




# GI AND ABDOMINAL SURGERY

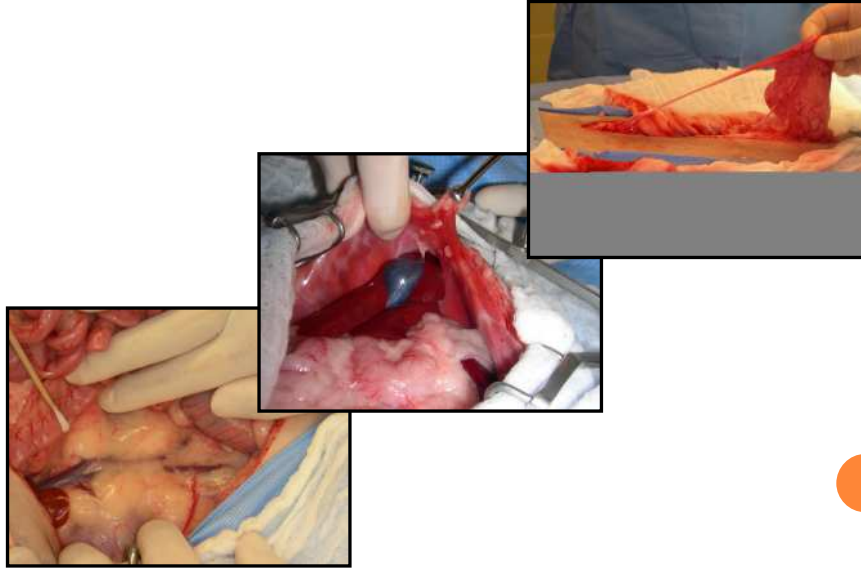
## WHAT'S NEW, IMPROVED AND WORTHWHILE

Barbro Nordquist, DVM  
Puget Sound Veterinary Referral Center

### EXPLORATORY CELIOTOMY

- Same technique each time
  - Cranial to caudal
    - Extra-gastrointestinal organs
    - Gastrointestinal organs
- 

# EXPLORATORY CELIOTOMY



# EXPLORATORY CELIOTOMY



Seymore 12 foot Burmese Python



## BIOPSY

- Guillotine
  - Pancreas
  - Liver
- # 11 Blade and scissors
  - Lymph nodes
  - Intestines
- Suture and blade
  - Intestine
  - Spleen
- Punch biopsy
  - Liver
  - Spleen
  - Intestine
- Tru-cut biopsy needle
  - Kidney
  - Adrenal gland
  - Liver



## BIOPSY

- Clean to dirty
  - Start with extra-gi organs
  - Lymph nodes
- Don't touch the colon



# BIOPSY

## Investigation of Keyes Skin Biopsy Instrument for Intestinal Biopsy Versus a Standard Biopsy Technique

Keats MM et al

J Am Anim Hosp Assoc 2004;40:405-410

# BIOPSY

- Key findings
  - Safe
  - No change in diagnosis or sample quality
  - Faster
    - But not statistically different
  
- Personal experience
  - Use new punch biopsy each time
  - Mushroom appearance

# FOREIGN BODY REMOVAL

## Single Enterotomy Removal of Gastrointestinal Linear Foreign Bodies

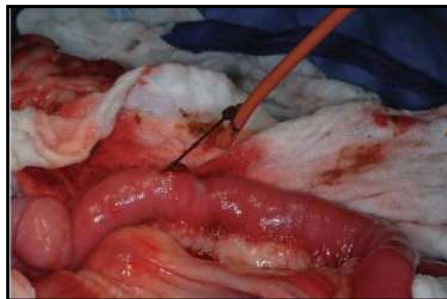
Anderson S, Lippincott CL, Gill PJ

J Am Anim Hosp Assoc 1992;28:487-490



# FOREIGN BODY REMOVAL

- Remove anchor
  - Stomach
  - Small intestine
- Suture catheter to foreign material
  - Replace and close incision



Manual of Small Animal Soft Tissue Surgery  
Dr. Karen Tobias



## FOREIGN BODY REMOVAL

- Milk catheter aborally
- Remove via enterotomy or via rectum



## CLOSURE

- Interrupted suture technique
- Continuous suture technique
  - Absorbable monofilament
  - Nonabsorbable monofilament
- Staples

## CLOSURE

Comparison of a continuous suture pattern  
with a simple interrupted pattern for  
enteric closure in dogs and cats: 83 cases  
(1991-1997)

Weisman DL et al.

