

Literature Review: JAALAS

Angela King-Herbert

CL Davis Seminar

May 17, 2007

What is the sequelae of long-term catheterization in sheep?

Gross and microscopic renal damage including infarcts and membranoproliferative glomerulonephritis despite the absence of overt clinical signs of infection.

Renal Infarction and Immune-mediated Glomerulonephritis in Sheep (*Ovis aries*) Chronically Implanted with Indwelling Catheters

JAALAS Volume 45, Issue 4, July 2006

By Varada P Rao, Theofilos Poutahidis, Robert P Marini, Hilda Holcombe, Arlin B Rogers, and James G Fox

What are phytoestrogens?

Compounds found in plants that are important for plant growth and for protection of plants from ultraviolet radiation and environmental stress

Name the two soy isoflavones that have structural similarities to mammalian estrogens.

Genistein and daidzein

What is equol?

A daidzein metabolite produced by the gut flora of some humans and most animals

Concentrations of Isoflavones in Macaques Consuming Standard Laboratory Monkey Diet JAALAS Volume 45, Issue 4 July 2006

Fawn C Stroud, Susan E Appt, Mark E Wilson, Adrian A Franke, Michael R Adams, and Jay R Kaplan

When exteriorizing the prostate gland, the following is used as a landmark to identify the prostate:

- A. Urethra
- B. Perineal musculature
- C. Rectum
- D. None of the above

Using the perineal approach to exteriorize the prostate gland, what must one be concerned about?

- A. Tearing of the rectum and urethra
- B. Puncturing of the seminal vesicles
- C. Cutting the pudendal nerve
- D. Tearing of the perineal musculature

Assessment of an Intraprostatic Injection Technique through a Perineal Approach in Macaques
Contemporary Topics in Laboratory Animal Science

Volume 45, Issue 4 July 2006 Michael M Laffins and Richard J Early



What is being depicted in the picture shown?

Placement of a human nasal cannula in a NHP

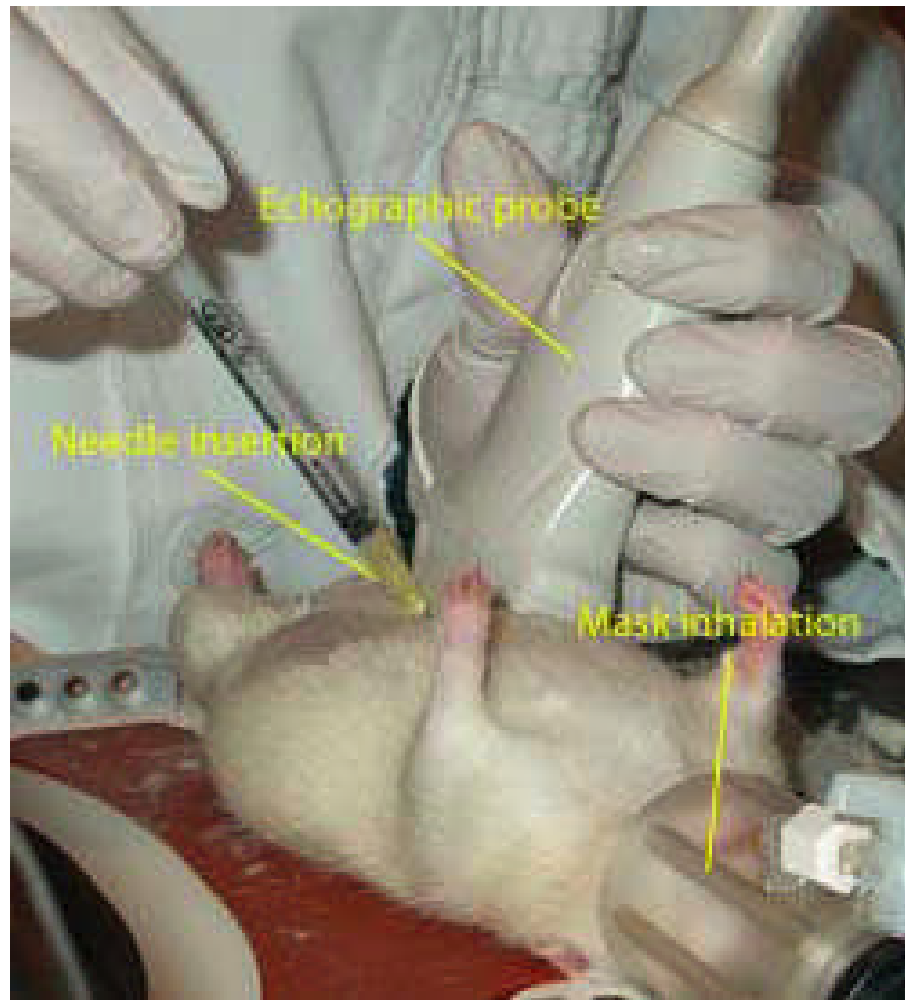
What is an important risk of bronchoscopy?

