Uprighting Impacted Mandibular Second Molars

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The correction of impacted mandibular second molars can be routinely handled when orthodontic appliances are in place and other orthodontic problems are being resolved.

In 1969, Block presented a paper on surgically repositioning impacted mandibular second molars. Johnson and Taylor[1] described their method in 1972; after surgically exposing the crown, a wire mesh with an attachment was cemented to the occlusal surface. Forces were then applied to the tooth from the buccal side of the first molar. Buchner[2] placed pins in the crown of the impacted second molars; if needed, the crown was surgically exposed to enable placement of the pins.

Each of these methods involved obtaining forces from other banded teeth. The authors reported the possibility of tissue irritation and/or wire deformation from occlusion in this area of the arch.

Clinically, the typically impacted mandibular second molars appear most frequently with the mesial cusps exposed and the distal cusps tissue-covered. Occasionally a patient may present with no orthodontic problems other than an impacted mandibular second molar. In such cases, where no bands are in place, the second molar can be uprighted as follows.

An .030 spring is incorporated in a lower removable appliance. The free end of the spring is fashioned to fit in the central fossa of the second molar to be uprighted. If the patient is in retention, a spring can simply be added to the retainer in use.

The patient is instructed to make certain that the end of the spring is correctly positioned when the appliance is seated. The spring is activated only one to two mms. When there is concern about anchorage, a lip bumper may be added to the appliance.

The action of the spring while it is tipping the crown of the molar distally tends to prevent eruption of the tooth, because it is resting on the occlusal surface of the crown. When the second molar has been uprighted sufficiently for normal eruption, the appliance is discarded, and several weeks later a separating wire may be placed and left there until full eruption has taken place.

A typical appliance in place on a cast is illustrated in Figure 1. The end of the .030 uprighting spring is seated in the central fossa of the second molar.

Figure 2 shows progressive films of a lower second molar beginning September 1966 (upper left). Figure 2 (lower left) depicts the condition in December 1968.

A lower removable appliance with a spring was placed but after two adjustments was lost. The upper right film shows a separating wire in place while the lower right film pictures the teeth in July 1973. The removal of the third molar had been suggested when

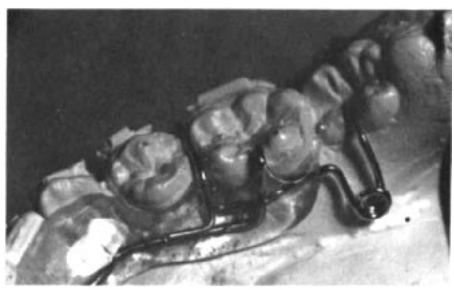

Fig 1

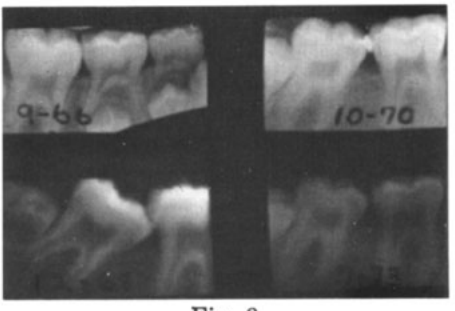

Fig. 2

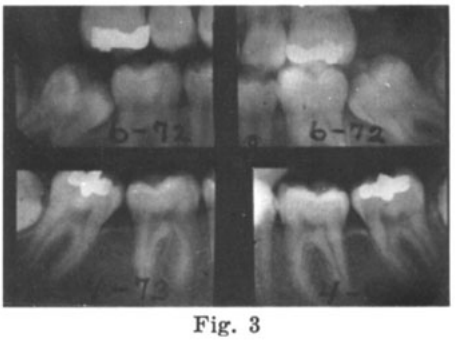

Fig. 3

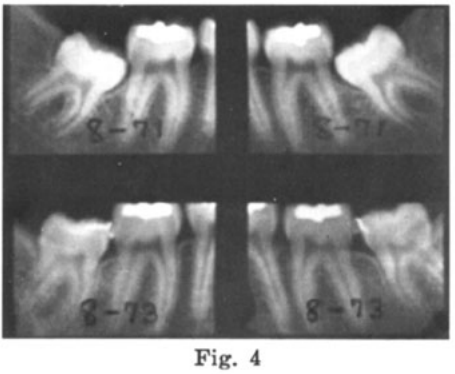

Fig. 4

the upper right film was made.

A pedodontist had surgically exposed the crowns of the two impacted second molars seen in Figure 3 (above). An attempt had been made to free them with separating wires for a year before referring the patient, a girl age 13 years.

A lower removable spring appliance against each molar was used for eight months. The lower films, ten months later, show the position of the molars two months after the appliance was discontinued.

The method described also works effectively for impacted third molars that are partially tissue-covered. Rather than having them removed, particularly in a completed extraction case, an attempt to upright them should be made. Figure 4 illustrates two impacted third molars in a sixteen year-old boy treated with four premolars removed. Removal of four premolars and later, four third molars, amounts to a net loss of 25 percent of the patient's teeth, usually prior to his now legal adulthood.

This approach for uprighting second or third molars, *unfortunately,* requires patient cooperation. To date, no patient has reported any tissue irritation, nor have any of the springs broken.

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REFERENCES

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2. Buchner, H.: Correction of impacted mandibular second molars, *The Angle Orthodont.* 43:30, 1973.