J Am Vet Med Assoc. 1999 May 15;214(10):1507-10



## CLOSURE

- Low rate of dehiscence
  - 2% continuous
  - 4% interrupted
- 98% survived with no signs of dehiscence
- Methods very similar in outcome



# CLOSURE

## Use of Skin Staples for Rapid Closure of Gastrointestinal Incisions in the Treatment of Canine Linear Foreign Bodies

BR Coolman, Ehrhart N, Marretta SM

J Am Anim Hosp Assoc 2000;36:542-547

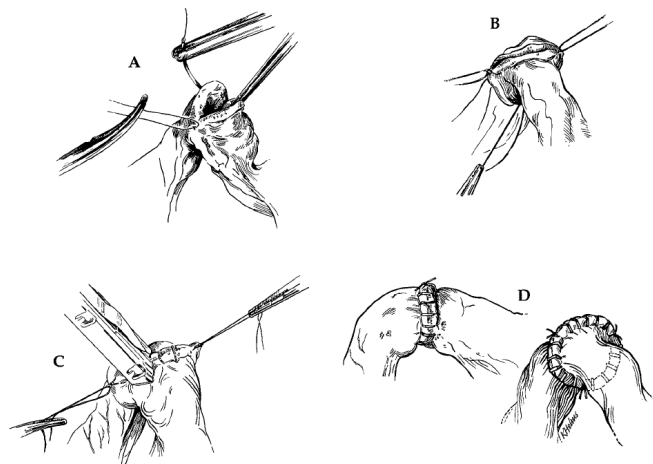
## Comparison of Skin Staples With Sutures for Anastomosis of the Small Intestine in Dogs

BRADLEY R. COOLMAN, DVM, MS, NICOLE EHRHART, VMD, MS, Diplomate ACVS, GERALD PIJANOWSKI, DVM, PhD, E.J. EHRHART, DVM, PhD, Diplomate ACVP, and SHINDOK L. COOLMAN, MS

Veterinary Surgery 29:293-302, 2000



# STAPLES



BR Coolman, et al. Vet Surg 29:293-302, 2000



## STAPLE CLOSURE

- FASTER!!
- No difference in
  - Bursting strength
  - Lumen diameter
  - Lumen circumference
  - Healing characteristics
- Originally used in military trauma patients
- Not commonly used despite similar results to suture technique



## ABDOMINAL DRAINAGE

### **Use of closed-suction drains to treat generalized peritonitis in dogs and cats: 40 cases (1997–1999)**

Maureen G. Mueller, DVM; Lori L. Ludwig, VMD, MS, DACVS; Linda J. Barton, DVM, DACVECC

J Am Vet Med Assoc 2001;219:789–794



# CLOSED SUCTION DRAIN

## **Evaluation of Postceliotomy Peritoneal Drain Fluid Volume, Cytology, and Blood-to-Peritoneal Fluid Lactate and Glucose Differences in Normal Dogs**

Stephanie D. Szabo<sup>1</sup>, DVM, Kieri Jermyn<sup>1</sup>, BVSc, Jennifer Neel<sup>2</sup>, DVM, Diplomate ACVP, and Kyle G. Mathews<sup>1</sup>, DVM, MS, Diplomate ACVS

Veterinary Surgery 40 (2011) 444–449



# CLOSED SUCTION DRAIN

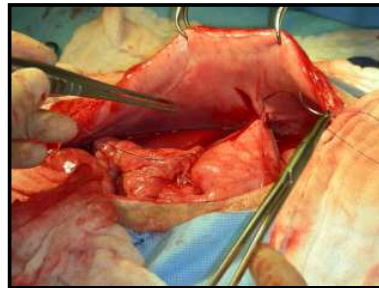
- Blood-to-peritoneal [glu] consistent with septic effusion at day 4
- Blood-to-peritoneal [lac] consistent with septic effusion in >70% dogs after day 4
- 5 drain tips had positive bacterial cultures at 7 days
  
- All dogs had degenerative neutrophils in the peritoneal fluid



## SPLENECTOMY AND GDV

### Assessment of the incidence of GDV following splenectomy in dogs

MA Goldhammer  
Journal of Small Animal Practice (2010)  
51, 23-28



## SPLENECTOMY AND GDV

### Effect of Previous Splenectomy on Incidence of Canine Gastric Dilatation Volvulus

AJ Sartor, Bentley AM, Brown DC.  
ACVS 2011

- Odds of GDV in dogs with previous splenectomy 5.9 times higher compared to dogs without previous splenectomy
- Labradors, Rottweilers and mixed breeds predisposed

# GASTROPEXY

## Evaluation of an endoscopically assisted gastropexy technique in dogs

Mauricio Dujowich, DVM, and S. Brent Reimer, DVM

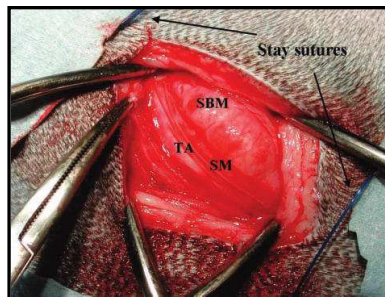
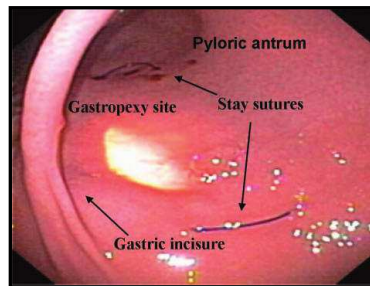
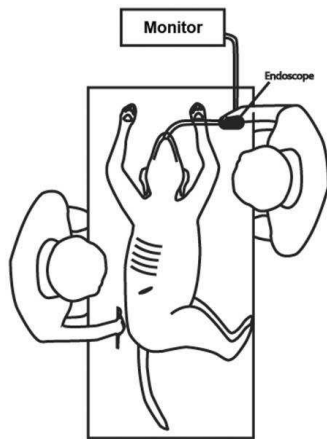
Am J Vet Res 2008;69:537-541

## Evaluation of short- and long-term complications after endoscopically assisted gastropexy in dogs

Mauricio Dujowich, DVM; Matthew E. Keller, BA; S. Brent Reimer, DVM, DACVS

J Am Vet Med Assoc 2010;236:177-182

# ENDOSCOPIC-ASSISTED GASTROPEXY



## OVE VERSUS OVH

### **Comparison of surgical variables and short-term postoperative complications in healthy dogs undergoing ovariohysterectomy or ovariectomy**

Marijke E. Peeters, DVM, PhD, and Jolle Kirpensteijn, DVM, PhD, DACVS

J Am Vet Med Assoc 2011;238:189–194



## OVE VERSUS OVH

- Skin and fascia incisions different
- No difference in:
  - Surgical time
  - Pain score
  - Wound score



# CYSTOTOMY

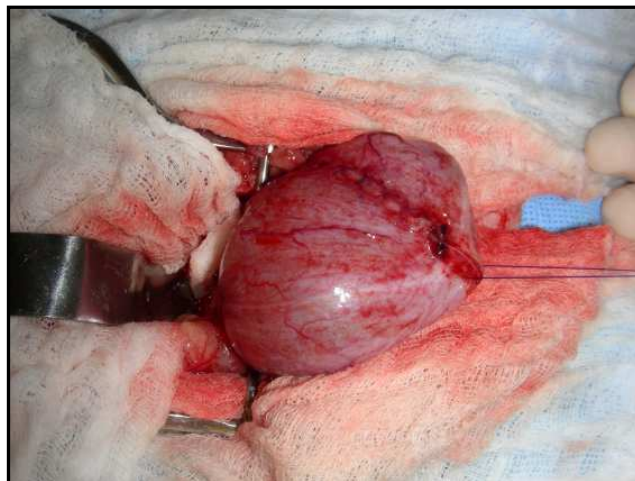
## **Biomechanical and histologic comparison of single-layer continuous Cushing and simple continuous appositional cystotomy closure by use of poliglecaprone 25 in rats with experimentally induced inflammation of the urinary bladder**

Blake Eason Hildreth III, DVM; Gary W. Ellison, DVM, MS; John F Roberts, DVM;  
Christopher A. Adin, DVM; Timothy J. Holloway, BS; Linda L. Archer, BS; James M. Van Gilder, BS

Am J Vet Res 2006;67:686-692



# CYSTOTOMY



# CYSTOTOMY CLOSURE

## **Evaluation of risk factors associated with suture-nidus cystoliths in dogs and cats: 176 cases (1999–2006)**

Sherry L. Appel, JD, DVM; Sandra L. Lefebvre, DVM, PhD; Doreen M. Houston, DVM, DVSc, DACVIM;  
David L. Holmberg, † DVM, MVSc, DACVS; J. Elizabeth Arnold Stone, DVM, MS, MPP, DACVS;  
Andrew E. P. Moore, BSc, MSc; J. Scott Weese, DVM, DVSc, DACVIM

*J Am Vet Med Assoc* 2008;233:1889–1895



# CYSTOTOMY CLOSURE

## **Evaluation of the tensile strengths of four monofilament absorbable suture materials after immersion in canine urine with or without bacteria**

Chelsea B. Greenberg, DVM; Ellen B. Davidson, DVM; Danielle D. Bellmer, PhD;  
Rebecca J. Morton, DVM, PhD; Mark E. Payton, PhD

*Am J Vet Res* 2004;65:847–853

## QUESTIONS OR COMMENTS?

