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## Ear Canal Disease Surgical Options

### Ear Anatomy

The ear is composed of the three main parts: the external ear, the middle ear, and the inner ear. The external ear is made up of the pinna, the vertical and horizontal ear canals. The middle ear is a bone-encased space (osseous bulla) separated from the horizontal ear canal by the ear drum (tympanic membrane) and contains the three little bones which transmit vibration from the ear drum to the hearing center within the inner ear. The inner ear contains the semi-circular canals and nerves responsible for balance and hearing. Otitis externa is inflammation of the ear canal(s). Otitis media is inflammation of the middle ear and otitis interna is inflammation of inner ear.

### Indications for surgery

The main reasons for surgery include chronic ear canal infections, polyps, trauma, and cancer.

### Treatment options:

#### *Lateral ear canal resection*

This procedure is used for treating mild to moderate cases of otitis externa. The outer (lateral) one-half of the vertical ear canal and flap of overlying skin are removed leaving the horizontal ear canal fully exposed. This procedure allows for increased drainage of exudate (infected fluid and debris) from the horizontal ear canal. It also improves ventilation of the ear canal and makes cleaning of the canal easier on the patient and care giver. This procedure does not cure underlying dermatologic conditions. It can make medical management more effective, which still may be necessary for the rest of the patient's life. In cases where the vertical canal is more severely affected the entire vertical canal can be removed (vertical ear canal ablation). These procedures are not recommended in Cocker spaniels as Cockers tend to have a unique form of otitis externa/media that is surgically amendable only to a total ear canal ablation (see below).

#### *Ventral bulla osteotomy*

This procedure is largely performed in cats to remove inflammatory polyps. This procedure can also be performed to remove infected debris from and provide temporary drainage of the middle ear in cases of chronic otitis media where the ear canals are relatively normal in dogs and cats.

#### *Total ear canal ablation with lateral bulla osteotomy (TECA)*

The TECA is the definitive salvage procedure for chronic, severe otitis externa/media in that the entire ear canal is removed. It is also the treatment of choice for removal of tumors contained within the ear canal. This procedure is most common in Cocker Spaniels, however can happen in any breed; especially if there are underlying skin issues.