

# Pure Tone Audiometry Screening

## Ages

3 through 20 years of age

## Purpose

To identify children with suspected hearing loss

## Description

A standard series of pure tones at set decibels presented to the child using pure tone audiometry

## 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 or area 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 \(www.health.state.mn.us\)](http://www.health.state.mn.us).
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. Refer any child who is unable to hear the tone at maximum volume to their primary care provider.
7. Perform a visual inspection of the ears.
8. Set decibel dial to 40dB and frequency dial to 1000 Hz.
9. 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.

## Screening Children Ages 3 through 10

1. Set selector switch to “Right” and present 40dB at 1000 Hz.
2. Turn dial to 20dB and present tones at 1000, 2000, and 4000 Hz
3. Turn selector switch to “Left” and present tones at 4000, 2000, and 1000 Hz.
4. Set dial to 25dB and present tone at 500 Hz \*; next, turn selector switch to “Right” and present tone at 500 Hz \*.
5. Present tones for one to two seconds; you may present the tone twice consecutively if needed for each screening frequency.
6. Document screening results.

## Screening Children Ages 11 through 20

1. Set selector switch to “Right” and present 40dB at 1000 Hz.
2. Turn dial to 20dB and present tones at 1000, 2000, 4000, and 6000 Hz
3. Turn selector switch to “Left” and present tones at 6000, 4000, 2000, and 1000 Hz.
4. Set dial to 25dB and present tone at 500 Hz \*; next, turn selector switch to “Right” and present tone at 500 Hz \*.
5. Present tones for one to two seconds; you may present the tone twice consecutively if needed for each screening frequency.
6. Document screening results.

## 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.
- If the child does not appear to understand the directions, stop, take the headphones off, and reinstruct the child.
- If the child did not hear one or more tones in either ear, perform an immediate rescreen by repeating the entire pure tone series, preferably with a different screener and audiometer.
- If the child is unable to screen due to issues such as behavior or equipment malfunction, stop and document “unable to screen.”
- For children who are difficult to screen, refer to [play audiometry \(www.health.state.mn.us\)](http://www.health.state.mn.us).

## PASS

A child who responds to all tones required for age in each ear does not require rescreening or referral.

## Rescreen

If you work in a clinic setting:

- If the child does not respond to one or more sounds, perform an immediate rescreen. If the child still misses one or more tones, refer to health care provider for immediate evaluation of the middle ear.
- If the child has factors which might impact hearing (fluid in middle ear, ear infection, etc.), then rescreen after the middle ear condition is cleared or in 8 – 10 weeks.

If you work in a community setting:

- If the child does not respond to one or more sounds on the immediate rescreen, schedule the child for pure tone audiometry rescreening in 14 to 21 days.

## REFER

If you work in a clinic setting:

- If the child has no visible middle ear condition, refer to audiology for immediate evaluation of hearing.

If you work in a community setting:

- Refer to the [Rescreen and REFER criteria \(www.health.state.mn.us\)](http://www.health.state.mn.us).

\*The 500 Hz tone may be eliminated when the environmental noise level is too high based on the Environmental Noise Level Check.

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