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Beyond Hearing:

Exploring candidacy through cases

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Learning Outcomes



- Upon completion of this course, learners will be able to discuss audiological criteria for Ponto implant candidacy to determine suitability for implantation or Ponto softband usage.
- Upon completion of this course, learners will be able to explain the surgical candidacy factors for Ponto implantation, and the procedural steps involved in Ponto surgery, including implant placement and abutment connection.
- Upon completion of this course, learners will be able to describe the application of theoretical knowledge to real-world scenarios by examining various Ponto surgery cases and reviewing surgical procedures.



Audiologic Candidacy

Who can benefit from a Ponto system?

People of all ages with
conductive / mixed
hearing losses

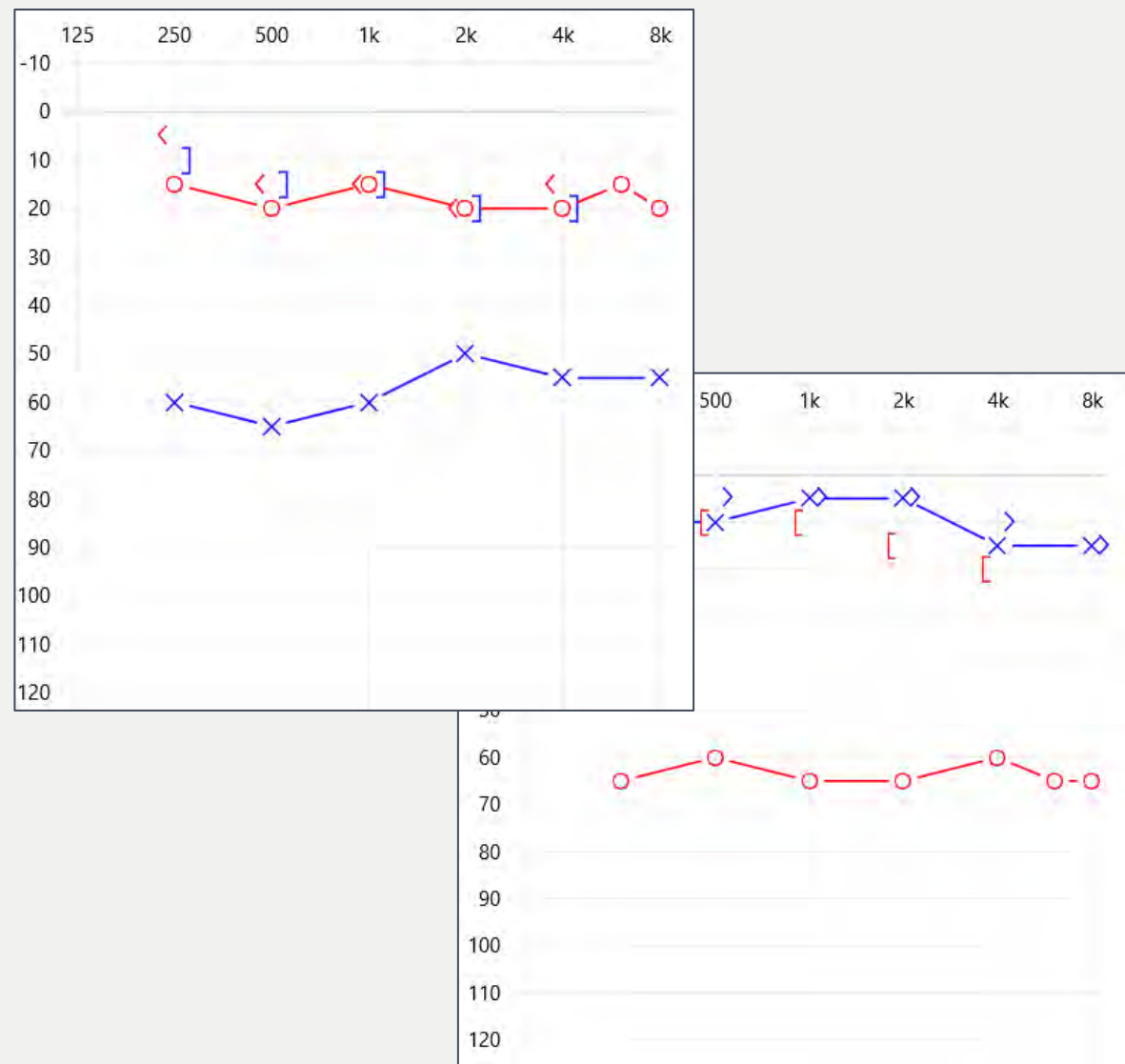
People of all ages with
Single Sided Deafness
(SSD)

