

TOPIC: A-5 MUSCULOSKELETAL

OBJECTIVE: To be able to take an appropriate history, examination, investigation and initiate treatment of patients presenting with musculoskeletal pathology. This includes splintage, POP, pain relief. Recognise those that need further in- patient/outpatient care, the role of physiotherapy and those who can be discharged directly from the Emergency Department. Emergency Physicians should be aware of the predicted clinical cause and specific complications for these conditions. Detailed knowledge (including plain radiology) of both traumatic and atraumatic pathologies is required.

OBJECTIVES:

- understand the likely types of soft tissue and bony injuries for each age group
- be able to judge if these relate correctly to the stated mechanism of injury
- be aware of rheumatological, infectious, malignant and non-accidental causes of musculoskeletal presentations
- be able to examine a child in a way which localises the injury
- understand the Salter-Harris classification of epiphyseal injuries
- understand the likely time-frame for recovery in children

ANATOMICAL REGION	KNOWLEDGE	SKILLS/ATTITUDES	LEARNING	ASSESSMENT
1. Shoulder region.	<p>Knowledge of the following traumatic conditions:</p> <p>Fracture of the clavicle, proximal humerus/scapula, AC joint injury, dislocation of shoulder, rotator cuff injuries. ACJ and SCJ dislocations.</p> <p>Atraumatic conditions:</p>	<p>To be able to examine the shoulder region, identify injuries and any associated neurovascular problems.</p> <p>To be able to safely reduce a dislocated shoulder (anterior/posterior) and treat any associated conditions</p>	<p>LP LT GT PS ODA</p>	<p>OC MC ME FFAEM MFAEM</p>

	<p>Sub acromion bursitis Supraspinatus tendonitis Ruptured biceps tendon Shoulder joint inflammation including Capsulitis and impingement syndrome</p>	<p>appropriately.</p> <p>Ensure appropriate follow up including physiotherapy.</p> <p>To be thorough and to identify serious underlying pathology, e.g. pathological fractures.</p> <p>Application of broad arm sling/collar and cuff/U slab</p>		
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<p>2. Elbow</p>	<p>Knowledge is required of fractures around the elbow (supracondylar/radial head/olecranon/condyle) dislocated elbow and pulled elbow.</p> <p>Atraumatic conditions: bursitis and tendonitis.</p>	<p>Be able to exam the elbow region, identify injuries and any associated neurovascular problems.</p> <p>To be able to safely reduce a dislocated elbow/pulled elbow and treat the other conditions appropriately.</p> <p>To recognise which supracondylar fractures require urgent orthopaedic referral.</p> <p>Application of below elbow POP</p>	<p>LP LT GT PS ODA</p>	<p>OC MC ME FFAEM MFAEM</p>
<p>3. Wrist</p>	<p>Knowledge of Colles’/Smith’s, scaphoid and Barton’s fractures.</p> <p>Management of the “clinical scaphoid” fracture</p> <p>Fractures of other carpal bones.</p> <p>To be able to recognise dislocation of the carpal bones and metacarpal bones.</p> <p>Atraumatic conditions:</p> <p>Tenosynovitis Carpal tunnel syndrome</p>	<p>To be able to recognise the conditions listed and safely reduced distal wrist fractures and identify carpal and metacarpal bone dislocations.</p> <p>Application of below elbow POP/short arm backslab</p> <p>Arrange appropriate follow up.</p>	<p>LP LT GT PS ODA</p>	<p>OC MC ME FFAEM MFAEM</p>

<p>4.Hand Injuries</p>	<p>To be able to identify metacarpal fracture/ dislocations.</p> <p>Phalangeal fracture dislocations.</p> <p>To be able to evaluate wounds of the hand:</p> <p>Nail bed injuries.</p> <p>Identify tendon injuries, Mallet finger and Boutoniere deformity.</p> <p>Infections: paronychia, pulp space, flexor sheath infection, deep space hand infections.</p> <p>Nerve injury. Foreign body. High pressure injection injury. Amputations. Crush injury Hand compartment syndrome</p>	<p>Reduction of phalangeal dislocation and simple phalangeal fractures</p> <p>To be able to assess the neurovascular function and tendon function of the hand.</p> <p>To be able to interpret x-rays.</p> <p>To be able to explore wounds appropriately and refer those who need inpatient care.</p> <p>Ideally tendons should be repaired by a hand surgeon especially flexor tendons.</p>	<p>LP LT GT PS ODA ODP (Hand Clinics)</p>	<p>OC MC ME FFAEM MFAEM</p>
<p>5. Pelvis and hip.</p>	<p>Fractured neck of femur – types.</p> <p>Dislocation of the hip – types, including dislocation of THR.</p> <p>Pelvic fractures, sacral fractures, acetabular fractures, coccygeal fracture – types.</p> <p>To understand management of the exsanguinating pelvic fracture including the role of external fixation and arteriography.</p>	<p>To be able to examine the hip and pelvis and SI joints.</p> <p>Recognise those patients who need urgent specialist care.</p> <p>To recognise the injury patterns and associations.</p> <p>Femoral nerve block and splintage of femoral shaft fractures.</p> <p>Apply a pelvic splint.</p>	<p>LP LT GT PS LS SL ODA</p>	<p>OC MC DOPS CBD AUD ME FFAEM MFAEM</p>

