SURGICAL ANATOMY of Ear

(FIG.1) Landmarks of the external ear in dogs.

(FIG.2) Anatomy of the ear.

An aural (auricular) hematoma is a collection of blood within the cartilage plate of the ear.

Suture placement for repair of pinna lacerations.
Sutures should be placed vertically rather than horizontally for aural hematoma repair. They may be placed through the cartilage without incorporating the skin on the convex surface of the ear, or they may be full thickness.

Bandaging the ear after a surgical procedure. **A,** Place short strips of tape on the rostral and caudal margins of the convex surface of the pinna. **B,** Use longer pieces of tape on the concave surface of the pinna so that these tape pieces contact the tape on the convex surface. **C,** Place the ear over the top of the head and place a nonadherent pad over the incision. **D,** Apply cast padding and Kling over the ear, then use Vetrap or stockinette as an external layer.

**Otitis externa** is an inflammation of the epithelium of the horizontal and vertical ear canals and surrounding structures (i.e., external auditory meatus and pinna). **Swimmer's ear** is a term used to describe otitis externa that occurs after swimming or bathing. **Otitis media** is inflammation of the middle ear; **otitis interna** is inflammation of the inner ear. **Myringotomy** is a surgical puncture of the tympanic membrane to relieve pressure or obtain samples for analysis. **Otoliths** are mineral opacities within the tympanic bullae. The auditory tube is also known as the **eustachian tube.**
Lateral ear resection (Zepp procedure).

**Lateral ear canal resection.** A, Mark a site one half the length of the vertical ear canal below the horizontal ear canal. B, Lateral to the vertical ear canal, make two parallel incisions that extend from the tragus ventrally to the marked site. C, Connect the skin incisions ventrally, and reflect the skin flap dorsally, exposing the lateral cartilaginous wall of the vertical ear canal. Use Mayo scissors to cut the vertical canal. D, Reflect the cartilage flap distally, and inspect the opening of the horizontal canal. Resect the distal half of the cartilage flap to make the drainboard, and remove the skin flap. E, Place sutures from the epithelial tissue to the skin. Begin suturing at the opening of the horizontal canal, then suture the drainboard.
**Vertical ear canal resection** may be performed when the entire vertical canal is diseased but the horizontal canal normal.

**Vertical ear canal ablation.** A, Make a T-shaped incision with the horizontal component parallel and just below the upper edge of the tragus. From the midpoint of the horizontal incision, make a vertical incision that extends to the level of the horizontal canal. B, Retract the skin flaps, reflect loose connective tissue, and expose the lateral aspect of the vertical canal. C, Continue the horizontal incision through the cartilage around the external auditory meatus with a scalpel blade. Use curved Mayo scissors to dissect around the proximal and medial aspects of the vertical canal. Free the entire vertical canal from all muscular and fascial attachments. D, Transect the canal ventrally 1 to 2 cm dorsal to the horizontal canal and submit the canal for histologic examination. E, Incise the remnant of the vertical canal cranially and caudally to create dorsal and ventral flaps. F, Reflect the ventral flap downward and suture it to the skin for a drainboard. Suture the dorsal flap to the skin and close the subcutaneous tissue. Then close the skin in a T shape.
**Total ear canal resection.** A, Make a T-shaped incision with the horizontal component parallel and just below the upper edge of the tragus. From the midpoint of the horizontal incision, make a vertical incision that extends to just past the level of the horizontal canal. B, Retract the skin flaps, reflect loose connective tissue, and expose the lateral aspect of the vertical canal. Continue the horizontal incision around the opening of the vertical ear canal with a scalpel blade. C, Dissect around the proximal and medial aspects of the vertical canal. D, Continue the dissection to the level of the external acoustic meatus. E, Excise the horizontal canal attachment to the external acoustic meatus with a scalpel blade, rongeur, or Mayo scissors, and use a curette to carefully remove secretory tissue that is adherent to the rim of the external acoustic meatus. F, If desired, place a Penrose drain. Close the subcutaneous tissue and skin.