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Context: Anatomic knowledge is important when performing medical and surgical procedures involving the digits. These procedures include digit amputation, removing a nail/foreign body, providing regional anesthesia, treating an abscess and/ or performing arthrocentesis.

The following case involves a digit that may require amputation (due to septic arthritis unresolved by antibiotic therapy).

Learning Outcomes:

By the end of this learning activity you should be able to:

1. Identify the external structures.
2. Identify the anatomic structures (bones & joints).
3. Explain which claw bears the most weight on each limb.
4. Describe intravenous regional anesthesia (IVRA).
5. Describe some applications for IVRA in the context of a bovine digit.
6. Describe the function/application of a bovine hoof block.

Part 1: Anatomy of the Bovine Digit

Case Summary: You are called out on ambulatory to a farm with registered Jersey (dairy) cows. The cow in question is a 5-year old dry cow (not lactating) due to freshen (begin parturition/lactation) in about 3 weeks. She has been treated with serial injections of an injectable antibiotic for an injury to her front left claw over the past 2 weeks.

This is a radiograph of her left forefoot (dorsal-palmar projection).

Instructions: Use all of the resources necessary to successfully complete the following. Work in small groups and discuss answers to the learning objectives. Give everyone space and time to complete objectives and contribute to the peer to peer learning processes. Leave no classmate behind!

1. Complete the learning outcomes above.
2. Name the bones & joints that appear **abnormal**.
3. If your clinical recommendation was to amputate the digit leaving only normal tissue, where would you transect the digit?

Follow this link for more information on digit amputation.

Part 2: Veins of the Ox Forelimb

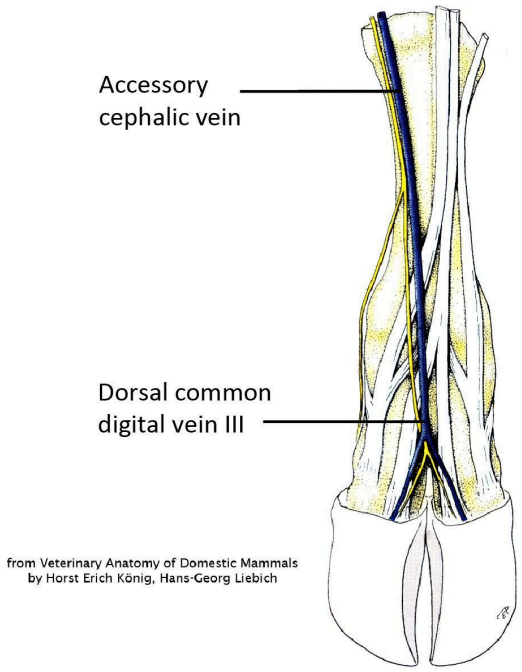
Context: Knowledge of the anatomy of the veins of the forelimb is essential for performing intravenous regional anesthesia (IVRA) of the distal limb. Follow this link for more information on regional anesthesia in cattle.

The dorsal common digital vein III is formed by the small veins draining the capillary beds of the digits. It courses proximally from between the digits to the metacarpophalangeal joint (fetlock).

After the dorsal common digital vein III receives other smaller veins and passes the fetlock joint, it is named the accessory cephalic vein and travels proximally over the cannon bone.

Instructions: Inspect the prosections and/or models provided. Answer the following questions:

1. Identify each of the following veins:
   - ☐ Dorsal common digital being III
   - ☐ Accessory cephalic
2. Describe an advantage of using an IVRA block versus a ring block?
3. Complete the learning outcomes above.



from Veterinary Anatomy of Domestic Mammals by Horst Erich König, Hans-Georg Liebich

Part 3: Digital Hoof Block Activity

Context: There are many causes of injury to a single claw in cattle, such as trauma (lacerations, punctures, fractures), infectious (bacterial, viral), and poor husbandry (lack of or improper hoof trimming). When an injury to a single digit occurs, application of a bovine hoof block can help alleviate some of the discomfort and physical stress on the digit while healing occurs.

The image to the right shows an injury on one side and a rubber block on the other. Hoof blocks come in various shapes, sizes and materials. Some are glued on (long term) and some are applied with bandage materials (short term and changed often). Follow this link for more information on causes and treatment of claw lesions in cattle.

Instructions: Use all of the resources necessary to successfully complete the following. Work in small groups and discuss answers to the learning objectives. Give everyone space and time to complete objectives and contribute to the peer to peer learning processes. Leave no classmate behind!

1. Use the bovine digital models and hoof blocks provided to complete the learning outcomes above.
2. Describe how use of a hoof block facilitates treatment of unilateral claw injury/disease.
3. Complete the learning outcomes above.