Literature Review: 2010 JAALAS

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• A MUST READ!

- Does the reuse of test items to a greater extent mean that there will be no questions, or fewer questions, covering recent journal articles?

Recent retrospective analysis indicated that the 2005 exam contained 41.6% new questions, the 2006 exam contained 23% new questions, and the 2007 exam contained 25.5% new questions. New questions may also be added from standard laboratory animal resources (such as textbooks and regulations). We attempt to focus all questions to the important topics of laboratory animal medicine as highlighted in the ACLAM Role Delimitation Document. Depending on the significance of new publications in the field, new questions will certainly be included in future exams to cover material appropriately linked to the RDD. The candidate should continue to study new publications with a critical eye on the RDD. The consultant’s strong recommendation was that no new questions be used for scoring on the exams. Although we are not yet able to follow this recommendation, future Exam Committees will build a database of “test items” (also known as test market items or preliminary test items) used to gather statistics for evaluation of future use; such items will not count toward candidates scores. The consultant also recommended that there be no questions based solely on new research that does not form part of our professionally accepted body of knowledge; asking a question based on recent research which was subsequently shown to be invalid would jeopardize the validity of the examination. We have thus removed questions that simply require rote memorization from a recent journal article.

Mouse parvovirus is a small nonenveloped (DNA or RNA, pick one) virus?

Mouse norovirus is a small nonenveloped (DNA or RNA, pick one) virus?

Effect of Murine Norovirus Infection on Mouse Parvovirus Infection. JAALAS, vol 49, No.1

• Mouse parvovirus is a small nonenveloped DNA virus. MPV DNA levels are consistently high in the intestine, mesenteric lymph nodes and spleen.

• Murine norovirus is a small nonenveloped RNA virus that targets dendritic cells and macrophages.

• Authors conclusion: MNV infection increased the duration of MPV shedding and increased MPV DNA levels in tissues of BALB/c mice.
What is being shown below?

Malocclusion in Aging Wistar Rats. JAALAS Vol. 49, No.1

• Malocclusion. Class II, incisor overbite with deviation of the lower incisors. Radiograph shows jaws are in alignment.
• Malocclusion Class I?
• Class III?

Coagulation Profiling of Random Source Cat. JAALAS Vol. 49. No. 1

• Prothrombin time: screen for extrinsic pathway (factors X, VII, V, prothrombin and fibrinogen)
• Activated partial thromboplastin time screens for intrinsic pathway (factors XII, XI, X, IX, VIII, V, prothrombin and fibrinogen)

Coagulation Profiling of Random Source Cat. JAALAS Vol. 49. No. 1

• Authors conclusion: Study suggests that class B cats exhibited sufficiently wide variations in their coagulation parameters that they may not be optimal subjects for vascular or cardiovascular research.
• Prolonged prothrombin time and aPTT can be associated with hypertrophic cardiomyopathy, neoplasia, diabetes, other underlying conditions.

• Prothrombin time is used to screen which part of the coagulation pathway? (extrinsic or intrinsic)
• Activated partial thromboplastin time is used to screen which part of the coagulation pathway? (extrinsic or intrinsic)

• Mongolian Gerbil. Genus and species?

• Animal welfare regulations state that (pick one: dog, rabbit, guinea pig, hamster, or gerbil) can be fed pelleted feed on the floor of a primary enclosure?
Method of Feed Presentation Affects the Growth of Mongolian Gerbils (*Meriones unguiculatus*)

- Genus and Species; *Meriones unguiculatus*
- Animal Welfare Regulations 9CFr Ch.1, 3.29 e, “Hamsters may be fed pelleted feed on the floor of a primary enclosure.”
- Gives allowance for the hamster’s natural hoarding and feeding behavior.
- Author conclusion: method of feed presentation affects rate of growth of gerbils but not reproduction. Feeding from floor and J-feeder were comparable to each other and had higher weight gain that feeding from wire-bar lid.

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Anomer-Equilibrated Streptozotocin Solution for the Induction of Experimental Diabetes in Mice (*Mus musculus*)

- Author conclusion: alpha and beta anomers of streptozotocin have different toxicities so they recommend diabetes induction should be accomplished by using anomer-equilibrated solutions.

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Streptozotocin has selective cytotoxicity for what cell type?
- Used medically to treat what?
- Application in medical research to generate what model?

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Common name for *Aplysia californica*?
- Across species, as referenced by authors, use of silk sutures as compared to other suture types is reported to have more or less tissue reaction?

