# Spontaneous Temporomandibular Joint Dislocation in an 80-Year-Old Man

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We report the case of an 80-year-old patient who suffered a spontaneous temporomandibular joint (TMJ) dislocation. To our knowledge, this is the oldest patient reported to have this condition in the English-language literature. Reduction of spontaneous jaw dislocation is a procedure that usually can be accomplished in the office without intravenous sedation by properly applying downward pressure on the mandible.

*Key words.* Temporomandibular dislocation; dislocations (jaw); temporomandibular joint. (*J Fam Pract 1995; 40:395-398*)

Spontaneous dislocation of the temporomandibular joint (TMJ) occurs in up to 5.8% of people during their lifetime.[1] Eating, talking, yawning, or any other situation in which the mouth is widely opened may precipitate its occurrence. Reduction can occur spontaneously, but patients may present to the office of their family physician where relocation of the mandibular condyle in the articular fossa can be accomplished. The procedure is usually possible with only "verbal anesthesia" (reassuring words from the physician).

We report the case of an 80-year-old patient who had spontaneous temporomandibular joint dislocation. To our knowledge, our patient is the oldest patient reported to have this condition in the English-language literature. We also discuss the pathophysiology and appropriate treatment.

## Case Report

An 80-year-old man presented to a hospital emergency department with a chief complaint of dislocation of his left jaw while eating supper. The patient described a history of jaw dislocations during dental visits over the last decade, adding that only once previously did his jaw dislocate during a meal. He described his recent meal as a "soft" dinner not requiring heavy chewing. The patient had a medical history of hypertension and denied any history of trauma or surgery performed on his jaw or TMJ.

A physical examination revealed that the left mandible had shifted downward, forward, and to the right with profound malocclusion of the left dentition that was particularly accentuated when the patient attempted to close his jaw. On palpation, the left mandibular fossa was found to be empty and the tip of the mandibular ramus was displaced 3 to 4 cm caudad and forward in relation to the fossa. There was no visible evidence of contusion or surgical scar, and the joint was noncrepitant on the range-of-motion test. Radiographs revealed the left zygomatic fossa devoid of the mandibular condyle without visible fracture (Figure 1).

The patient was moderately uncomfortable and appeared anxious. He was given 2 mg of midazolam hydrochloride intravenously, after which reduction was easily achieved by manual caudal pressure applied to the mandibular angle intraorally. The patient was discharged 1 hour after the procedure. He experienced no negative sequelae as a result of the procedure and normal range of motion was restored to the joint.

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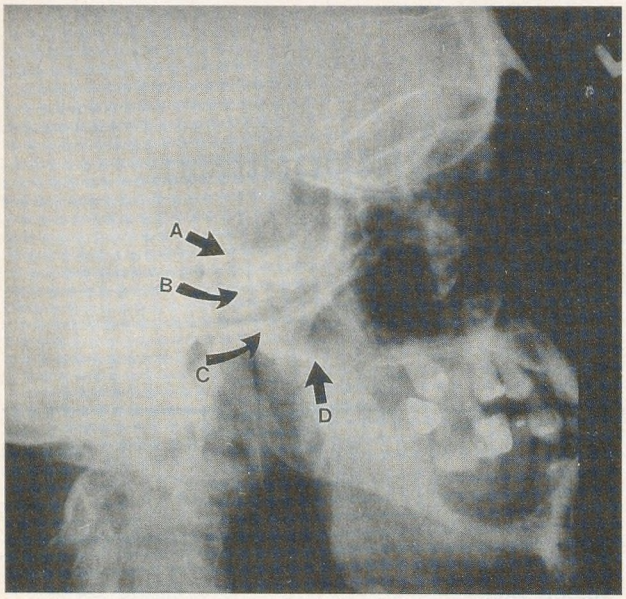


Figure 1. The oblique view of the mandible shows the left condyle anterior to the mandibular fossa (dislocated) and the right condyle in the fossa (correct anatomic position). The arrow marked "A" indicates the right mandibular fossa; "B," the right condyle (in fossa); "C," the left mandibular fossa; and "D," the left mandibular condyle anterior to the fossa (dislocated).

