

POTENTIAL COMPLICATIONS OF SURGICAL SEXING

Despite one's best intentions and preparations, surgical complications can and do occur. Clients are always advised that there is a risk of complication and that death, although unlikely, can occur. The likelihood of a bird dying depends on the skill and surgical technique of the veterinarian and the condition of the patient. In my experience, about 1 out of every 300 birds dies due to surgical sexing.

CARDIAC ARREST

Birds can die of cardiac or respiratory arrest under inhalation anesthesia. Some of these birds were found to have underlying disease conditions that made them poor anesthetic risks; in others, no lesions were found at necropsy. Some birds literally die of the stress of manual restraint and anesthesia, although this is rare.

When it comes to evaluating the cardiovascular system of birds, our knowledge and abilities in clinical avian practice is woefully inadequate. In my opinion, auscultation of the heart of a bird provides no meaningful information from which to predict if the bird can safely undergo inhalation anesthesia.

Rather, a simple, quick examination before sexing is the most important thing a veterinarian can do to prevent cardiac arrest. Identifying obvious physical problems such as a bird being too thin or fat, having any degree of respiratory distress, or having an enlarged abdomen should prompt the veterinarian to postpone the procedure. These are the birds most likely to die on the table.

HEMORRHAGE

Hemorrhage is the most frequently encountered problem associated with laparoscopy. It is usually the result of trauma from trocar insertion through the muscle of the body wall. It can also occur from puncturing an internal structure, such as the spleen, kidney, or a large blood vessel. Small amounts of bleeding from the muscle normally do not prevent viewing the gonad and are not serious. However, persistent muscle bleeding or organ contusion can quickly cause blood to collect in the abdominal cavity, obliterating the view and threatening the bird's life. If this occurs, the procedure should be terminated immediately, and the patient monitored closely during recovery.

Post-op Care

- 1. Suture muscle and skin layer closed.**
- 2. Give Vitamin K injection**
- 3. Keep bird warm and confine to a small cage for the next few days.**
- 4. Excessive activity, such as flying back and forth in a large flight, can cause additional bleeding and could lead to death a few days after surgery.**

PUNCTURE OF THE PROVENTRICULUS

Inadvertent puncture of the proventriculus (stomach) has occurred when entering the left flank of the bird too far ventrally or if this organ is distended with food which displaces it dorsally and laterally. An engorged proventriculus can lie directly beneath the body wall in the area of the left flank entry site. This is why I always recommend birds be fasted for at least 4 hours before being sexed. It is very disconcerting to look through the scope and see food material (inside the stomach).

Post-op Care

- 1. Abort procedure**
- 2. Give antibiotics for the next 7-10 days. I usually have the owner give injectable antibiotics for the first 3-5 days, then continue with oral or water antibiotics thereafter.**
- 3. Minimal food and water for the next 12 hours to prevent leakage.**
- 4. Keep bird warm and confined to a small, indoor cage.**
- 5. The puncture hold is allowed to self-seal on its own. Laparotomy to suture the proventriculus is not recommended: this may only make matters worse.**
- 6. Puncture of the proventriculus in a bird weighing more than 200g rarely causes death or other problems.**

PUNCTURE OF THE GONADS

On rare occasions the enlarged left testicle of a sexually active male can be inadvertently punctured with the trocar. Likewise in a sexually active female, the follicles on the ovary and the oviduct become greatly enlarged and it is possible to puncture yolk-filled follicles. This is why the abdomen is always palpated in birds before scoping to check for evidence of a developing egg. Wide pubic bones, a soft, doughy abdomen, and a dilated vent are all signs of a sexually active female. Such birds should not be scoped.

On more than one occasion I have punctured yolk-filled follicles. While looking through the scope, the entire field of view turns yellow. As the instrument is withdrawn from the bird, yolk may be smeared on the tip. Certainly the possibility of yolk peritonitis exists, which may cause the bird to die or may result in adhesions that could affect future egg laying.

Post-op Care

- 1. If a testicle is punctured, no post-op care is given. No complications have ever been observed.**

2. If a yolk-filled follicle is punctured, the procedure is immediately terminated. Antibiotics are prescribed for several weeks and the bird is kept warm and confined to a small cage.
3. Surprisingly most birds show no signs of illness and most that have been monitored over the next few years have laid eggs normally.

INFECTION WITHIN THE ABDOMINAL CAVITY

Infection within the body cavity due to insertion of the endoscope is rare if proper surgical technique is used. However, if infection does occur, it could be either acute, causing illness or death within days, or chronic and granulomatous in nature, in which case disease might not be evident for weeks or months.

Post-op Care

1. If any trauma to internal organs occurs during a sexing then antibiotics are usually prescribed.
2. If evidence of an old infection is seen in a bird being scoped (i.e. granulomas, cloudy, thickened air sacs) then antibiotics may be prescribed.
3. If any bird appears sluggish, fluffed up, or depressed for one or more days after surgery, then antibiotics are usually prescribed.
4. Birds are kept warm and in a small, indoor cage so that they can be closely monitored.
5. If a bird's condition worsens and they don't eat or drink, and if the owner can't provide oral alimentation, then the bird may be referred to a local avian veterinarian.

INFLAMMATION AT THE SURGICAL SITE

On rare occasions a bird will pick at the incision site, causing ulceration and hemorrhage. This might be a result of discomfort from the incision and

puncture, the placement of the suture, or irritation from having feathers pulled to clear the area for cleaning. Cockatoos are most prone to this destructive behavior.

Post-op Care

- 1. The use of a restraint collar may be necessary.**
- 2. Antibiotics are prescribed.**
- 3. The surgical site is inspected and either debrided and resutured or left to heal by second intention.**
- 4. Topical antibiotics may be indicated.**

SUBCUTANEOUS EMPHYSEMA

In a very small percentage of birds being sexed, subcutaneous emphysema (an air bubble under the skin) may develop over the entry site as a result of air leaking from the abdominal air sac through the incised muscle and then becoming trapped under the skin. This is usually not a life-threatening condition and most birds show no signs of discomfort or illness. However it can be very disconcerting to the owner.

Post-op Care

- 1. The air can be removed (either by the owner or a local veterinarian) by inserting a needle (attached to a syringe) into the air pocket and drawing out the air.**
- 2. If the problem persists, then a small skin incision about 1/8 inch long is made with either a scalpel blade or disinfected, unused razor blade after cleaning the area with 70% alcohol.**
- 3. When the surgical sexing site completely heals, this condition will resolve itself. Any air not removed from under the skin will dissipate on its own after a week or so.**
- 4. Systemic antibiotics are not prescribed.**

LEFT LEG LAMENESS

Occasionally a bird becomes lame on the left leg after surgical sexing via the left flank approach. Trauma to a leg muscle or nerve or the formation of a hematoma (blood blister) from insertion of the trocar are the likely causes. The lameness is usually temporary, but some birds may limp for several weeks. No treatment is given.