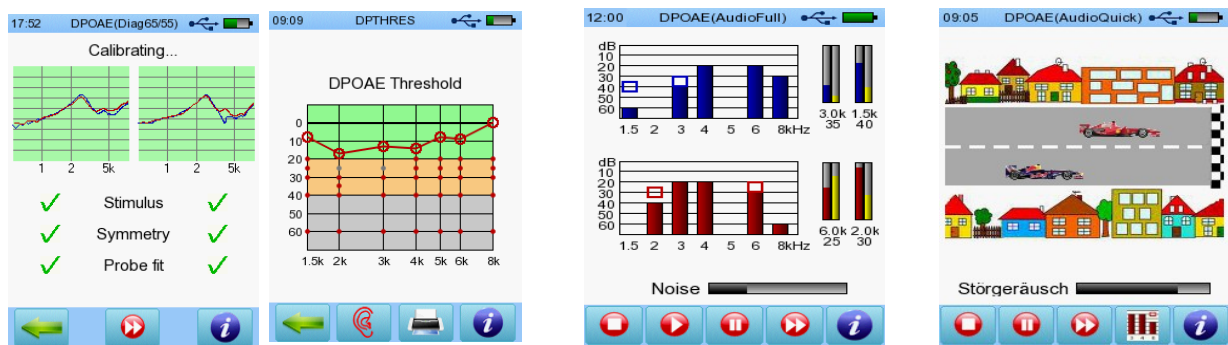


What's so unique about PATH's DPOAE Threshold Estimation?

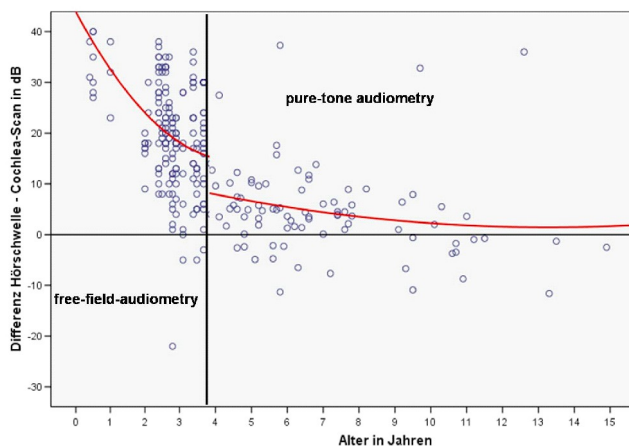
With a combined working experience of over 100 years in OAE algorithms, the team at Path Medical have been responsible for the development of OAE newborn screening applications since 1998. All of this knowledge is now combined into the next step beyond newborn screening OAE applications as it's offered by Sentiero! Sentiero is the **unique diagnostic OAE device** which is enabled to estimate the cochlear hearing threshold using its patented method (*EP1027863, DE19991005743*). The measurement can be performed on **both ears simultaneously** thus **four DPOAE measurements** can be done simultaneously – so you can finish **four times faster!** After an automated calibration phase, the measurement experience can be configured to show up as a simple **car race**. Besides the fun for the kids, it helps to **reduce artifacts** and thus speed up the measurement cycle. PATH has optimized the workflow and monitors the probe fit for the entire duration of the test. The **patented** evaluation of artificial distortion products also helps to **increase robustness and reliability!**



The correct fit and calibration of the ear probe is controlled during the whole test. The result shows the cochlear hearing threshold which can be used as a reliable starting point to fit hearing aids for children or non-cooperative patients.

During the measurement, both ears are analyzed at 4 frequencies at the same time. An animated car race can be shown to focus the children's interest and avoid artefacts. The specialist user can also change back to review the current state of the measurement incl. history.

The theory and practical use of DPTHRES? Why do I need it?



DPOAE-audiograms may assess cochlear hearing loss more precisely than behavioural tests, especially in infants where the conditioned free-field audiogram does not reflect the real threshold. This is shown in the figure (left), where the difference between estimated DPOAE threshold and behavioral pure-tone threshold is plotted over the child's age. The younger the child the greater is the difference between the behavioral and the objective measure. Moreover, unilateral hearing loss can be detected with DPTHRES – not with freefield audiometry.

DPOAE-audiograms are obtained by an automated measuring procedure with simple handling and short measuring time. No sedative is necessary in most cases. It should be emphasized that DPOAEs only reflect outer hair cell functionality and therefore are not present at a hearing loss higher 50 dB HL. However, the incidence of a hearing loss higher than 50 dB is low. Thus, in most of the children DPOAEs are measurable. In cases where DPOAEs are not measurable ABRs or ASSRs have to be applied... and don't forget, ABR and ASSR can also be measured on the same platform – the Sentiero Advanced – OAE, ABR, ASSR plus much more in ONE portable handheld device!