## Discussion

### *Anatomy and Pathophysiology*

Spontaneous dislocation of the TMJ occurs when the mouth is opened widely during eating, rinsing, talking, yawning, or at other times.[1–3]

When the mouth opens, the head of the mandibular condyle should not pass beyond the apex of the TMJ. When there is laxity of the capsular structures and capsular ligamentous tethering mechanism, a wide-open position allows either subluxation or dislocation of the joint. Predisposing factors include a shallow articular eminence and muscle fatigue from overuse.[4] Subluxation is defined as a hypermobile state that spontaneously reduces. If the patient is unable to spontaneously reduce the translocation of the articular eminence, then a true TMJ dislocation occurs. It is thought that locking results when spasm of the masticatory muscles occurs.[5–7]

Although most dislocations are anterior, they may also be posterior, lateral, or superior.[7] The problem is most commonly seen in those in the 2nd and 3rd decades of life, but it has previously been described in children under the age of 10 years and patients as old as 79.[5] Patients with a tendency toward mandible subluxation may experience dislocation during procedures such as bronchoscopy and endoscopy.[8] These are not truly spontaneous dislocations in that protective reflexes have been disabled with medications, such as morphine or benzodiazapines.

### *Differential Diagnosis*

The history and physical examination of the patient with spontaneous dislocation of the mandible is usually pathognomonic. Perhaps the most common differential diagnostic consideration is acute dystonia. The appearance of dystonia of the facial musculature when not accompanied by opisthotonos can be nearly identical to that of TMJ dislocation. However, acute dystonia usually involves a history of drug ingestion (antinauseant, antivertigo, antipsychotic, or recreational). A therapeutic trial of parenteral diphenhydramine hydrochloride is often simultaneously diagnostic and therapeutic. Trauma, particularly trauma resulting from spousal abuse, must be ruled out in the history. It is important to determine if trauma is involved for two reasons: if the patient's condition is a result of external aggression, he or she should be protected from the potential for future abuse; and if the patient's history and physical examination are consistent with spontaneous nontraumatic dislocation of the TMJ, radiographic evidence is not necessary.[9] If there is any question about the diagnosis, a radiograph is indicated to rule out associated fractures. A postreduction radiograph is recommended for first-time dislocations.[9]

### *Physical Examination*

Physical examination generally reveals a patient who is moderately uncomfortable with his or her mouth opened widely. Most cases are bilateral and the mandible is in the midline. However, when the dislocation is unilateral, the chin is deviated to the contralateral side.[4] Palpation in the preauricular region reveals an empty joint fossa and may reveal the condyle anterior to the joint.

### *Methods of Reduction*

Treatment of joint dislocation requires overcoming the muscles of mastication that are holding the mandible in an abnormal position. Once the spasm is gradually relaxed or overcome, the mandible can be gently slid back into the temporomandibular fossa. To accomplish this, the patient must be reassured and encouraged to relax. Reduction often can be accomplished without medication, particularly when attempted soon after the dislocation occurs.[10] However, in the event that relaxation is not achieved, narcotic or benzodiazapine medications can be used with

