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Surgical Instrument Sets for the Small Animal Practice

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The use of standardized pre-sterilized instrument sets in small animal surgery contributes to practice efficiency by having sterilized instruments ready when they are needed. A basic set of instruments is prepared and can be supplemented with special packs for specific applications. A disadvantage to this approach is that the expense when the packs are originally established may be greater.

The Major pack is the basic pack which all others are used to supplement. This pack is adequate for laparotomy, ovariohysterectomy, soft tissue or abdominal organ surgical procedures. It is recommended that this pack contain:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>#3 scalpel handles</td>
</tr>
<tr>
<td>1</td>
<td>curved Mayo dissecting scissors</td>
</tr>
<tr>
<td>1</td>
<td>straight Mayo dissecting scissors</td>
</tr>
<tr>
<td>1</td>
<td>curved Metzenbaum scissors</td>
</tr>
<tr>
<td>1</td>
<td>suture wire scissors</td>
</tr>
<tr>
<td>2</td>
<td>Brown Adson tissue forceps</td>
</tr>
<tr>
<td>1</td>
<td>Russian tissue forceps</td>
</tr>
<tr>
<td>12</td>
<td>Halsted mosquito forceps</td>
</tr>
<tr>
<td>4</td>
<td>Rochester-Carmalt forceps</td>
</tr>
<tr>
<td>6</td>
<td>Allis tissue forceps</td>
</tr>
<tr>
<td>2</td>
<td>Pearlman intestinal bulldog clamps</td>
</tr>
<tr>
<td>2</td>
<td>Mixter right angle forceps</td>
</tr>
<tr>
<td>2</td>
<td>Babcock intestinal forceps</td>
</tr>
<tr>
<td>12</td>
<td>Backhaus towel clamps</td>
</tr>
<tr>
<td>1</td>
<td>Foerster sponge forceps</td>
</tr>
<tr>
<td>1</td>
<td>Grooved director</td>
</tr>
</tbody>
</table>

1 Snook or Covault spay hook
2 Mayo-Hegar carbide tipped needle holder
1 circle retractor
cutting edge and taper point
1 suture needles
4" x 4" gauze sponges
Laparotomy sponges
sterile basin
dental rolls (cut in 1" sections)

The above pack can be supplemented by special smaller instrument sets or separately sterilized instruments as the need arises. Recommended packs and instruments are:

A. Orthopedic pack to be used for routine orthopedic surgery, fracture repair or joint surgery.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>drill guide</td>
</tr>
<tr>
<td>1</td>
<td>calibrated depth gauge</td>
</tr>
<tr>
<td>1</td>
<td>compression device and gauge</td>
</tr>
<tr>
<td>1</td>
<td>periosteal elevator</td>
</tr>
<tr>
<td>1</td>
<td>bone drill and bits</td>
</tr>
<tr>
<td>1</td>
<td>Rongeur</td>
</tr>
<tr>
<td>1</td>
<td>bone chisel</td>
</tr>
<tr>
<td>1</td>
<td>mallet</td>
</tr>
<tr>
<td>1</td>
<td>bone cutting forceps</td>
</tr>
<tr>
<td>1</td>
<td>bone rasp</td>
</tr>
<tr>
<td>1</td>
<td>self-retaining retractor</td>
</tr>
<tr>
<td>1</td>
<td>wire cutters</td>
</tr>
<tr>
<td>1</td>
<td>pin cutter</td>
</tr>
<tr>
<td>1</td>
<td>hand chuck and key</td>
</tr>
<tr>
<td>1</td>
<td>assorted bone plates and screws</td>
</tr>
<tr>
<td>1</td>
<td>assorted intramedullary pins</td>
</tr>
<tr>
<td></td>
<td>Gigli saw and handles</td>
</tr>
<tr>
<td>20 and 26 gauge orthopedic wire</td>
<td></td>
</tr>
</tbody>
</table>

B. Cardiovascular Pack

*Mrs. Haupert is an Operating Room Technician in the Department of Veterinary Clinical Sciences, Iowa State University.
†Dr. DeYoung is an Associate Professor in the Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Iowa State University.
Quantity  Instrument
1  5½” Satinsky forceps
1  cardiovascular thumb forceps
2  atraumatic Bulldog clamps
1  Potts-Smith 7½” scissors
1  cardiovascular needle holder

An additional pack that may be indicated is the eye pack that is used for surgery of the eye and the eyelid.

