



*the Child Dental Patient with*

# Primary Failure of Eruption





## **Primary Failure of Eruption (PFE): definition**

Total or partial failure of eruption without any mechanical obstacle  
Affecting temporary and/or permanent teeth

**Prevalence is less than 1%**

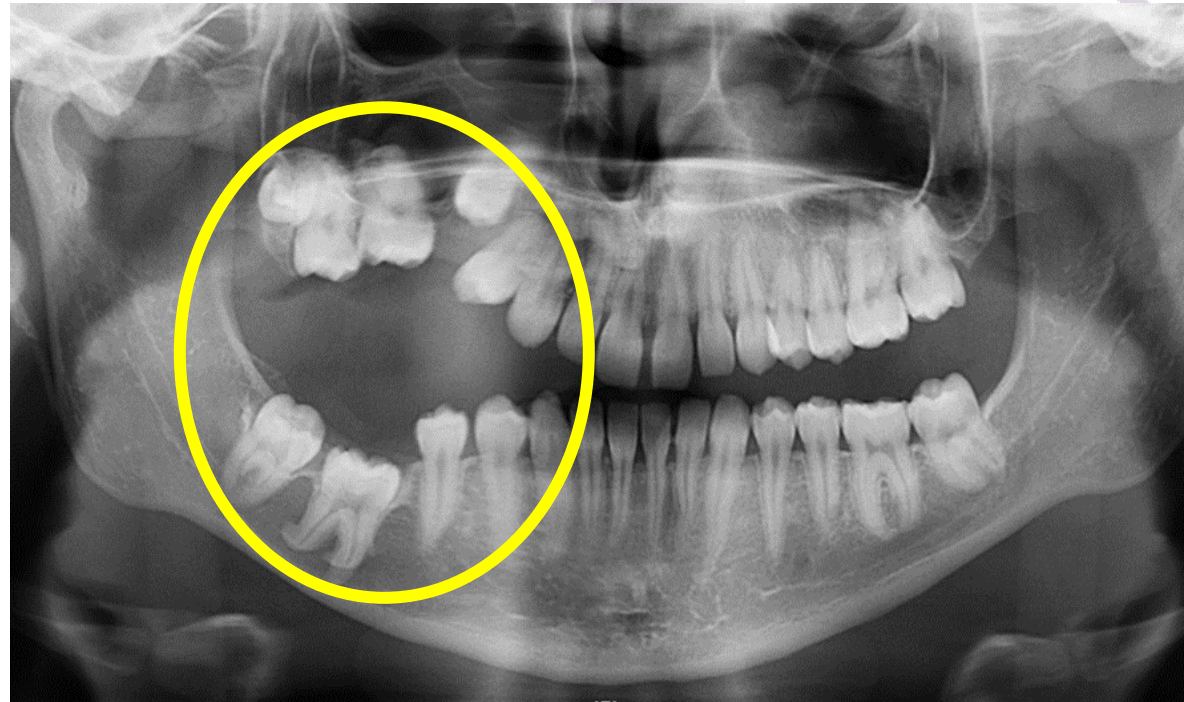
## **Clinical features**

Posterior teeth are affected  
Posterior infraclusion

Grover PS, Lorton L. The incidence of unerupted permanent teeth and related clinical cases. *Oral Surg Oral Med Oral Pathol.* 1985;59(4):420-5.  
Stellzig-Eisenhauer A, Decker E, Meyer-Marcotty P, Rau C, Fiebig BS, Kress W, et al. Primary failure of eruption (PFE)--clinical and molecular genetics analysis. *J Orofac Orthop.* 2010;71(1):6-16.

## