

**Asymmetrical Sensorineural Hearing Loss:
Fitting Strategies**

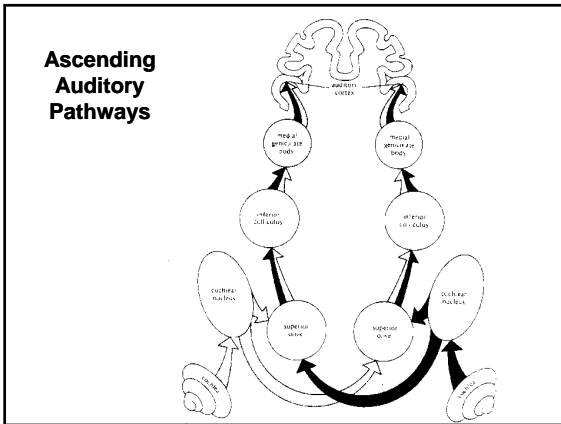
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Agenda

- Binaural Hearing
- Asymmetrical SNHL
- Assumptions of Typical Fittings
- Types of Asymmetrical Profiles
- Fitting Suggestions (not rules)
- Outcome Measures
- Case Examples

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What Does the Brain Look For?

- Amplitude from both sides
- Frequency from both sides
- Arrival time at both sides

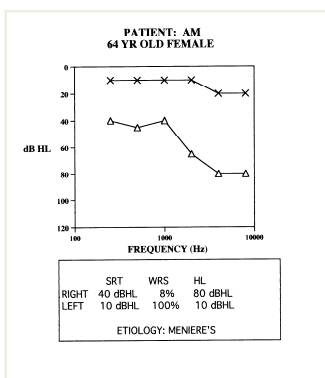
Basics of Hearing

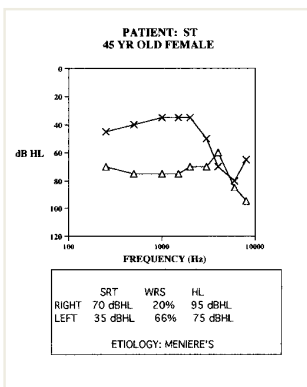
- Despite two ears, we hear one image

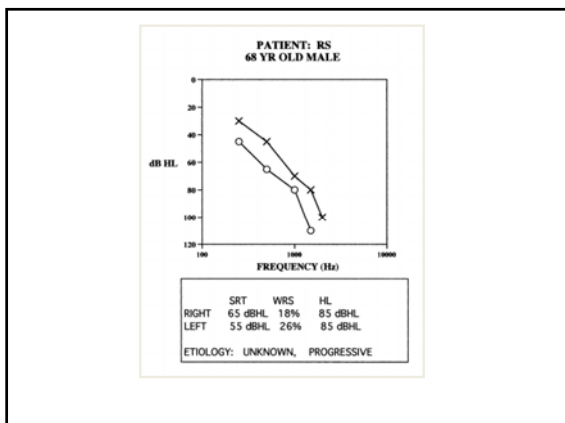
The diagram shows a stylized human head with two blue arrows pointing towards it from the left and right, labeled "Right Input" and "Left Input" respectively. Above the head is a thought bubble containing the text "Single, Unified Sound".

