ECVS SA Case-based Mock Exam 2022 - solutions

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10930**
Key Feature:	**Master question**

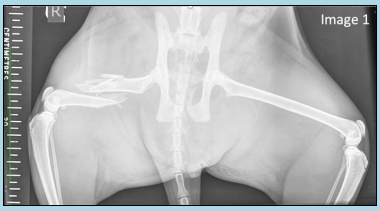
Question

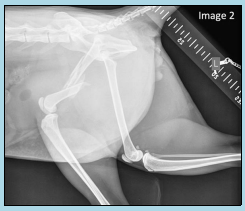
Case 6

A 2-year-old, male neutered Domestic Shorthair cat weighing 4.5kg is referred to you after being involved in a road traffic accident 24 hours previously. The cat has had initial stabilisation by the first opinion vets. On physical examination, the patient is alert and responsive, non-ambulatory and paraparetic with voluntary movement of both hindlimbs and presence of deep pain. The cat is painful on palpation of the pelvis and the right femur. As part of the subsequent investigation, orthogonal radiographs of pelvis and femora are obtained (Images 1-3).

- IMAGE 1: Radiograph, pelvis and femora, frog leg view
- IMAGE 2: Radiograph, pelvis and femora, lateral
- IMAGE 3: Radiograph, right femur, medio-lateral

Q1: Review the images and state the THREE most significant radiographic diagnoses concerning the SKELETON (BE SPECIFIC).





Correction notes
The questions asks you to be SPECIFIC and to give the THREE MAIN diagnoses relating to the SKELETON.

Remember we will only take the first THREE diagnoses you give in this question. If you give four answers, we will not mark or give credit for the fourth answer you give. Make sure that you have given the correct number of answers to questions that specify a number.

This question also indicates that we will only accept questions relating to the SKELETON. We will not accept answers relating to the soft tissues.

The question asks you to be SPECIFIC. Ensure you include information about the lateralisation of the changes you have identified to ensure you get credit for your answer. Not specifying lateralisation of fractures, subluxations etc. in cases like this represents a serious clinical failing.

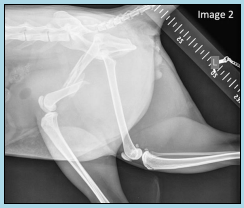
Maximum total amount of characters allowed for the answer
100

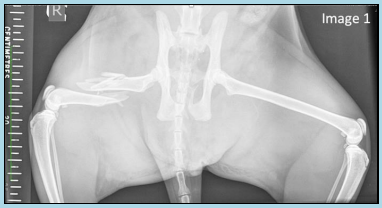
1. **Bilateral sacroiliac luxations (fracture/luxations also OK), (allow also sub-luxation of the right)**
2. **Pubic OR ischial fractures OR pelvic floor fractures**
3. **Right femoral fracture**
4. **(2 pts for all 3, 1 pt for 2)**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10931**
Key Feature:	**1. Subsequent question**

Question
You diagnose bilateral sacroiliac luxations with cranial displacement, minimally displaced fractures of the pelvic floor and a right femoral fracture.

Q2: Describe the right femoral fracture.





Correction notes
In the Case base questions, you cannot go back and alter a previous answer but we give you the relevant information from previous questions as you work through the text (as seen in the first sentence of this question) to enable you to work through the case even if you have missed clinical features in previous questions.

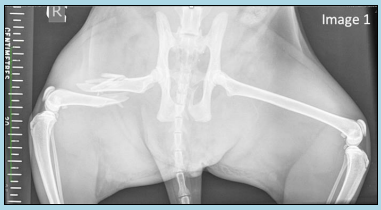
The question asks you to DESCRIBE the fracture. A partial description is not sufficient.

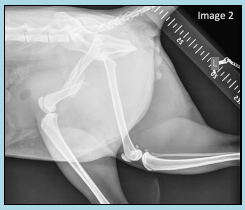
Maximum total amount of characters allowed for the answer
100

1. **diaphyseal OR mid-diaphysis**
2. **comminuted**
3. **caudally displaced OR caudally displaced distal femur (Would accept *cranially displaced proximal femur* although it is not custom to describe the proximal fragment. Just *cranially displaced* is incorrect)**
4. **overriding OR caudo-proximally displaced**
5. **(2 pts for all). *unstable*, *complete* and *closed* are also correct, but not required for achieving pts.**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10932**
Key Feature:	**2. Subsequent question**

Question
Q3: In addition to pain, give the TWO MAIN INDICATIONS to consider surgical stabilisation for this cat's sacroiliac luxations.