Quantity  Instruments
2  #9 scalpel handles
10  towel clamps
1  curved Halsted mosquito forceps
1  straight Halsted mosquito forceps
1  straight Iris scissors
1  left corneal section Universal, McGuire type
1  right corneal section Universal, McGuire type
1  suture scissors
1  curved Strabismus scissors
1  Bishop Harmon forceps
1  tying forceps
1  Von Graefe forceps
1  Botvin Iris forceps
1  Castroviejo Capsule forceps
1  Wilder lens loop
1  Burch fixation pick
1  Wilder Cystotome knife
1  Green iris replacer
1  curved lacrimal Canula 23 gauge
1  anterior chamber irrigator
2  22 gauge 4” needles
2  probes
Cotton tip applicators
#1 6” dental rolls cut in 1” pieces for sponges

In addition to the above packs it is a good idea to have extra instruments sterilized in separate wraps. These instruments are used as necessary to aid the surgeon or replace contaminated instruments. Among these instruments are:

- Balfour abdominal retractors
- Baby abdominal retractors
- Weithaver retractors
- Ribbon retractors
- Miller-Senn rake retractor
- Finchietto rib spreader

4  Halsted mosquito forceps

1  Brown Adson forceps
2  Allis tissue forceps
2  Rochester Carmalt forceps
1  curved Mayo scissors
1  straight Mayo scissors
1  curved Metzenbaum
1  #3 knife handle
2  rubber shod forceps
4” x 4” s
dental roll ((cut in 1” sections)
laparotomy sponges
sterile basins

An extremely useful pack is the minor pack which can be used for minor superficial surgery such as lacerations, declaws, and skin tumor excisions. This pack may contain:

Quantity  Instruments
6  Halsted mosquito forceps
4  Backhaus towel forceps
1  suture wire scissors
1  curved Mayo scissors
1  Brown-Adson tissue forceps
1  Russian tissue forceps
1  #3 scalpel handle
2  Allis tissue forceps
assorted cutting and taper point needles

The instruments selected for any pack should be of the best quality available and can be purchased from most hospital supply firms. They should be selected with the needs of the practice in mind and the numbers and types selected on the basis of the personal preference of the surgeon. It is recommended that at least two major and minor packs be available and more may be needed.

It is important that good care of the instruments is taken following surgery. Instruments should not be placed in saline to soak as the salt will cause the instruments to rust. If possible an easy method of cleaning instruments is to place them within an ultrasonic cleaner; however, hand scrubbing with a soft-bristled brush and a good quality instrument detergent will do. Whatever method is used, instruments first must be thoroughly cleaned so that they are free from organic debris, grease or oil, which will interfere with sterilization. Then rinse and dry them.
A list of instruments placed in each pack is very helpful in getting the instruments back into the appropriate packs. Color coding is another method of keeping the packs in order. Place a band of colored autoclavable tape around a handle of each instrument.

Thirty days is the standard shelf life for all sterile packages when using double thickness muslin wrappers, paper wrappers, or cellophane wrappers. However, if you use a nylon film the package will remain sterile indefinitely.

In preparing a pack for surgery all locks must remain open for the instrument to be completely sterile. After the pack is wrapped, it may be secured with a small piece of autoclave steam indicator tape. It is also a good idea to place a small piece of this tape inside the pack to make sure the steam is getting through to all parts of the pack.

A Case Report of Pyometra in the Bitch

by

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G. L. Spaulding, D.V.M.‡

Introduction

Pyometra is a common clinical entity seen in the intact middle-aged bitch. This paper reports the diagnostic findings, anesthetic, surgical, and post-operative management of one such case presented to the I.S.U. Small Animal Clinic.

Pyometra must be differentiated from gastrointestinal disorders i.e. gastroenteritis, renal disease (especially chronic interstitial nephritis), other endocrine disorders, diabetes mellitus and diabetes insipidus and lymphosarcoma. The vomiting which may accompany pyometra can also be seen with gastroenteritis and the build-up of toxins from chronic interstitial nephritis. The polyuria and polydipsia can be found with diabetes mellitus and insipidus and the high white blood cell count may be found with lymphosarcoma.

These conditions are eliminated primarily on the basis of history (occurrence of an estrus cycle approximately 4 to 6 weeks previous, polyuria, polydipsia), physical exam (pendulous abdomen, palpable uterine horns, slight to profuse vaginal discharge), clinical pathology tests (proteinuria, no glucosuria, elevated white blood cell count) and radiographs (demonstrating the enlarged uterine horns).

A Case Report

A 15-kg., 5½-year-old female Keeshond was referred to the I.S.U. Small Animal Clinic with a distended abdomen, depressed mental state, indigestion, vomiting of two-days duration, and a history of diarrhea two weeks prior. On admission a blood sample was collected and abdominal radiographs were taken (Table 1). As a result of physical examination, radiographs, and laboratory findings a diagnosis of pyometra with a closed cervix was made and preparation for surgical intervention was started.

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