<p>6. Knee</p>	<p><u>Trauma</u> Meniscal injury, ligamentous injury, cruciate and collateral, dislocation and fracture of the patella.</p> <p>Dislocation of the knee and patella, knowledge of associated injuries.</p> <p>Tibial plateau fractures, fractured neck of fibula, supracondylar fractures.</p> <p>Gastrocnemius tear.</p> <p><u>Atraumatic</u> Bursitis. Acute arthritis.</p> <p>Quadriceps rupture. Patellar tendon rupture.</p> <p>Ruptured Baker's cyst.</p>	<p>To be able to examine the knee in detail.</p> <p>Use plain radiography (Ottawa Knee Rules) appropriately.</p> <p>To be able to reduce a patella dislocation and knee dislocation with limb threatening vascular compromise. Application of knee immobiliser Arthrocentesis Above and below knee POP.</p>	<p>LP LT GT PS ODB</p>	<p>OC MC DOPS CBD AUD ME FFAEM MFAEM</p>
<p>7. Ankle</p>	<p>To understand the classification of ankle fractures.</p> <p>To understand the grading of ligamentous injury and to recognise dislocation of the ankle joint.</p> <p>Atraumatic conditions: Achilles tendonitis and Achilles rupture.</p>	<p>To be able to examine and assess the ankle joint and identify who needs plain radiography (Ottawa Ankle Rules).</p> <p>Recognise those patients who need urgent reduction of dislocated ankle, and to be able to reduce it.</p> <p>Recognition of those ankle fractures that require operative intervention.</p>	<p>LP LT GT PS ODA</p>	<p>OC MC DOPS CBD AUD ME FFAEM MFAEM</p>

<p>8. Foot</p>	<p><u>Traumatic conditions:</u> Talar, calcaneal, tarsal bone, metatarsal and phalangeal fractures.</p> <p>Sub-talar, talar, mid-tarsal, tarso-metatarsal dislocations.</p> <p>Crush injury of the foot.</p> <p><u>Atraumatic conditions:</u> plantar fasciitis and metatarsalgia.</p> <p>Stress fractures. Diabetic foot.</p>	<p>To be able to examine the foot.</p> <p>Recognise those patients who need urgent intervention (reduction of dislocations, compartment syndrome).</p>	<p>LP LT GT PS ODA</p>	<p>OC MC DOPS ME FFAEM MFAEM</p>
<p>9. Long bones</p>	<p>Fractures of the humerus, femur, tibia and fibula and radius and ulna.</p> <p>Their common fracture patterns and associations/complications.</p> <p>Compartment syndrome.</p>	<p>To be able to undertake appropriate examination and determine any associated injuries and the need for urgent intervention.</p> <p>To be able to interpret plain radiology.</p> <p>To be able to undertake a femoral nerve block.</p> <p>To be able to splint appropriately.</p>	<p>LP LT GT PS ODA</p>	<p>OC MC DOPS ME FFAEM MFAEM</p>

<p>10.Spine</p>	<p>To be able to recognise the patterns of fracture, dislocation and ligamentous injury to the whole spine.</p> <p>Myotomes/Dermatomes.</p> <p>Cord syndromes, including cauda equina</p> <p>Low back pain – recognition of important causes.</p> <p>Atraumatic conditions: Ankylosing spondylitis, Rheumatoid Arthritis</p>	<p>To be able to immobilise the spine; log roll.</p> <p>Examine the spine.</p> <p>Understand the indications for radiology and interpret spinal x-rays. (www.nice.org.uk)</p> <p>Recognise associated injuries (neurogenic shock/spinal cord injury).</p> <p>Masking effect of spinal injury.</p>	<p>LP LT GT PS LS ODA</p>	<p>OC MC CBD AUD ME FFAEM MFAEM</p>
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