

COMMON CLINICAL DIAGNOSES AND CONDITIONS**FEVER OF UNKNOWN ORIGIN****INTRODUCTION**

Fever is the most common presenting complaint in the pediatric outpatient and emergency room setting. In most cases, the etiology of acute fever is readily discernable. In contrast, fever of unknown origin (FUO) is typically defined as fever of 38.3° C (101° F) or greater of at least 14 days duration, with no apparent cause after a thorough history, physical examination, and intense laboratory evaluation of one-week duration in the outpatient or hospital setting. The differential diagnosis of FUO is very broad, but infection is the most common cause of prolonged fever. Other major etiologic categories include malignancy, rheumatologic conditions, vasculitis syndromes, inflammatory bowel disease, drug fever, and miscellaneous causes. When children require hospitalization for prolonged fever with concern for FUO, pediatric hospitalists should develop a thoughtful, step-wise, and cost-effective approach to diagnosis and management

KNOWLEDGE

Pediatric hospitalists should be able to:

- Discuss the pathophysiologic mechanisms that result in fever.
- List the different methods available for obtaining a temperature and explain common errors associated with each.
- Differentiate serial or prolonged fevers with known etiologies from FUO.
- Describe the differential diagnosis of FUO for children of varying chronological and developmental ages and state the relative prevalence of each etiologic category.
- Identify the common infectious causes of FUO, particularly as they differ by region.
- Describe the key historical features to elicit including details of the fever pattern and course of illness, immunization status, travel and exposure history, and family history.
- Review areas of specific focus when performing the physical examination, including skin and eye findings, lymph nodes, sinuses, liver and spleen size, bone and joint exam, and neurobehavioral state.
- List common initial laboratory tests for FUO, recognizing the utility, sensitivity and specificity of diagnostic tests as well as local availability and turnaround times.
- Describe the indications for and goals of hospitalization and explain the role of close observation without treatment and daily physical examination.
- Discuss the benefits, risks, and potential complications of empiric antibiotic treatment.
- Compare and contrast the mechanisms of action and modifying effect on systemic symptoms of anti-pyretics versus anti-inflammatory agents noting common side effects.
- Identify indications for consultation with a subspecialist.
- Summarize the diagnostic value of commonly used “second or third tier” testing (such as bone scan, bone marrow aspiration/biopsy, repeated blood cultures with fever, and others) where initial testing and observation is non-diagnostic.

SKILLS

Pediatric hospitalists should be able to:

- Obtain a thorough fever history, including duration, height, pattern, associated signs and symptoms, and response to anti-pyretics.
- Obtain a complete medical history, including signs and symptoms, immunization status, travel history, exposure history (such as animals, tick bites, consumption of raw foods or contaminated water, sick contacts, and others), and family history.
- Perform a comprehensive physical examination.
- Perform careful reassessments daily and as needed, note changes in clinical status and test results and respond with appropriate actions.
- Access and comprehensively review all relevant prior records.
- Correctly interpret the results of laboratory or radiological tests performed, engaging subspecialists as needed for interpretation.

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- Conduct a cost-effective and evidence-based evaluation plan, avoiding unnecessary repeat testing.
- Correctly order laboratory studies with appropriate detail to ensure specimens are correctly collected and handled.
- Appropriately differentiate when to continue inpatient versus outpatient diagnostic evaluation in the face of persistent fever and pending test results.
- Formulate appropriate treatment plans for the presumptive or confirmed diagnosis when indicated.
- Access and consult subspecialists when indicated.
- Create an effective discharge plan including specific expectations for home observation for fever and other symptoms.

ATTITUDES

Pediatric hospitalists should be able to:

- Communicate effectively with the primary care provider regarding the evaluation and treatment conducted in and out of the hospital.
- Realize the significant stress placed on the family/caregiver when the diagnosis is unclear and multiple healthcare providers are involved in care.
- Educate patients and the family/caregiver regarding the importance of observation and the need for a thoughtful, step-wise approach to the diagnosis and potential treatment plan.
- Recognize the important role pediatric hospitalists play in coordination of care given the often multiple, potentially invasive testing that may be necessary.
- Collaborate with subspecialists and the primary care provider to ensure coordinated longitudinal care for children with FUO as appropriate.

SYSTEMS ORGANIZATION AND IMPROVEMENT

In order to improve efficiency and quality within their organizations, pediatric hospitalists should:

- Lead, coordinate or participate in multidisciplinary initiatives to streamline the admission process to assure smooth, complete transmission of or access to outpatient medical information.
- Promote the effective use of hospital resources by adhering to a targeted, step-wise, and evidence-based approach to diagnosis and management.
- Lead, coordinate or participate in multidisciplinary teams to facilitate discharge planning, including a safe transition from inpatient to outpatient healthcare providers.