



## Surgery of the Ear (Lateral Ear Resection, Bulla Osteotomy, Total Ear Canal Ablation and Bulla Osteotomy)

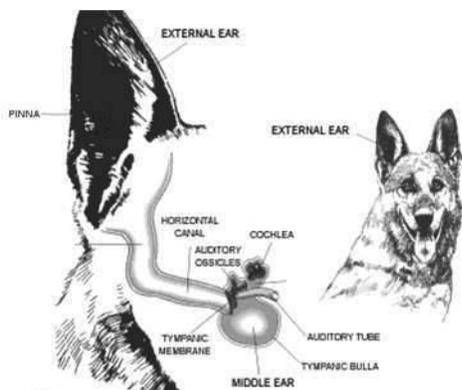
Chronic infections that thicken and occlude the ear canal as well as tumors that fill the middle ear or external ear canal are the most common problems requiring surgery of the ear. In certain breeds of dogs such as Cocker Spaniels, Golden Retrievers, and Poodles, the conformation of the ear canal predisposes it to infection. Large floppy ears, hair-filled ear canals, and a moist, warm environment all contribute to infection that may become very difficult to control or eliminate.

Since the ear cannot be kept dry and infection thickens the tissues of the ear canal, proliferative debris becomes trapped in the ear. This prevents topical ear medications from contacting the infectious agents. The result is a vicious cycle of worsening infection and severe permanent changes in the ear.

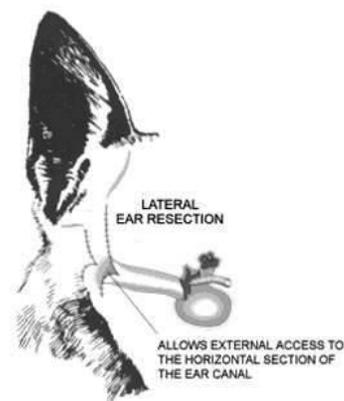
The shape predisposes the ear to infection because it creates a bottleneck for debris, ear wax, and moisture to accumulate and irritate the delicate canal wall. The middle ear is within a hollow, bony portion of the skull known as the bulla. The inner ear is located next to the bulla and is responsible for equilibrium and balance. Any of these areas may be affected in a disease process. They are best evaluated by direct otoscopic examination and frequently radiographic (x-ray) evaluation.

### Surgery

Three basic types of surgery can be performed depending upon the regions of the ear that are affected.



The ear is divided into three distinct regions (Fig 1). The external ear is the ear canal. It is "L" shaped and ends at the tympanic membrane (eardrum).



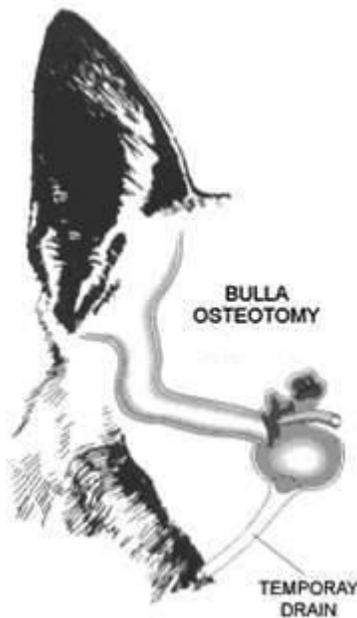
### LATERAL EAR RESECTION

Early in the disease process it may be possible to perform a lateral ear resection (Fig 2). This

procedure is used for diseases of the external ear and involves removing and reconstructing a small lateral portion of the ear canal. This facilitates drainage of the ear canal and permits application of medications directly into the ear canal.

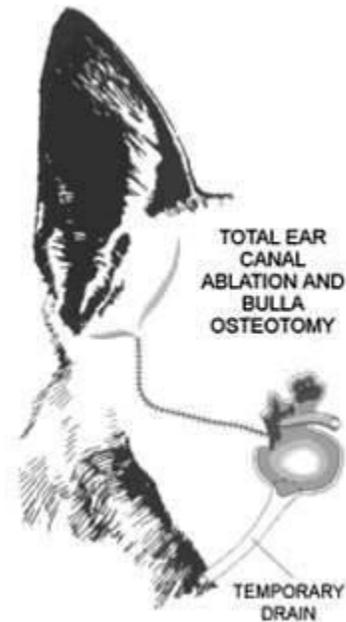
#### BULLA OSTEOTOMY

Occasionally, only the middle ear is affected. This occurs when an ear canal infection causes the eardrum to rupture, allowing infection into the middle ear. The eardrum then regrows as the ear canal infection is treated. This is especially common in cats that have polyps. In these cases the bony wall of the bulla is opened surgically either from side or from under the neck to gain access to the middle ear. Drains are placed to evacuate the infection. This procedure is known as a bulla osteotomy. (Fig 3)



to remove all of the infectious tissue from the hearing apparatus. Bacterial cultures are obtained so that the infection may be treated with the appropriate antibiotics. On occasion, biopsies may be indicated to identify abnormal tissue in the ear. Drains are placed to encourage healthy tissue growth without abscess pocket formation.

The surgery is usually successful in alleviating painful, debilitating, chronic ear infections as they cannot recur once the ear canal has been removed. Fortunately, hearing loss, which is directly related to the severity of the infection within the middle ear, is not always associated with this surgery. Dogs frequently retain some degree of hearing capacity even without ear canals and are much more comfortable.



#### TOTAL EAR CANAL ABLATION AND BULLA OSTEOTOMY

More severe infections require a more involved surgery called a total ear canal ablation and bulla osteotomy (Fig 4). Preoperative radiographs of the skull are generally recommended to assess changes that have taken place in the bony portion of the ear. The infected tissue and entire ear canal are removed. The bony portion of the ear (bulla) is opened

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