

Figure 1. CT of the neck (coronal view) demonstrating uneven widening of the odontoid space and leftward rotation of C1 on C2 (arrows).

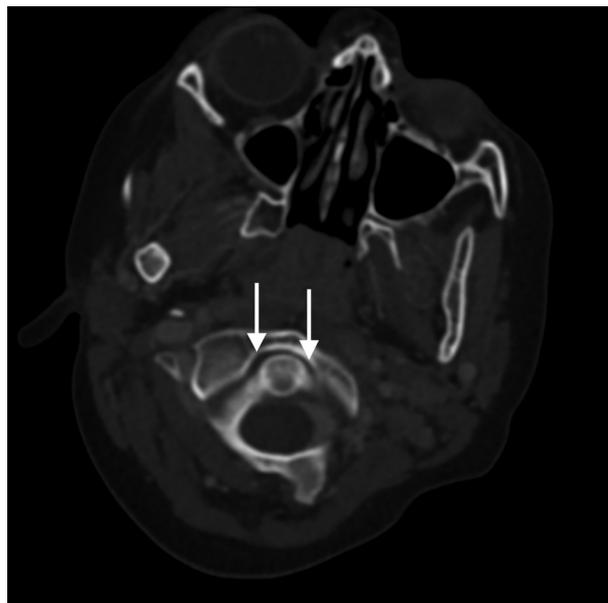


Figure 2. CT of the neck (sagittal view) demonstrating uneven widening of the odontoid space and leftward rotation of C1 on C2 (arrows).

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An 8-year-old girl with no significant medical history presented to the emergency department with 3 days of fever, nontraumatic left-sided neck pain, and sore throat. Physical examination was significant for torticollis, tenderness along the left posterior side of the neck, and bilateral anterior cervical lymphadenopathy. A computed tomography (CT) scan of the neck was obtained (Figures 1 and 2).

*For the diagnosis and teaching points, see page e12.
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*(continued from p. e11)***DIAGNOSIS:**

Grisel's syndrome. Grisel's syndrome is a rare condition of nontraumatic subluxation of the atlantoaxial joint. It occurs most commonly in infants and young children and affects both sexes equally.¹ The pathophysiology is uncertain. Patients most commonly present with nontraumatic torticollis and a history of recent otolaryngology procedure or infection.² The differential diagnosis includes ligamentous laxity, spinal instability, and occult trauma. Grisel's syndrome should be entertained as a diagnosis in all cases of torticollis, but especially for individuals in whom symptoms are not resolving. Radiographs are typically not helpful. CT demonstrating lateral displacement of C1 on C2 vertebrae establishes the diagnosis. Magnetic resonance imaging may be useful in visualizing inflamed soft tissue of the neck. Mild cases are treated with broad-spectrum antibiotics and stabilization with a soft collar. With delayed diagnosis, treatment may require a traction brace. Prompt diagnosis and treatment are important in preventing worsening subluxation and subsequent neurologic sequelae.³ Surgery may be required after 8 weeks of unsuccessful treatment or the presence of neurologic abnormalities.⁴

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