



Washington State Board of Health

Rulemaking Petition, Auditory and Visual Screening Standards in Schools, Chapter 246-760

WAC

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Background

Under the Administrative Procedures Act (RCW 34.05.330), any person may petition a state agency to adopt, repeal, or amend any rule within its authority.

Overview of the Board's Petition Process:



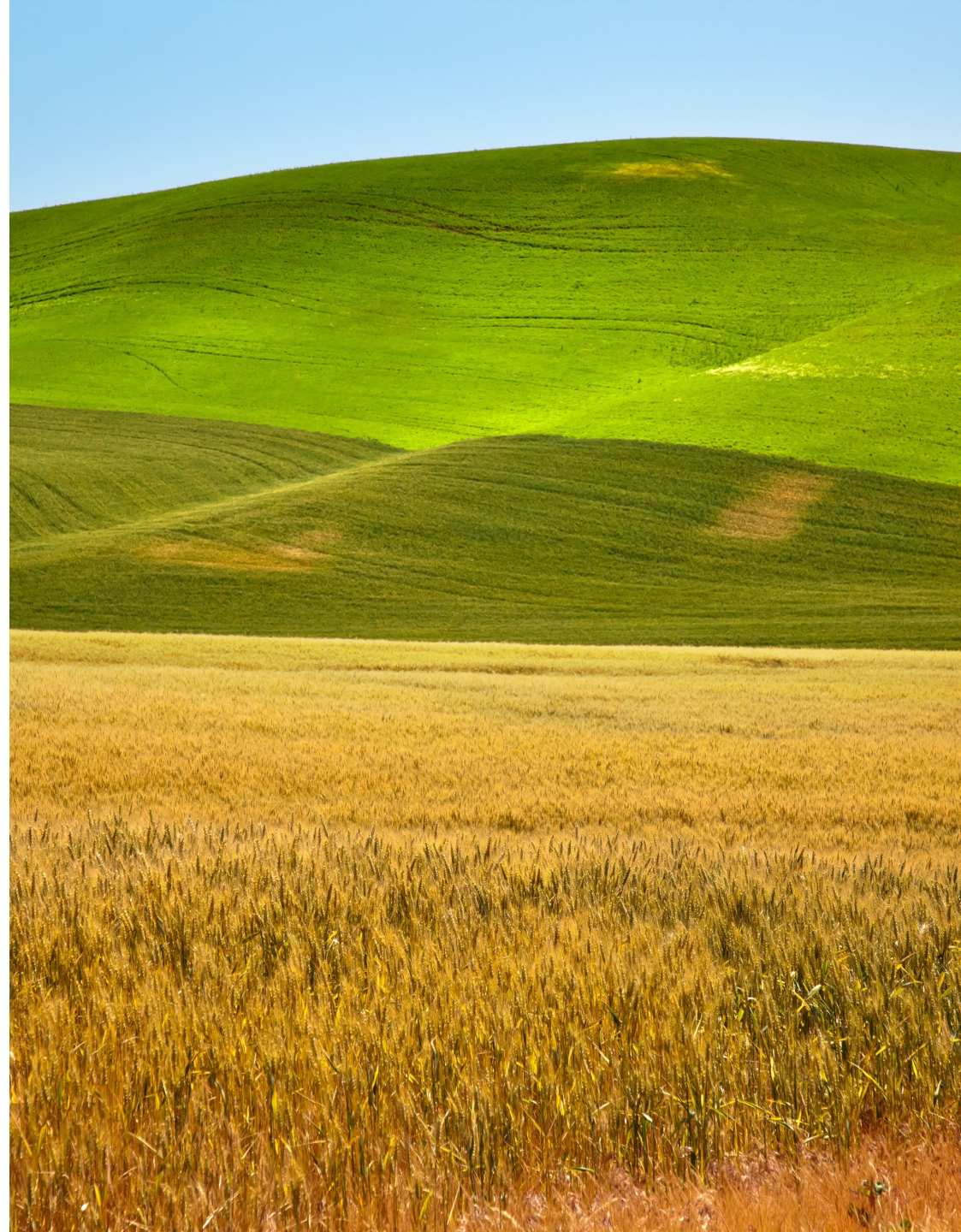
Petition Request

- On July 26, 2023, the Board received a petition for rulemaking from a representative from the Lake Chelan Lion's Club requesting to amend chapter 246-760 WAC to add otoacoustic emission (OAE) screening technology to the Board's school auditory (or hearing) screening rules.
- Included in the petitioner's request is:
 - Proposed draft rule language
 - Information on OAE screening technology from the [American Speech-Language-Hearing Association \(ASHA\) Childhood Screening Guidelines](#)
 - Rationale for including OAE screening in any rule revisions.



School Hearing and Vision Screening Standards

- Chapter 246-760 WAC sets standards for the hearing and vision screenings of children attending schools in Washington under the Board's authority in RCW 28A.210.020.
- Annual screenings are conducted once per academic year for students in kindergarten through 3rd grade and grades 5 and 7.
- Per RCW 28A.210.020 the Board must seek the recommendations from the superintendent of public instruction (OSPI) regarding the administration of school hearing and vision screening before revising chapter 246-760 WAC.



