

Question

You have a 6-kg cat that you wish to raise his PCV from 15 to 25%. You plan to administer packed red blood cells. How many milliliters of packed red blood cells will this cat need?

- 120 ml
- 30 ml
- 15 ml
- 60 ml

Explanation - The correct answer is 60 ml. **In order to raise the PCV 1% you will need to give 1ml/kg of packed red blood cells.** So it takes 6mls to raise this cat's PCV by 1%. If we are going to increase it by 10% we will need 60ml of packed red blood cells.

Question

Which of these compounds is effective at inducing emesis in the cat?

- Ketamine
- Acepromazine
- Xylazine
- Diazepam

Explanation - The correct answer is **xylazine**. Xylazine can cause emesis fairly reliably in cats. The other drugs listed do not. **Apomorphine** is used in dogs.

Question

A domestic short hair cat presents for decreased appetite due to chronic renal disease. Which of the following is an appropriate appetite stimulant?

- Maropitant
- Omeprazole
- Mirtazapine
- Famotidine
- Metoclopramide

Explanation - Although, all of the options given can potentially help a cat with renal disease feel better, the only medication considered an **appetite stimulant** is mirtazapine. **Mirtazapine** works by increasing norepinephrine in the system, which acts as an alpha-receptor agonist, causing an increase in appetite. It is also a serotonin receptor antagonist, which inhibits 5HT2 and 5HT3 receptors, so it acts as an **anti-emetic** as well.

Famotidine (Pepcid) is an H-2 receptor blocker while **omeprazole** (Prilosec) is a proton pump inhibitor. Both reduce gastric acid secretion.

Maropitant (Cerenia) is a neurokinin-1 inhibitor, which inhibits Substance P in the CNS.

Metoclopramide is a prokinetic and anti-emetic drug. The mechanism for its anti-emetic effects is from antagonism of dopamine at its receptors in the chemo-receptor trigger zone of the brain.



Question

Which of these antibiotics is very poorly absorbed from the feline gastrointestinal tract, provided the tract is intact?

- Clindamycin
- Chloramphenicol
- Neomycin
- Sulfadiazine

Explanation - The correct answer is **neomycin**. As with most aminoglycosides, neomycin is poorly absorbed through the GI tract. For this reason, it is sometimes used orally to alter intestinal flora without systemic absorption. The other antibiotics are absorbed from the GI tract.

Question

Which of the following feline behaviors would be reduced the most by castration?

- Cat-human aggression
- Urine marking
- Inter-male aggression
- Roaming behavior
- Male-female aggression

Explanation - Castration has been shown to reduce **roaming behavior** by 90% in cats, **inter-male aggression** by 60% and **urine marking** by 50%. Castration would have minimal to no effect on male-female and cat-human aggression.

Question

A 4-year old male Himalayan cat presents to your clinic for swelling over the neck. The owner reports that the cat is indoor/outdoor and has a history of getting into fights with other cats in the neighborhood. The owner noticed the swelling two days ago and says the cat has been acting somewhat lethargic with a decreased appetite in the past couple of days.

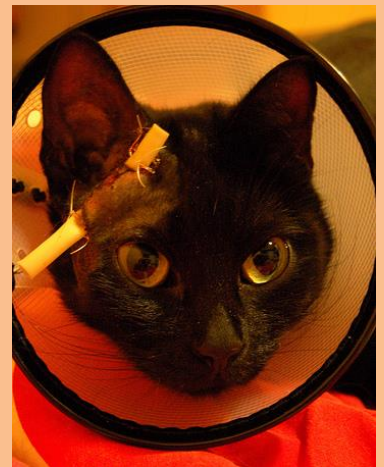
On examination, you note a large fluctuant and slightly erythematous swelling, approximately 7cm in diameter in the dorsal cervical region. The cat's vitals are:

Heart rate- 170 bpm
Respiratory rate- 30 bpm
Temperature- 103.9 F

You sedate the cat and surgically explore the wound, draining 15mls of purulent fluid. After thoroughly flushing the wound, which of the following measures is most important?

