

Putting it all together to see the whole picture

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Paediatric Assessment is sometimes about using a test battery approach to get to your final answer

A few nuggets of gold though:

1. Children with normal hearing and peaked tympanometry should have OAEs (around 98-99% dependant on the study)
2. TE-OAE is more sensitive to mild losses than DP-OAE



3. Children with present reflexes at normal levels usually have normal hearing and don't have ANSD
4. Parental perception of 'concern' has proven time and time again to not be a good indicator of a hearing loss in early years (under 2) i.e. parents are often not concerned, even with moderate / severe losses
5. Children can have 'incidental glue-ear' – adults shouldn't
6. If you cannot behaviourally or objectively test a child without sedation, neither you or the child have not failed / done anything wrong.

Case 1.

Please could you see this 6y 3 month – school report
some issues with attention

History: Well baby, passed NHSP, no other significant
medical history

Mum has no concerns with hearing or with speech,
able to follow instructions at home but can ‘zone out’

Where shall we start?

BOA

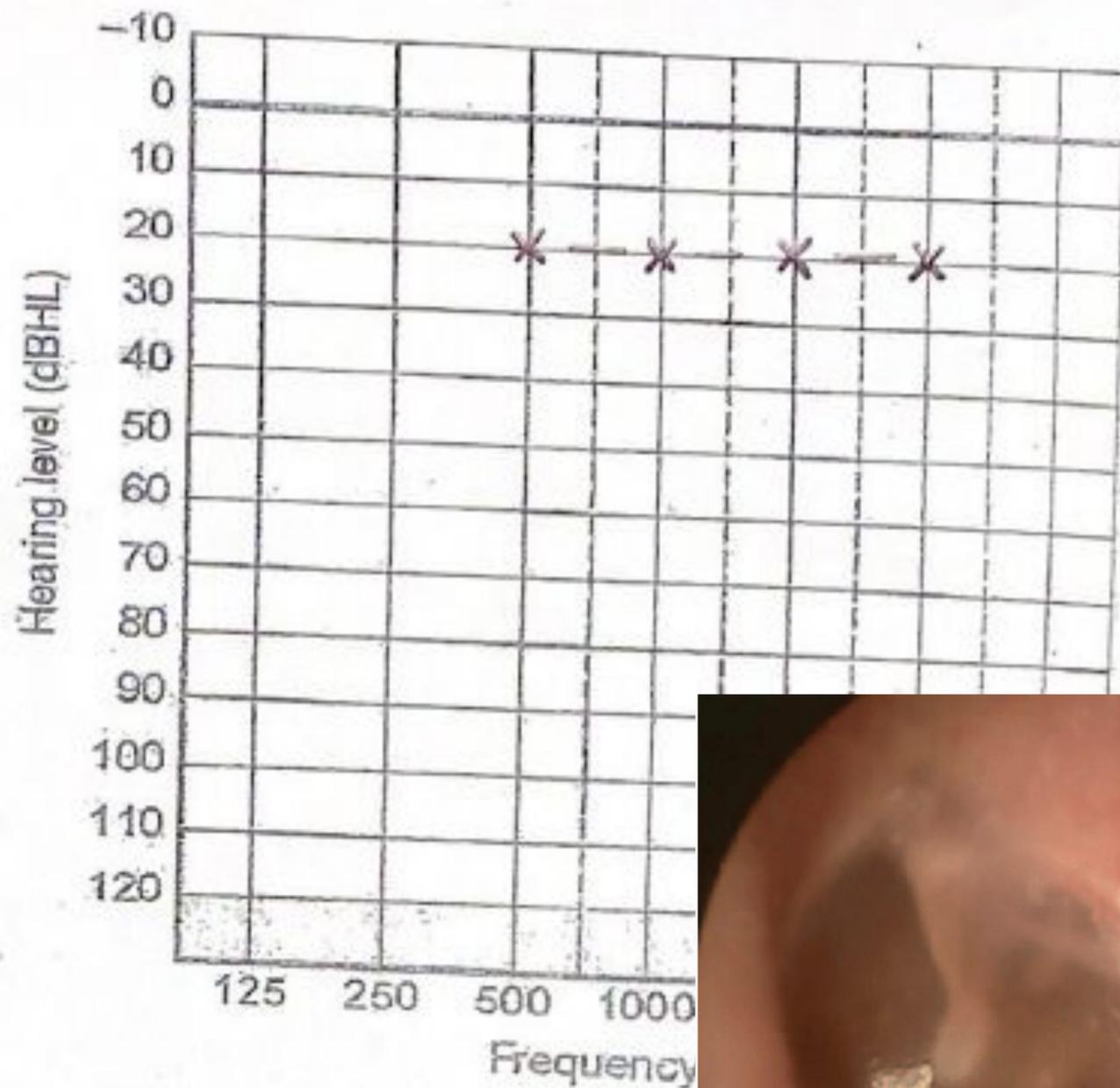
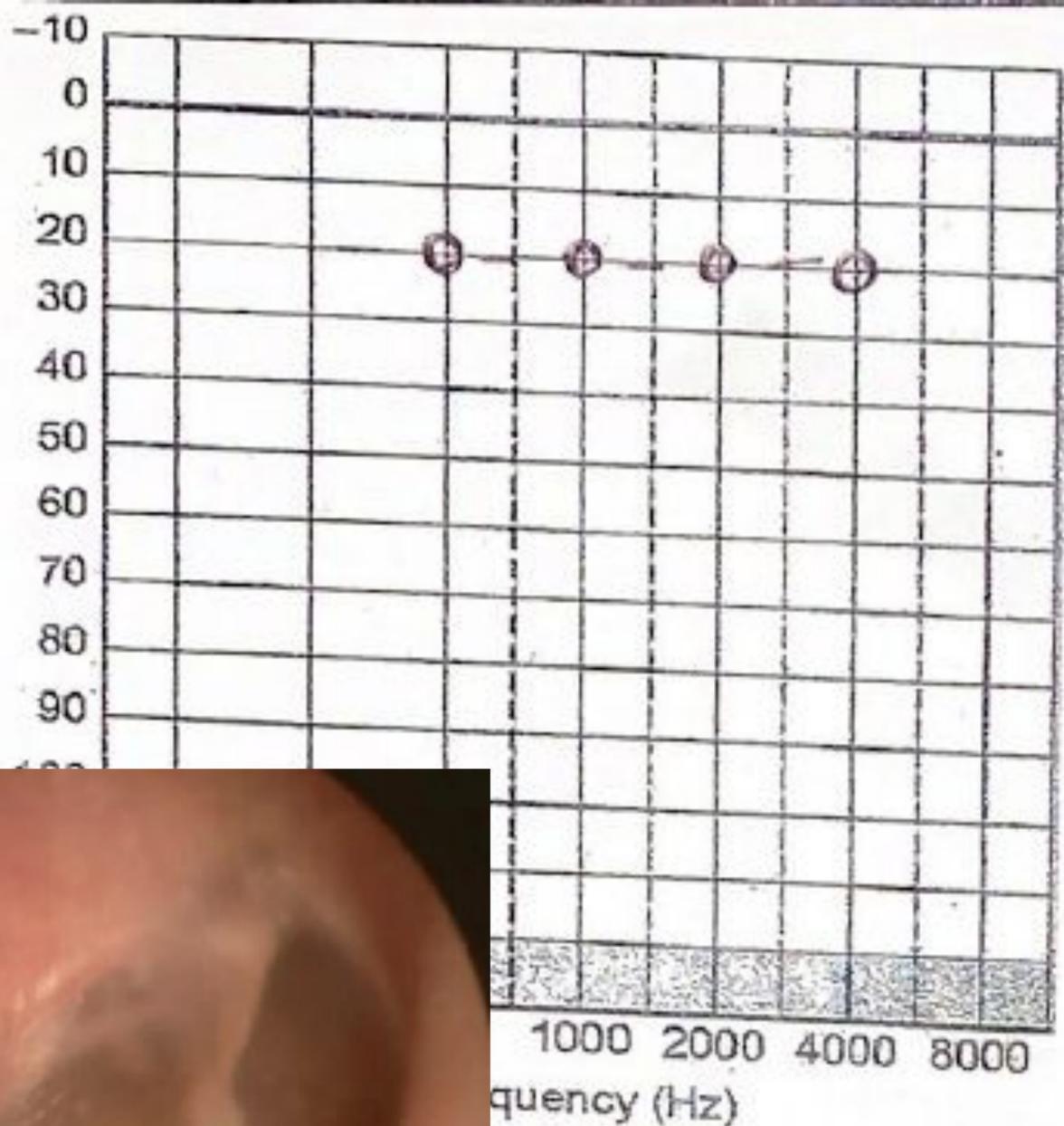
Distraction

