Exam Corner

The Bone & Joint Journal

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The FRCS (Tr & Orth) examination has three components: MCQs, Vivas and Clinical Examination. The Vivas are further divided into five sections comprising Basic Science, Adult Pathology, Hands, 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.

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MCQs and EMQs

1. With regards to the applied anatomy while performing adductor tenotomy, select the most appropriate response for the course of the anterior branch of the obturator nerve while leaving the pelvis.

a. Descends in front of the adductor brevis and behind adductor longus
b. Behind the obturator externus and descends in front of the adductor brevis and adductor longus
c. Behind pectineus and in front of adductor longus
d. Behind adductor brevis and in front of pectineus innervating gracilis
e. In front of pectineus distributing branches to adductor magnus

2. Which of the following statement is true in comparing open *versus* arthroscopic removal of loose body from the shoulder joint?

a. It is easier to remove a loose body from the bicipital groove by an open technique
b. The infection rate is higher with the arthroscopic technique due to a longer procedure time
c. In treating chondromatosis, the recurrence rates are lower for an open technique
d. Removing loose bodies in general is technically easier through an open technique
e. Similar short-term rehabilitation rates with both techniques

3. The anterior approach to correct kyphosis should be considered in which of the following circumstances?

a. Acute severe haemorrhage
b. In the presence of significant neurological deficit with canal compromise
c. For curves not correcting to 65° or less on hyperextension lateral radiographs
d. As part of a Smith–Peterson osteotomy
e. For mild post-traumatic kyphosis

4. Select the artery of choice for treatment of nonunion of scaphoid with vascularised graft by different techniques from the list below:

a. Dorsal Inlay graft
b. Interposition (Wedge) graft
c. Proximal pole

1,2 ICRSA (Intercompartmental supraretinacular artery)
2,3 ICRSA
4th ECA (Extensor compartment artery)
4th EC branch of 5th ECA
Branch of Radiocarpal arch
rPCA
pMETA
2,3 ICRCA

5. What is the absolute limit on effective radiation dose (dose to the whole body) introduced by the IRR99 for employees over five years? (mSv= millisieverts)

a. 0.02mSv
b. 0.1mSv
c. 100mSv
d. 400mSv
e. 5000mSv

6. Warfarinisation of patients leads to an increased international normalised ratio, however, in the first 36 hours of treatment there may be a prothrombotic state due to which one of the following?

a. Factor X, XI, XII, II activation
b. Factor X, XI, VII, II inhibition
c. Vitamin K activation
d. Reduced levels of protein C and S
e. Vitamin B inhibition

Vivas

Adult Pathology

A 45-year-old right-hand dominant female fell off a bike sustaining a closed isolated injury to her right elbow. She is neurologically intact and has moderate swelling of the elbow.

1. What is the diagnosis?
2. How would you reduce this injury?
3. What is the likely mechanism of injury?
4. She elects to undergo surgical management. What is your surgical plan? What approach will you use?
5. What equipment will you have available?

Fig. 1a

Fig. 1b

Fig. 1c

Trauma

A five-year-old child fell off the bed sustaining an injury to his right elbow. These are the radiographs obtained in A&E (Fig.2).

Fig. 2a

Fig. 2b

1. Describe the radiographs
2. At what age does the radial head physis appear?
3. What is the mechanism of these injuries?
4. What are the reduction techniques that one can use for the treatment of these fractures?
5. How would you manage this patient?
6. How much of residual angulation is acceptable?

Hands

A 32-year-old farmer presented to a specialist hand clinic with left wrist pain for the past seven to eight months. He could not recollect any obvious injury leading to this pain. He felt that his wrist would be sore after a day's work mainly on the dorsum. He also noticed that his wrist was slightly stiff mainly on extension and felt weak when undertaking heavy work. Other than that he was fit and well.

1. Please describe the MRI (Fig. 3) and what is your provisional diagnosis?
2. How do you stage this condition?
3. What are the possible factors involved in the pathophysiology of this condition?
4. Please describe the pattern of blood supply to the lunate?
5. What is the natural history of this condition?

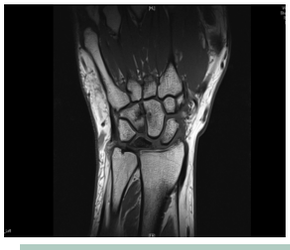

Fig. 3

Children's orthopaedics

A two-year-old girl presents to clinic as her mother has noticed that she has a waddling gait. On examination, you find that she is moderately short for her age and has symmetrical varus deformities of the lower limbs. She does not have abnormal facies. There is no other significant birth / past medical or family history. Radiographs are taken and shown below (Fig. 4).

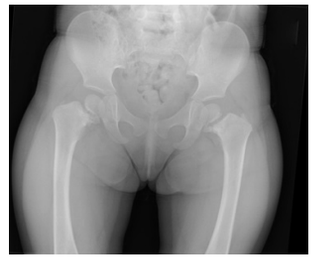

Fig. 4a

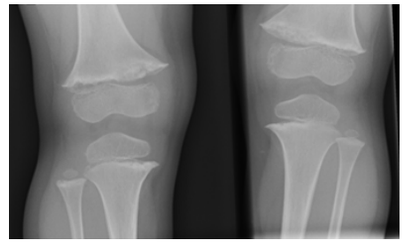

Fig. 4b

1. What abnormalities are seen on the radiographs?
2. What is the differential diagnoses?
3. What further investigations would you request?
4. What radiological measurements would you use to evaluate magnitude of the coxa vara deformities?
5. When would you consider surgery for coxa vara?
6. What procedure would you perform?

Basic Science

A 60-year-old female is admitted with a history of left hip pain. Figure 5 is the radiograph obtained whilst she was on the ward.

1. Describe the radiograph, what are the possible diagnoses?
2. Which tumours tend to metastasise to bone?
3. How can you estimate fracture risk?
4. How would you treat this patient?
5. What is the expected prognosis?

Fig. 5

For answers to previous Exam Corner questions please visit www.boneandjoint.org.uk/site/education/exam_corner

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