*non-surgical candidates ≥ 5 years of age and children younger than five, benefit from use of device on headband or softband

Conductive/Mixed HL Fitting with Ponto

Candidacy

- Unilateral or bilateral PTA of ≤ 65 dBHL BC (PTA)
 - .5K, 1K, 2K, and 3K
- Worn on a softband for those who are not surgical candidates or for children under age 5
- Possible pathology;
 - Atresia / Microtia
 - Chronic otitis media
 - Cholesteatoma
 - Otosclerosis
 - Middle ear dysfunction/disease
 - Otitis externa

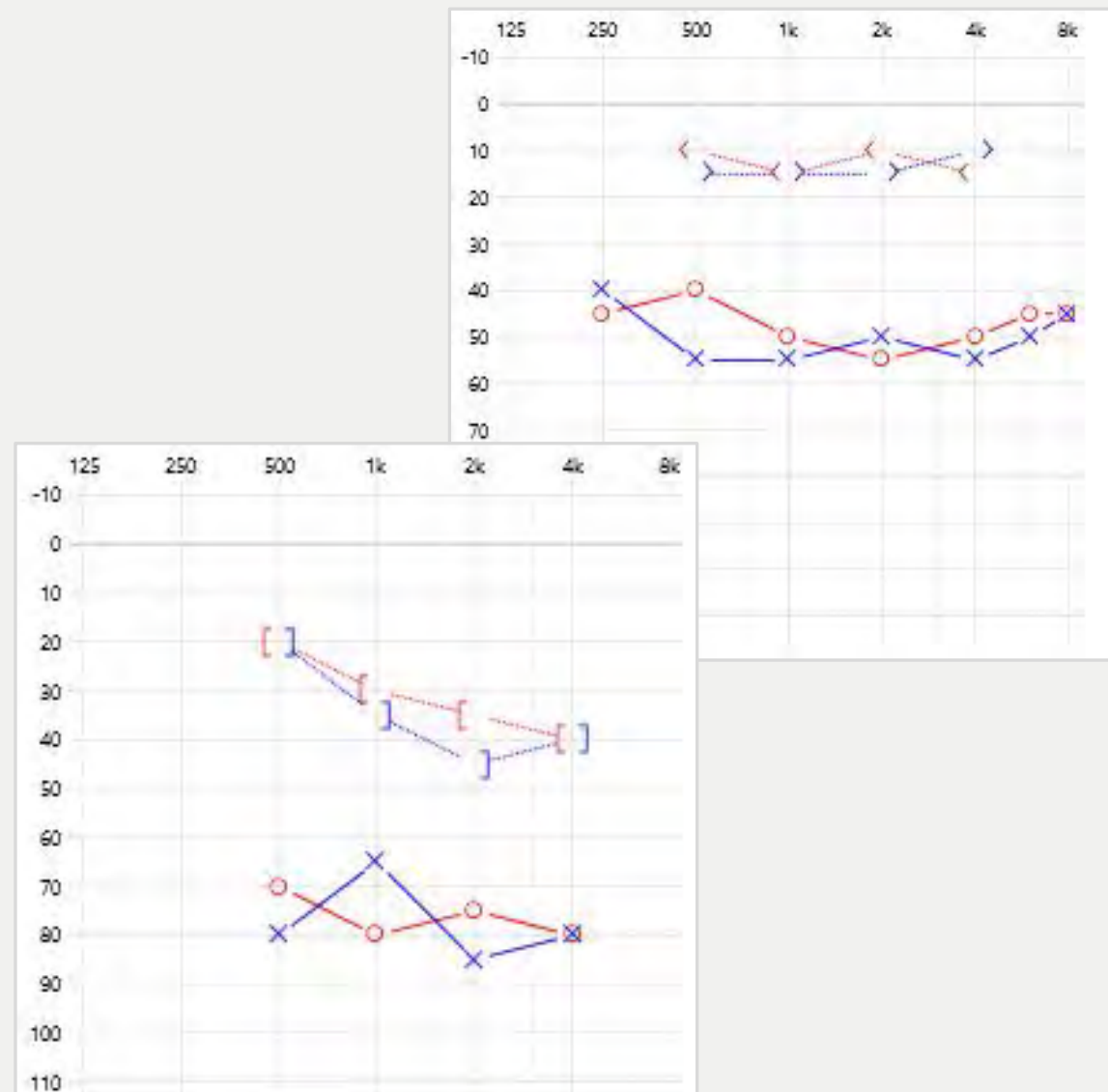


Bilateral Fitting with Ponto

Symmetrical Conductive & Mixed HL

- Bilateral fitting should be considered for candidates with bilateral conductive or mixed hearing loss.
- If the patient has symmetrical bone conduction thresholds*, then fitting bilateral processors can result in improved sound localization and speech recognition in noise.

*Difference between left & right sides' bone conduction thresholds should be less than 10 dB on average (measured at 0.5, 1, 2, and 4k Hz) or less than 15 dB at individual frequencies.



Bilateral Fitting with Ponto

Asymmetrical Conductive & Mixed HL

Unilateral Fitting

- For a unilateral fitting, BAHS should be placed on the side with the better bone conduction thresholds.
- If placed on the side with the poorer bone conduction thresholds, BAHS will act, partly, as a CROS.