VRA Soundfield

VRA insert

Performance

PTA (with a button)



Anything else?

Case 2.

Please could you see this 2y 2 month

History: Well baby, passed NHSP, no other significant
medical history

Mum has a few concerns with hearing, but these are
fairly non-descript, speech is appropriate

Where shall we start?

BOA

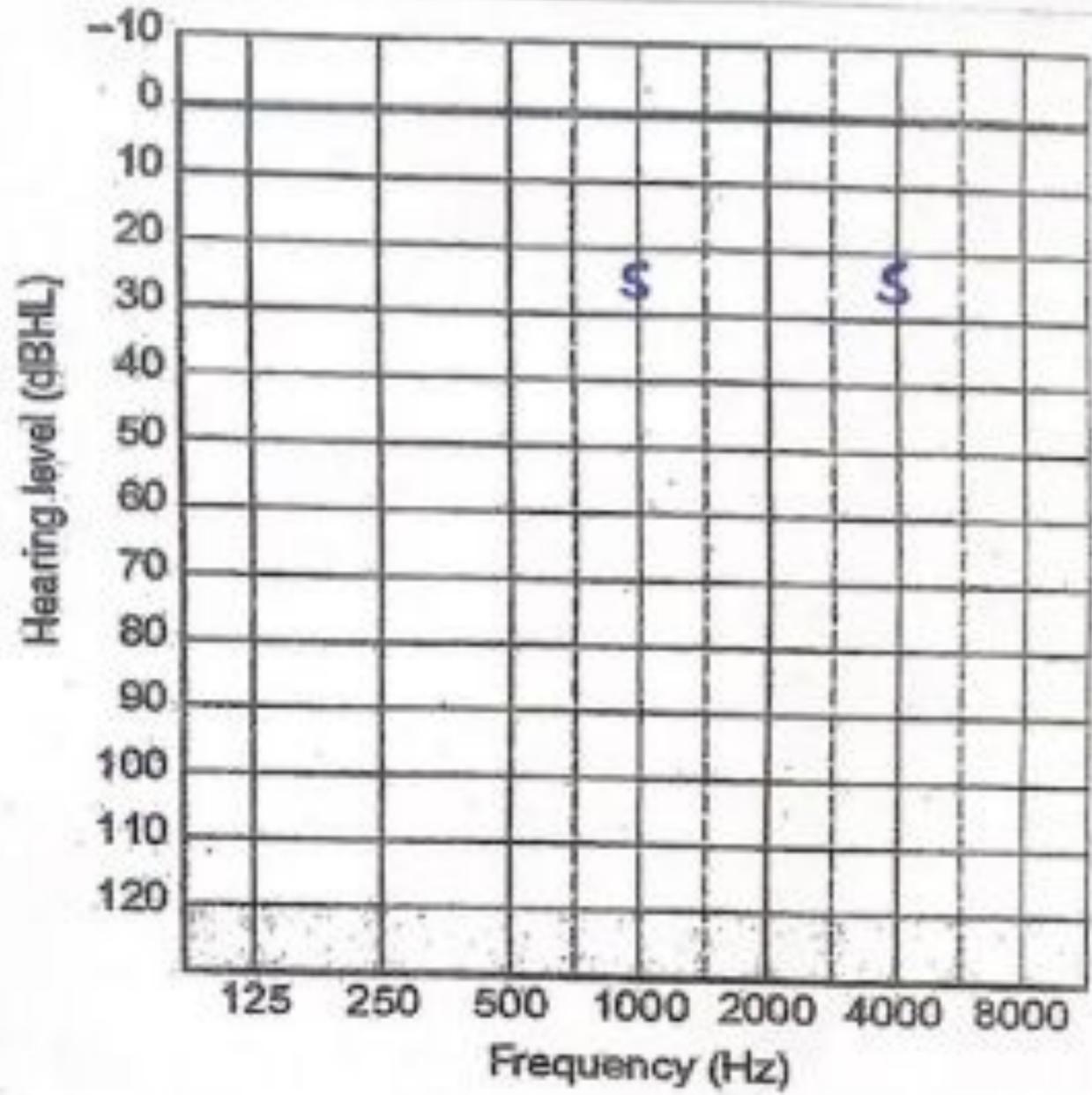
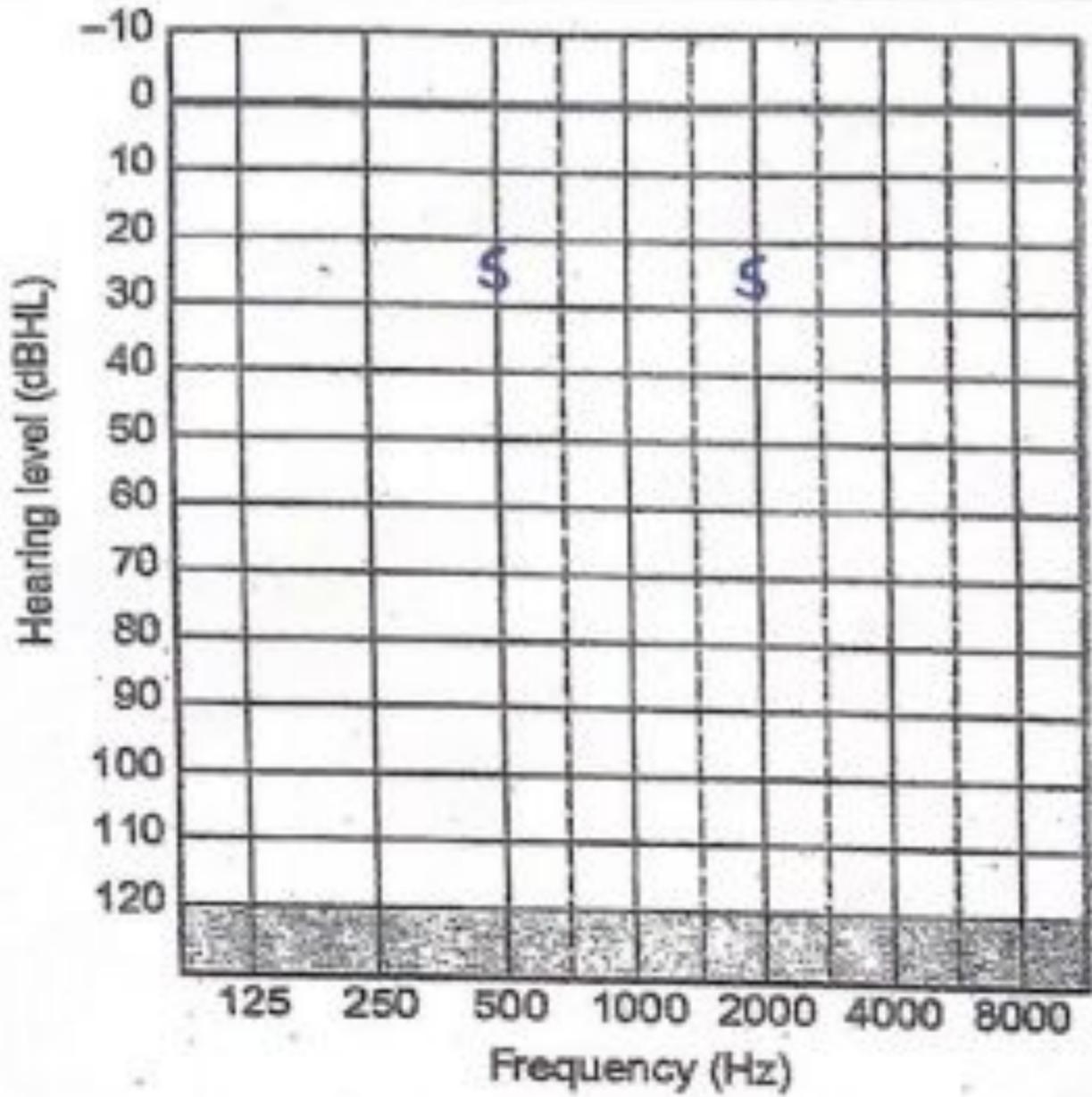
Distraction

