CASE-BASED EXAMINATION INSTRUCTIONS

The case-based examination measures surgical principles in case management prior to, during, and after surgery. Information about these cases is presented in the form of images, videos, and data. Visual information will be projected on the screens. Data and text will be given in your exam binder. Information given on the screen is not shown on the question page. **OBSERVE ALL INFORMATION PRESENTED ON THE SCREEN PRIOR TO ANSWERING QUESTIONS IN YOUR EXAM BINDER.**

On the front cover of your binder is a sticker that shows your candidate ID number. Please confirm at this time that the ID number on the cover of the binder is your ID number. If it is not your ID number, let a proctor know immediately.

The examination binder consists of XX pages of questions, each related to a corresponding screen image. Each image presented on the screen will correspond with one page of the exam. The screen image will show the corresponding page number in your examination binder.

For some images, particularly radiographs and ultrasounds, the lights will be dimmed for approximately one minute after you have had a chance to read the question. You will have approximately 30 seconds to read the question before the lights are dimmed.

If a question asks for a specific number of responses, you will be graded on only the requested number of answers. Additional responses beyond the number requested will not be graded. For instance, if we ask you for one diagnosis, and you give us two, we will grade only the first answer. Minimize the use of abbreviations to make sure your answer is clearly understood. Commonly used medical abbreviations may be used; however, if you are concerned that the grader may not understand the abbreviation, you should define it.

You will have either two minutes, four minutes, six minutes or eight minutes to respond to the questions on each page. The time allotted for each page will be indicated on the top of the page, as well as the top of the corresponding screen image. A one-minute warning will be issued prior to changing each image.

If we experience technical difficulties while showing an image, the time will be stopped and will resume after the problem has been corrected. You will still receive the full amount of time for that question.

When the allotted time is up for each question, you will be instructed to turn the page in your binder to the colored plastic divider that follows. Once you turn to the plastic divider, you may NOT go further in the exam until instructed to do so. Therefore, when instructed to do so at the end of each question, you will turn the page to the plastic divider and wait for instructions before turning the plastic divider to the next test question.

**Do Not Continue to the Next Page until Instructed**
UNDER NO CIRCUMSTANCES ARE YOU ALLOWED TO MOVE FORWARD IN THE EXAMINATION UNTIL INSTRUCTED. FURTHERMORE, YOU MAY NOT RETURN TO A PREVIOUS PAGE OF QUESTIONS AT ANY TIME DURING THE EXAM. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DISQUALIFICATION FROM THE EXAM.

Scrap paper has been supplied for you to take notes during the exam. You are encouraged to use the scrap paper throughout the exam. You can refer to the notes on your scrap paper for the entire duration of the exam. Your scrap paper will not be scored.

Raise your hand if you need additional pencils, have a question, or if you need to leave the room for any reason. We highly recommend that you do not leave the examination for any reason since questions cannot be revisited once they have been shown.

Are there any questions before we begin the exam?
You are evaluating a 10-year-old Arabian mare with an 18-hour history of persistent signs of moderate abdominal pain. The mare is 10 months pregnant. On rectal examination, you palpate a tight band of tissue coursing diagonally from left cranial dorsal to right caudal ventral across the top of the uterus. On the right side, you palpate a taut band more vertically oriented extending ventral to the uterus. No other abnormalities are palpable within the abdomen. Heart rate = 60 bpm; peritoneal paracentesis – clear to yellow, total solids < 2.0 g/dl; nasogastric reflux = 0.

1. What is your diagnosis?

____________________________________________________________________

2. List two surgical approaches for managing this problem. Be specific.

A. ________________________________________________________________

B. ________________________________________________________________

3. List one NON-surgical approach for managing this problem. (BE SPECIFIC and describe the technique)

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

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1. What arrhythmia is illustrated in this ECG tracing and what is the mare’s heart rate?

__________________________________________________________________________

2. List 3 possible causes of this arrhythmia.

A. ____________________________________________________

B. ____________________________________________________

C. ____________________________________________________

3. What class of drugs should be avoided for premedication of this mare?

__________________________________________________________________________

4. List three reasons why you should avoid this class of drugs for pre-medication in this mare?

A. ____________________________________________________

B. ____________________________________________________

C. ____________________________________________________

Do not continue to the next page until instructed.
You elect to correct the clockwise uterine torsion using a right flank laparotomy.

1. Name the layers A – C penetrated during this approach in the image.
   
   A. ____________________________________________________
   
   B. ____________________________________________________
   
   C. ____________________________________________________

2. What is the principal difference between a grid and a modified grid incision?
   
   ________________________________

3. How will you correct the uterine torsion using the right flank approach?
   
   ________________________________
   
   ________________________________

4. How would you determine the uterus is correctly repositioned?
   
   ________________________________

5. List 2 methods for assessing fetal viability.
   
   A. ____________________________________________________
   
   B. ____________________________________________________

Do not continue to the next page until instructed.
The mare is re-admitted to your hospital one month later, at 333 days of gestation in dystocia. The mare has been in active or in stage 2 labor for 20 minutes. The experienced farm veterinarian attempted assisted vaginal delivery but was unsuccessful. The foal is alive.

