Extraction of a maxillary molar tooth

Introduction

Simple extraction of maxillary first and second molar teeth that are heavily restored can often be difficult. Teeth with large restorations or root canal fillings can fracture during a forceps extraction and a surgical technique must then be used. These extractions are further complicated by the tooth’s close proximity to the maxillary antrum. Nowadays, atraumatic extraction techniques to preserve buccal bone are imperative as more patients are opting to restore the space with an implant. Raising a buccal flap is often unnecessary and may also lead to the loss of some buccal bone. This technique will describe the atraumatic removal of an upper maxillary molar tooth.

Step-by-step instructions for maxillary molar extraction

STEP 1

Pre-operative assessment of the patient’s medical and social history should be carried out, ensuring that there are no contraindications for extraction. The OPG (Figure 1) must be examined looking at the state of the tooth crown, the shape and length of the tooth roots, proximity to the maxillary antrum and adjacent teeth. In a heavily restored maxillary molar tooth (Figure 2), a surgical extraction must be planned for at the start of the procedure. A written consent form is signed discussing the normal surgical risks, including postoperative bleeding, swelling, bruising, infection, damage to adjacent teeth, creation of an oro-antral communication and the possible need for further surgery.

STEP 2

Assuming that there are no medical contraindications, 400mg ibuprofen and 1g paracetamol are given to the patient pre-operatively. If there is any sign of pre-operative infection, 500mg amoxycillin may also be used before the procedure starts.

STEP 3

Local anaesthetic should be administered to the buccal and palatal aspects of the tooth.
There is no need to raise a buccal flap for extraction of the tooth. Section the tooth crown/restorative material off first to gain visual access to the roots (Figure 3). Then section the roots to make the shape of an inverted ‘Y’ (Figure 4) with a surgical fissure bur attached to a surgical drill and motor with sterile saline irrigation (Figures 5 and 6). An air rotor drill should not be used, as this can cause the serious complication of surgical emphysema.

**STEP 4**
Use a large elevator (Figure 7) to fracture the roots into three separate pieces.

**STEP 5**
Use a periotome to separate the periodontal ligament circumferentially around each root (Figures 8, 9 and 10).
STEP 6
Elevate each root separately with luxators, taking care to keep the buccal and inter-radicular bony support intact. When there are curved, thin, non-vital, or bulbous roots, significant mobility of each should be achieved before attempted extraction from the socket (Figures 11, 12 and 13). A root forceps may be used to remove each root from its socket (Figure 14). In this case there is no need for a suture as no surgical flap has been raised.

STEP 7
Appropriate postoperative analgesia and antibiotics (amoxycillin 500mg tds 5/7) should be prescribed. The patient may be followed up in one week if necessary. This technique should result in reduced postoperative pain and swelling while preserving vital bone volume.