VRA Soundfield

VRA insert

Performance

PTA (with a button)



Anything else?



Tried to put the inserts in, child didn't like them at all and pulled them out

Shall we do anything else?

Shall we review them?

Case 3

Please could you see this 2 year 5m old with downs syndrome with queries over speech development?

History:

Has recently moved to the area and a colleague has tried and been unable to test. No information from previous hearing tests available

Just started nursery, mum no concerns with hearing, is able to follow instructions, some words but speech regression

Where shall we start?

BOA

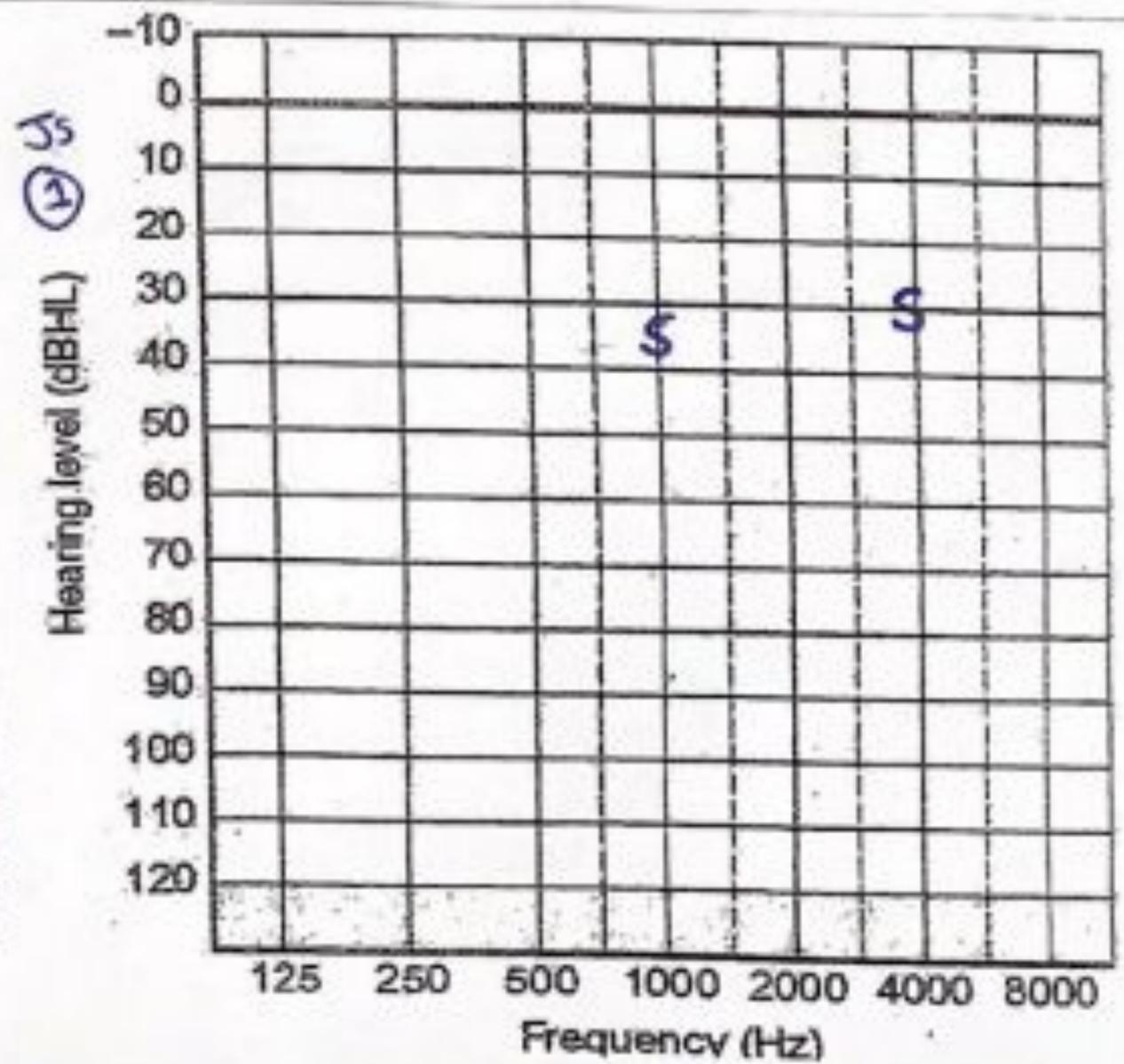
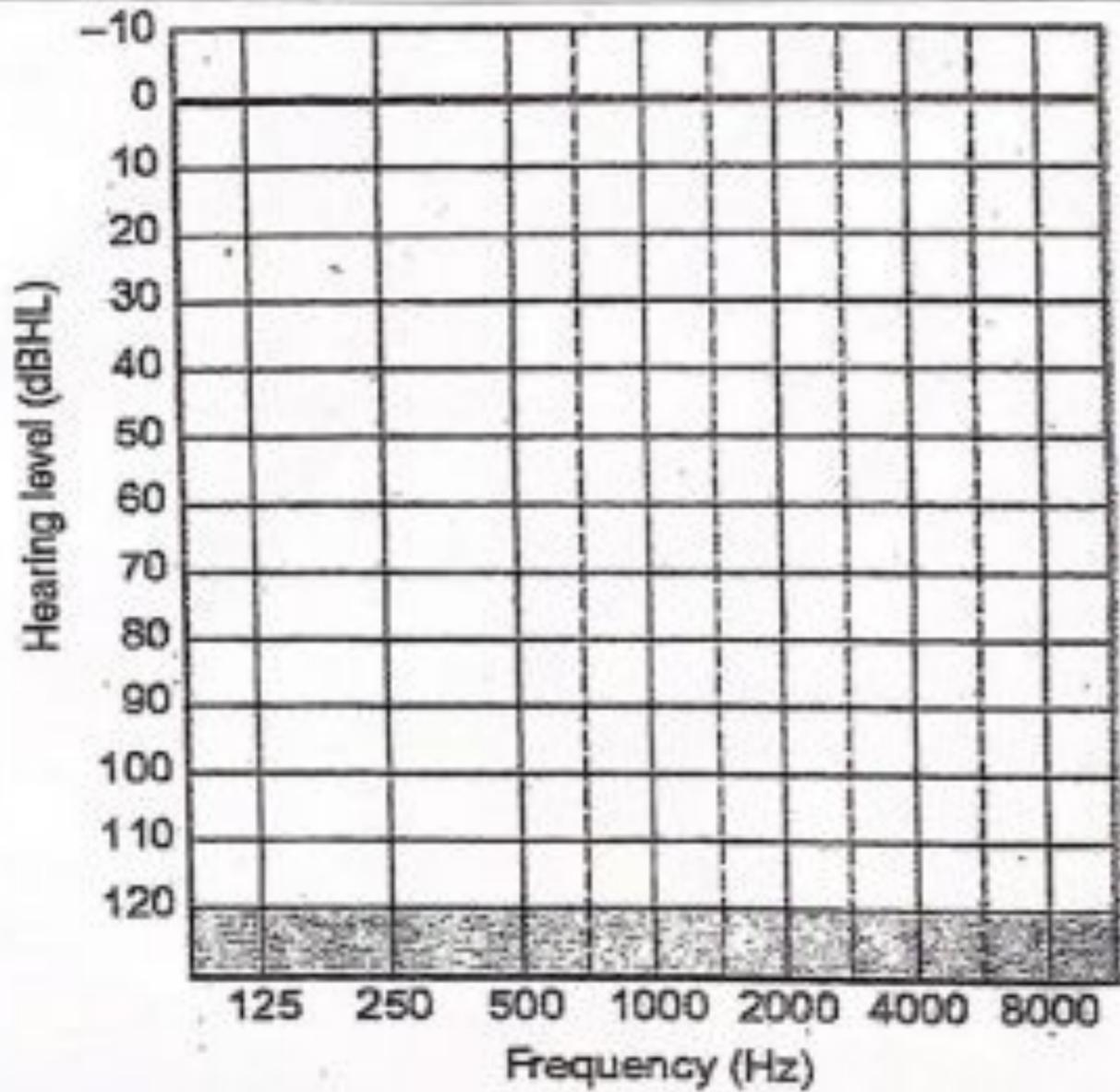
Distraction