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Streptozotocin (2-deoxy-2-[methyl-3nitrosourea] 1-D-glucopyranose) has selective cytotoxicity for pancreatic B cells.
- Used to treat islet cell tumors of the pancreas and some neuroendocrine tumors.
- Used to generate models of diabetes mellitus.

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Common name for *Aplysia californica* is the California Sea Hare.
- Across species use of silk sutures as compared to other suture types is reported to have more tissue reaction.
- However these authors concluded that comparing histology, edema, inflammation, and granuloma formation between silk, polydioxanone, polyglactin 910, nylon, and poliglecaprone, SILK had the least granuloma formation. There were not any statistically superior suture materials in the other categories.
• What is the causative agent for ‘scaly skin disease’?
• What is the causative agent for pseudotuberculosis?

Suppurative Adenitis of Preputial Glands Associated with Corynebacterium mastitidis Infection in Mice. JAALAS Vol 49. No.1
• Numerous gram-positive bacillary to rod-shaped (coryneform-irregular morphology) within the keratosebaceous and suppurative collection in the preputial gland.

• Scaly skin-Corynebacterium bovis
• Pseudotuberculosis-Corynebacterium kutscheri
• What gram stain does Corynebacterium take?

• What is the common name of Graphiurus kelleni? (Hint: what continent are they found on)
• What family are they in?
• True or false? The CDC has banned the importation of African Dormice
• From the study which two foods were most preferred by their captive colony? (Pick two: parmesan cheese, sunflower seeds, waxworm larvae, canned chicken, peanut butter, soy nuts, black walnuts, cottage cheese, eggs)

Graphiurus kelleni are commonly known as African dormice.
• Family Gliridae.
• True. CDC has banned importation of African dormice.
• From the study which two foods were most preferred by their captive colony? (waxworm larvae and soy nuts)
• What is the Guide recommendation for humidity range?
• HEPA filters capture particles down to what size and percentage?
• 8th Edition Guide changes recommended dry bulb temperature range for mouse, rat, hamster, gerbil and guinea pig from 18-26 degrees C to what?

Disparities in Ammonia, Temperature, Humidity, and Airborne Particulate Matter between the Micro- and Macroenvironments of Mice in Individually Ventilated Caging. JAALS Vol 49, No 2.

• What is the Guide recommendation for humidity range? 30-70%.
• HEPA filters capture particles down to what size and percentage? 99.97% rating for 0.3um particles.
• 8th Edition Guide changes recommended dry bulb temperature range for mouse, rat, hamster, gerbil and guinea pig from 18-26 degrees C to 20-26 C?

Endotoxin, Coliform, and Dust levels in Various Types of Rodent Bedding. Vol 49, No. 2

• LPS is derived from the outer cell wall of gram-negative coliform bacteria.
• The authors concluded that:
  – D. paper bedding had lower coliform and endotoxin levels than corncob
• Authors felt that rodent bedding containing high levels of endotoxin may alter the results of respiratory and immunologic studies in rodents. The study suggested that paper bedding would have the least interference.

• What does RODAC stand for?
• Microbiologically, what are you able to grow on RODAC plates?
• Do ATP detection systems detect residual ATP in live organisms, dead organisms, or both?

Endotoxin, Coliform, and Dust levels in Various Types of Rodent Bedding. Vol 49, No. 2

• LPS is derived from?
• The authors concluded that:
  – A. paper bedding had higher coliform but lower endotoxin levels than corncob
  – B. paper bedding had lower coliform but higher endotoxin levels than corncob
  – C. paper bedding had higher coliform and endotoxin levels than corncob
  – D. paper bedding had lower coliform and endotoxin levels than corncob

Efficacy and Limitations of an ATP-Based Monitoring System. JAALAS Vol 49, No. 2

• What does RODAC stand for? Replicate Organism Direct Agar Contact.
• Microbiologically, what are you able to grow on RODAC plates? Cultivatable aerobic bacteria and some fungi.
• ATP detection systems detect residual ATP in both live organisms and dead organisms.
Efficacy and Limitations of an ATP-Based Monitoring System. JAALAS Vol 49, No. 2

• Authors concluded that ATP system robustly detected rodent RBC’s, human epithelial cells, feces to represent poor cleaning and presence of fomites and Toxocara eggs, and Toxoplasma tachyzoites to represent parasites.
• As stated before RODAC plates would not grow any of these types of contaminants. Urine was poorly detected by the system.

