VDH VIRGINIA DEPARTMENT OF HEALTH

Division of Child and Family Health- Newborn Screening Follow-Up Program

Adrenoleukodystrophy (ALD) - Males

Parent Fact Sheet

A newborn screening test is a **screen** and not diagnostic testing. An "abnormal" or "critical" result on a newborn screen indicates the baby may be at a higher risk of having a disorder; however, it does not diagnose the baby with the condition. Follow-up testing is **vital** to determine if the baby has the disorder indicated. In the event the condition is diagnosed, timely follow-up testing will result in earlier treatment and better outcomes.

Disorder Indicated: Adrenoleukodystrophy (ALD) occurs when the body is unable to break down certain fats (very long chain fatty acids, VLCFA). The VLCFAs build up and affect normal bodily functions, largely the nervous system and adrenal glands. When an individual has ALD, the buildup of VLCFAs may disrupt the fatty covering (myelin) of the nerve cells in the brain and spinal cord causing the myelin to breakdown, which reduces the ability of the nerves to relay information to the brain and disrupt some bodily functions. X-linked ALD is caused by a mutation of the ABCD1 gene. Although X-ALD is most often inherited through females, there can be novel variants that appear for the first time in an affected individual and were not inherited.

Male infants who are identified through newborn screening with X-ALD have been shown to have better outcomes due to earlier intervention and treatment.

Incidence	1 in every 17,000 newborns.
Signs and Symptoms *Please note:* *Most newborns are asymptomatic*	There are three different typical presentations of X-ALD: **1. Childhood cerebral form (CCALD):** • Difficulty swallowing • Vision problems/hearing loss • Difficulty reading, writing, understanding speech, etc • Behavior changes (Aggressive, Hyperactivity) • Adrenocortical insufficiency or Addison's disease • Poor coordination, changes in muscle tone, spasms and spasticity, seizures • Decreased fine motor control • Paralysis, possibly leading to coma and death **2. Adrenomyeloneuropathy (AMN):** • Urinary and genital tract disorders • Progressive stiffness and weakness in the legs (paraparesis) *Typically later onset* **3. Addison disease:** • Decreased appetite • Darker areas of skin color or pigment • Loss of weight and muscle mass • Muscle weakness • Low blood sugar, vomiting *If left untreated, this condition could result in an adrenal crisis.*
Next Steps ***may*** include:	**Follow up with your child's pediatric provider** Clinical assessment Laboratory Testing
Treatment ***(if indicated)***	Follow up with your child's pediatric provider and Genetic Specialist
Additional Resources	VDH Newborn Screening *http://vdhlivewell.com/newbornscreening* Baby's First Test *www.babysfirsttest.org* American College of Medical Genetics (ACMG) ACT Sheets *www.ACMG.net* Genetics Home Reference *https://ghr.nlm.nih.gov/* ALD Connect *https://aldconnect.org/*

Educational content adapted from www.babysfirsttest.org

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