Partial obstruction of the airways

Use of Human Nasal Cannulas during Bronchoscopy Procedures as a Simple Method for Maintaining Adequate Oxygen Saturation in Pigtailed Macaques (*Macaca nemestrina*)

JAALAS Volume 45, Issue 4 July 2006

By Matthew J Thomas, Leon R Flanary, Bruce A Brown, Michael G Katze, and Carole R Baskin



What procedure is depicted in the picture?

Collection of amniotic fluid using an ultrasound guided technique in the rat

What are the 2 main techniques for collecting amniotic fluid in animals?

Surgical

Echographic

True or False - In a recent journal, echographic amniocentesis in the rat results in 100% fetal death

False

Ultrasound-guided Collection of Amniotic Fluid in Pregnant Rats

JAALAS Volume 45, Issue 4 July 2006

By Sophie Serriere, Lydie Nadal-Desbarats, François Seguin, Léandre Pourcelot, and François Tranquart

What instrument can be used to assess the quality of anesthetic/analgelsic mixtures?

Temperature compensated clinical refractometer

What two variables must be carefully controlled to ensure precision and accuracy when using a refractometer?

Temperature and wavelength of light

Refractometry for Quality Control of Anesthetic Drug Mixtures

JAALAS Volume 45, Issue 4 July 2006

By Jennifer M Stabenow, Mindy L Maske, and George A Vogler

A high prevalence of spontaneous urinary bladder tumors has been noted in what rat strain/stock?

- A. Wistar Han
- B. Long Evans
- C. Sprague Dawley
- D. Zucker fatty rat
- E. Brown Norway

Experimentally induced urolithiasis develops by the administration of what agents?

Melamine

Terephthalic acid

Uracil

Manganese

Biphenyl

What bacteria, when experimentally inoculated in the kidney or bladder of Wistar rats, initiates stone formation in only a few days?

Ureaplasma urealyticum

What other bacteria has been reported to be the causative agent of urinary calculi in Lewis rats after spontaneous infection?

Corynebacterium renale

Urolithiasis and Transitional Cell Carcinoma of the Bladder in a Wistar Rat

JAALAS Volume 45, Issue 4 July 2006

By Ismene A Dontas and Lubna Khaldi

Buprenorphine is:

A partial mu-opioid receptor antagonist

A kappa-receptor antagonist

A full mu-opioid receptor agonist

A partial kappa-receptor agonist

Pharmacokinetics of Buprenorphine after Intravenous Administration in the Mouse

JAALAS Volume 45, Issue 3 May 2006

By Shipeng Yu, Xiaofeng Zhang, Yichun Sun, Yingxu Peng, James Johnson, Tim Mandrell, Atul J Shukla, and S Casey Laizure



What is the procedure being demonstrated?

Collection of blood from the jugular vein in a rat

Comparison of the Stress Response in Rats to Repeated Isoflurane or CO₂:O₂ Anesthesia Used for Restraint During Serial Blood Collection via the Jugular Vein
JAALAS Volume 45, Issue 3, May 2006

By Lotus Y Altholtz, Keith A Fowler, Lori L Badura, and Mark S Kovacs

What 5 criteria were used to determine the successful introduction of NHP infants to their mothers after cesarean delivery?

Mother displayed affiliative behavior towards infant by touch, smell and/or facial expressions

Mother groomed infant with fingers or lips

Mother picked up and held or cradled infant ventrally

Mother nursed infant

Mother did not display aggressive behavior towards infant.

What is LEN?

Lips forward, ears back, neck extended a facial expression exclusive to *Macaca nemestrina*

Give the common name for *Macaca nemestrina*.