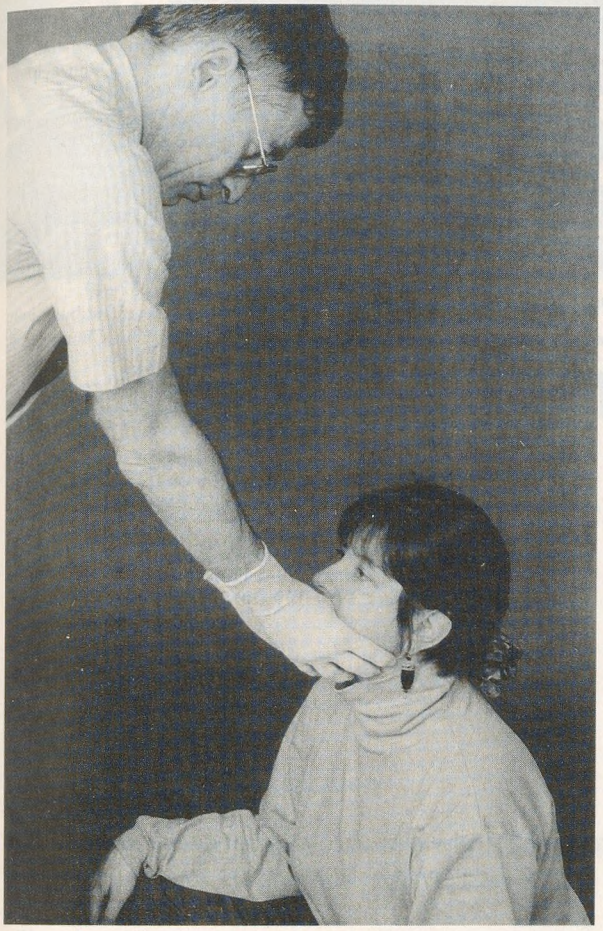

Figure 2. The readiness position for reduction requires the examiner to place his thumbs on the patient's molars, with the 3rd, 4th, 5th digits stabilizing submentally and the index fingers at mandibular angle. Body weight, rather than elbow extension, is used to reduce the temporomandibular joint by forcing the mandible downward and then sliding it backward into its correct position.

proper precautions to produce conscious sedation. Intracapsular injection of a local anesthetic may be used to facilitate reduction but should be attempted only by an experienced clinician, since infection and joint trauma are potential complications of this procedure.[7] A symmetrical simultaneous reduction should be attempted for any bilateral dislocation. In most cases, however, only one side reduces initially. If necessary, after the first side has been reduced, the patient should be reassured, and then the contralateral reduction can be accomplished.

Using the classic approach, the examiner should be positioned in front of and above the patient (Figure 2). Seating the patient on the floor allows the examiner to apply adequate force to the posterior molars to bring the mandible downward and then posteriorly into the mandibular fossa. This maneuver is facilitated by asking the patient to yawn as the examiner gradually exerts downward pressure (Figure 3).[11] The examiner's hands should be protected with gloves and gauze as a shield against inadvertent biting by the patient when the reduction is accomplished. It may be helpful to position the patient's head against a wall or to have an assistant maintain the patient's torso in the upright position. Another method patients can use to physically brace themselves for the reduction is to sit on the floor and grasp their knees with both hands, forming a tripod position.

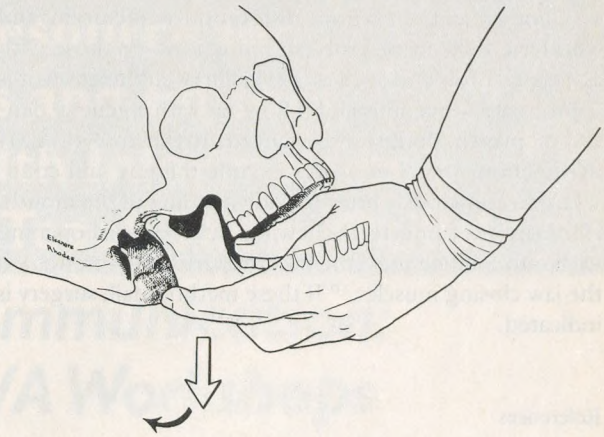

Figure 3. Correct hand positioning for reduction of anterior dislocation of the temporomandibular joint. Note that the thumb is on the molars, the index finger at the jaw angle, and the remaining digits under the jaw. A large arrow indicates the initial downward direction of force followed by reduction of the mandible into the fossa (indicated by small arrow).

Another method of reduction that merits consideration was described in 1987 by Awang[3] (we have not attempted this method). According to Awang, induction of a gag reflex by probing the soft palate resulted in reduction in all three of their reported cases, including one with jaw fracture. He describes the procedure as "simple, rapid, and safe and can be advocated in all cases of acute dislocation," and discusses the reflex neuromuscular activity that causes the reduction to occur.

## *Discharge Instructions*

When discharged, the patient is cautioned to eat only soft food for several days and to avoid opening the mouth widely for 3 to 4 weeks; the patient is also advised to place a hand under the chin while yawning.[7] One source recommends immobilization "for several days by means of a head-chin strap or maxillomandibular fixation."[10] This recommendation is controversial and has not been our practice. We have found that nonprescription analgesics generally suffice.

For patients in whom dislocation is recurrent and who have difficult or problem reductions, or those with associated problems such as TMJ pain or subluxation, it is appropriate to recommend follow-up with a general dentist or prosthodontist experienced in the care of TMJ dysfunction. Initial measures include training and counseling to consciously prevent wide opening of the mouth, elimination of unilateral chewing, synchronous opening with only a hinge movement, and exercises to strengthen the jaw closing muscles.[10] If these methods fail, surgery is indicated.

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