Endoscopic Ear

Why EES? – Dr. Dave Pothier

* It is transcanal surgery of the middle ear
* Uses longer and less angled endoscopes
* It is NOT: checking after microscopic approach, ani-microscope, using 6cm 70 deg. Endoscope
* All pictures of interesting pathology are taken with microscope
* Microscope cannot see many cholesteatomas so use angled instruments and operate blind
  + Mastoidectomy is just for access, which is getting rid of healthy tissue therefore, use the endoscope to avoid this
  + Can’t see past the facial recess – forcing you to use angled instruments and operating blind behind the facial recess
* Ponticulus(coves sinus tympani) – can’t be seen via microscope but can see with endoscope
* Minimally invasive – doesn’t violate healthy tissue to get to the disease (uscope needs to violate mastoid, bone)
  + Faster after overcome learning curve
  + No scar, head bandage, removal of sutures/staples, less analgesia, soft tissue injury, shaving of hair – this is what patients are interested in
* Superior view of middle ear
* Small, hidden incision
* Less soft tissue trauma
* One-handed
* Technically demanding
* Requires familiarity with endoscopy
* Lengthy/gentle learning curve
* Endoscopes:
  + Diameter – 3mm, 4mm, 2.7mm for pediatric – 0, 30, 45, 70 deg
  + Vast majority done with 0 deg. (20% angled endoscope)
* Middle ear -> use endoscope
* Mastoid operation -> use microscope
* Question: at what point do you move onto the microscope if endoscope is not working

Feedback from EES Course 19-Oct-2016

Surgeons learning EES in surgical skills lab on cadavers

Tools:

* Ear hair trimmer – hair trimming was difficult, time-consuming, less stable scope
* Suction with different tips – current suction and tools too big for inner ear surgery
* Rosen needle good – want more curvatures of the tip
* Endoscrub – one person said it would be beneficial, but another said that it’s too think and requires another pedal therefore too bulky and may be confusing
* Defogger for endoscope that’s not too bulky?
* STIFF suction tip - curved suction -> size and angle is good but is too flimsy
* For accessibility - something with a curved tip that can become longer and shorter (concentric tubes)

Difficult to:

* Cut flap without tearing it – maybe due to dull blade
* Trim hairs

General comments:

* Smaller grafts – easier to maneuver and position
* Practice on a model to develop the dexterity skills
  + E.g. 3D printed ear
  + Simulate the motion/concept of the movement required during steps in the operations e.g. make motion of lifting the ear drum
  + Simulate making controlled motions