

STATE OF COLORADO

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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

VIII. Recommended Medical Evaluation For Newborns With Confirmed Hearing Loss

Audiologist

Once a newborn has been confirmed by an audiologist to have a hearing loss, the audiologist should notify:

- Parents.
- Primary Care Provider/Medical Home.
- Regional Colorado Hearing Resource (CO-Hear) Coordinator (see Appendix 4).

Primary Care Provider

(See also: Guideline III: Recommended Guidelines for the Medical Practitioner for Newborn Hearing Screening.)

The primary care provider initiates the referral process to otolaryngology/otology and genetics. Elements of the evaluation should include:

- History:
 - Prenatal:
 - Ototoxic medication exposure.
 - Any significant complications during pregnancy.
 - Lack of immunization to rubella or exposure or suspicion of disease.
 - Abnormal syphilis testing.
 - Maternal drug use.
 - Frequent spontaneous abortions.
 - Perinatal:
 - Ashphyxia.

- Infection.
- Ototoxic medications.
- Family:
 - Other family members with hearing loss, with age of onset under 30 years.
 - Desire to have additional children.
- Physical Examination:
 - Three or more minor anomalies: unusual morphologic features occurring in less than 3 to 5 percent of the population with no cosmetic or functional significance, e.g., transverse palmer crease/simian line, clinodactyly, ear tags, other.
 - Major anomalies: those causing cosmetic and/or functional abnormality, e.g., cleft palate; cardiac, limb, or skeletal deformities.
 - Poor growth and/or microcephaly, abnormal neurologic examination.
- Referrals:
 - All infants with confirmed hearing loss should have an otolaryngology evaluation and receive medical clearance for amplification when indicated
 - Referral for genetics evaluation is recommended for all families, in the absence of a clear non-genetic cause for the hearing loss.
 - Yearly ophthalmologic exam is recommended.

ENT/Otology Evaluation

- History:
 - Prenatal.
 - Family.
 - Behavioral.
- Physical:
 - Head and neck examination.
 - Head circumference.

- Review of prior testing, i.e., Auditory Brainstem Response (ABR) and Otoacoustic Emission (OAE) results.
- Evaluation:
 - Infectious diseases: cytomegalovirus, rubella, syphilis, toxoplasmosis.
 - Urinalysis.
 - Ophthalmologic examination.
 - Computed Tomography (CT) high resolution of temporal bones.
 - Auditory Brainstem Response for threshold (if not previously done).
 - Otoacoustic Emissions (if not previously done).
 - Medical clearance for amplification and referral.
- Referrals:
 - Genetics.
 - Audiology assessment (see Guideline IV: Recommended Protocol for Infant Audiologic Assessment).
 - Regional Colorado Hearing Resource (CO-Hear) Coordinator (Appendix 6).
 - Early intervention, if not currently being provided.

Genetic Evaluation

- History:
 - Pregnancy.
 - Family pedigree.
 - Developmental.
- Physical Examination:
 - General pediatric examination.
 - Careful dysmorphicologic examination.

- Neurologic/developmental evaluation.
- Diagnostic Tests:
 - Hearing tests on first-degree relatives (parents and siblings).
 - Ophthalmologic examination by six months of age.
 - Toxoplasmosis, herpes, rubella, or cytomegalovirus specific Immunoglobulin G and Immunoglobulin M if under six months.
 - All other laboratory tests depend upon clinical evaluation and history but may include the following:
 - Chromosomes (if dysmorphic).
 - Electrocardiograph (EKG).
 - Skeletal survey if there is short stature or disproportional growth.
 - Evaluation of other systems: renal, cardiac, skin.
 - CT or MRI of brain, if neurologically abnormal.
 - Specialized genetic studies: molecular, gene testing, etc.

Ophthalmology Evaluation

Following the diagnosis of confirmed congenital hearing loss, evaluation by a pediatric ophthalmologist is indicated. Yearly re-evaluation by the ophthalmologist is also recommended.