

Vikas Khanduja

The FRCS (Tr & Orth) examination has three components: MCQs, Vivas and Clinical Examination. The Vivas are further divided into four sections comprising Basic Science, Adult Pathology, Hands and Children's Orthopaedics and Trauma. The Clinical Examination section is divided into Upper and Lower-Limb cases. The aim of this section in the Journal is to focus specifically on the trainees preparing for the exam and to cater to all the sections of the exam every month. The vision is to complete the cycle of all relevant exam topics (as per the syllabus) in four years.

Advisor:

Mr David Jones

MCQs – Adult Pathology – Single Best Answer

- Anterior dislocation of the proximal interphalangeal joint in the hand is associated with a great risk of permanent impairment because of:
 - Rupture of the volar plate
 - Development of a Boutonniere deformity
 - Damage to the digital nerve
 - Damage to the digital artery
 - Rupture of the flexor tendons
- Supracondylar fractures in children are commonly associated with:
 - Median nerve palsy
 - Ulnar nerve palsy
 - Radial nerve palsy
 - Anterior interosseous nerve palsy
 - Posterior interosseous nerve palsy
- A 15-year-old boy presents to A & E following a fall while playing football leading to an injury in his left upper limb. Radiographs taken in A & E reveal a minimally displaced fracture of his left proximal humerus through a large, well-defined unicameral bone cyst. The appropriate management at this stage would involve:
 - Open reduction and internal fixation with an intramedullary device
 - Open reduction and internal fixation with a proximal humeral plate
 - Internal fixation with curettage and grafting of the cyst and additional bone cement
 - Simple immobilisation and conservative management
 - Internal fixation with curettage and bone grafting of the cyst
- The most common organism responsible for an epidural abscess is:
 - Streptococcus* species
 - Enterobacter* species
 - Staphylococcus*
 - Haemophilus influenzae*
 - None of the above
- A 5-year-old boy presents to A & E with a painful hip associated with a limp for the past 48 hours. He has a temperature of 38.5°C and an elevated CRP with a high white cell count. Radiographs suggest an effusion in the hip. The next best management step would involve:
 - Blood cultures and administration of intravenous antibiotics
 - Ultrasound-guided aspiration and intravenous antibiotics
 - Intravenous antibiotics alone
 - Emergency aspiration and washout of the hip joint followed by intravenous antibiotics
 - Urgent MRI scan

Vivas

Adult Pathology

A 58-year-old carpenter presents with a history of progressively worsening pain on the medial aspect of his knee. He is self-employed and his job involves a significant amount of kneeling and climbing. Examination reveals a varus deformity, tender medial joint line, a stable knee and flexion from 10° to 130°. This is his radiograph (Fig. 1).



Fig. 1

- Describe the radiograph.

- Would you want any other specific views? If so, why?
- How would you stage this disease and what classification system would you use?
- What treatment would you offer him?
- If conservative management fails what treatment would you offer him?
- Discuss the advantages and disadvantages of an osteotomy over a unicompartmental knee replacement in this situation.
- What are the contraindications for a unicompartmental knee replacement?
- What are the outcomes for the Oxford medial mobile bearing unicompartmental knee replacement and an opening-wedge osteotomy?

Trauma

A 20-year-old woman fell off her bicycle and landed on her right elbow sustaining this injury (Fig. 2).

- Describe the abnormality.
- How would you classify this injury?
- How would you treat this patient?
- What is the expected outcome?
- What other structures could have been affected by this injury?
- How would you assess their integrity?
- Describe the primary and secondary restraints of the elbow joint.

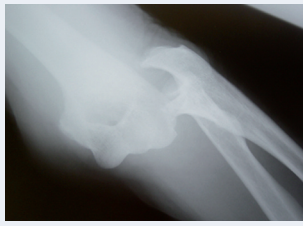


Fig. 2a



Fig. 2b

Hands

A 68-year-old man presents with numbness and tingling in the radial three and a half fingers of his left hand for the past six months (Fig. 3).



Fig. 3

1. What is the diagnosis?
2. What is Tinel's sign?
3. What investigation would you request and why?
4. This is the result of a nerve conduction study (Fig. 4). How would you interpret this?

Sensory NCS

Nerve / Sites	Rec. Site	Latency ms	Amp.2-3 μ V	Distance cm	Vel. m/s
R MEDIAN - F2					
Wrist	II	4.05	1.4	10.5	25.9
L MEDIAN - F2					
Wrist	II	3.80	1.6	11	28.9
R ULNAR - Digit V					
Wrist	V	1.70	3.5	9	52.9
L ULNAR - Digit V					
Wrist	V	1.70	5.0	9	52.9

Motor NCS

Nerve / Sites	Latency ms	Amp.1-2 mV	Dur. ms	Dist. cm	Vel. m/s
L MEDIAN - APB					
Wrist	5.00	3.6	6.20		
R MEDIAN - APB					
Wrist	6.95	9.3	6.80		
L ULNAR - ADM					
Wrist	2.30	7.0	5.10		
B.Elbow	5.65	7.0	4.90	24	71.6
A.Elbow	6.40	7.3	4.95	5	66.7
Path A.Elbow - Wrist				29	70.7
R ULNAR - ADM					
Wrist	2.40	6.0	5.40		
B.Elbow	5.70	8.8	5.10	20	60.6
A.Elbow	6.25	9.4	4.95	4	72.7
Path A.Elbow - Wrist				24	62.3

Fig. 4

5. How would you manage this condition?
6. What are the boundaries of the carpal tunnel?
7. Describe your surgical approach and procedure.
8. What is the expected outcome?

Children's Orthopaedics

A 14-year-old boy presents with this appearance of the lower limbs (Fig. 5). There is no previous history of illness or injury.

1. What is the likely diagnosis?
2. What are the radiological features?
3. Explain the cause of the condition.



Fig. 5

4. What four observations explain this radiograph (Fig. 6)?



Fig. 6

5. These radiographs are typical of which skeletal dysplasia (Fig. 7)?
6. In the diagnosis of bone dysplasia what radiographs constitute a skeletal survey?

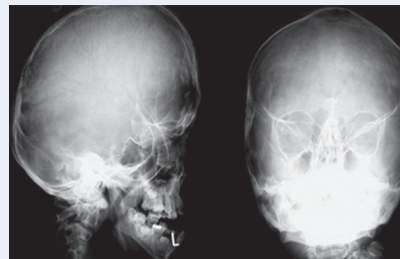


Fig. 7a



Fig. 7b

Basic Science

1. Illustrate the histological appearance of the normal physis.
2. Which layer of the physis is affected in a physeal fracture?
3. Describe the Salter-Harris classification for grading physeal fractures.
4. How does rickets affect the physis?
5. How is the physis affected in the case of achondroplasia?
6. What other conditions affect the physis and how?