Describe the morphological presentation shown. Differentials?
• Genus and species?
• How many chambers of heart?
• To eliminate waste, they excrete ammonia or urea?
• Which gender is usually larger?
• Causative agent of chytridiomycosis?

Aeromonas, Mycobacterium, and Batrachochytrium spp. In Xenopus laevis. JAALAS Vol 49, No. 2

• Reported signs of B. dendrobatidis infection include obtundation, dysecdysis, and erythema and ulceration.
• Life cycle: waterborne zoospores->attach, enter host epithelial cells and form thallus
• ->zoosporangium->release zoospores

• What are possible causes of false negative reactions to the tuberculin skin test?
• What are possible causes of false positive reactions to the tuberculin skin test?

A Naturally Occurring Outbreak of Tuberculosis in a Group of Imported Cynomolgus Monkeys (Macaca fascicularis) JAALAS Vol 49, No 2.

• What are possible causes of false negative reactions to the tuberculin skin test? Anergy-absence of normal immune response
• (malnutrition, trauma), vaccination (i.e. measles)
• What are possible causes of false positive reactions to the tuberculin skin test? Exposure to nontuberculous bacteria, vaccination with complete Freund's adjuvant.
• Common name?
• Genus?
• What is housing consideration if Owl monkeys are nearby in facility?
• Gestation length?

Uterine Leiomyoma in a Guyanese Squirrel Monkey (Saimiri sciureus sciureus). JAALAS Vol 49 No 2.
• Common name? Squirrel monkey.
• Genus? Saimiri
• What is housing consideration if Owl monkeys are nearby in facility? Owl monkeys can be an aberrant host of Saimiri herpesvirus 1. Clinical signs include: vesicular oral and dermal lesions, pruritis, death.
• Gestation length-150 days.
• Other ‘Blue book’ facts:
  • Circulating cortisol ~100x in humans or Old World
  • Naturally occurring atherosclerosis
  • Males do not participate in infant care
  • Exhibit ‘fatting’
  • Have a high dietary requirement for folic acid.

Prairie dogs Genus, Species, Order, Family?
• A facultative hibernator will enter shallow torpor when stressed by __________ and ____________?

• A facultative hibernator will enter shallow torpor when stressed by _______ and _______?

The use of what type of stain may increase the sensitivity of diagnosis Helicobacter species with histopathology?

• The use of what type of stain may increase the sensitivity of diagnosis Helicobacter species with histopathology?
• Warthin-Starry silver stain. Blue book.
• What best describes buprenorphine’s opioid properties?
  – A) Mixed delta and kappa agonist
  – B) Partial mu agonist
  – C) Full mu agonist

• What schedule class is buprenorphine?

• Historically, the forced swim test has been used to assess what condition? Depression. Commonly tests for anti depressants.
• Define anhedonic: An inability to experience pleasure from normally pleasurable life events.
• Authors concluded that the environmental enrichment experience has measurable effects on several physiologic and behavioral indices in rats.

The Effects of Perioperative Analgesia on Litter Size in Crl:CD1(ICR) Mice Undergoing Embryo Transfer.
JAALAS Vol 49. No 4.

• What best describes buprenorphine’s opioid properties?
  – B) Partial mu agonist

• What schedule class is buprenorphine?

• Class III controlled drug.
• Authors concluded that neither flunixin or buprenorphine had effect on pregnancy rate or number of pups born in mice undergoing embryo transfer.

• According to the 2007 AVAMA Guidelines on Euthanasia what is the optimal displacement of air per minute when using CO2 for euthanasia?
• According to the 2007 AVMA Guidelines on Euthanasia, CO2 gas dissolving in moisture on the nasal mucosa produces carbonic acid that may stimulate nociceptors in the nasal mucosa.
• According to another recent article another potential source of distress during the CO2 experience is what?

Comparison of Carbon Dioxide and Argon Euthanasia: Effects on Behavior, Heart Rate, and Respiratory Lesions in Rats. JAALAS Vol 49, No 4.

