The Facial Nerve within the Middle ear

**Ossicles** increase amplitude of vibrations 15-20 times because of both leverage & eardrum to oval window ratio
Synovial joints. Almost adult size at birth

**Auditory tube** opens on swallowing to equalise pressure
3.5cm long. 1/3 bone, 2/3 cartilage
30 degrees downwards, 45 degrees anterior & medially
Tubal tonsil at exit. Mucosa valvelike
Ns: Vb (pharyngeal br) external end. IX internal end

**MIDDLE EAR - RIGHT SIDE LOOKING POSTERIORLY**

**Hinges are to illustrate how it would close to become the anterior wall**

- ET = Eustachian tube
- M = Malleus
- P = Promontory (last turn of cochlea)
- RW = Round window
- TM = Tympanic membrane
- B = Bony bulge of lateral semicircular canal

- M = Malleus
- I = Incus
- A = Aditus to mastoid air sinus
- S = Stapes
- OW = Oval window
MUCOSA COVERS ALL THE WALLS OF THE MIDDLE EAR & IS SUPPLIED BY IX & A LITTLE VII. THE CAROTICO-TYMMPANIC ARTERIES (CTA) BRING IN BLOOD SUPPLY & SYMPATHETICS FOR THE TYPANIC PLEXUS ON THE PROMONTORY.

TT = Tensor tympani
ST = Stapedius
CTA = Caroticotympanic arteries
SYM = Sympathetic fibres

SMF = Stylomastoid foramen (VII emerging)
G = Geniculate ganglion
CT = Chorda tympani
G = Geniculate ganglion
LP = lesser petrosal n
P = Promontory (last turn of cochlea)