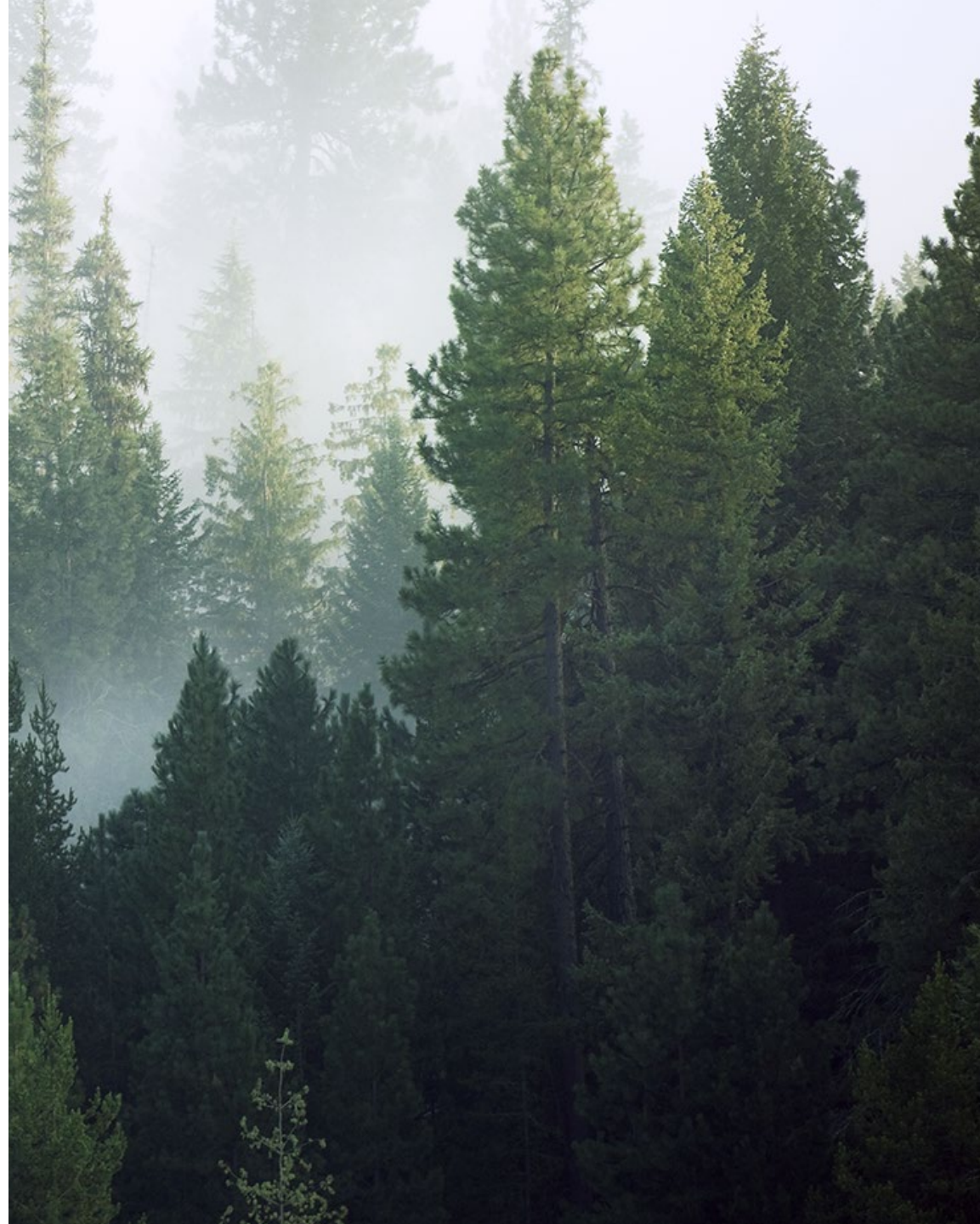
Public Health Rationale for School Hearing Screenings

- Hearing loss is one of the most common conditions present at birth
 - Affects approximately 1-3 newborns per 1,000 births ¹
- Research indicates that by the time a child reaches kindergarten, this statistic increases to approximately 2-5 per 1,000 children ²
- Periodic screening is important because hearing loss can occur at any time as a result of:
 - Illness
 - Environmental and genetic factors
 - Physical trauma



Hearing Sections of Chapter 246-760 WAC

- The hearing sections of the rule require the use of pure tone, or tonal auditory screening equipment.
- Consistent with the American Academy of Audiology's Clinical Practice Guidelines for Childhood Hearing Screenings (2011) and the American National Standards Institute (ANSI) 1996 standards for screening equipment.
- Hearing sections of the rule were last updated in 2002 (vision sections were updated in 2017).



What is Pure Tone Screening?

- A behavioral test of hearing sensitivity, typically completed with a pure tone audiometer.^{3,4}
- Tests a person's responses to pure tone stimulation (e.g., beeps played through a headphone set at different pitches or frequencies).
- Helps identify the quietest sound that a person can hear at different frequencies.
- Typically requires the person being screened to respond to sounds by:
 - Raising a finger or hand
 - Pressing a button
 - Pointing to the ear that heard the sound
 - Verbally responding when a sound plays



Image from Shutterstock_1589668831

What is OAE Screening?