• According to the 2007 AVAMA Guidelines on Euthanasia what is the optimal displacement of air per minute when using CO2 for euthanasia? 20%
• According to the 2007 AVMA Guidelines on Euthanasia, CO2 gas dissolving in moisture on the nasal mucosa produces carbonic acid that may stimulate nociceptors in the nasal mucosa.
• According to another recent article another potential source of distress during the CO2 experience is what? Dyspnea.
• Authors concluded that argon as a sole euthanasia agent is aversive to rats. Argon is an inert gas and results in death when O2 is displaced as opposed to CO2 which directly depresses the central nervous system, which causes cardiac suppression and loss of consciousness.
• They also found that with argon, rats experienced convulsive muscle spasms and arching of the back suggestive of distress.
• Heart rates of rats euthanized with CO2 displacing 10% volume per minute did not increase, although the authors were clear to state that they did not interpret this to signify a lack of distress.
• Both argon and CO2 euthanasia resulted in pulmonary lesions (hemorrhage into alveoli), consistent with terminal asphyxiation.

According to the 2007 AVAMA Guidelines on Euthanasia what is the optimal displacement of air per minute when using CO2 for euthanasia? 20%
<table>
<thead>
<tr>
<th>Match the drug to its category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Fentanyl</td>
</tr>
<tr>
<td>B. Dexmedetomidine</td>
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<tr>
<td>C. Propofol</td>
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<tr>
<td>Propofol given rapidly has a high incidence of what complication?</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Eugenol Anesthesia in African Clawed Frogs (Xenopus laevis) of Different Body Weights. JAALAS Vol 49, No 4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eugenol is a clove oil extract the authors believed to have effect on central nervous system receptors by blocking sodium voltage-gated channels and the vanilloid receptor which is implicated in the transmission of painful stimuli.</td>
</tr>
<tr>
<td>Xenopus laevis is commonly known as the African Clawed Frog.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Anesthesia with Intraperitoneal Propofol, Medetomidine, and Fentanyl in Rats. JAALAS Vol 49, No. 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Fentanyl-Opiate</td>
</tr>
<tr>
<td>B. Dexmedetomidine-Alpha agonist</td>
</tr>
<tr>
<td>C. Propofol-Hypnotic</td>
</tr>
<tr>
<td>Propofol given rapidly has a high incidence of what complication? Apnea.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Genus species? Common name?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genus species? Macaca fsicularis</td>
</tr>
<tr>
<td>Common name? Cynomolgus (crab-eating, long-tailed macaque)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What is eugenol? What is the common name for Xenopus laevis?</th>
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</table>
• The skin-window model has been used to investigate neutrophil extravasation and the acute inflammatory response and to measure how diseases and therapeutics affect those responses. There are a variety of techniques that basically remove the top layer of skin and allow examination of the immune response with a diminished barrier.
• In this article to create the skin-window, cynos were anesthetized, forearms clipped and skin abraded with 60 grit sandpaper until slight capillary bleeding occurred. The skin window area was then covered with sterile filter paper and bandaged.

• Methotrexate _________ neutrophil chemotaxis and extravasation in some human and animal models.
  • A) Enhances
  • B) Inhibits

• Methotrexate has been used to treat chronic inflammatory diseases.
  • A) Neoplasms
  • B) Acute trauma
  • C) Baldness
  • D) Chronic inflammatory diseases

• Methotrexate has been used to treat chronic inflammatory diseases including rheumatoid arthritis, asthma, inflammatory bowel diseases, and psoriatic arthritis.
• In this study, methotrexate was used against saline controls at different time points to assess neutrophil extravasation times and concentration.

• Methotrexate ______ inhibits ______ neutrophil chemotaxis and extravasation in some human and animal models.

A. Genus, species?
B. Genus, species?

Source http://parasitology.cvm.ncsu.edu

• Both can be found on the skin of the equine
Both can be found on the skin of the equine

A. Damalinia equi
B. Haematopinus asini

Source: http://parasitology.cvm.ncsu.edu

With permission from Dr. Rick Fish. NCSU CVM.

New World monkeys cannot harbor cercopithecine herpesvirus 1. True or False?
What is the genus of the Owl monkey?
The Owl monkey is nocturnal and lacks a tapetum lucidum. True or False?
Owl monkeys are scent markers. True or False?
What measurement is taken to obtain biparietal diameter (BPD)?


New World monkeys cannot harbor cercopithecine herpesvirus 1. True.
What is the genus of the Owl monkey? Aotus
The Owl monkey is nocturnal and has a tapetum lucidum. False.
Owl monkeys are scent markers. True.
Biparietal diameter is the diameter of the fetal head made when the outer perimeter of the calvarium is clearly visible. Authors felt that biparietal diameter could be used to accurately predict gestational age in owl monkeys.

Can you identify the mouse furmites shown above?

