Quick Guide

Auto – Békésy

Description

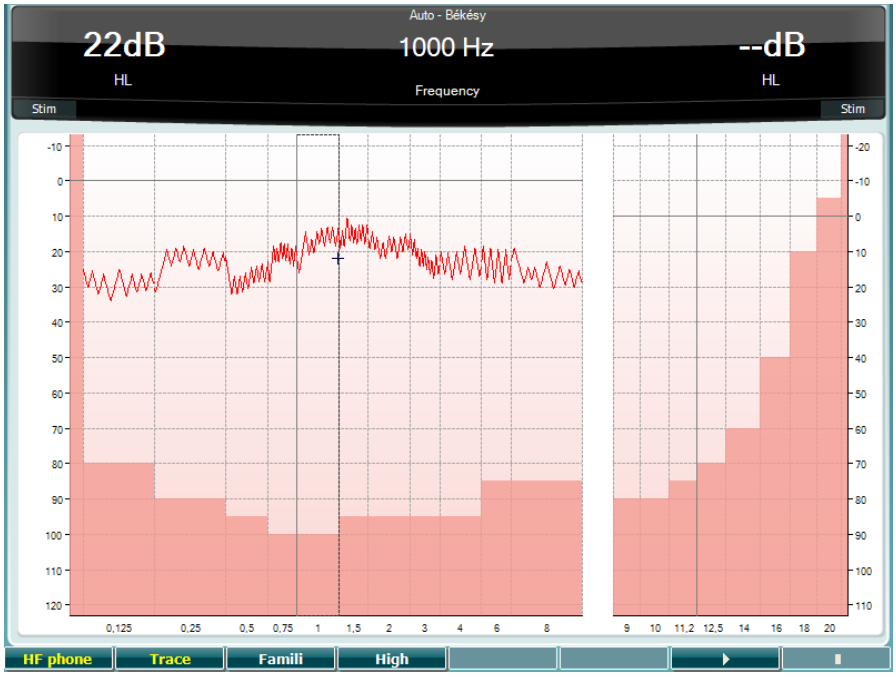
Békésy is an automatic method of measuring audiometric thresholds. It can be used for audiometric screening or in differentiation between the cause of the hearing loss e.g. non-organic hearing loss (Gelfand, 2009) or the origin of the damage in the ear (conductive, cochlear or retro cochlear) (James Jerger, 1962).

The patient being tested needs to hold down the response button when the tone is heard and release when the tone is no longer heard. When the response button is pressed, the intensity level of the frequency tested will automatically be reduced. When the response button is released, the intensity level will automatically increase. The patient's response will be recorded as a trace on the Test Screen.

Required items

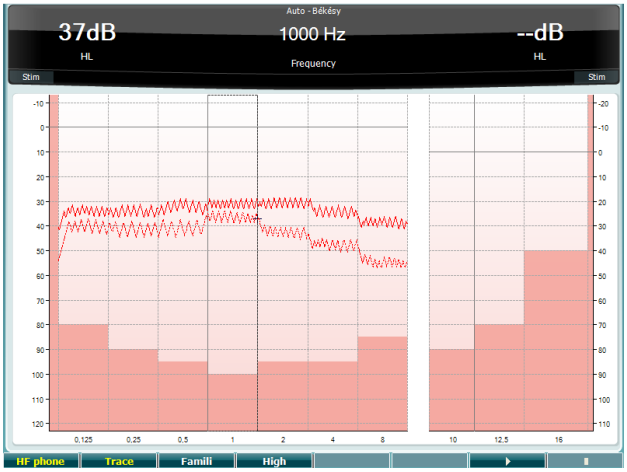
- Headphones or insert phones
- Patient response button

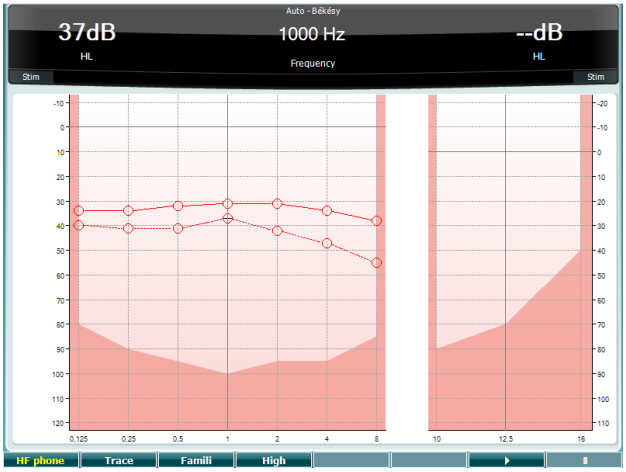
Test procedure



1. Press and hold the Test button and use the black scroll wheel to select **Auto – Békésy**.
2. Instruct the patient that he will hear some tones, which will vary in loudness and that he must press the response button as long as the presented tone is heard and let go when the tone is not heard.
3. The tone is obtained with a continuous tone. To obtain the tracing with the pulsed tone, press the Single Multi button and ensure that **Multi** is selected.
   Note the timing of the pulsed tone can be adjusted from the default setting by pressing and holding **Setup**, selecting **Common** and then reducing the **Multi, pulse length** slider.
4. To familiarize the patient with the test, press the button under **Famili** and press **Play**.
5. To start the test, deselect **Famili** and select the button under **Trace** and press **Play**.
6. Traces should be obtained for the desired audiometric test frequencies.

7. To use the Békésy with different traces, complete the measure with a continuous tone and obtain the second trace with a pulsed tone (see example below).





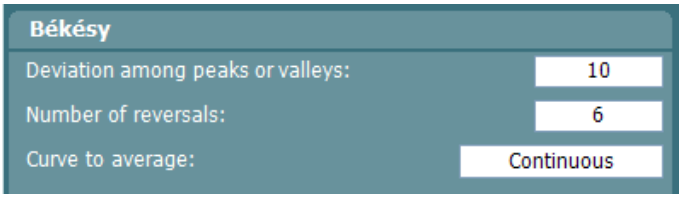
Békésy results

When using the Békesy for clinical purposes, one threshold is obtained with a continuous tone and one with a pulsed tone. The results are interpreted based on the display of the continuous and pulsed tone.

Békésy Type 1:	Continuous and pulsed tone overlapped, unknown pathology.
Békésy Type 2:	Continuous tracing slightly worse than pulsed tone tracing (Cochlear disorder).
Békésy Type 3:	Continuous drops off the graph as a result of adaptation to the tone (Retro cochlear disorder).
Békésy Type 4:	Continuous tracing is 20 dB lower that pulsed tone tracing (Cochlear or retro cochlear disorder).
Békésy Type 5:	Pulsed tone tracing below continuous tracing (feigning hearing loss).

Setup

Setup | **Auto settings** allows for changing the allowed deviation and number of reversals needed for a response to be stored.



References

Gelfand, S.A. (2009) Essentials of Audiology, Theime.

Jerger, J. (1962) Bekesy Audiometry, Hearing Tests in Otologic Diagnostics, ASHA May.