The majority of cases of antibody-negative primary adrenal insufficiency in young boys are caused by adrenoleukodystrophy (ALD)\textsuperscript{1-3}. ALD may develop into cerebral ALD (CALD), a severe form of the disease\textsuperscript{4,5}. If untreated, CALD often leads to severe neurodegeneration and sometimes death within 2 to 3 years\textsuperscript{5}.

**EARLY DIAGNOSIS OF ALD COULD SAVE A LIFE**

- If CALD is caught early, lifesaving treatment is possible\textsuperscript{6}
- *Early detection is critical*

**CHECK VERY LONG CHAIN FATTY ACID LEVELS (VLCFA)**

- A simple VLCFA blood test can diagnose ALD\textsuperscript{4}
- *See the back of this card for more information*

**SOME FACTS ABOUT ALD**

- 85\% of young boys diagnosed with ALD also had primary adrenal insufficiency\textsuperscript{7}
- Occurs in about 1 in 20,000 males\textsuperscript{3}
- Causes impaired peroxisomal β-oxidation of VLCFA, resulting in accumulation of VLCFA in plasma and all tissues\textsuperscript{3}
- Early symptoms are variable and non-specific but may include behavioral or learning issues and audiovisual impairment\textsuperscript{3,4}
ABOUT 35-40% OF ALD CASES WILL CONVERT TO CALD

• CALD leads to progressive behavioral, cognitive, and neurologic deficits and, in most patients, total disability and death within 2 to 3 years

  • Symptoms generally present between ages 4 and 8

• CALD can be successfully treated with allogeneic haematopoietic cell transplantation, but only if diagnosed in its earliest stages

A SIMPLE BLOOD TEST CAN MAKE ALL THE DIFFERENCE

• Boys with antibody-negative primary adrenal insufficiency who test negative for 21-hydroxylase antibody should be assessed for ALD by a VLCFA assay

<table>
<thead>
<tr>
<th>VLCFA Assay</th>
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<tbody>
<tr>
<td><strong>CPT code</strong></td>
</tr>
<tr>
<td><strong>Preferred specimen</strong></td>
</tr>
<tr>
<td><strong>Collection instructions</strong></td>
</tr>
<tr>
<td><strong>Transport temperature</strong></td>
</tr>
<tr>
<td><strong>Specimen stability</strong></td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
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</tbody>
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Visit [microsite URL] for more information about primary adrenal insufficiency and its relationship to ALD, brought to you by bluebird bio.

Additional information on ALD and its symptoms and treatment is available at ALDConnect.org.