

GERMECTOMY

Germectomy is defined as the removal of the developmental buds prior to anchoring of the roots in the jaw (Chossegras et al., 2001).

Germectomy is often approached through a multidisciplinary approach which involves the pediatric dentist, orthodontist and oral surgeon (Mazur et al., 2022)

INFANT ORAL MUTILATION (IOM)

Infant Oral Mutilation (IOM) is a traditional unethical practice of removing an infant's unerupted teeth or tooth buds without anesthesia. Largely practiced in African countries, advocates of this gruesome method use instruments like hot nails, bicycle spokes and pointed penknives. The procedure is usually performed between 7 months to 4 years of age. Low socioeconomic status and less literate populations believe the tooth buds to be worms, that are responsible for the infant's distresses like diarrhoea and vomiting. This is the reason why these populations resort to IOM. Fatality rate due to IOM can be as high as 21% due to complications of the technique that include septicaemia, osteomyelitis, HIV, severe anaemia with blood loss, hepatitis and tetanus. The most commonly removed tooth bud is the mandibular canine (Anjum et al., 2022).

INDICATIONS FOR THIRD MOLAR GERMECTOMY

Clinical indications for germectomy in pediatric dentistry are classified as orthodontic and prophylactic (Mazur et al., 2022)

ORTHODONTIC

- Mandibular Anterior Crowding (also an indication for second molar germectomy)
- Lower Second Molar Impaction
- Molar Distalization
- Orthognathic surgery

PROPHYLACTIC

- Space management
- Recurrent pericoronitis
- Dental cyst
- Dental abscess

TIMING OF GERMECTOMY

The timing of carrying out a germectomy can be early (12-18 years) or late (19-25 years). (Chiapasco et al., 2017)

If there is space loss, timing of third molar germectomy is ideal at 12-13 years of age when the tooth is in initial calcification stage (Chaparro-Avendano et al., 2005)

If there is no space loss, timing of third molar germectomy is based on the vertical mandibular ramus resorption (Males: 17 years; Females: 15 years) (Chaparro-Avendano et al., 2005)

If a prophylactic extraction is needed, the time of extraction is between 16-18 years as one-thirds to two-thirds of the third molar roots are formed. Preventive extractions can be done till 25 years of age as the bone is less mineralized (elastic and resilient). (Chaparro-Avendano et al., 2005)

POST-TREATMENT COMPLICATIONS

Most of the post-treatment complications after germectomies are transient and reversible. Moreover, complication rates seen in patients between 9-16 years are minimal and similar to patients in the age groups of 17-24 years and 24+ years. (Chiapasco et al., 2017).

The commonly observed post-operative complications are swelling, pain, ecchymosis, trismus, paraesthesia, and secondary infection in the periodontal pouch distal to second molar (Staderini et al., 2019) (Monaco et al., 2017)

PRE-TREATMENT ASSESSMENTS

- Nolla's stage - increased post-operative complications seen if germectomy is done before Stage 6. (Chaparro-Avendano et al., 2005)
- Age of the patient to understand position of the inferior alveolar nerve and lingual nerve (Chaparro-Avendano et al., 2005)
- Ganss Ratio and Pell & Gregory classification (depth and distance from ramus and occlusal plane) (Monaco et al., 2017)
- Cost-benefit ratio (Chiapasco et al., 1995)

REFERENCES

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Mazur et al., 2022



Staderini et al., 2019



Chaparro-Avenado et al., 2005



Anjum et al., 2022



Cecchini et al., 2017



Chiapasco et al., 2017