Pigtailed macaque

Successful Introduction of *Macaca nemestrina* Infants to Their Mothers after Cesarean Delivery

JAALAS, Volume 45, Issue 3, May 2006

By Rita U Bellanca, Diella R Koberstein, Patrick J Delio, Stephen T Kelley, and Carolyn M
Crockett

True or False Topical selamectin (0.6 mg/kg) was very effective in eliminating *Syphacia muris* in rats

False

True or False Topical selamectin (6.0 mg/kg) was very effective in eliminating *Syphacia muris* in rats

False

Choose the correct statement:

- A. Fenbendazole and selamectin are both reported to have ovacidal activity.
- B. Fenbendazole and selamectin are both reported as not having ovacidal activity
- C. Fenbendazole is reported to have ovacidal activity, but selamectin is not.
- D. Selamectin is reported to have ovacidal activity but fenbendazole is not

Efficacy and Safety of Topical Selamectin to Eradicate Pinworm (*Syphacia* spp.) Infections in Rats (*Rattus norvegicus*) and Mice (*Mus musculus*)

JAALAS, Volume 45, Issue 3, May 2006

By William Allen Hill, Mildred Montgomery Randolph, Sharon Jean Lokey, Ernestine Hayes, Kelli Lynn Boyd, and Timothy David Mandrell

What are the five basic types of lasers commonly used today?

Crystal and glass

Gas

Excimer

Semiconductor

Chemical

Between the yorkshire pig and the yucatan minipig, which animal is considered the better model for human skin? Why?

Yucatan minipig; The melanin distribution for human skin samples is closer to the yucatan than the yorkshire. Also the yucatan has less hair than the yorkshire, making it closer anatomically to human skin.

Response of Lightly and Highly Pigmented Porcine Skin (*Sus scrofa domestica*) to Single 3.8-mm Laser Radiation Pulses

JAALAS, Volume 45, Issue 3, May 2006

By Anthony C Bostick, Deidre E Stoffregen, and Thomas E Johnson

Based on a recent retrospective study of idiopathic ulcerative dermatitis in mice:

True or False

Ulcerative dermatitis is seen mostly in mice on a Swiss Webster background

(False - only seen in animals on a B6 background)

Average age of onset is approximately 13 months

(True - The incidence of the disease increases as the animals age)

Males are affected more than females

(False - Females are disproportionately affected as compared to males)

Staphylococcus xylosus was the bacteria most frequently isolated from lesions

(True)

True or False

Female Long-Evans rats had significantly higher pain thresholds when given oral buprenorphine at 0.5 mg/kg as compared to rats given 0.05 mg/kg subcutaneously.

(False - Female Long-Evans rats given buprenorphine orally at 0.5 mg/kg did not differ from the controls (only given a water vehicle Orally and SC) in pain threshold levels)

Female Long-Evans rats in proestrus were more sensitive to pain than female rats in diestrus. True

Bottom line: 0.5 mg/kg of buprenorphine give orally to femal and male LE rats and male SD rats does not appear to be an effective anagelsic.

Ref: Lack of Analgesic Efficacy in Female Rats of the Commonly Recommended Oral Dose of Buprenorphine

Contemporary Topics in Laboratory Animal Science Volume 45, Issue 6 November 2006, Pg. 13

By Alexis C Thompson, Jean M DiPirro, Ahmad R Sylvester, Lisa BE Martin, and Mark B Kristal

What is the best way to remove the mucus layer from the skin of *Xenopus laevis* -

Gently wipe with a moist sterile gauze pad

What peptides secreted from granular glands in *X. laevis* skin, inhibit the growth of gram positive and gram negative bacteria several fungi and some protozoal species

magainins

It was recommended that two of the suture materials be avoided in *X. laevis* skin. What were these two materials and why was their avoidance suggested?

Silk and chromic gut; Should be avoided because they elicited the strongest gross and histologic reactions and they were associated with a high rate of dehiscence.

According to the authors, what is the preferred suture material for *X. laevis* skin?

Monofilament nylon, because it caused the least amount of histologic tissue reaction and it had a low incidence of dehiscence.