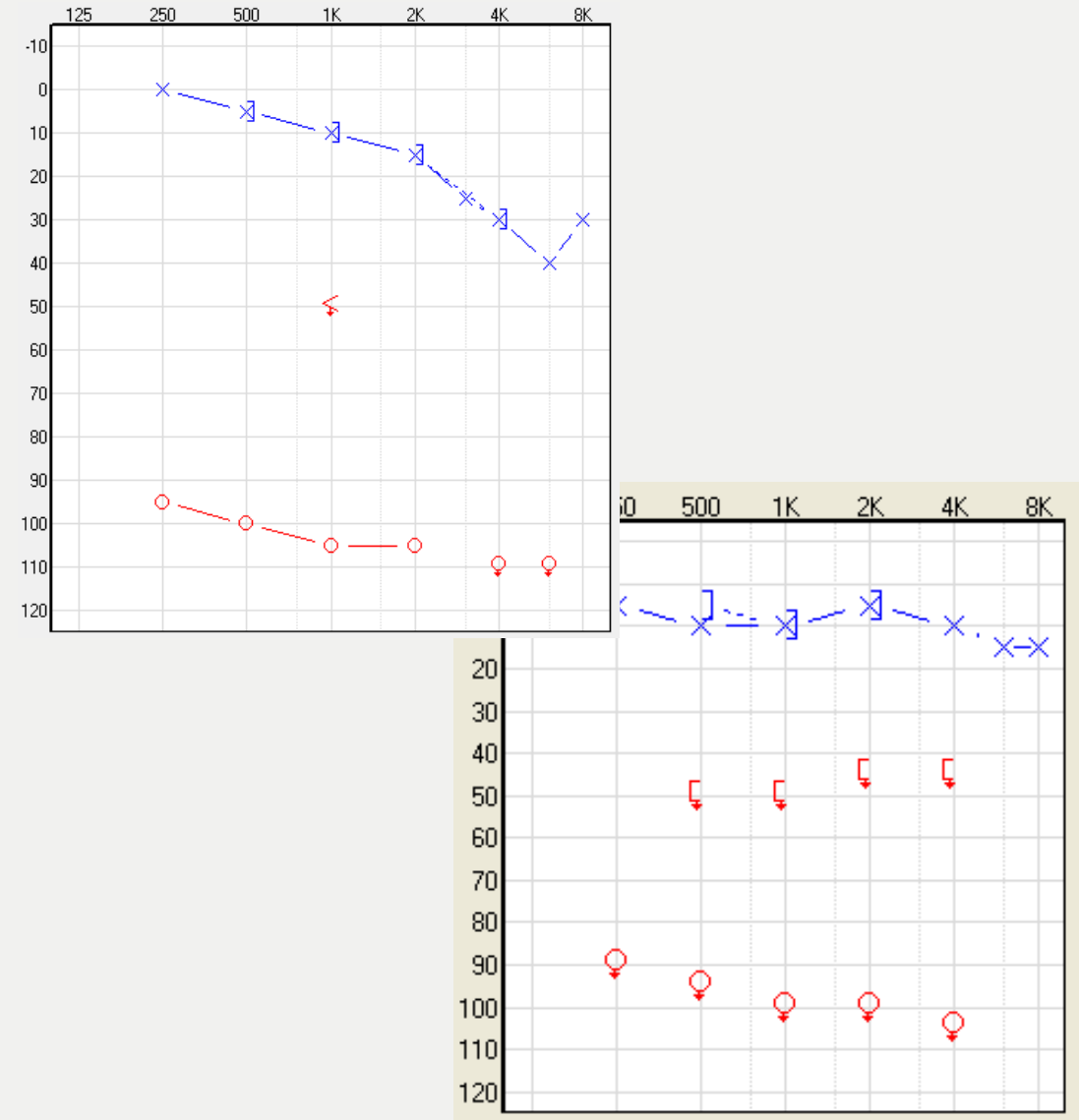
Bilateral Fitting

- If bone conduction thresholds are quite asymmetric, then a bilateral bone anchored hearing system will likely not confer advantages associated with binaural hearing, such as localization and improved speech perception in noise.
- However, patients may still benefit from reduction of the head shadow effect.

SSD Fitting with Ponto

Candidacy

- Degree of hearing loss in the good ear:
The pure tone average air conduction threshold of the hearing ear should be better than or equal to 20 dB HL AC (measured at 0.5, 1, 2 and 3 kHz).
- Also, the use of a bone conduction system can be considered for any patients who are candidates for an air-conduction contralateral routing of signals (AC CROS) hearing aid, but for some reason cannot or will not use an AC CROS.



Ponto Processors

Candidacy

Average BC threshold* better than or equal to:

45