VRA Soundfield

VRA insert

Performance

PTA (with a button)



Anything else?



Peaked Tympanometry

Now what?



Try, but get nothing else today

Now what?



Next time, same results

Now what?

Case 4

History:

Well baby, passed newborn hearing screen.

At 8 months, Health visitor referred the child with concerns over reactions to sound, VRA sound field testing was normal. No other assessment was performed and the child was discharged.

Child is now 18 months old and health visitor has re-referred with speech concerns.

Mum has no concerns about sound reactions however Littleears which you sent out before the appointment suggests he's below expected score (he scored 4)

Where shall we start?

BOA

Distraction

VRA Soundfield

VRA insert

Performance

PTA (with a button)



Does not condition at 65 Soundfield

What now?



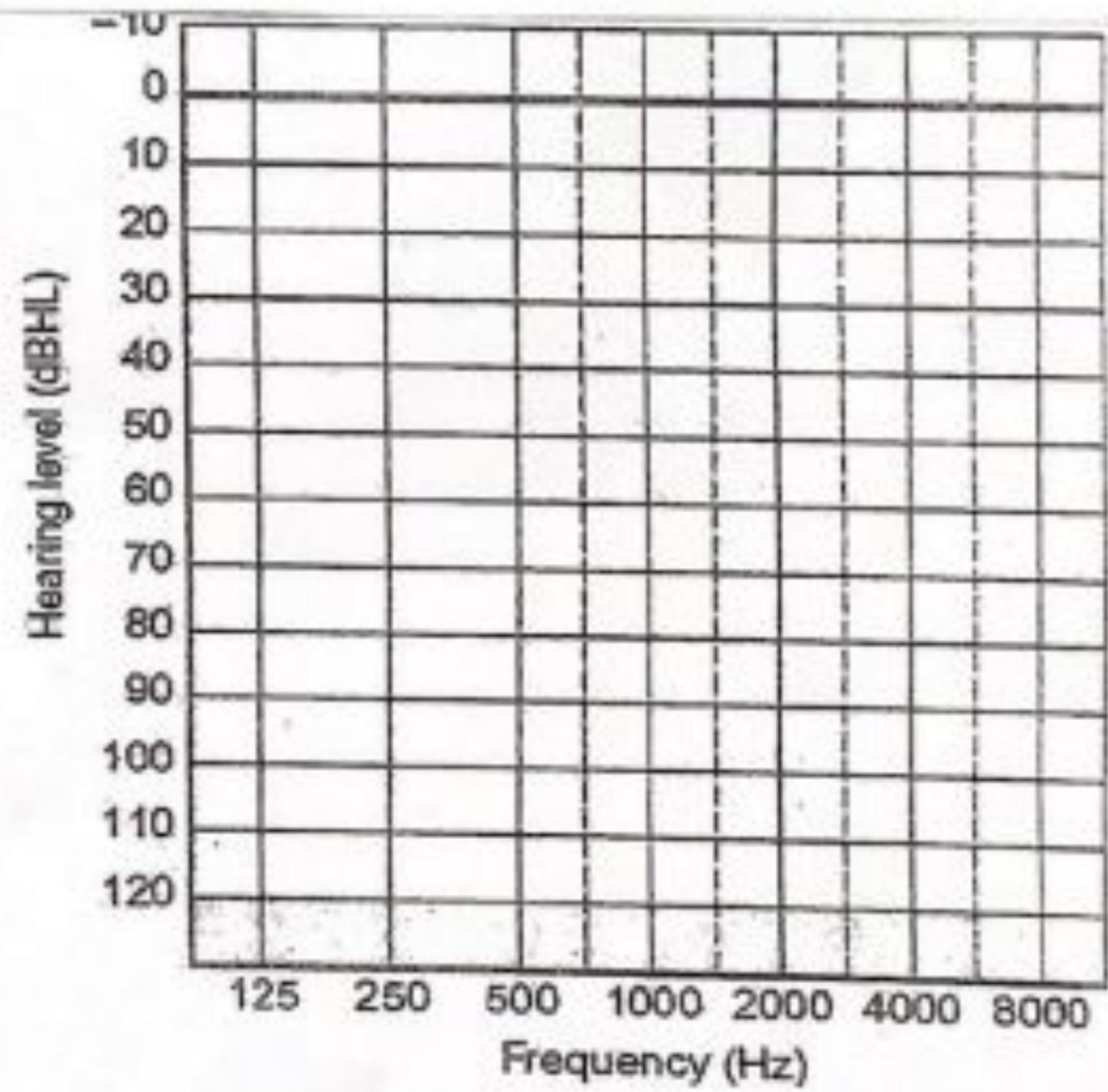
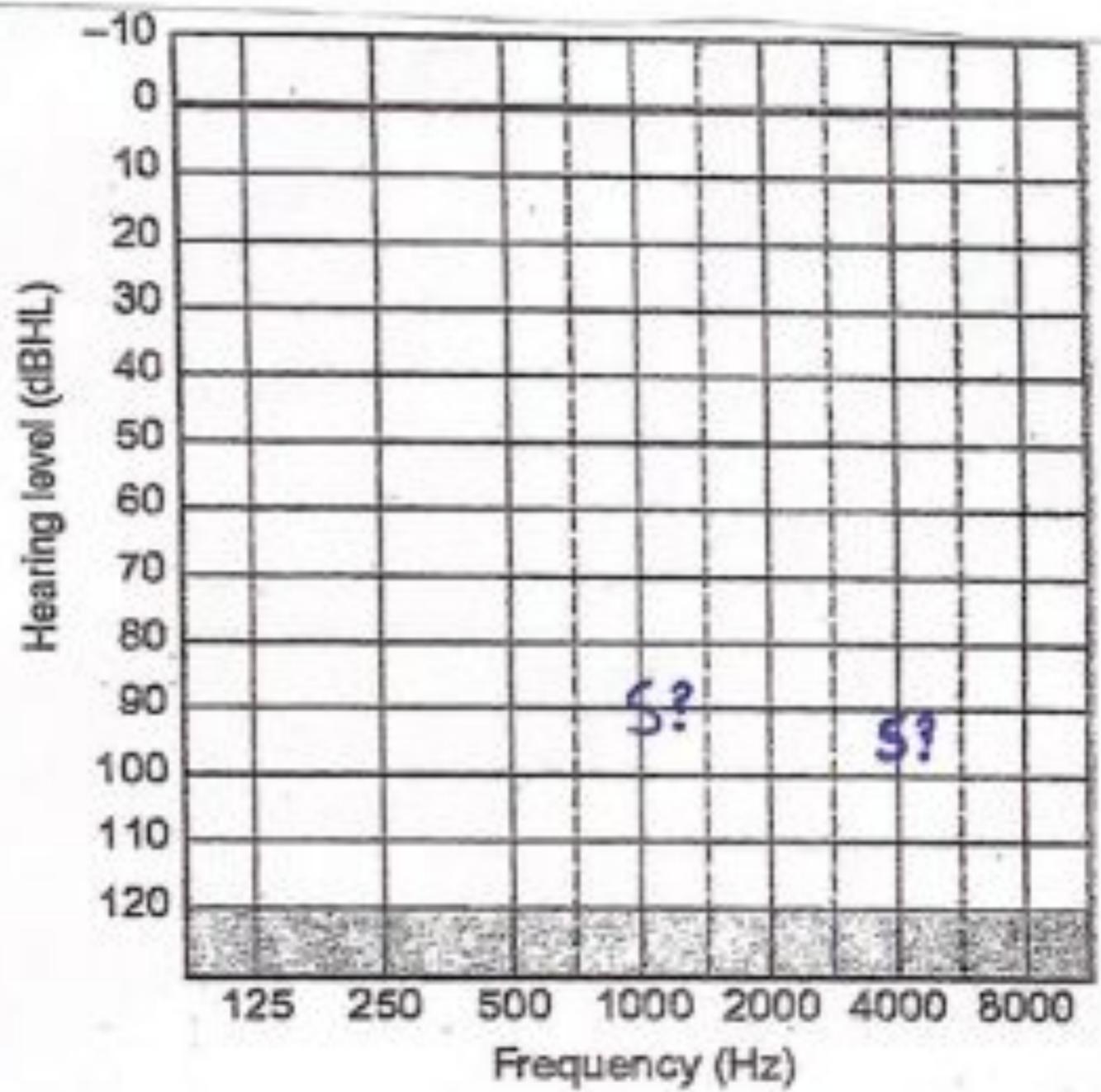
Does not condition at 80 Soundfield