Evaluation of the Gross and Histologic Reactions to Five Commonly Used Suture Materials in the Skin of the African Clawed Frog (*Xenopus laevis*) JAALAS Volume 45, Issue 6 November 2006 By Allison D Tuttle, J Mac Law, Craig A Harms, Gregory A Lewbart, and Stephen B Harvey

What is a natural sequela of platelet aggregation and fibrin deposition?

Thrombotic occlusion

What are the four types of thrombi?

Fibrin sheath

intraluminal thrombus

Fibrin tail

Mural thrombus

Noninfectious Complications Due to Vascular Access Ports (VAPs) in Yucatan Minipigs (*Sus scrofa domestica*) Contemporary Topics in Laboratory Animal Science Volume 45, Issue 6 November 2006 By Christine A Ege, Nannette C Parra, and Thomas E Johnson

What are benzimidazoles?

Antehelminthics

Name a commonly used benzimidazole

Fenbendazole

What is their mode of action?

**They act via inhibition of microtubule polymerization
via binding to beta tubulin in susceptible parasites**

What strain of rats is used to study seizure mechanisms?

Do not use acronyms

**Genetically Epilepsy Prone Rats substrain 9, see page 720
the Laboratory Rat to learn more about this substrain**

Fenbendazole Treatment and Litter Size in Rats

Contemporary Topics in Laboratory Animal Science

Volume 45, Issue 6 November 2006, pages 35-39

**By Nancy A Johnston, Jeremiah R Bieszczak, Steven Verhulst,
Kimberly E Disney**

Give the causative agent of monkey B virus

Cercopithecine herpesvirus 1

Animals experimentally infected with monkey B virus must be housed and handled under what animal biosafety level?

- A. Animal biosafety level 1
- B. Animal biosafety level 2
- C. Animal biosafety level 3
- D. Animal biosafety level 4

According to a recent journal article, tissue infected with herpesvirus can be safely handled after how many hours of formalin fixation?

- A. 12 hours
- B. 24 hours
- C. 36 hours
- D. 48 hours

The timeframe has not been determined

In Vivo Experimentation with Simian Herpesviruses: Assessment of Biosafety and Molecular Contamination

JAALAS Volume 45, Issue 2, March 2006

By Jerry W Ritchey, Darla H Black, Kristin M Rogers and Richard Eberle

What animal is an important model for hepatitis B virus infections in humans?

- A. *Mus musculus*
- B. *Saimiri sciureus*
- C. *Macaca mulatta*
- D. *Marmota monax*
- E. *Sigmodon hispidus*

Woodchuck hepatitis virus belongs to which virus family?

- A. *Hepadnaviridae*
- B. *Herpesviridae*
- C. *Coronaviridae*
- D. *Picornaviridae*
- E. *Retroviridae*

Chronic Care and Monitoring of Woodchucks (*Marmota monax*)
during Repeated Magnetic Resonance Imaging of the Liver
JAALAS, Volume 45, Issue 2, March 2006

List 6 parameters that were used in a comprehensive “weight of evidence” approach too evaluate male cynomolgus monkeys for sexual maturity.

Age

Body weight

Testicular volume

Serum testosterone

Ejaculate volume

Sperm quality

Methods for the Prediction of Breeding Success in Male Cynomolgus Monkeys (*Macaca fascicularis*) Used for Reproductive Toxicology Studies

JAALAS, Volume 45, Issue 2, March 2006

By Julie K Meyer, Dalene Fitzsimmons, Thomas F Hastings, and Gary J Chellman

True or False When provided with increased vertical space, rhesus monkeys in captivity spent less time at elevated heights.

False

Use of Enclosures with Functional Vertical Space by Captive Rhesus Monkeys (*Macaca mulatta*) Involved in Biomedical Research
JAALAS, • Volume 45, Issue 5, pp. 31-34, September 2006
By Wendy M Clarence, Jennifer P Scott, Michael C Dorris, and Martin Paré