dB HL



Ponto 5 mini

The world's smallest bone anchored sound processor.

65

dB HL



Ponto 5 SuperPower

The world's most powerful abutment-level sound processor

Lifelong Patient Outcome

Freedom of choice

Experience unmatched
osseointegration with the
Ponto BHX implant and a
universal abutment designed
to prioritize patient choice.



Achieving better outcomes

Did you know?

The Ponto System changes patients' lives¹

- 98% of all users report an **increase in quality of life** after Ponto surgery
- In 95% of follow-up visits, **no skin-related after-care treatment** is required
- 98% **implant survival rate** with the Ponto implants



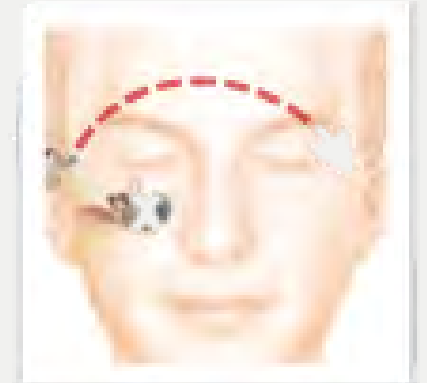
1. Lagerkvist et al., (2020), Ten years of experience with the Ponto bone-anchored hearing system—A systematic literature review. *Clin Otolaryngol.* 2020; 45: 667– 680



Surgical Considerations

Why bone conduction?

