

DoM

DEPARTMENT
of MEDICINE
Improving Lives

OBJECTIVES FOR COMMON CLINICAL PROBLEMS

Fever

- A. KNOWLEDGE: Students should be able to:
1. define fever and fever of unknown origin
 2. summarize the pathophysiology of temperature regulation and its relationship to host defense mechanisms
 3. identify the infectious (e.g. bacterial, viral, fungal, parasitic) and noninfectious (e.g. malignancy, connective tissue disorders) causes of fever and their relative contributions in different patient populations (e.g. children vs adults, the immune compromised host, the returned traveller)
 4. outline the diagnostic workup for the patient with fever and fever of unknown origin, and
 5. explain the rationale behind specific radiologic investigations such as indium scan, gallium scan, CT scan, and PET scan in the investigation of fever of unknown origin

B. SKILLS: Students should be able to demonstrate specific skills including:

1. History-taking skills: Students should be able to obtain, document, and present a medical history that contributes to the accurate diagnosis of fever and the etiology of fever and fever of unknown origin, including:
 - History of presenting illness: The presence and pattern of fever and associated symptoms such as chills, sweats, anorexia, weight loss, as well as a review of all systems, such as the respiratory and genitourinary tracts, to identify a specific site of infection
 - Past medical history that might point to a risk for infection:
 - Surgical procedures or device implantation
 - Blood or blood product transfusion
 - Tuberculosis infection (active or latent)
 - Immunosuppressive conditions
 - Drug therapy including duration and dosing
 - Drug allergies
 - Family history that might point to exposure risks or familial and genetic conditions that are associated with fever:
 - Inflammatory diseases (e.g.: joint, bowel)
 - Tuberculosis
 - Familial fever
 - Malignancy
 - Social and personal factors that might represent a risk for infection:
 - Exposures to persons with potential infections
 - Sexual activities (numbers and gender of sexual partners)
 - Occupational or environmental exposures including travel, work, and hobbies
 - Exposure to animals including pets
 - Recreational drug use including injecting drugs
2. Physical exam skills: Students should be able to perform a physical exam to establish the diagnosis, etiology, and severity of a febrile illness, including:
 - Accurately determining vital signs (BP, P, RR, and temperature)
 - An exam directed by the history
 - A detailed examination covering all systems including lymph nodes, thyroid gland, chest, heart, liver, spleen, joints, and integument
3. Differential diagnosis: Students should be able to generate a differential diagnosis recognizing specific history and physical exam findings that suggest a specific etiology of fever and fever of unknown origin, including:
 - Infective endocarditis
 - Acute community acquired infection (e.g. urinary tract infection, pneumonia, cellulitis)
 - Tuberculosis
 - Abscess
 - Granulomatous hepatitis
 - Rheumatoid arthritis

- SLE
 - Lymphoma
 - Leukemia
 - Drug fever
 - Thromboembolic disease
 - Factitious fever
4. Laboratory investigation: Students should know to order and how to interpret diagnostic and laboratory tests based on the differential diagnosis. These may include:
- CBC with differential
 - Inflammatory markers (e.g. ESR, CRP)
 - Transaminases, CK, and alkaline phosphatase
 - TSH
 - Urinalysis
 - Blood cultures
 - Urine cultures
 - Chest radiograph
 - Abscess and tissue cultures

Students should be able to identify when additional investigations should be considered:

- Indium-labelled WBC scan
 - Gallium scan
 - CT scan
 - PET scan
 - Bone marrow and/or liver biopsy
 - Tuberculin skin test
 - Infectious diseases consultation
5. Management skills: Students should be able to develop an appropriate evaluation and treatment plan for patients with fever and fever of unknown origin that includes:
- Identifying when antimicrobials should be initiated pending results of investigations
 - Selecting an appropriate empiric antimicrobial regimen for suspected infection related fever
 - Adjusting or discontinuing antimicrobial treatment according to the results from laboratory testing
 - Monitoring therapy for response and adverse effects