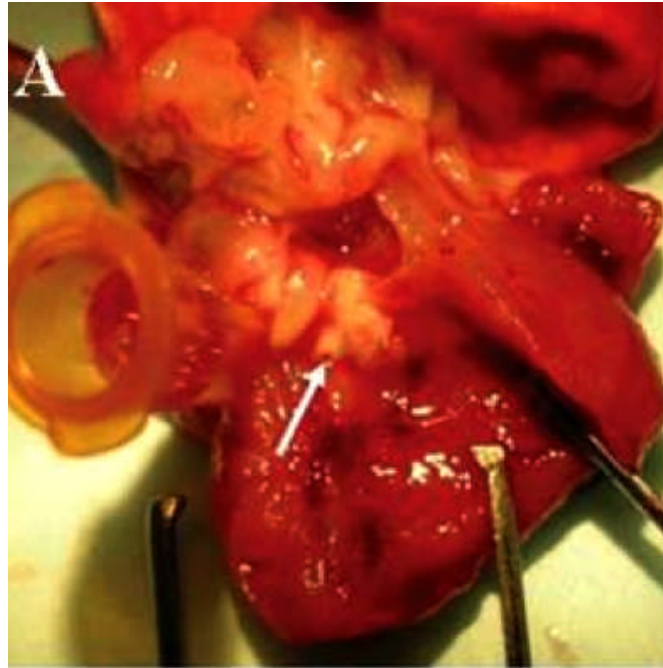
In rhesus monkeys, prolonged individual housing is implicated as a leading contributing factor in the development of _____ (no acronyms).

Self-injurious behavior

Stereotypical behaviors and self-biting in rhesus monkeys decreased with _____.

Outdoor housing

Effects of Outdoor Housing on Self-Injurious and Stereotypic Behavior in Adult Male Rhesus Macaques (*Macaca mulatta*)
JAALAS, Volume 45, Issue 5, pp. 35-43, September 2006
By M Babette Fontenot, Mandi N Wilkes, and Cheryl S Lynch



What is being depicted in the above image?

Vegetative left atrioventricular valve lesion

True or False Doxorubicin induces cardiomyopathy in rats, creating model to study mechanisms of drug induced cardiac toxicity

True

Validation of the Use of Long-term Indwelling Jugular Catheters in a Rat Model of Cardiotoxicity
JAALAS, Volume 45, Issue 5, pp.55-64, September 2006

By Lynn M Wachtman, Michelle D Browning, Djahida Bedja, Scott Pin, and Kathleen L Gabrielson

What is the causative agent of Tyzzer's disease?