- Bypass the outer and middle ear by directly stimulating the cochlea via percutaneous or transcutaneous bone vibration
- Can use of patients with a CHL, MHL, or SSD
- Good option for patients with external or middle ear pathology who cannot wear a conventional HA
- Good option for patients with chronic otorrhea, such as chronic otitis externa, chronic otitis media, or a mastoid cavity
- Good option for congenital external or middle ear pathology, such as microtia or atresia



Revolutionizing BAHS Procedures

Minimally Invasive Ponto Surgery (MIPS)

- MIPS revolutionized bone anchored treatment for surgeons, giving them opportunity to move to a truly minimally invasive procedure
- It revolutionized treatment for patients by offering them excellent aesthetic outcomes and fast recovery time, with few complications^{2,3}



Minimally Invasive Ponto Surgery (MIPS)

Candidacy

- Adult patients with normal bone quality and bone thickness above 3 mm, for whom no complications during surgery are expected.
- Children with normal bone quality and a bone thickness above 4 mm provided that age, development status and other known factors have been considered and found suitable for single-stage surgery.
- Patients, as per above, with a skin thickness of 12 mm or less.



Revolutionizing BAHS Procedures

Minimally Invasive Ponto Surgery (MIPS)



Revolutionizing BAHS Procedures

MONO procedure

- The world's first one drilling step procedure. Complete osteotomy is created in one drill step.
- Suitable for multiple anaesthetic options and operating setting flexibility
- Tailor-made surgical kit designed to protect the soft tissue
- Smaller incision eliminates the need for sutures, reducing scarring and numbness and improving cosmetic outcomes



MONO procedure

Candidacy

- Adult patients (18 years and above) with normal anatomy and expected bone thickness of at least 5 mm, where no complications during surgery are expected.
- Patients, as per above, with a soft tissue thickness of 12 mm or less.
- Use of the MONO procedure is contraindicated for children and patients with expected bone thickness below 5 mm.



Revolutionizing BAHS Procedures

MONO Procedure

1. Punch



2. Insert cannula



3. Drill



4. Insert implant



5. Apply soft healing cap and dressing



Competitor Percutaneous Surgery

Benefits of minimally invasive surgery

- Requires incision/sutures



Improving Clinical Efficiency

Benefits of minimally invasive surgery

- Smaller incision eliminates the need for sutures, reduces scarring and numbness
- Offers the patients excellent aesthetic outcomes and fast recovery time, with few complications^{2,3}
- Operating setting flexibility
- Multiple anaesthetic options



Non-surgical Options

- Beneficial for trialing device prior to surgery
- Can be used as a long-term solution for children under age 5 or adults who are not surgical candidates