Correction notes
Make sure you read the question carefully. Stating PAIN as part of your answer will give you no credit as it is specifically excluded from your answer in the question text.

We will only assess the first TWO factors you list (any additional ones you give will be ignored).

After you have written your answer and before you move on, re-read the question and make sure:
- You fully understand it
- You have checked what the question is specifically asking for
- Your answer matches the question being asked

Mis-reading the question and answering the wrong question is a common problem for people sitting the exam.

Maximum total amount of characters allowed for the answer
120

1. **Any TWO of the following three:**
2. **Instability of ilial wings OR displacement of over 50% of SI joint**
3. **Non-ambulatory OR neurological deficits**
4. **(Mild) Narrowing of pelvic canal**
5. **(2 pts for all)**

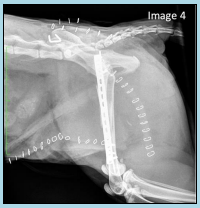
Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10933**
Key Feature:	**3. Subsequent question**

Question
The cat undergoes surgical stabilisation.

Radiographs are obtained after surgery (Images 4 and 5). In the same surgery, a skin laceration in the area of the caudo-ventral abdomen is closed using metal staples.

- IMAGE 4: Radiograph, pelvis and femora, lateral, immediate postoperative
- IMAGE 5: Radiograph, pelvis and femora, ventro-dorsal, immediate postoperative

Q4: For the surgical approach to the sacrum, why must the muscular elevation be confined to the sacral wing?



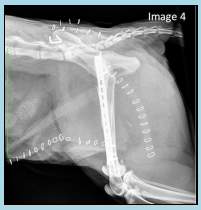
Correction notes

Maximum total amount of characters allowed for the answer
100

1. ***To avoid damage to (dorsal) nerve roots* emerging through the dorsal foramina of the sacrum.**
2. **(2 pts for all)**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10934**
Key Feature:	**4. Subsequent question**

Question
Q5: Describe the orthopaedic procedures performed, including the type of implants used (sizes of implants are not required).



Correction notes
We considered recognizing the implants used and interpretating the radiographs to establish how the stabilisations had been achieved were important aspects of demonstrating knowledge of clinical decision making in this case.

Maximum total amount of characters allowed for the answer
250

1. **(1) *Stabilisation of the bilateral sacroiliac luxation* with a (2) *left/unilateral* (ilio-sacral) (lag) *screw*, and (3) a *trans-ilial pin/K-wire***
2. **(4) *Stabilisation of the right femoral fracture* with a (5) *DC plate/DCP* and (6) an *IM-pin* OR (5) a *plate-rod* construct using a (6) *DCP***
3. **(2 pts for 5 or 6, 1 pt for 4)**
4. **Do not accept LCP/locking plate or any other plate. Implant sizes are not required.**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10935**
Key Feature:	**5. Subsequent question**

Question
Q6: Critically appraise the surgical stabilisation of the sacro-iliac luxations, considering reduction and implants.

Correction notes
This asks you to CRITICALLY APPRAISE the stabilisation.
This requires you to demonstrate judgement following interpretation of the radiographs.
We expected candidates to be able to answer this question well.

Maximum total amount of characters allowed for the answer
250

1. ***Reduction good on the left***
2. ***Reduction not perfect/acceptable on the right* (*SI luxation bilaterally adequately reduced* => counts as 2)**
3. ***Screw is placed correctly in sacrum AND length is adequate* because >60%/*slightly long***
4. ***Trans-ilial pin/k-wire adequate* OR *questionable bone purchase on the left***
5. ***Pelvis re-aligned***
6. **(2 pts for 4, 1 pt for 3)**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10936**
Key Feature:	**6. Subsequent question**

Question
Q7: State the FOUR MAIN STEPS to minimise the risk of iatrogenic sciatic nerve injury when placing the intramedullary pin in this cat?

