

EMCP 504: Trauma and Non-Traumatic Musculoskeletal Emergencies

Trauma

At the end of the course the learner will integrate material covered in online lectures, reading assignments, and vignettes and apply this knowledge to clinical problem solving. Specifically, the learner should be able to:

1. Describe how to perform a primary and secondary survey in evaluation of the trauma patient as outlined in the Advanced Trauma and Life Support (ATLS) guidelines.
2. Explain the importance of considering the mechanism of injury in trauma patients.
3. Assess the trauma patient's vital signs and recognize the potential of significant trauma in the presence of normal vital signs.
4. Explain the use of radiographs in the initial management of the trauma patient, and understand their limitations.
5. Describe the role of the focused assessment with sonography in trauma (FAST) exam in the trauma patient.
6. Describe the signs and symptoms of hemorrhagic shock.
7. Name the indications and contraindications for emergency procedures in the trauma patient such as: endotracheal intubation, cricothyroidotomy, tube thoracostomy, emergency department thoracotomy, and central venous catheter insertion. Describe in detail how each of these procedures are performed, and their possible complications.
8. Compare and contrast blunt and penetrating trauma.
9. Describe the diagnostic approach to blunt and penetrating injuries of the head, neck, chest, abdomen, pelvis, and extremities.
10. Describe the application of the Glasgow Coma Scale (GCS) in the evaluation of patients following head trauma.
11. Evaluate the diagnostic and treatment priorities in the head trauma patient.
12. Describe the principle of primary and secondary brain injuries in the head trauma patient.
13. Explain the clinical, diagnostic, and therapeutic concerns of trauma in the pregnant patient. Understand the possible injuries to both mother and fetus.
14. Describe treatment priorities in the patient that presents with multisystem trauma.
15. Describe the management of spinal cord injuries. Name the indications and potential benefit of steroids in patients with significant neurologic deficits following spinal cord trauma.
16. Explain the management of traumatic amputations. Understand the proper means in which to preserve the amputated appendage.
17. Describe the presentation, physical findings, diagnostic evaluation, and treatment of traumatic aortic disruption, cardiac contusion, pulmonary contusion, rib fractures, clavicle fracture, sternal fracture, flail chest, hemothorax, pericardial tamponade, and pneumothorax.
18. Describe the most commonly encountered intra-abdominal injuries in blunt abdominal trauma, and these injuries diagnosed and treated.

19. Explain the management of patients that present with pelvic fractures. Appreciate the potential for severe hemorrhage in addition to intra-abdominal and pelvic organ injuries.
20. Describe the presentation, physical findings, diagnostic evaluation, and treatment of bony and soft tissue facial trauma.
21. Describe the management of common joint dislocations including: glenohumeral, elbow, interphalangeal, hip, knee, and ankle. Understand the potential complications of each of these injuries.
22. Explain the pathophysiology, clinical presentation, diagnostic evaluation, and treatment of compartment syndromes.
23. Evaluate patients with open fractures and penetrating joint trauma, and explain the appropriate ED treatment of such injuries.
24. Describe the management of sprains, strains, and tendon injuries.
25. Explain the management of the burn patient. Know which patients are candidates for transfer to a burn unit.
26. Describe special concerns regarding trauma in the pediatric patients. Understand the types of orthopedic injuries that are unique to this age group.

Non Traumatic Musculoskeletal Disorders

At the end of the course the learner will integrate material covered in online lectures, reading assignments, and vignettes and apply this knowledge to clinical problem solving. Specifically, the learner should be able to:

1. Describe the diagnostic approach and ED treatment of non-traumatic neck and back pain.
2. Name the various “red flags” that should prompt diagnostic imaging and specialty consultation in cases of neck or back pain.
3. Compare and contrast the clinical presentation of spinal cord compression, disk herniation, and spinal epidural abscess.
4. Name the limitations of plain films and computed tomography (CT) scans in the evaluation of non-traumatic neck and/or back pain.
5. Explain the indications for obtaining an emergent MRI in patients with neck or back pain.
6. Describe the clinical presentation, diagnostic evaluation, and treatment of non-traumatic shoulder pain.
7. Describe the clinical presentation, diagnostic evaluation, and treatment of common hand infections, including: cellulitis, flexor tenosynovitis, deep space infections, closed fist injuries, paronychia, felon, herpetic whitlow.
8. Describe how to perform an arthrocentesis of the major joints. Know how to interpret the results of joint fluid analysis to differentiate septic arthritis from other inflammatory arthritides (e.g., gout, pseudogout).
9. Describe the clinical presentation, diagnostic evaluation, and treatment of common overuse syndromes, including: carpal tunnel syndrome, DeQuervain’s tenosynovitis, plantar fasciitis, tendonitis, and shoulder impingement syndrome.

10. Describe the management of patients that present to the ED due to chronic pain.