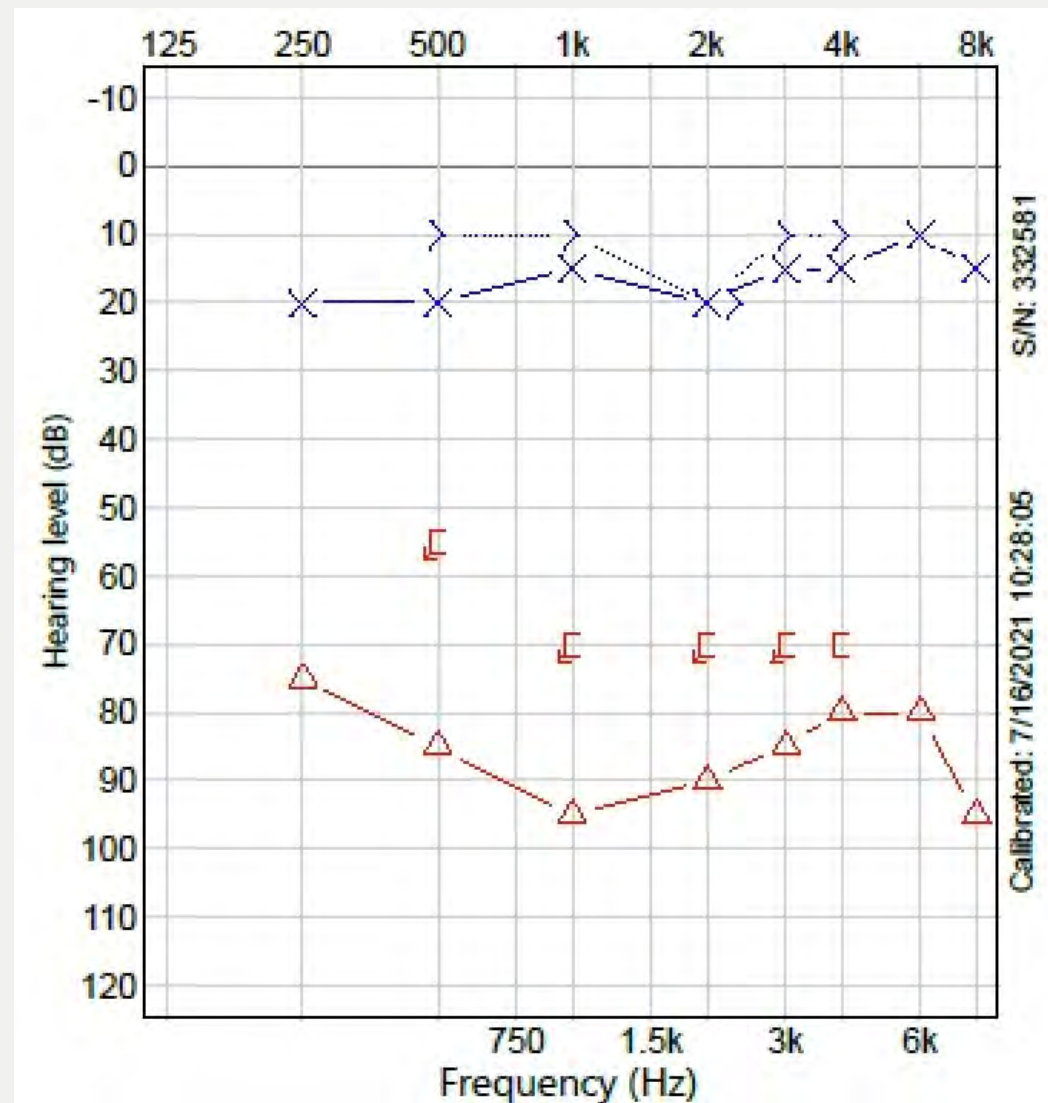


Surgical Case Studies

Case #1

Conversion to linear incision

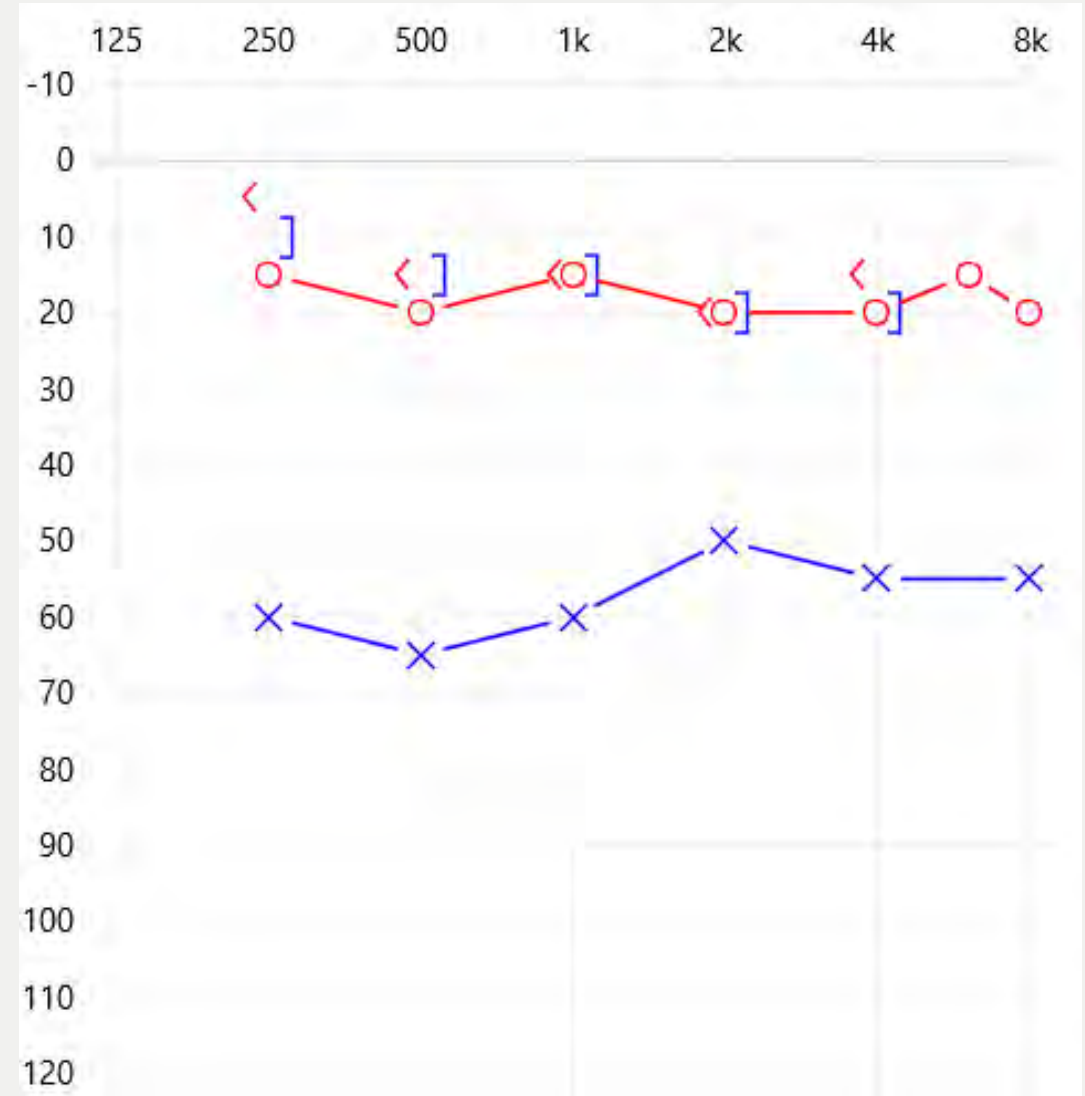
- 46 yo M with an idiopathic sudden SNHL.
- MIPS attempted but got into a mastoid air cell twice intra-op, therefore converted to a linear incision for better surgical exposure.
- Implant placed successfully.



