

DIAGNOSTIC CHALLENGE

Limited jaw opening

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THE CHALLENGE

A 21-year-old man was referred by his general dentist to the Oral and Maxillofacial Surgery Clinic, College of Dental Medicine, Columbia University, New York City, for extraction of four asymptomatic unerupted third molars. The patient's medical history indicated that he was in excellent health and had no history of pericoronar infections or head and neck trauma. Previous dental treatment included orthodontic braces and exposure of an impacted canine at age 13 years. Before the planned extractions, the clinician (D.R.) ordered a panoramic radiograph, which showed four impacted third molars (Figure 1). He did not observe any other abnormalities. No facial swelling or asymmetry was evident extraorally. The patient had no lymphadenopathy. Most striking was the presence of a markedly restricted jaw opening, which blocked access for the planned extractions (Figure 2). On questioning about the duration of the limited opening, the patient stated that he was unaware of any problem.

Palpation of the temporomandibular joint indicated restricted condylar movement. Inspection of the third molars with a dental mirror showed no inflammation of the surrounding soft tissues.

One of us (S.B.E.) consulted with the patient's orthodontist, who indicated there was no limited opening during the patient's orthodontic treatment approximately eight years earlier. Subjectively, the patient's ability to open his mouth, occlude and chew was normal. The maximum interincisal opening was 21 millimeters. The clinician measured a 7-mm right lateral excursion and a 4-mm left lateral excursion. Palpation of the temporomandibular joint (TMJ) indicated restricted condylar movement, with no associated pain. The intraoral examination revealed a dentition that was free of active caries. Inspection of the third molars with a dental mirror showed no inflammation of the surrounding soft tissues. To aid in the characterization of possible causes of the limited jaw opening, we ordered a computed tomographic (CT) scan without contrast (Figure 3).

Figure 1. Panoramic radiograph of the patient showing four impacted third molars.

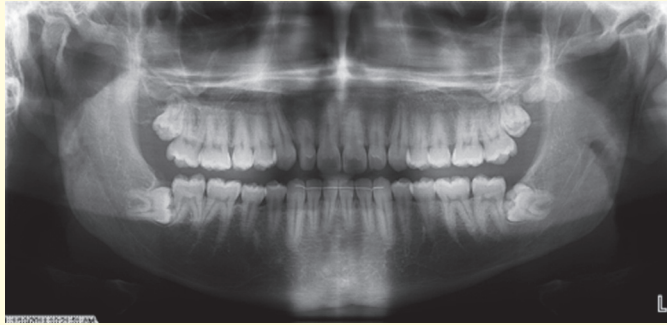
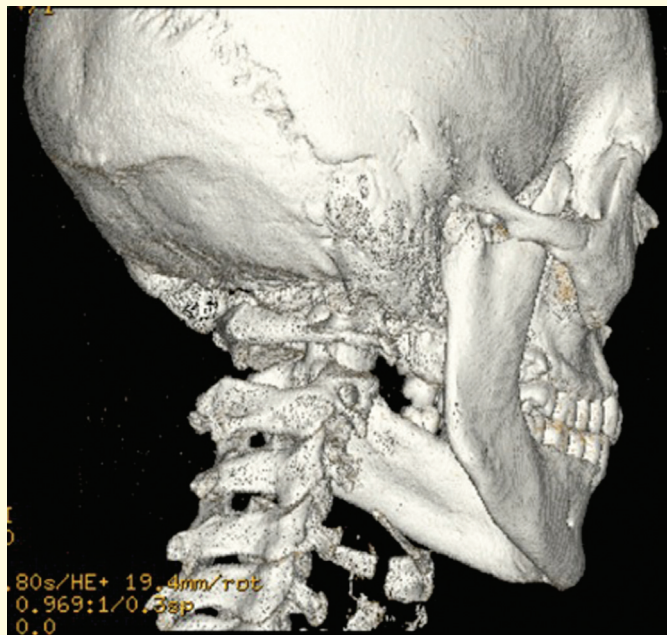


Figure 2. Patient's demonstrating maximum jaw opening of 21 millimeters.



Figure 3. Three-dimensional reconstruction of the patient's computed tomographic data.



CAN YOU MAKE THE DIAGNOSIS?

- A. masticatory space infection
- B. acute closed lock of the TMJ
- C. coronoid hyperplasia

- D. osseous ankylosis of the TMJ
- E. osteoma of the condylar head

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