- Automated screening technology that measures how well the inner ear, or cochlea, works. ^{4,5}
- Tests how the hair cells in the inner ear respond to sound or stimulation.
- Requires inserting a small earphone or probe in the ear.
 - The earphone or probe plays sound into a person's ear and measures the sound waves (or OAEs) produced by the inner ear.
- There are several types of otoacoustic emission tests – transient OAEs (TEOAEs) and distortion product OAEs (DPOAEs).
- It is not a direct test of hearing; it is a test of inner ear mechanics.



Image from the National Center for Hearing Assessment and Management (NCHAM), Utah State University, Early Childhood Hearing Outreach (ECHO) Initiative: [Early Childhood Hearing Screening | NCHAM \(infanthearing.org\)](https://www.infanthearing.org/).

National Childhood Hearing Screening Guidelines

American Academy of Audiology (AAA) Clinical Practice Guidelines for Childhood Hearing Screening (2011)

Overall, AAA recommends pure tone screening as the standard.

Pure Tone Screening

- Minimum grades to be screened: preschool, kindergarten, and grades 1, 3, 5, and either 7 or 9
- Children aged 3 (chronologically and developmentally) and older are to be screened using pure tone screening tests.
- Use tympanometry with pure tone screening in young child populations (e.g., preschool, kindergarten, grade 1).

Tympanometry Screening

- Tympanometry should be used as a second-stage screening method following failure of pure tone or OAE screening.
- Young child populations should be selected for tympanometry screening.

OAE Screening

- Use only for preschool and school-age children for whom pure tone screening is not developmentally appropriate (ability levels < 3 years).
- Screening programs using OAE technology must involve an experienced audiologist.
- Children with a “fail” result with OAE should be screened with tympanometry.

National Childhood Hearing Screening Guidelines

American Speech-Language-Hearing Association (ASHA) Childhood Hearing Screening Practice Guidelines (2014)

Overall, ASHA recommends selecting and implementing hearing screening protocols and equipment based on the goals of the screening program, the population being screened, available personnel, etc.

- Indicates pure tone audiometry, OAE, and tympanometry may all be appropriate for inclusion in hearing screening programs.
 - **Notes:** While OAEs are considered an acceptable screening tool, pure-tone screening remains the gold standard and is ideally accomplished by the time a child is 5 years old.
- Recommends screening upon initial entry or transfer into a school and every year in grades K-3, 7, and 11.

Pure Tone Screening

- For accurate pure tone screening, a child must be able to reliably respond to stimuli (e.g., by raising their hand when the pitches/frequencies are played). For younger students or students with developmental, cognitive, or motoric challenges and/or delays, conditioned play techniques can also be effective

Tympanometry Screening

- This method can be added to either pure tone or OAE testing protocols to measure the mobility of the tympanic membrane and the status of the middle-ear transmission system.

OAE Screening

- Personnel may include an audiologist, nurse, or other trained volunteer screener. Equipment can be automatic with no decision-making required regarding equipment parameters or pass/fail criteria.
- The use of OAE technology may be appropriate for screening children who are unable to test using pure-tone audiometry (those who cannot respond to traditional pure-tone or conditioned play techniques).
- OAE protocols may result in higher referral rates than those of pure tone and OAE/tympanometry protocols.

Relevant Laws and Regulations

- RCW 28A.210.020 through RCW28A.210.040
 - WA State School Hearing Screening Requirements
- The Individuals with Disabilities Education Act (IDEA)
- Head Start Performance Standards (45 CFR Parts 1300–1311)
- Early Periodic Screening, Diagnosis, and Treatment (EPSDT) Program and Title V Collaboration to Improve Child Health



Board Member Discussion

Would the Board consider accepting or denying the petition? *Why or why not?*

Discussion and justification for the Board's decision will be included in the Board's determination letter to the petitioner.



| THANK YOU

Citations

1. Washington State Department of Health Early Hearing Loss Detection, Diagnosis, and Intervention (EHDDI) Program. Universal Newborn Hearing Screening 2012 Report. Published August 2014. Accessed July 28, 2023, from https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs/344-022_EHDDISBOHReport.pdf.
2. Centers for Disease Control. Promoting Hearing Health in Schools | Healthy Schools. Published December 12, 2018. Accessed July 28, 2023. <https://www.cdc.gov/healthyschools/noise/promoting.htm>.
3. American Speech-Language-Hearing Association (n.d.). Pure-Tone Testing. Accessed July 28, 2023, from <https://www.asha.org/public/hearing/pure-tone-testing/>.
4. American Speech-Language-Hearing Association (n.d.). Childhood Hearing Screening (Practice Portal). Accessed July 28, 2023, from www.asha.org/Practice-Portal/Professional-Issues/Childhood-Hearing-Screening/.
5. American Speech-Language-Hearing Association (n.d.). Otoacoustic Emissions (OAEs). Accessed July 28, 2023, from <https://www.asha.org/public/hearing/otoacoustic-emissions/>.