- Place a penrose drain for 4 days
- Prescribe a 7 day course of meloxicam
- Prescribe a 7 day course of amoxicillin
- Prescribe a 10 day course of clindamycin
- Give an injection of penicillin G intramuscularly

Explanation - This is a description of a cat bite abscess based on the clinical description of the cat's condition and the purulent fluid that is drained. Because most cat bite abscesses are predominated by anaerobes, the most important measure you take to promote healing is to **prevent the wound from closing back up, allowing continued drainage and preventing an anaerobic environment** from being re-established. A penrose drain is an effective method to maintain drainage. Penrose drains are typically left in place **for 3-5 days** and are then removed depending on how productive the wound is. Although many veterinarians prescribe antibiotics to cats after draining abscesses, this is believed to be **unnecessary** for most cases.



It is recommended also to test for FeLV and FIV at the time of treatment to rule out infection from the bite wound.

Question

White cats with blue eyes are commonly born with what defect?

- Blindness
- Color dilution alopecia
- Deafness
- Polydactyly
- Cauda equina syndrome

Explanation - The correct answer is deafness. **Congenital deafness** is linked to blue eye color in white cats. It is also often associated with **Dalmatians**, Australian Shepherds, Boston Terriers, English Setters, and Old English Sheepdogs. Cauda equina syndrome occurs commonly in Manx cats. Blindness and color dilution alopecia are not associated with white cats with blue eyes.



Question

A 3-year old male castrated DSH cat presents to you for pica. The owner reports that the cat chews and eats various fabrics including the owner's garments. The owner reports that this behavior seemed to begin shortly after her daughter was born. Which of the following drugs is a selective serotonin re-uptake inhibitor (SSRI) which you could prescribe as part of the treatment for the cat's anxiety-related behavioral problems?

- Clomipramine
- Alprazolam
- Clorazepate
- Amitriptyline
- Fluoxetine

Explanation - Fluoxetine (Prozac) is an anti-depressant and SSRI that can be used to treat cats for anxiety related disorders at a dose of 0.5 mg/kg orally once daily.

The other drugs listed are also antidepressants but are not SSRIs.

Clorazepate (Tranxene) and alprazolam (Xanax) are benzodiazepine derivatives.

Clomipramine and amitriptyline are tricyclic antidepressants. These drugs act, in part, by inhibiting serotonin-norepinephrine re-uptake but they are not selective serotonin re-uptake inhibitors.

Question

What is the strongest indication for a blood transfusion in a cat?

- Acute blood loss with PCV of 15
- Chronic blood loss with PCV 27
- Chronic blood loss with PCV 15
- Acute blood loss with PCV of 22

Explanation - The correct answer is an acute blood loss with a PCV of 15. Usually, a blood transfusion is indicated in a dog or cat with a PCV of less than 20. However, an animal with chronic blood loss will have compensated and adapted to the state of anemia and is not as critical. An animal that undergoes acute blood loss is much more critical as they have not had an opportunity to compensate.

Question

Which of the following can be treated with enalapril?

- Acute renal failure
- Protein-losing nephropathy
- Hypotension
- Protein losing enteropathy

Explanation - Enalapril is an angiotensin-converting enzyme (ACE) inhibitor used as a vasodilator, antihypertensive agent, and heart failure treatment. It works by preventing the conversion of angiotensin I to angiotensin II, thus reducing aldosterone concentrations and causing diuresis. Its dilatory effects on the efferent arterioles of glomeruli help to palliate **protein losing nephropathies**. It is often used in conjunction with diuretics.

Question

A cat presents with a nonspecific history of slightly decreased appetite, lethargy, and odd behavior. A leukogram shows the following values: WBC 18,630 cells/uL, band neutrophils 100 cells/uL, segmented neutrophils 16,432 cells/uL, lymphocytes 1587 cells/uL, monocytes 352 cells/uL, eosinophils 154 cells/uL, basophils 5 cells/uL. What is your interpretation of the leukogram?