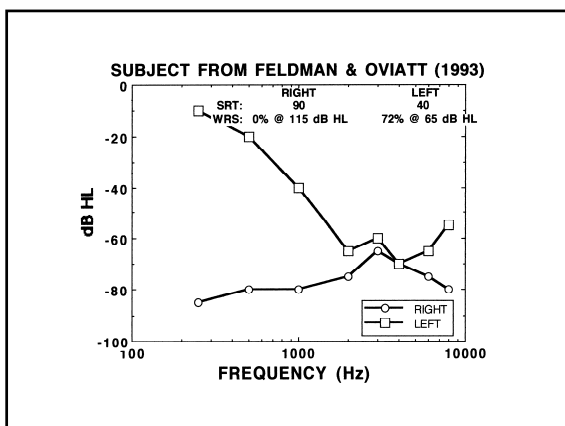
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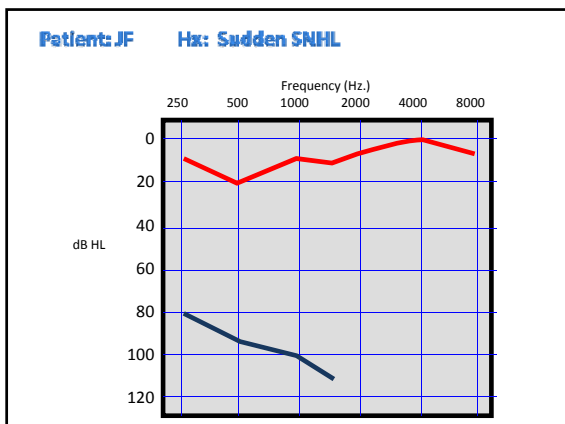
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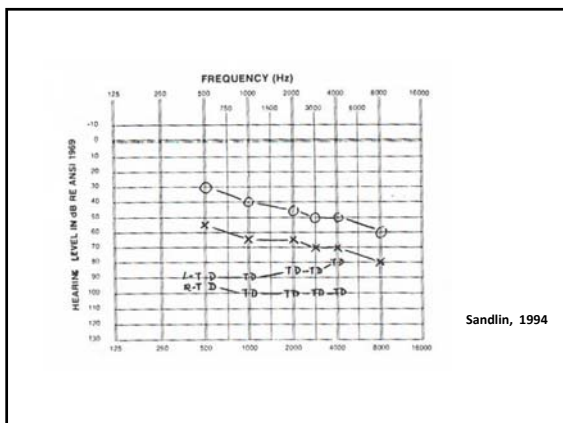












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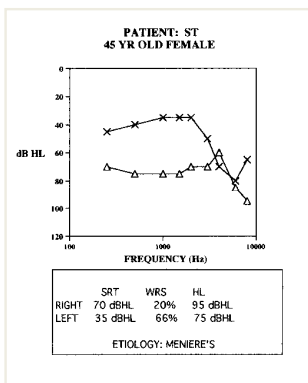
- ### Assumptions
- Full audibility
 - Measurable hearing is usable hearing
 - Binaural fittings
 - Same time
 - Both ears used in the same way
 - Both ears equal partners
 - Full prescription, both ears

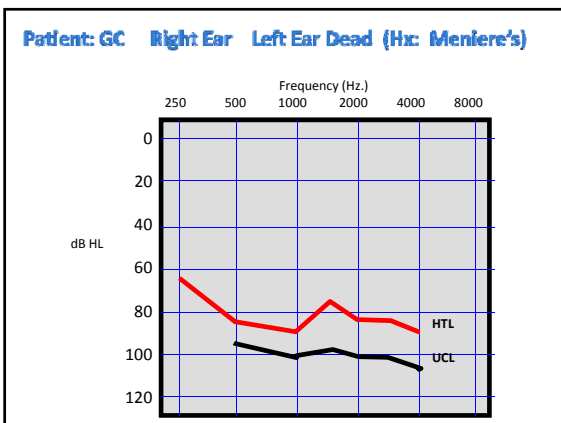
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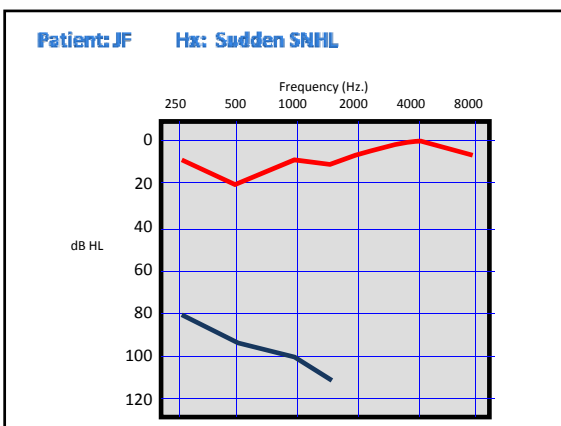
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Types of Asymmetries