What now?



Conditions to Vibratactile

What next?

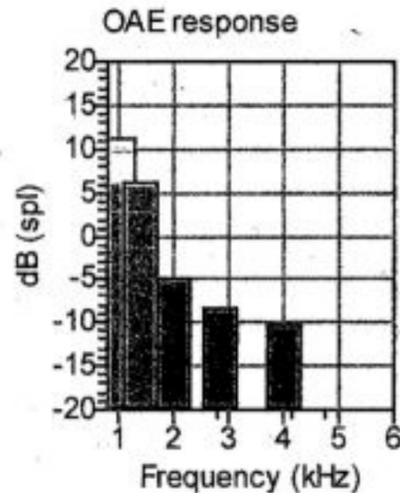
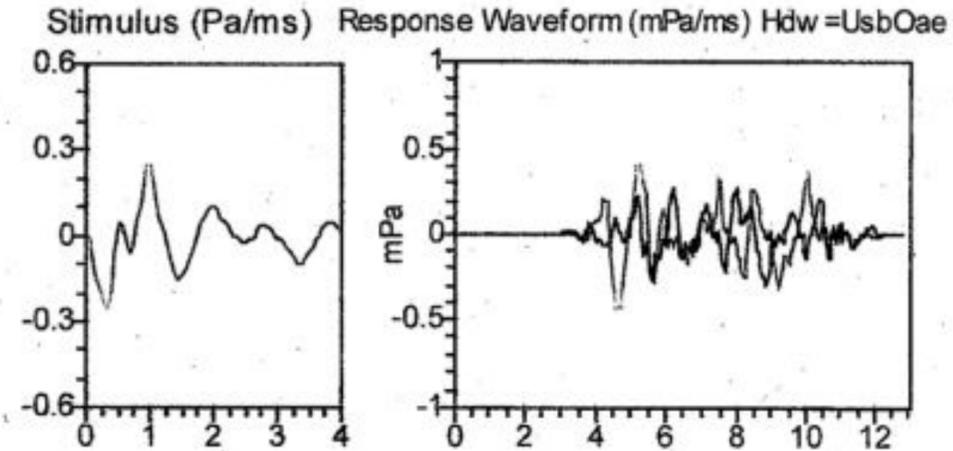
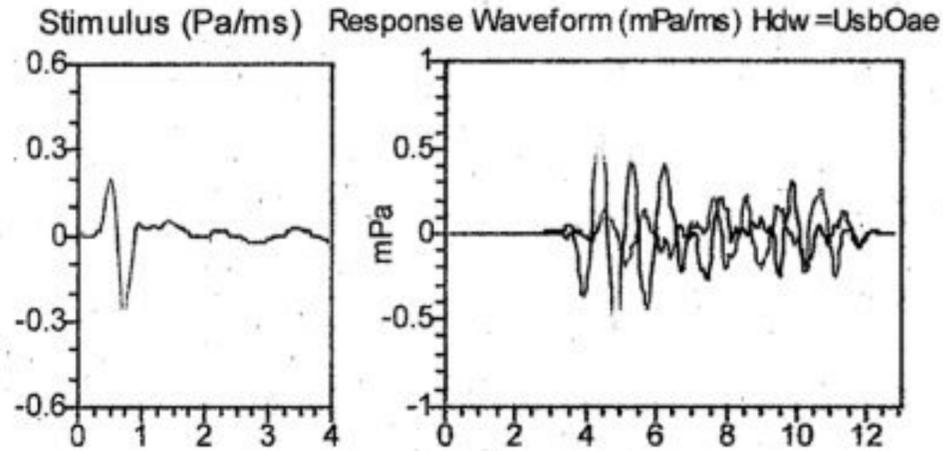




Left ear

NOISE.