Pediculosis in Two Research Ponies (Equus caballus)
Authors reported 2 cases of ponies that presented with an erythematous area of alopecia.
Closer examination revealed 3-5mm insects moving quickly through the hairs.
Authors report that they treated with a combination of permethrin for the whole animal, topical wound care for the lesion and cleaning/disinfection of the stalls. A repeat treatment in 2 weeks was recommended. References were give for other treatments such as imidacloprid, phoxim, fipronil, selenium sulfide shampoo and triflumuron.
• A. Mycoptes-oval profile with heavily chitinized body, pigmented 3rd and 4th legs and tarsal suckers.
• B. Myobia-similar to Radfordia with elongated profile, bulges between the legs. Myobia has single tarsal claw on second pair of legs. Up to 23 day life cycle.
• C. Radfordia-has 2 claws of unequal size on the second pair of legs.

• What class of anti-parasitics acts by binding GABA-gated chloride and invertebrate-specific glutamate-gated anion channels in neuromuscular synapses to supress nerve impulse conduction.
• Ivermectin is not lipophilic and won’t concentrate in the milk. True or false?

• Authors hypothesized that sustained, increased ambient sound level negatively affected morbidity, mortality, and organ weights in growing chickens.
• Referenced other articles that have shown electromagnetic fields adversely affected weight gain and embryo survival.

• What class of anti-parasitics acts by binding GABA-gated chloride and invertebrate-specific glutamate-gated anion channels in neuromuscular synapses to supress nerve impulse conduction. Avermectins.
• Ivermectin is not lipophilic and won’t concentrate in the milk. False?

• Authors did not observe any adverse effects of ivermectin exposure on the fertility or fecundity of offspring of C57BL/6NTac mice. Actually saw more litters and pups.

• Observing the stretch-walk sequence may be one behavioral indicator of what in rodents?
Assessment of Carprofen and Buprenorphine on Recovery of Mice after Surgical Removal of the Mammary Fat Pad. JAAALAS Vol 49, No 5.
• Observing the stretch-walk sequence may be one behavioral indicator of what in rodents? Pain.
• Authors found that all surgical groups had similar decrease in food intake and activity. Visual assessment scores and fecal corticosterone did not differ between groups. Care should be taken when using visual assessments as analgesics could elevate score.

Comparison of Buprenorphine and Meloxicam for Postsurgical Analgesia in Rats: Effects on Body Weight, Locomotor Activity and Hemodynamic Parameters. JAAALAS Vol 49, No 5.
• Some unwanted effects that have been associated with buprenorphine use are…?
• Authors concluded that rats treated with buprenorphine showed greater reductions in body weight, food consumption, locomotor activity, and nighttime heart rates than meloxicam treated rats.

- Suncus murinus common name? Shrew.
- Raccoon genus and species? Procyon lotor.
- Taeniopygia guttata common name? Zebra finch.

• What is the metabolically active metabolite of enrofloxacin?
• What class of antibiotic are enrofloxacins?
• What function does the lateral line system serve in xenopus?

- What is the metabolically active metabolite of enrofloxacin? Ciprofloxacin
- What class of antibiotic are enrofloxacins? Fluoroquinolone.
- What function does the lateral line system serve in xenopus? Arrangement of neuromasts that detect changes in water pressure and currents. Can help in locating prey.
- Authors concluded that enrofloxacin was absorbed rapidly by Xenopus through either SQ or IM routes without signs of toxicity.
- Small amounts of ciprofloxacin were found in plasma and water after injection with enrofloxacin.

- Name the two morphologic forms of Giardia.
- Genus and species of sheep?

Cefovecin is what class of antibiotic agent?
- In dogs, cefovecin is primarily excreted by liver or kidney?

Pharmacokinetics of Cefovecin in Squirrel Monkey (Saimiri sciureus), Rhesus Macaques (Macaca mulatta), and Cynomolgus Macaques (Macaca fascicularis). JAALAS Vol 49, No 6.

- Cefovecin is what class of antibiotic agent? Cephalosporins.
- In dogs, cefovecin is primarily excreted by liver or kidney? Kidney.
- Authors concluded that cefovecin pharmacokinetics in Squirrel monkey, Rhesus and Cynomolgus were shown to have shorter plasma half-life attributed to higher elimination rate. They felt that higher doses and/or more frequent administration would be required for use in these NHP species.


- Name the two morphologic forms of Giardia. Trophozoites and cysts.
- Genus and species of sheep? Ovis aries.