- Both ears reasonably aidable, one better
- One dead, one aidable
- One normal, one aidable





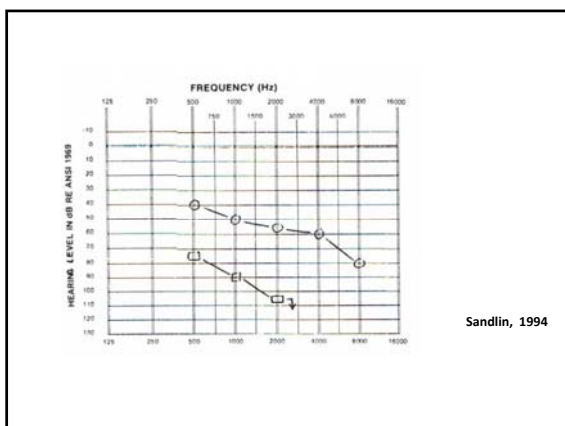


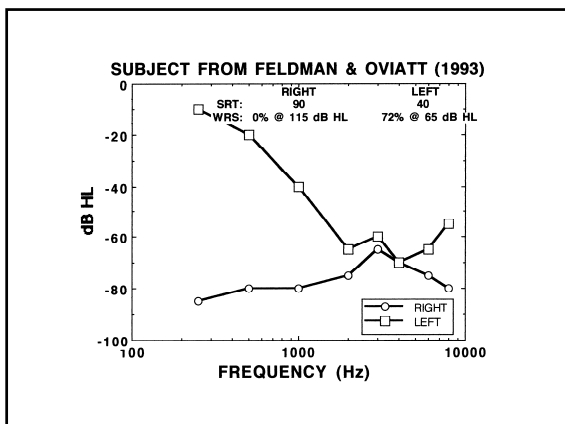
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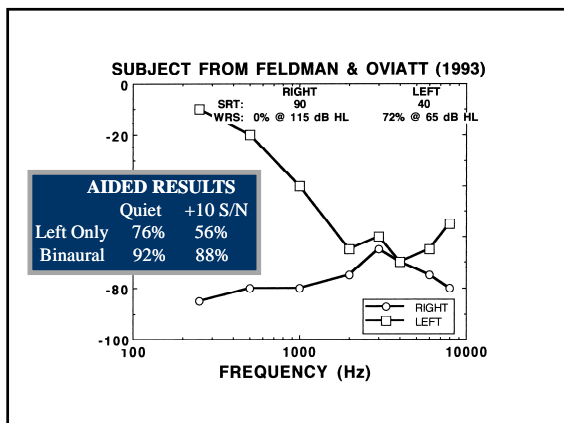
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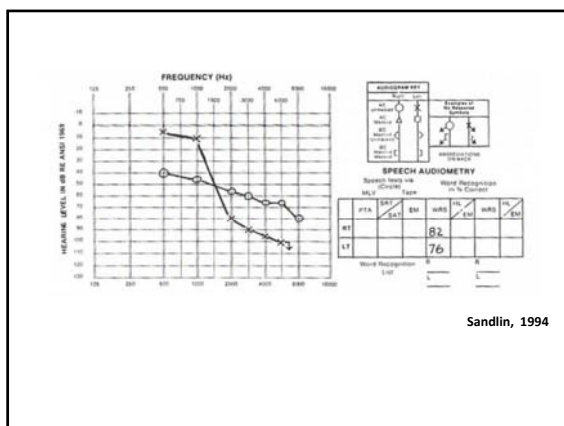
Fitting Suggestions