Clostridium perfringens

Clostridium difficile

Clostridium colinum

Clostridium piliforme

Clostridium chauvoei

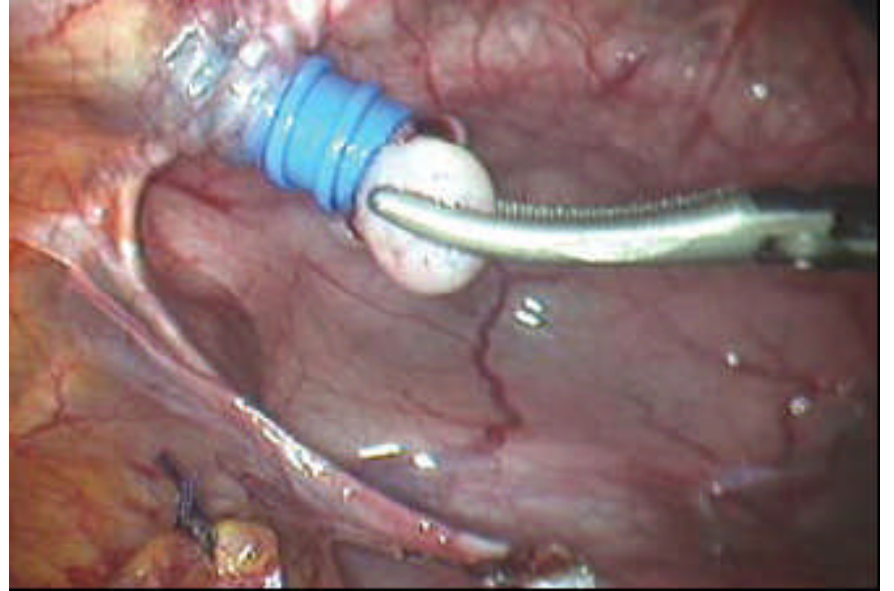
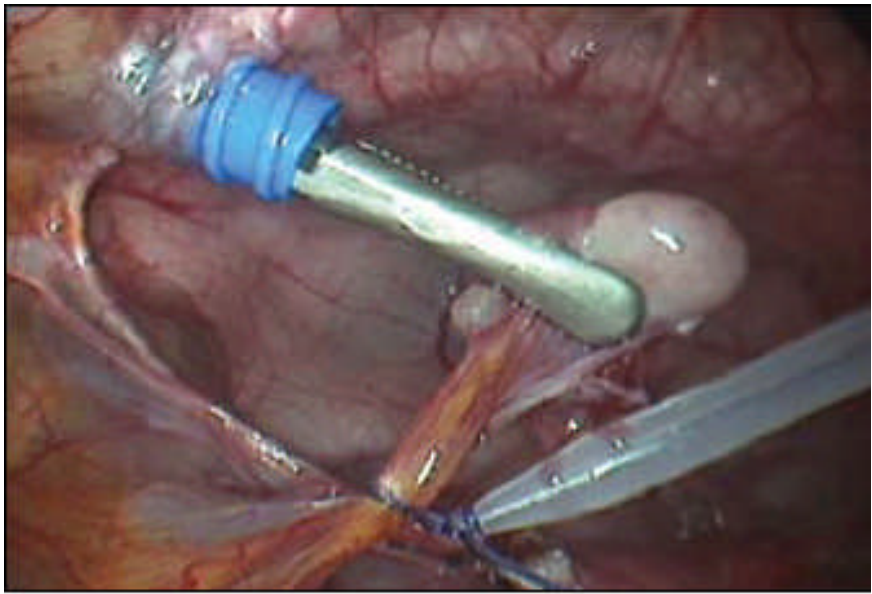
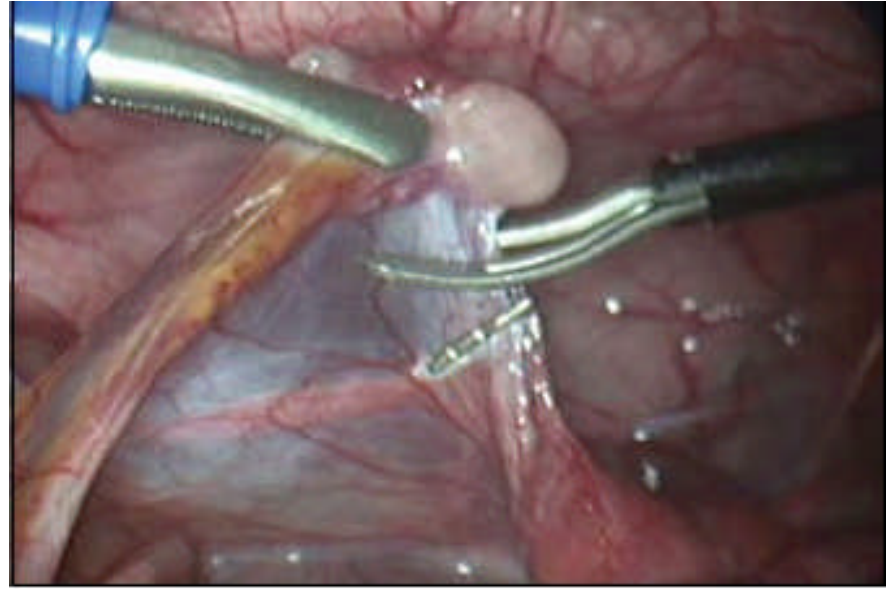
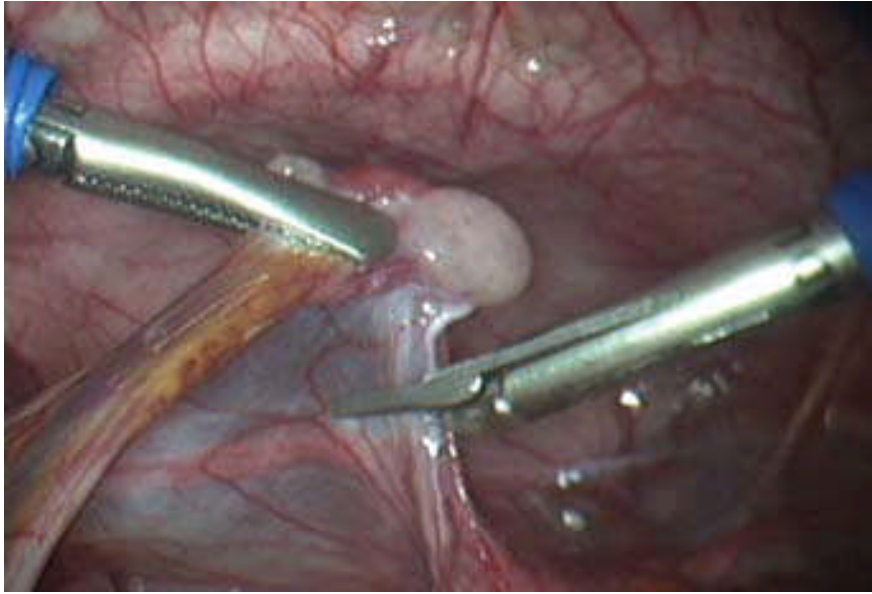
True or False The close relationship between *C. piliforme* and *C. colinum* precludes the development of specific PCR assay for Tyzzer's disease.

