

The Value of Endoscopy in a Wildlife Raptor Service

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KEYWORDS

• Birds of prey • Endoscopy • Raptors • Rehabilitation • Wildlife

KEY POINTS

- Endoscopic equipment can be purchased at lower cost on the used market or donated by human hospitals to nonprofit wildlife centers.
- For many respiratory conditions, endoscopy is the diagnostic and therapeutic modality of choice (eg, debridement of aspergillomas).
- Endoscopy is also useful to diagnose conditions such as esophageal trauma, mycobacteriosis, viral hepatitis, and neoplasia.
- Endoscopy allows for the noninvasive removal of foreign bodies, such as pieces of metal and porcupine quills, as well as cloacoliths.
- Endoscopy equipment is now available for the use in field research and conservation projects.

INTRODUCTION

Endoscopy has been used in raptor medicine for decades.^{1,2} It was first developed for the purposes of gender identification and rapidly became a popular diagnostic and therapeutic tool. Endoscopy is now routinely used in most veterinary hospitals that treat falconry birds and other privately owned raptors and it is often recommended as a component of prepurchase examinations.^{3,4} Yet, many wildlife rehabilitation centers that handle raptors are not using endoscopy to its maximum potential for a host of reasons.

Primarily, some centers do not have access to the equipment because of financial or space reasons. In addition, endoscopic examinations are sometimes thought to be time consuming and, therefore, inappropriate in the typical busy, hectic schedule of a rehabilitation center. Conversely, radiography is often mistakenly considered to be

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a sufficient diagnostic test in wild birds, although it rarely provides a definitive diagnosis other than orthopedic injuries. Endoscopy, however, has multiple indications for the diagnosis and treatment of wild raptor conditions. In many cases, the prognosis can be considerably improved when endoscopy is available.

Before detailing the value of the use of endoscopy in a wildlife raptor service, the authors demonstrate how to overcome the most common difficulties encountered by rehabilitation centers in regards to the access to the appropriate equipment. Techniques for patient preparation and positioning are presented, as well as the different approaches used for diagnosis and treatment of various diseases, removal of foreign bodies, and gender identification. In this article, the term raptor or bird of prey refers to any bird belonging to the orders Accipitriformes (including the Cathartidae family [New World Vultures]), Falconiformes, and Strigiformes.⁵

EQUIPMENT ACQUISITION

General Suggestions

The type of equipment required for avian endoscopy has been previously reviewed in detail.^{4,6} The following discussion focuses mostly on rigid endoscopy equipment but could also apply to flexible endoscopy. The main limitation in any wildlife rehabilitation setting is the actual procurement and maintenance of endoscopy equipment. Funds are limited, and the actual purchase price of a new standard rigid endoscopy set can be quite substantial. After determining the equipment needs, there are various avenues available to obtain the required items at a reduced cost.

First, the veterinarian should contact local hospitals and ask to speak with the biomedical engineers responsible for the medical equipment maintenance and storage at the facility. These individuals are a great resource for medical equipment advice and possible donations. Many hospitals routinely disperse older, but functional, equipment to charities or to the used medical equipment market with little to no reimbursement to the hospital. A strategic discussion with the chief of the biomedical department, detailing the existing needs, might result in the donation of used endoscopy equipment or other useful medical equipment (eg, anesthetic monitors, portable blood gas analyzers, surgical tables, supplies). An additional avenue is to contact a local endoscopy equipment sale representative. Many times, the representatives have access to used equipment that might be donated to nonprofit facilities or available at a considerably reduced cost.

A clinician with time and interest in researching equipment can also use various Internet sources such as eBay, Craigslist, and federal/state government auction sites (eg, GovSales, GSA Auctions). Used and new medical equipment are available on the referred Web sites through reputable dealers and sources who may offer warranties, inspections, and full refunds. Other times, no such guarantees exist, and detailed, knowledgeable questions are needed to avoid the purchase of an incorrect or broken item. However, these channels have become popular among physicians and veterinarians because of the discounts offered.

Before any acquisition, it is imperative to garner an understanding of the equipment offered, the current prices on new equipment, quality, compatibility, and product support from the various manufacturers. Catalogs that contain such information and are useful to have are available on-line, especially when checking into compatibility issues between the products from different companies. It is uncommon to find a complete endoscopic package on the used market.

Many times, there is reasonable compatibility between the major manufacturers or, at least, the availability of any needed adapter. A potential means to avoid some of

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