- Don't say "no" until you know







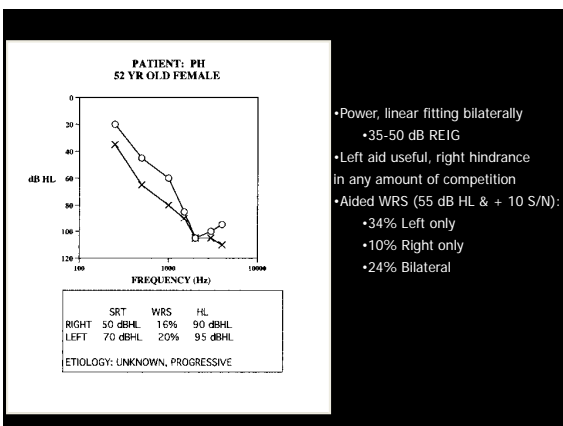


Fitting Suggestions

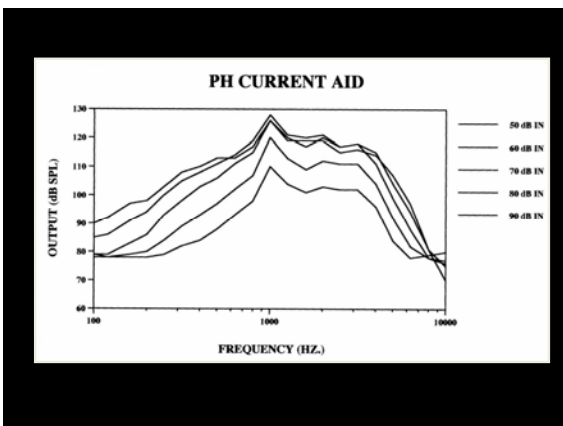
- Don't say "no" until you know
- Aim for a fused, binaural image

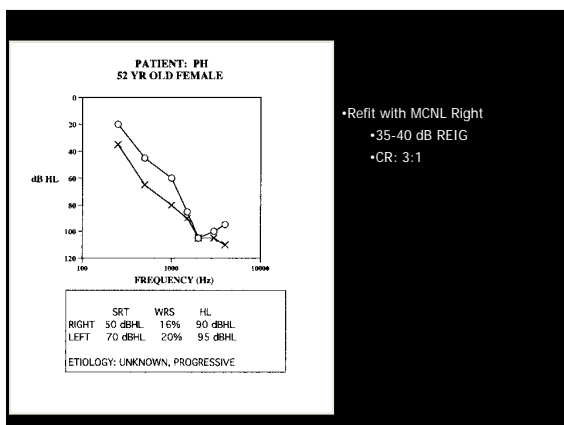
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- Don't say "no" until you know
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- Targets only a place to start . . . Don't be surprised by less gain to the poorer ear

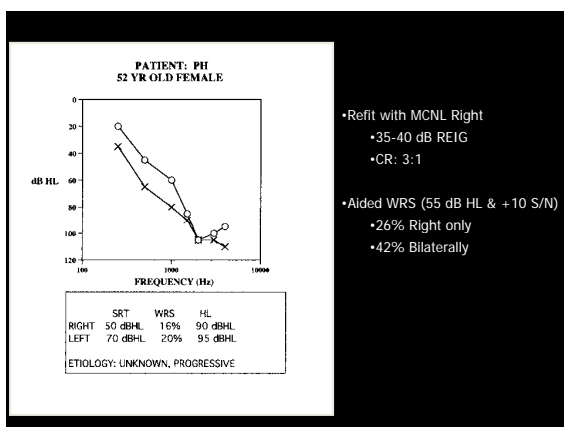
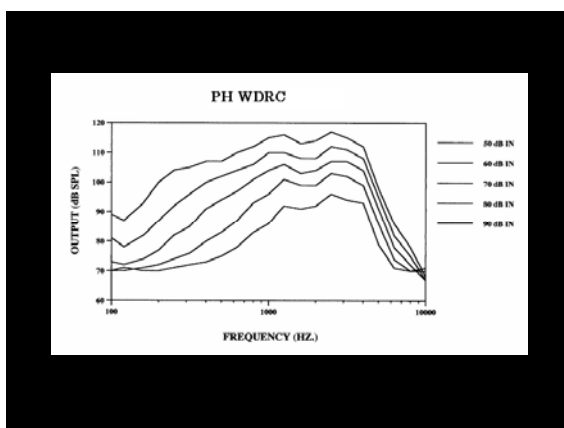