1. Describe the presentation and malposture of the foal shown in the image.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

2. The mare is straining and kicking. Based on the historical information listed above, what procedure will you perform in an attempt to extract the foal?

_____________________________________________________________________

3. List TWO manipulations to correct this malposture.

   A. _________________________________________________________________
   B. _________________________________________________________________

4. What event concludes each stage of labor?

   Stage one: ___________________________________________________________
   Stage two: ___________________________________________________________
   Stage three: _________________________________________________________

Do not continue to the next page until instructed.
1. List 3 ways that the technique shown in the image facilitates delivery of the foal.
   A. ___________________________________________________________________
   B. ___________________________________________________________________
   C. ___________________________________________________________________

2. During the procedure, the anesthetist obtains an arterial blood gas. Interpret this blood gas.
   
   Patient temp. 98.6°F  
   pH 7.216  
   pCO₂ 64.7 mmHg  
   pO₂ 116.2 mmHg  
   HCO₃⁻ 26.0 meq/l

   ___________________________________________________________________

3. What is the most likely cause of this abnormality?

   ________________________________________________________________

4. List TWO techniques used to treat this abnormality.
   
   A. ________________________________________________________________
   B. ________________________________________________________________

5. You have tried for 15 minutes to correct this malposture without success. The owners want what is best for the mare and the foal. What procedure should you recommend next?

   ___________________________________________________________________

Do not continue to the next page until instructed.
You have elected to perform a c-section on the mare. The mare is anesthetized, positioned in dorsal recumbency, and prepared for surgery.

1. What disinfecting agent is contained in Nolvasan?

____________________________________________________________________

2. What is the mechanism of action of this agent?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Do not continue to the next page until instructed.
1. Name the anatomical parts of the foal’s hind limb contained within the uterus in **image 1**.
   
   A. __________________________________________________________
   
   B. __________________________________________________________
   
   C. __________________________________________________________

2. Your incision into the uterus will be between which 2 letters in **image 1**?

   _________________________________________________________________

3. Identify the following structures in the **image 2**.
   
   A. ____________________________________________________________
   
   B. ____________________________________________________________
   
   C. ____________________________________________________________

4. Name the structure in **image 3**.

   ________________________________________________________________
   ________________________________________________________________

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Do not continue to the next page until instructed.
The foal is extracted and transferred to the resuscitation team.

1. What technique is being performed in image 1 and why?
   
   Technique: __________________________________________________________________________
   
   Why: ________________________________________________________________________________

2. What technique is being performed in image 2?
   
   ____________________________________________________________________________________
   
   ____________________________________________________________________________________

3. What is the purpose of the technique being performed in image 2?
   
   ____________________________________________________________________________________
   
   ____________________________________________________________________________________

4. Why is it necessary in mares compared to cows to perform the technique shown in image 2?
   
   ____________________________________________________________________________________
   
   ____________________________________________________________________________________

Do not continue to the next page until instructed.
1. Name the suture patterns shown in images 1 – 4.
   
   1. _______________________________________________________
   2. _______________________________________________________
   3. _______________________________________________________
   4. _______________________________________________________

2. List an appropriate suture type and suture size for uterine closure.
   Suture type: _______________________________________________________
   Suture size: _______________________________________________________

3. List two suture patterns that would be appropriate for closing the final layer of the uterus.
   Pattern 1: _______________________________________________________
   Pattern 2: _______________________________________________________

Do not continue to the next page until instructed.
The mare recovers well from anesthesia. Three hours after surgery, the mare’s heart rate is 80 beats per minute, and she is lying down and sweating. You perform an abdominal ultrasound examination and peritoneal paracentesis on the mare.

1. Identify the A and B on the ultrasound image.
   A. _______________________________________________________
   B. _______________________________________________________

2. Based on the ultrasound image and the peritoneal fluid, what is the mare’s problem?
   ___________________________________________________________________

3. List THREE possible causes for this abnormality.
   1. _____________________________________________________________
   2. _____________________________________________________________
   3. _____________________________________________________________

Do not continue to the next page until instructed.
The mare responds well to your therapy and is discharged from the hospital 5 days later. The owners are interested in re-breeding the mare this season. The mare returns to your hospital 60 days later for a breeding soundness examination. The speculum examination is shown in the image.

1. What is your diagnosis?

2. How could this affect the mare’s fertility?

3. What factor determines whether or not this injury must be repaired?

4. The surgery should be performed during what phase of the mare’s reproductive cycle and why is this important?

   Cycle: 

   Why: 

Do not continue to the next page until instructed.
Question #12 (4 minutes)

1. You elect to repair the cervical laceration. Name the structures shown in the images.
   A. _________________________________________________
   B. _________________________________________________
   C. _________________________________________________

2. You choose to perform a 3-layer closure. List the 3 layers.
   A. _________________________________________________
   B. _________________________________________________
   C. _________________________________________________

3. What is the holding layer?
   ___________________________________________________________

4. How long should the farm veterinarian wait before palpating the cervix following repair?
   _________________________________________________________________

5. What is the reported pregnancy rate following cervical laceration repair?
   Circle the correct answer.
   40–50%  50–60%  70–80%  80–90%

Do not continue to the next page until instructed.