- Left shift
- Physiologic leukogram
- Degenerative left shift
- Infection
- Normal

Explanation - A "physiologic leukogram" is from an epinephrine-mediated excitation response and is commonly seen in cats who get excited upon entering a veterinary clinic. You can see the classic mild neutrophilia along with normal to increased lymphocytes and no monocytosis. Although there are bands present in the blood work this is a normal amount according to reference levels provided, and is thereby not considered a left shift.

Question

The image below is of a cat with a specific hereditary condition. This condition is typically harmless. What is the condition?



- Radial hemimelia
- Polydactyly
- Digit 3 hemimelia
- Hypodactyly

Explanation - Polydactyly occurs when there is an extra digit, as seen in this image. The cat appears to have an "opposable thumb". In cats, this condition is also called mitten paw. It is an autosomal dominant trait with incomplete penetrance.

Hemimelia is a developmental anomaly that is caused by the absence or shortening of a section of bone in the associated limb. Radial hemimelia has been reported in the dog.

Question

A 7-year old fractious cat has been coming in every day for the past week to get ear treatments. Because the cat is so difficult to handle, you have been needing to sedate the cat in order to clean and medicate his ears. The owner comments that the cat has not been eating well, she suspects due to the stress of coming to the clinic every day. You decide that you will change your sedation protocol to include a drug that can rapidly increase appetite in cats. Which of these drugs has this effect?

- Dexmedetomidine
- Propofol
- Acepromazine
- Ketamine
- Diazepam

Explanation - Diazepam is a benzodiazepine sedative that can effectively cause appetite stimulation in cats. It is **best administered intravenously to achieve this effect**. Repeated **oral** administration of diazepam has been associated with **acute fulminant hepatic necrosis**. This side effect is thought to be related to metabolism of the drug in the liver to toxic metabolites. This is more severe when administered orally due to first pass metabolism.

The other drugs listed do not have this effect. Acepromazine is a phenothiazine sedative. Dexmedetomidine is an alpha-2 agonist drug used for sedation. It is the S-enantiomer of medetomidine. Propofol is a rapid-acting anesthetic agent often used for induction of anesthesia. Ketamine is a dissociative anesthetic.

Question

A 3-year-old male castrated outdoor domestic medium hair cat presents to you for not eating, lethargy, and a swelling on his neck. On examination, the cat has a mild fever of 103.8F (normal is 100-102.6F) and has a slightly painful, fluctuant swelling in the lateral cervical region. After a thorough assessment you sedate the cat and explore and lance the swelling, draining approximately 20 mls of purulent exudate. You flush the wound and place a small drain and the cat recovers well from sedation. Suspecting this was likely a cat bite abscess, you elect to prescribe a course of antibiotics. The owner is a microbiologist and asks you what types of bacteria are typically found in cat bite abscesses. What should you tell him?

- The most frequently isolated bacteria in cat bite abscesses are Mycoplasma.
- The most frequently isolated bacteria in cat bite abscesses are Gram-positive rods.
- The most frequently isolated bacteria in cat bite abscesses are anaerobes.
- The most frequently isolated bacteria in cat bite abscesses are Gram-negative rods.