- Power, linear fitting bilaterally
- 35-50 dB REIG
- Left aid useful, right hindrance in any amount of competition
- Aided WRS (55 dB HL & + 10 S/N):
 - 34% Left only
 - 10% Right only
 - 24% Bilateral





•Refit with MCNL Right
•35-40 dB REIG
•CR: 3:1



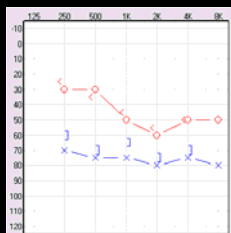
•Refit with MCNL Right
•35-40 dB REIG
•CR: 3:1

•Aided WRS (55 dB HL & +10 S/N)
•26% Right only
•42% Bilaterally



Fitting Suggestions

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- Consider Serial Fittings



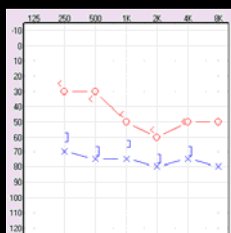
Pt: Ms. G.J.

42 yr. old with stabilizing Meniere's.

Vestibular symptoms under control and hearing has been stable for past 6 months.

Ready to start with hearing aids.

WRS Right: 80% @ 70 dB HL
WRS Left: 24% @ 90 dB HL



Pt: Ms. G.J.

Audiologist started with nonlinear power in right ear (to protect against future threshold losses).

After two months of adjustments and adaptation, added another matched HA on the left (assumed probably would not need a full super power given the etiology and that this is the "secondary" ear).

Prepared to switch to super power if seemed week, but patient used far less gain than expected based on thresholds.

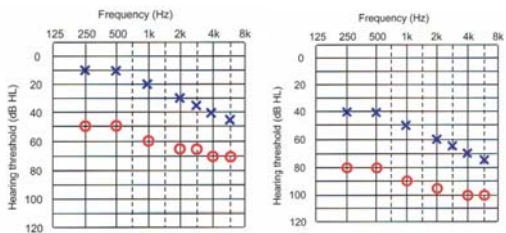
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- Role of Advanced Features

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- Role of Advanced Features
- Proper role of Monaural, CROS & Bi-CROS



Dillon, 2012

If just one ear . . .

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Asymmetrical Fitting Questionnaire

- Question 1: How often do you wear:
 - Both devices: ___most waking hours ___at least 4 hours per day ___occasionally ___never
 - Better Ear Only: ___most waking hours ___at least 4 hours per day ___occasionally ___never
 - Poorer Ear Only: ___most waking hours ___at least 4 hours per day ___occasionally ___never
- (alternative for unilateral fitting) How often do you wear your hearing aid?
 - ___most waking hours ___at least 4 hours per day ___occasionally ___never
- Question 2: When using your hearing aid for your poorer ear, do you hear:
 - ___one unified sound (if yes, where in the head: center, better ear, poorer ear)
 - ___a mix of two sounds

Asymmetrical Fitting Questionnaire

- Question 3: When using your hearing aid for your poorer ear, what type of help does it provide?:
 - ___understanding conversations in quiet situations
 - ___understanding conversations in noisier situations
 - ___telling where sound comes from
 - ___identifying sounds in the environment
 - ___a feeling of balance to my hearing
 - ___reduces my tinnitus
 - ___other: _____

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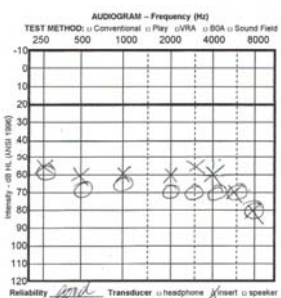
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TF 52 yr old Female

2012



SPEECH AUDIOMETRY

PTA	BAT	BRT	MCL	UCL	Word Recognition		
					Score	HL	dB
Right	65	70	75	80	64	45	75
Left	60	65	70	75	65	45	75
S.F.					75	45	75
Aided					75	45	75

Live Voice Recorded Material *TV, V, L* Mixed

