

# Pure Tone Threshold Screening\* (Optional)

## Ages

3 through 20 years of age

## Purpose

To provide more detailed information on the child's hearing status, and to inform further referral and follow-up; does not provide a diagnosis

## Description

A series of pure tones presented at decreasing decibel (dB) levels so that the softest dB level that the child consistently responds to at each frequency may be recorded

## Equipment

Pure tone audiometer (for operating instructions refer to [Audiometer Use, Care, and Calibration \(www.health.state.mn.us\)](http://www.health.state.mn.us))

## Facilities

Quiet room, free from visual distractions

## Procedure

### Set-Up

1. Identify the child by name.
2. Explain the procedure.
3. Avoid using the term "fail" when speaking to the child; for terminology guidelines refer to Communicating results and follow-up.
4. Position the child so they cannot see the front of the audiometer.
5. Lay headphones on the table, facing the child, set audiometer to 2000 Hz and maximum volume, and have the child practice raising either hand when a tone is heard.
6. Perform a visual inspection of the ears.
7. Set the decibel dial to 40dB, set frequency dial to 1000 Hz.
8. Place the red headphone on the child's right ear and the blue headphone on the left ear, and ensure the headphones fit snugly on the child's head.

## Threshold Determination

1. Screen right or better ear first.
2. Present 1000 Hz tone at 40dB; decrease incrementally by 10dB until there is no response, or down to 0dB.
3. At the level where there is no response, increase in 5dB increments until there is a response.
4. Decrease 10dB until there is no response.
5. Increase in 5dB increments until there is a response again.
6. Repeat until there are two responses at the same dB level; record this as the threshold level.
7. Repeat the same process for 2000, 4000, (6000 Hz if child is 11 years or older), and 500 Hz.
8. Switch ears and repeat.

## Considerations

- Pure tone audiometry screening should take place in a very quiet room.
- Perform an environmental noise level check before performing screenings in any environment.
- Pause the screening if any distracting noise occurs.
- Perform thresholds only when there are hearing concerns, or a child does not pass pure tone audiometry.
- Thresholds are solely to provide more information for referral.
- Referrals are based on pure tone audiometry screening results regardless of threshold results.
- Thresholds should not take the place of a medical or audiological evaluation.
- Threshold screening requires advanced training.

## PASS

A child who qualifies for threshold screening has not passed pure tone audiometry and should be managed per Rescreen and REFER criteria.

## Rescreen/REFER

Rescreens and referrals should be based on pure tone audiometry screening results regardless of threshold screening results.

\*Performing threshold screening requires advanced training that may be beyond the skill of some screeners.

## PURE TONE THRESHOLD SCREENING

Minnesota Department of Health  
Child and Teen Checkups  
651-201-3650  
[health.childteencheckups@state.mn.us](mailto:health.childteencheckups@state.mn.us)  
[www.health.state.mn.us](http://www.health.state.mn.us)

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*To obtain this information in a different format, call: 651-201-3650.*