Authors concluded that:
- Testing on 2 consecutive days was beneficial because of intermittent shedding.
- Clinical signs (diarrhea) often did not match positive samples of Giardia.
- Direct microscopy of fecal samples was more consistent for identifying true positives than ELISA. Did not compare PCR.
• What are 3 common rule outs for infectious causes of rectal prolapse?
• What are the two most common pinworms and their respective life cycles lengths (in days)?
• What is the mechanism of action for fenbendazole?
• Fenbendazole is without research complications. True or false?
• What does the rotarod test? Open field test?

Effect of Fenbendazole on Three Behavioral Tests in Male C57Bl/6N Mice. JAALAS Vol 49, No 6.
• What are 3 common rule outs for infectious causes of rectal prolapse? Helicobacter, Citrobacter, pinworms.
• What are the two most common pinworms and their respective life cycles lengths (in days)? Aspiculuris tetraptera (23-25 days) and Syphacia muris (12-15 days)
• What is the mechanism of action for fenbendazole? Microtubule polymerization inhibitor that binds to the structural protein B tubulin with greater affinity to helminth tubulin.
• Fenbendazole is without research complications. False. Recently a number of papers; inhibit tumor, decrease reproduction, reduced B lymphocyte activity, etc.
• Rotarod tests motor coordination and balance. Open field tests locomotor/exploratory activity, fear/anxiety.
• Authors concluded that motor ability/balance tests such as rotarod may be affected by fenbendazole in C57Bl/6N mice.

• Alcohol is neither a sterilant nor a high-level disinfectant. True or false?
• Alcohol is neither a sterilant nor a high-level disinfectant but may be acceptable for some procedures if prolonged contact times are used.

Authors concluded that recognizing alcohols as rapidly bactericidal and damaging to rubber and plastics, use of 70% isopropyl alcohol soaking of instruments between animals (up to 5) prevented aerobic bacterial contamination of instruments and gloves.

Ligation of the Left Circumflex Coronary Artery with Subsequent MRI and Histopathology in Rabbits. JAALAS Vol 49, No 6.
• Ligature of the left circumflex is a model of what?
• Masson trichrome staining can help distinguish between _______ and _______?

Ligation of the left circumflex is a model of what? Myocardial ischemia (left ventricle)
• Masson trichrome staining can help distinguish between collagen and muscle?
• Cytoplasm of muscle is less dye-permeable than collagen, the ventricle retains most of the red dye whereas the decolorized infarcted area absorbs the collagen dye (aniline blue).

• Which is from the 7th edition Guide? 8th?

Efficacy of Soaking in 70% Isopropyl Alcohol on Aerobic Bacterial Decontamination of Surgical Instruments and Gloves for Serial Mouse Laparotomies. JAALAS Vol 49, No 6.
• What is the Genus, species of the common rabbit?
• Do rabbit kits receive most of their passive immunity via the yolk sac or colostrum?
• What are Cecotrophs?
• What is the Pelger-Huet anomaly?
• What is gestation length?

Ligation of the Left Circumflex Coronary Artery with Subsequent MRI and Histopathology in Rabbits. JAALAS Vol 49, No 6.
• Oryctolagus cuniculus.
• Rabbit kits receive most of their passive immunity via the yolk sac rather than from colostrum.
• Cecotrophs (night feces) is high in B vitamins.
• Neutrophil is sometimes referred to as a heterophil or pseudoeosinophil.
• Some exhibit Pelger-Huet anomaly-heterophil nucleus is hyposegmented due to incomplete differentiation of the granulocyte.
• Gestation is 30-33 days.
• Tricuspid valve has only 2 cusps.
• Kidney is unipapillate.
• Ovulation is induced.

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• Kidney is unipapillate.
• Ovulation is induced.

• Genus and species of common marmosets?
• The unique dental arrangement of marmosets (procumbent incisor teeth that are the same length as the canine teeth) allows them to gnaw holes in trees and…?
  – A) Eat insects
  – B) Obtain water
  – C) Eat gums and exudates
  – D) Eat seeds

Successful Treatment of Cryptosporidiosis in 2 Common Marmosets (Callithrix jacchus) by Using Paromycin. JAALAS Vol 49, No 6.
• Genus and species of common marmosets? Callithrix jacchus.
• The unique dental arrangement of marmosets (procumbent incisor teeth that are the same length as the canine teeth) allows them to gnaw holes in trees and…?
  – C) Eat gums and exudates
  – Paromycin, an aminoglycoside
  – was successful to treat crypto.