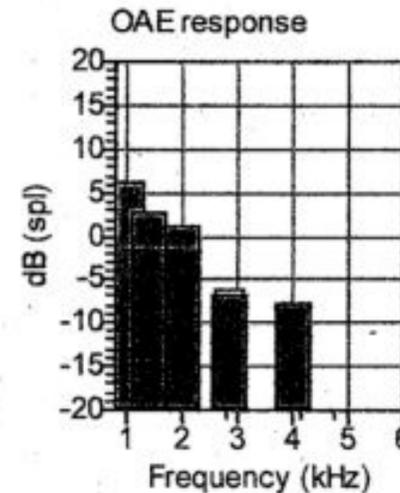
Right ear



Half Octave Band Power

Freq	SNR	Sig/Noise
1.0kHz	-10.5dB	0.8/11.3dB
1.4kHz	-4.6dB	1.6/6.3dB
2.0kHz	-7.3dB	-12.2/-4.9dB
2.8kHz	-6.0dB	-14.2/-8.2dB
4.0kHz	-3.3dB	-13.6/-10.3dB

NLo=109 NHi=1207 Stim=81.2dB



Half Octave Band Power

Freq	SNR	Sig/Noise
1.0kHz	-5.6dB	0.5/6.0dB
1.4kHz	-8.1dB	-5.5/2.6dB
2.0kHz	-6.4dB	-5.3/1.1dB
2.8kHz	0.8dB	-6.1/-6.9dB
4.0kHz	-3.3dB	-11.2/-7.9dB

NLo=61 NHi=721 Stim=81.9dB

Test details

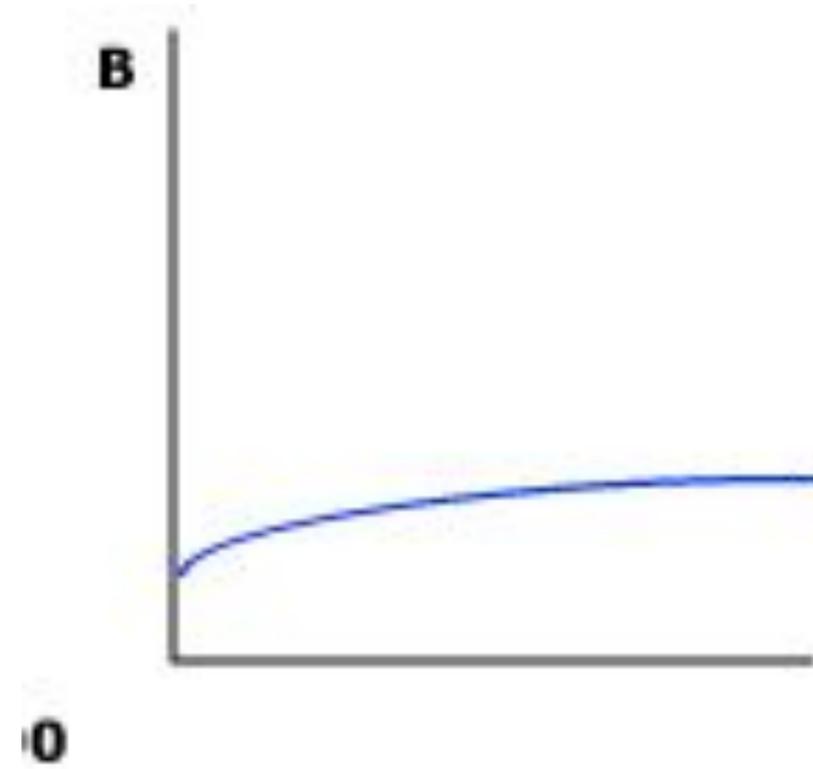
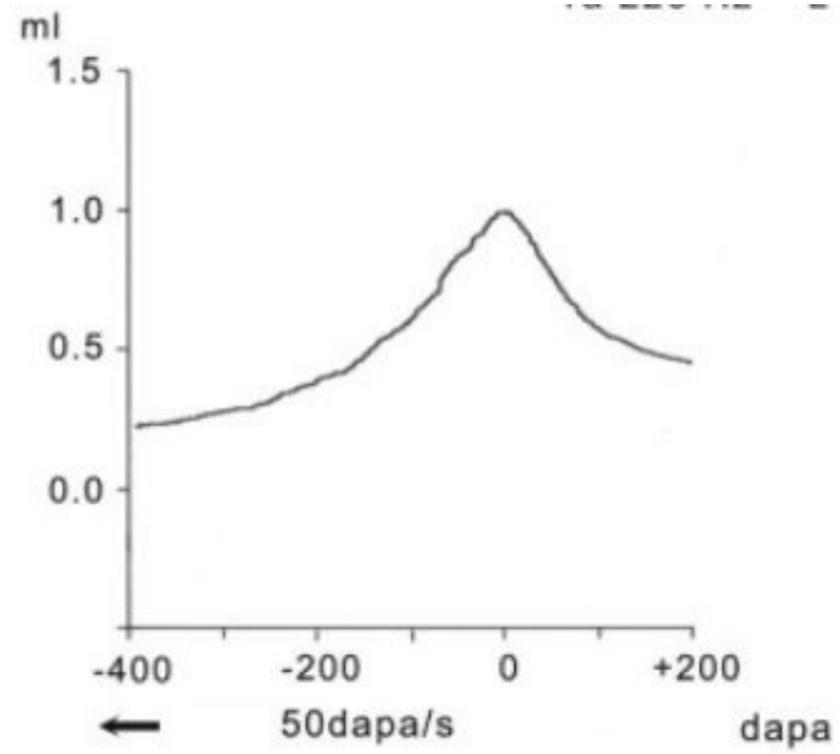
Test type: TE
 Ear: Left
 Tester ID: 2
 Date/Time of test: 09/03/2022 10:32:25
 Data file name: DF9W3930.DTA

Result Too noisy
Decision Retest

Test details

Test type: TE
 Ear: Right
 Tester ID: 2
 Date/Time of test: 09/03/2022 10:39:19
 Data file name: DF9W3931.DTA

Result Too noisy
Decision Retest



What now?

Case 5

History:

Well baby, passed NHSP

Child is now 2 years 3, mum has no concerns about sound reactions however no speech.

Reports he had some speech and this has regressed around the age of 18 months

Has some sensory issues particularly with food

BOA

Distraction

VRA Soundfield

VRA insert

Performance

PTA (with a button)



Does not condition, 'very busy' today

No chance of objective measurements

What now?



Does not condition today

No chance of objective measurements today

What now?

Case 6

History:

Well baby, passed NHSP

Child is now 4 years 2 months, mum has some concerns about hearing, particularly with quiet sounds. Speech is poor (some 2 word sentences) and nursery have raised concerns with speech.

