

OAE Acquisition

Using SmartDPOAE & SmartTrOAE

Applies To

SmartDPOAE & SmartTrOAE

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Initial setup

For SmartDPOAE:

1. Click on the **[Parameters]** button and verify that the acquisition settings are correct.
2. Go to the **[Passing Criteria & Norms]** tab and click the **[Select Passing Criteria]** button to verify the passing criteria. These criteria define what is considered a Pass or a Refer by the software.
3. In the same tab, click the **[Select Normative Data]** button to verify the normative data.
4. Click the **[Save...]** button to save the test parameters for future use.

SmartTrOAE does not require any initial setup.

Create or load patient file

For a new patient:

1. From the main menu, go to **[Patient > New]**.
2. Enter the patient's first name, last name, and identifier. Add any other information you wish to track.
3. Click **[OK]** to create the file.

For a returning patient:

1. From the main menu, go to **[Patient > Open]**.
2. Find the patient file and click **[OK]**. The Patient Demographics window will open.
3. Review the information and click **[OK]** to confirm and load the file.

Probe placement

Probe placement is the most important step when acquiring OAE responses.

- A tight seal will ensure a strong signal is sent into the ear and will help keep out external environmental noise.
- The correct size ear tip will ensure a tight seal without hurting the patient. Always use the largest size probe tip possible.
- Swaddling is recommended when testing infants or newborns to prevent them from knocking the probe out of the ear. Position the infant on their side with the ear being tested facing up.
- As much as possible, patients should refrain from talking, coughing, swallowing, moving, or heavy breathing; these actions introduce noise into the recording.
- Do not hold the probe while administering the OAE test; you may unintentionally push the probe against the canal wall or create noise that interferes with testing.
- Avoid continuous background noise.
- Random noise can be overcome by modifying the averaging and rejection parameters.
- If the room is noisy (above 50 dB SPL), you may see a "Noise too large. Continue?" warning during testing. Refit the probe to improve the seal and block external noise; the software will let you continue if you choose, but a good seal usually resolves the warning.
- If you cannot obtain a clear response, check the probe tip for wax or debris, try a different ear tip size if needed, and refit the probe before testing again.

Before placing the probe, perform a visual inspection of the outer ear and ear canal to check for wax, debris, vernix (in newborns), or anatomical concerns that could interfere with testing.

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To place the probe:

1. Gently pull on the pinna (outer ear) and rotate it in small circles for a few seconds to relax the ear canal.
2. Pull the pinna to open the ear canal:
 - For adults and older children, pull **up and back**.
 - For infants and newborns, pull **back and down**.
3. Insert the probe using firm pressure and give it a quarter turn. The downward twisting motion helps seat the probe deep enough to obtain a tight seal. Aim slightly toward the nose to follow the natural angle of the canal.
4. Release the pinna so the ear canal can settle snugly around the probe.
5. To check the fit, gently tug on the probe. There should be slight resistance, and it should not slide out easily. If it slides out easily, try again. You may need a larger ear tip.

Tip for newborns: Ear canals can feel “sticky” right after birth. Before inserting the probe, massage the area in front of the ear (below the tragus) in small circles for 10–15 seconds to loosen the tissue.

For additional information, refer to the NCHAM ECHO Initiative, “Recommended OAE Screening & Follow-up Protocol” at www.infanthearing.org/earlychildhood/docs/Recommended-OAE-Protocol-education.pdf

Starting acquisition

For SmartDPOAE:

1. Switch to the **[Acquire]** screen.
2. Click on **[Parameters]** to verify the settings. If incorrect, use the **[Load...]** button to select and load the correct settings.
3. Click on the **[Left]** or **[Right]** button to start.

For SmartTrOAE simply verify the intensity setting at the bottom of the screen, then click the **[Left]** or **[Right]** button to start.

Printing

From the main menu, select **[Print]** to open the print dialog. Choose the report options (which ear(s) to include, layout, history files, data table, and passing status), then click **[Print]**. SmartDPOAE also has a **[Print]** button on the toolbar of the Display screen, which opens the same dialog.

Additional Steps

- Discard the disposable materials as per your local regulations.
- Don't forget to power off the equipment.