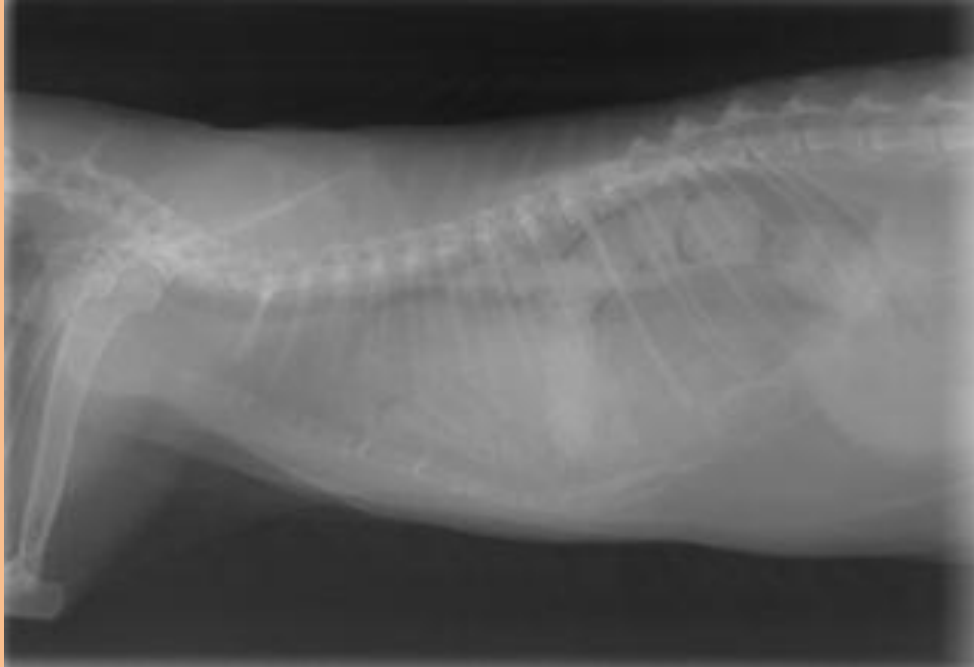
Explanation - The most frequently isolated bacteria in cat bite abscesses are anaerobes. These include obligate anaerobes such as *Fusobacterium* spp., *Bacteroides* spp., and *Clostridium* spp. as well as facultative anaerobes such as *Pasteurella* spp. and *Actinomyces* spp.

Because anaerobes are the most common isolates, it is believed that most cat bite abscesses can be effectively treated by establishing good drainage. Nevertheless, many if not most veterinarians, elect to additionally treat these with antibiotics. Be sure to choose an antibiotic that will be effective against anaerobes such as *clindamycin* or *amoxicillin with clavulanate*.

Question

A 10-year old cat presents with a history of *chronic constipation* and hasn't had a bowel movement in several days. The owner says the cat is uncomfortable and breathing heavy when she strains to defecate. T= 102.8, P= 220, R= 75. You take radiographs (see image). Which course of treatment is most appropriate for this cat?

- Manual deobstipation
- Surgery
- Lactulose and Cisapride
- Thoracocentesis



Explanation - The radiographs show the colon in the thoracic cavity. This finding is consistent with a diaphragmatic hernia. The best course of treatment is surgery to return the abdominal organs back into their appropriate place and close the defect in the diaphragm. Note that the cat has an increased respiratory rate, due to the colon being in the chest.

Question

You want to give a 22 pound cat a 5 mg/kg dose of a drug. The drug comes as a 2.5% solution. How many milliliters should you give the cat?

- 0.4
- 20
- 2
- 4.4

Explanation - First, you must recognize that the cat's weight is given in pounds and should immediately be converted to kilograms. There are 2.2 lbs/kg so this is a 10 kg cat.

Second, you must be able to convert a percent solution to mg/ml. A 2.5% solution is 25 mg/ml. This is hard for some students to remember. A memory tip is that a 100% solution would be 1 gram/ml. Therefore a 50% solution would be 500mg/ml, and a 5% solution would be 50 mg/ml.

The math to solve this question is:

$$22 \text{ lbs} \times (1 \text{ kg}/2.2 \text{ lbs}) \times 5\text{mg}/\text{kg} \times (1\text{ml}/25\text{mg}) = 2 \text{ ml}$$

Question

A 3-year old male castrated DSH cat presents to you for pica. The owner reports that the cat chews and eats various fabrics including the owner's garments. The owner reports that this behavior seemed to begin shortly after her daughter was born. As part of the treatment for the cat's anxiety-related behavioral problems, you prescribe, clomipramine (Clomicalm), a tricyclic antidepressant (TCA). Which of the following is a list of potential side effects you should warn the cat's owner about?

- Vomiting, constipation, and anorexia
- Thrombocytopenia, fever, and anorexia
- Dyspnea, cough, and lethargy
- Acute renal failure, constipation and lethargy
- Hepatic necrosis, coagulopathy and anorexia

Explanation - Side effects of clomipramine include vomiting, constipation, decreased appetite or anorexia, dry mouth, tachycardia, arrhythmia, and sedation.

Hepatic necrosis, respiratory signs, renal failure, thrombocytopenia, and fever are not thought to be significant side effects of the drug.