Suggest a next step

BOA

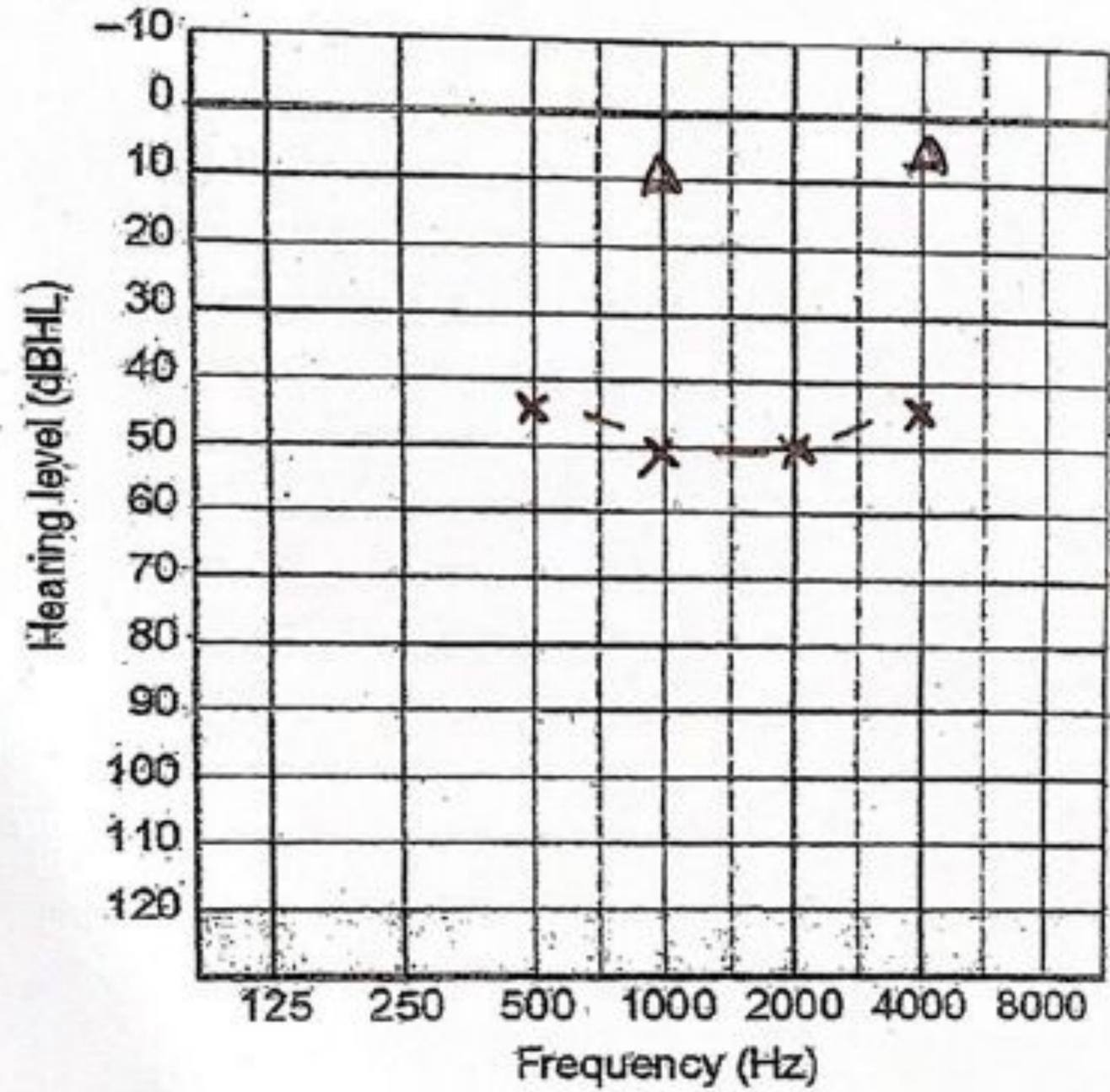
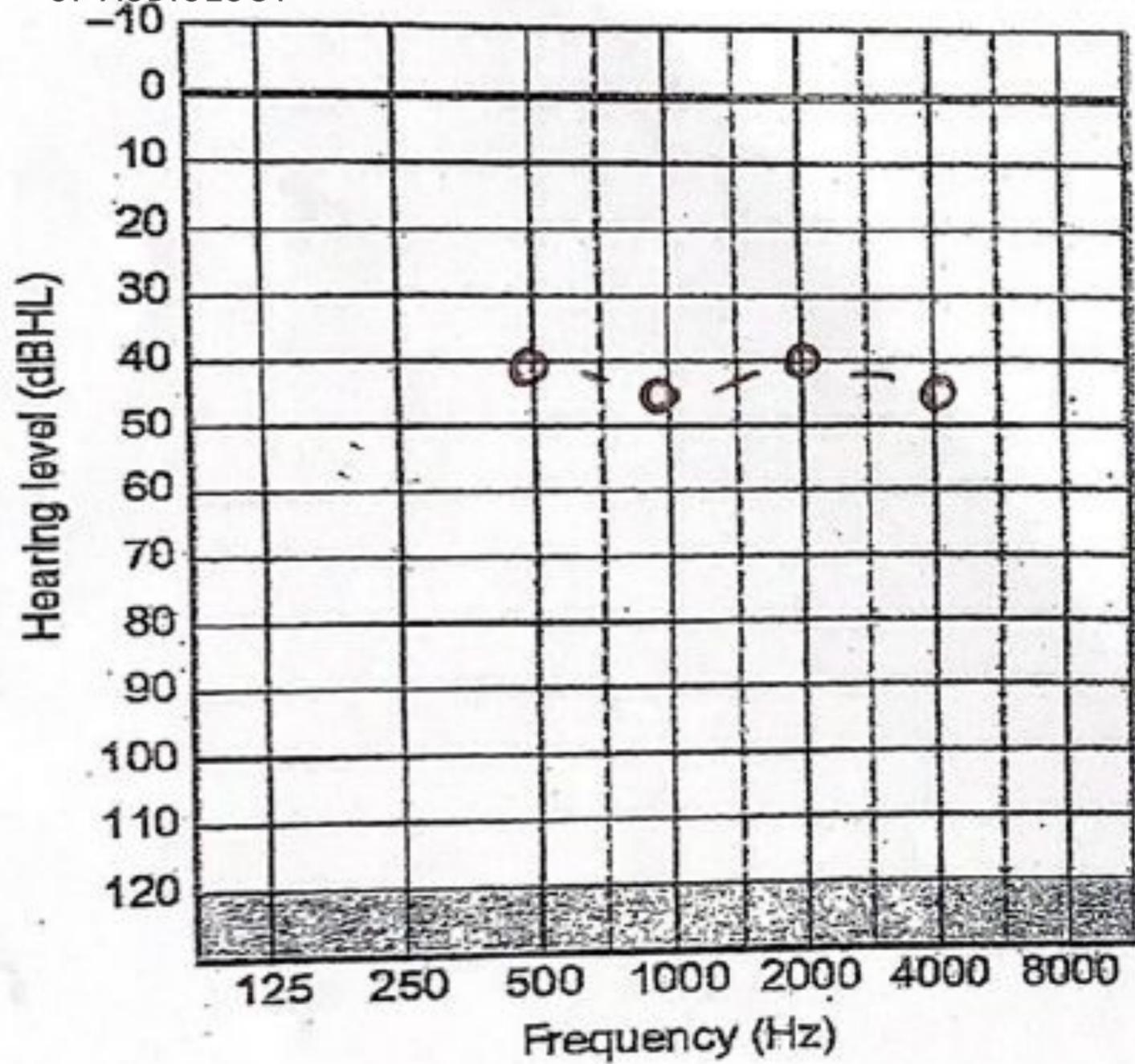
Distraction