Correction notes
This question asks for FOUR methods. Only the first four methods you list will be marked.

Maximum total amount of characters allowed for the answer
200

1. ***Normograde* placement**
2. ***Hold leg extended and adducted***
3. ***Walk K-wire/pin off the medial aspect of the greater trochanter into trochanteric fossa***
4. ***Cut short* OR before *cutting withdraw a bit-cut-advance***
5. **(2pts for any 3, 1pt for 2)**

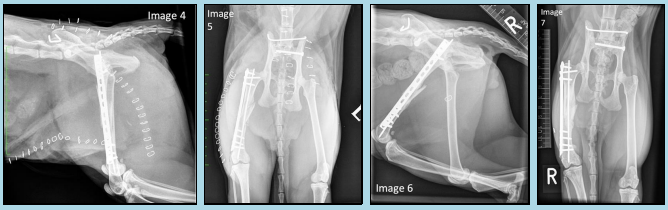
Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10937**
Key Feature:	**7. Subsequent question**

Question
Ten weeks after surgery the cat returns for a recheck and orthogonal radiographs are obtained (Images 6 and 7). On presentation, the cat is walking well with no lameness observed. Palpation of the right coxo-femoral joint and the right stifle joint is not painful with a good range-of-motion of both joints.

- IMAGE 4: Radiograph, pelvis and femora, lateral, IMMEDIATE POSTOPERATIVE
- IMAGE 5: Radiograph, pelvis and femora, ventro-dorsal, IMMEDIATE POSTOPERATIVE

- IMAGE 6: Radiograph, pelvis and femora, lateral, 10 WEEK POSTOPERATIVE
- IMAGE 7: Radiograph, pelvis and femora, ventro-dorsal, 10 WEEK POSTOPERATIVE

Q8: Comparing the 10 week postoperative to the immediate postoperative films, CRITICALLY APPRAISE the radiographs, EXCLUDING THE PELVIS. (Commenting on the radiographic technique and commenting on the metal staple not required)



Correction notes
This question directs you to IGNORE the pelvic injuries and to critically appraise the femoral fracture only. A common mistake is to fail to read the question properly and give an answer to the wrong thing (in this case commenting on the pelvic stabilisation).

Make sure you re-read the question before moving onto the next question to ensure you have answered the question that has actually been asked and to ensure that you have understood the question properly.

1. **Alignment unchanged**
2. **Implants in place/unchanged**
3. **Fracture healed/starting to remodel/caudal fragment not quite incorporated on dorsal aspect/bridging bone callus/signs of clinical union**
4. **Muscle atrophy right thigh**
5. **On v/d view right patella luxated**
6. **Mild varus deformity of femur**
7. **(2 pts for 5, 1 pt for 3 or 4)**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10938**
Key Feature:	**8. Subsequent question**

Question
Repeat orthopaedic examination under sedation reveals that the right patella luxates medially when the tibia is internally rotated without exerting direct digital pressure.

Q9: In addition to pre-existing laxity of the right patella, what factor related to the recent surgery has likely contributed to the right medial patellar luxation (excluding muscle atrophy and soft tissue laxity)?

Correction notes

Maximum total amount of characters allowed for the answer
100

1. ***Rotational deformity* OR * Torsional deformity* OR *malunion* OR *malalignment* OR**
2. **OR resulting in *distal femoral varus* (and shortening)**
3. **(2 pts for all)**

Type	**Free text question, (Max: 2.00 Points)**
Question-ID:	**10939**
Key Feature:	**9. Subsequent question**

Question
Q10: At this time you recommend conservative management for the patellar luxation. JUSTIFY this decision.

--- End of Case ---

Correction notes

Maximum total amount of characters allowed for the answer
200

1. **Because the cat is *walking well* OR *with no lameness* observed. Palpation of the *right hip and stifle joints is not painful with a good range-of-motion* of both joints.**
2. **OR The *clinical presentation and the examination do not suggest a clinically relevant problem* to be present at this point**
3. **OR The *patellar luxation is not clinically relevant at this point***
4. **(2 pts for all)**