - ii. Shivering
    - iii. Response to cytokine release from inciting agent
6. Tests/diagnosis
  - a. Age
    - i. 0-3 months: CBC, UA and urine culture, LP and CSF culture, blood culture with consideration of CXR and stool culture based on symptoms
      1. Urine should be cath urine and culture should always be ordered even if urine looks clean
    - ii.  $>3$  months: may consider: CBC, Blood culture
      1. Based on physical exam and history to where infection appears to be located
      2. If no signs based on PE- consider UA
  - b. FUO- first need to prove fever exists
    - i. Start with lab and imaging studies based on symptoms/PE

- ii. Move onto broad studies- CBC, ESR/CRP, UA, blood/urine/stool cultures, CXR, consider LP, consider further imaging

## 7. Treatment

- a. 0-1 month
  - i. Admission and IV antibiotics until all cultures are negative
- b. 1-3 months
  - i. Looks ill- admission and IV antibiotics until all cultures are negative
  - ii. Looks healthy- consider admission and IV antibiotics vs close PCP follow up +/- IM/IV antibiotics until all cultures are negative
- c. >3 months
  - i. Symptomatic care-Anti-pyretic
  - ii. Based on Pathogen
    - 1. Antibiotics are used if bacterial
    - 2. No treatment if viral