True

Ribosomal RNA Sequences of *Clostridium piliforme* Isolated from Rodent and Rabbit: Re-examining the Phylogeny of the Tyzzer's Disease Agent and Development of a Diagnostic Polymerase Chain Reaction Assay

JAALAS, Volume 45, Issue 5, September 2006

By Sanford H Feldman, Anahita Kiavand, Michel Seidelin, and Heinz R Reiske



What procedure is being performed in the previous slide? Be specific

Laparoscopic Ovariectomy

True or False Rhesus monkeys undergoing ovariectomy via laparotomy had a convalescence period for about 8 days before their hospital discharge.

False

Evaluation and Comparative Analysis of a Technique for Laparoscopic Ovariectomy in Rhesus Macaques (*Macaca mulatta*)
JAALAS, Volume 45, Issue 5, pp.74-78, September 2006
By C Andrew Matchett, Pablo R Morales, and Jack L Orkin

Streptococcus pyogenes is also known as _____ (no acronyms)

Group A streptococcus

What are the 3 most common superficial infections caused by *Streptococcus pyogenes*?

Acute tonsillitis

Pharyngitis

Pyoderma

What is considered the key virulence factor in Group A streptococcus?

A. T protein

B. M protein

C. Agglutination protein

D. All of the above

E. None of the above

_____ and _____ are the most serious
autoimmune sequelae of Group A streptococcus
in humans

Acute rheumatic fever and rheumatic heart disease

Toxic Shock due to *Streptococcus pyogenes* in a
Rhesus Monkey (*Macaca mulatta*)

JAALAS, Volume 45, Issue 5, pp. 79-82, September
2006

By Anapatricia García, Katherine Paul, Bernard Beall,
and Harold McClure

When are 50 mHZ vocalizations emitted in rats?

During sexual behaviors

During manual tactile stimulation

During juvenile play

During agonistic male aggressive behavior

True or False Adult mice produce ultrasonic vocalizations during aversive situations.

False

JAALAS Vol 46 # 1 January 2007 pg 28-34

List the adverse effects of audiogenic stress in rodents

Embryotoxicity

Teratogenesis

Resorption

Abortion

Intrauterine growth retardation

JAALAS Vol 46 #1 pg

True or False Hearing loss due to noise is reversible;
with hearing restored after a few days to few weeks
of noise reduction

False

List the characteristics of noise induced hear loss

Bilateral

Associated with permanent nerve damage

It is not profound hearing loss

It does not progress once the noise stops

The rate of NIHL decreases as threshold increases

Continous noise is more damaging than intermittent
noise

What are the elements of a hearing conservation program?

Monitoring

Engineering and administrative controls

Audiometric testing (baseline and annual)

Hearing protection

Training and supervision

Record keeping

JAALAS 46, #1 pg 42-44

The emission of ultrasonic vocalizations in the rat are dependent on 3 parameters. List them:

Animal's age

Environmental condition

Affective state

What is the whipworm of the baboon?

Trichuris trichiura

Trichuris vulpis

Trichuris campanula

Trichuris spiralis

JALAS Vol 46, #2, pg. 42-45, March 3007

Give the genus and species of an animal model of emesis.

Suncus murinus

Give the common name of this animal model

House musk Shrew

JAALAS 46, 2, pp. 81-85 March 2007