VRA Soundfield

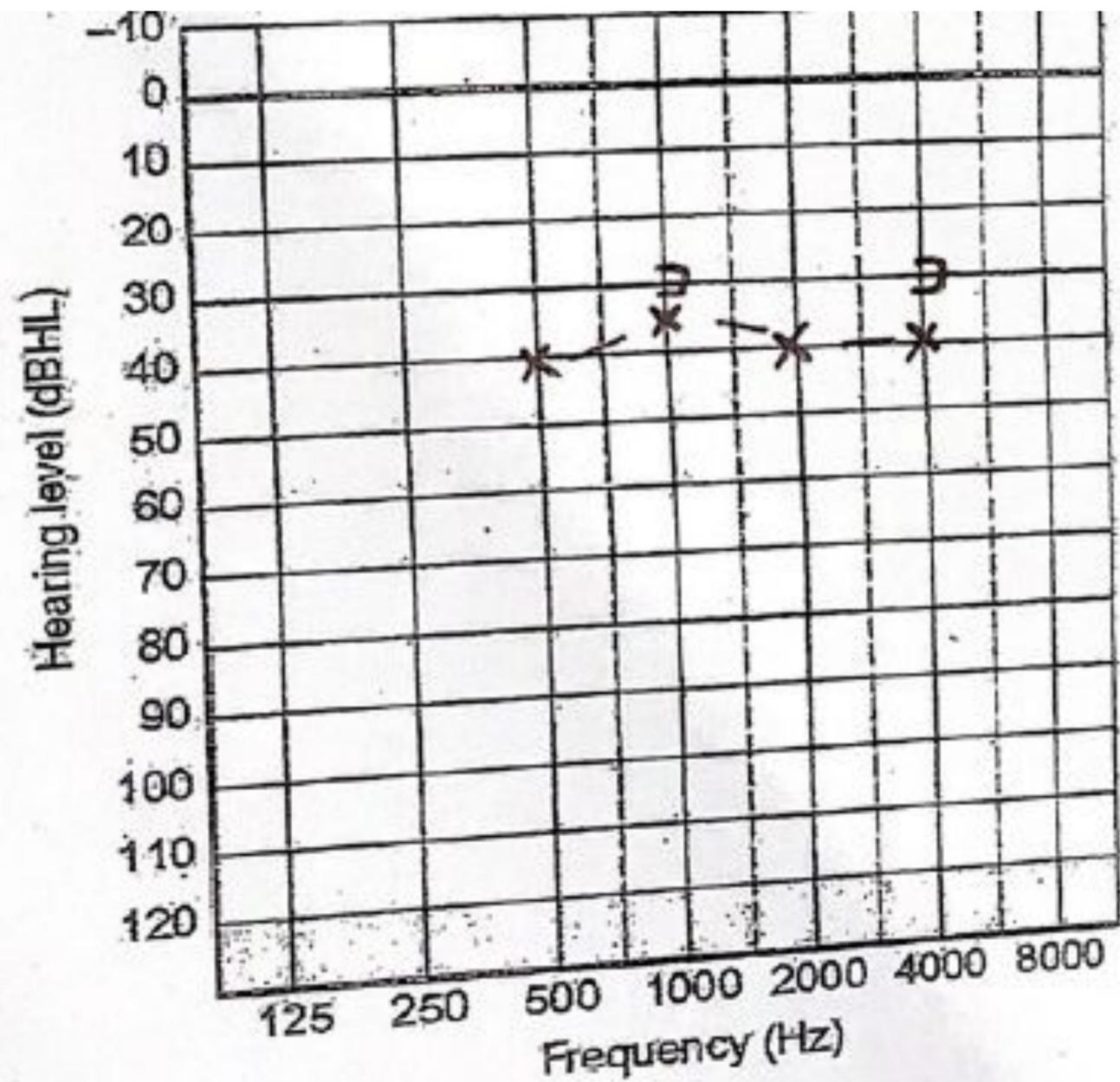
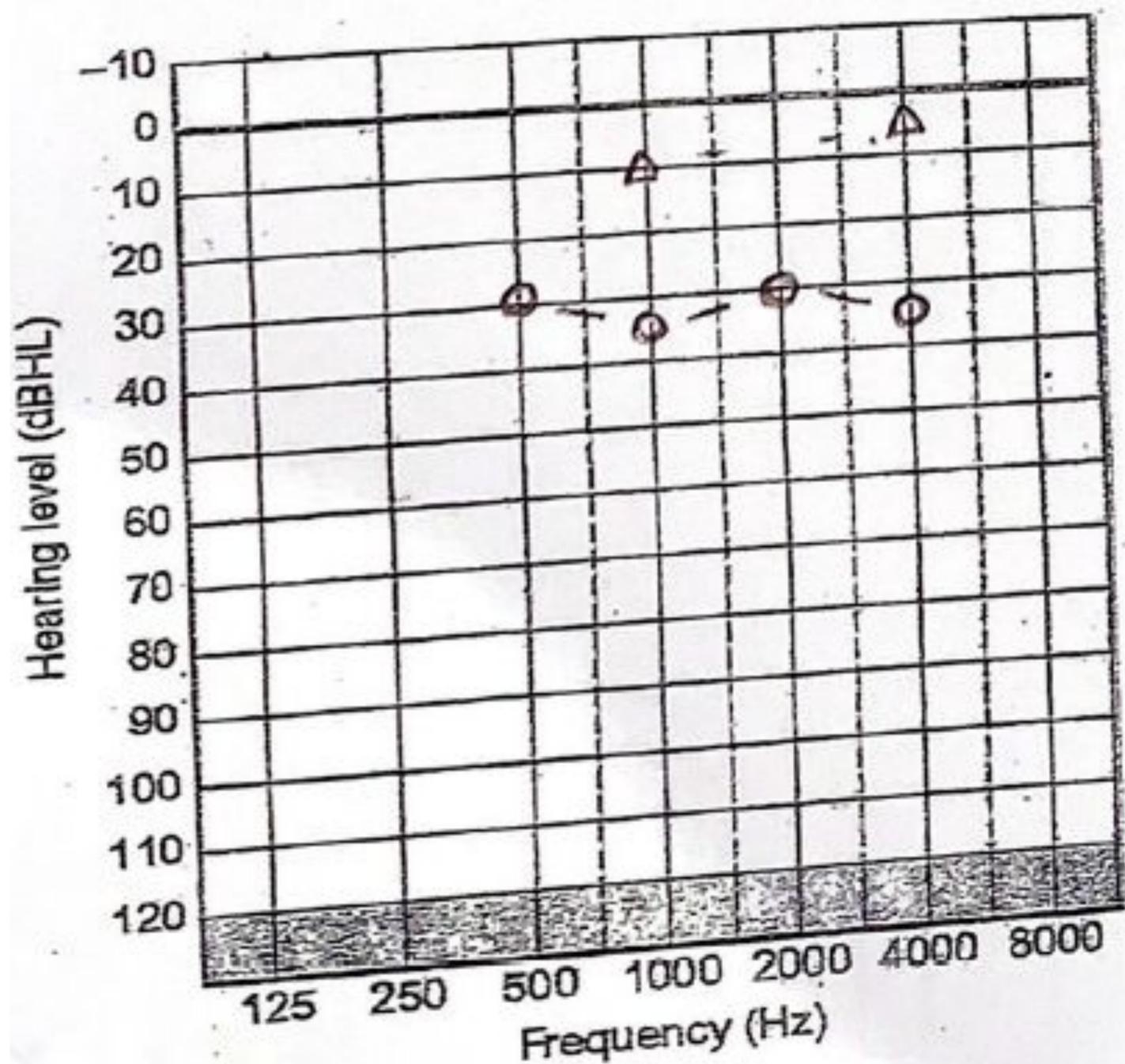
VRA insert

Performance

PTA (with a button)



What now?





Case 7

Please could you see this 18 month old with severe learning and physical disabilities? They have only recently left hospital for the first time since birth following complications from severe hypoxia at birth. They were unable to be screened and ABR testing on the ward has not been possible due to the severe electrical interference on PICU.

BOA

Distraction

VRA Soundfield

VRA insert

Performance

PTA (with a button)