Case #2

A thick scalp – over 12mm

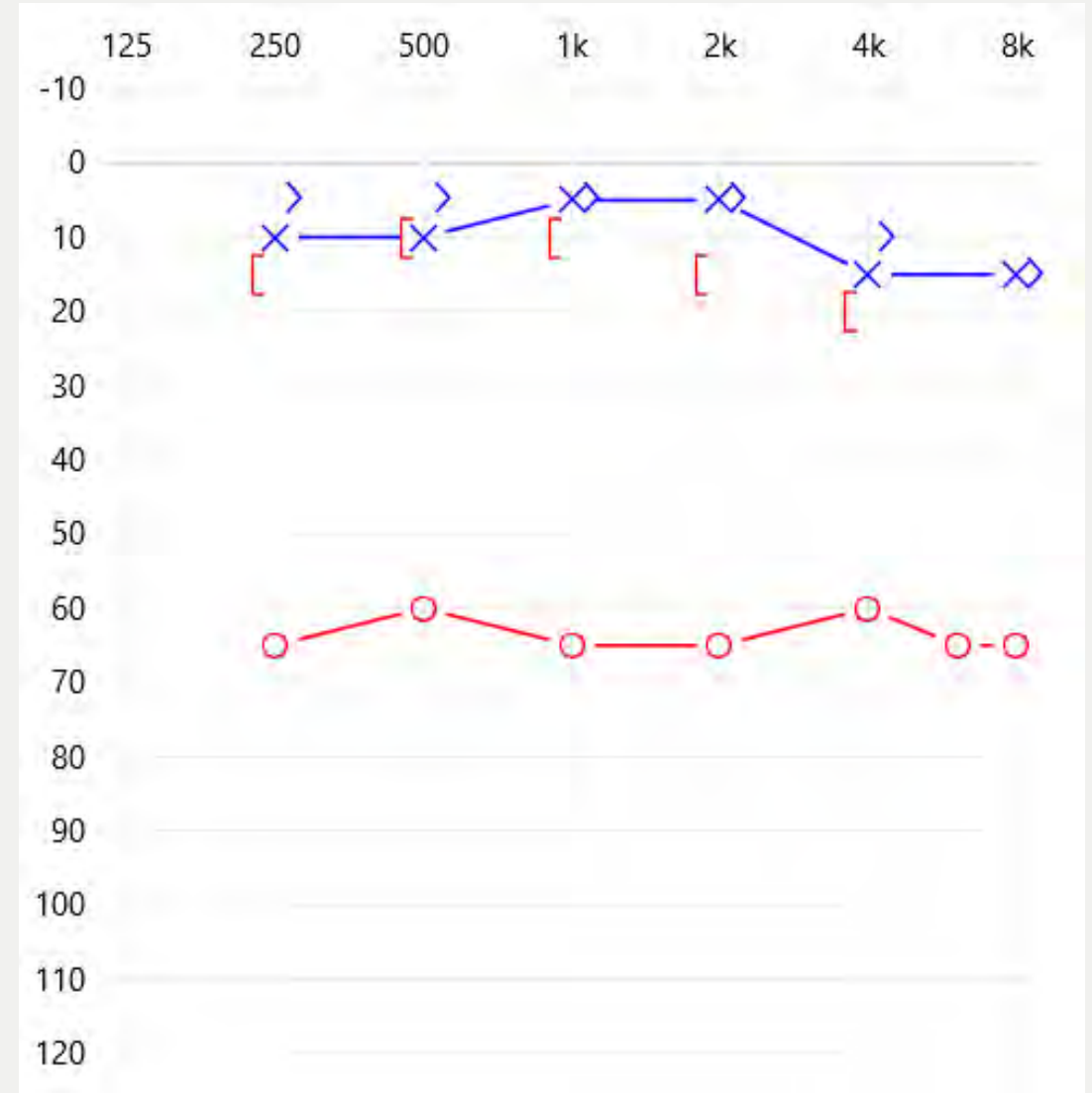
- 18 yo obese AAM, scalp measured 14mm.
- Thinned the scalp after punch biopsy and was able to still perform MIPS
- Placed a 14 mm abutment successfully.



Case #3

Placement of a sleeper implant

- 8yo M with hemifacial microsomia and unilateral microtia/atresia.
- Placed a sleeper implant with cover-screw approximately 1.5 cm away from the first implant, due to thin bone.



Case #4

An adult softband patient

- 73yo F with h/o hypopharyngeal squamous cell carcinoma, s/p multiple surgeries and radiation, now with bilateral temporal bone osteoradionecrosis, bilateral chronic TM perforations, bilateral chronic OE, and bilateral severe to profound MHL.
- Has binaural BTE hearing aids with custom molds, complicated by chronic otorrhea.
- Significant medical comorbidities, poor bone quality, poor surgical candidate.
- Fitted with a Ponto super-power on a soft-band with good results.

Case #5

A mastoid cavity

- 63yo M with long hx of chronic ear disease, chronic otorrhea, bilateral cholesteatoma, s/p bilateral CWD tympanomastoidectomy.
- Unable to wear conventional hearing aids due to recurrent otorrhea.
- Audiogram shows a bilateral mild sloping to severe MHL.
- Ponto placed at the time of the second side tymp-mastoid with good results.

Q & A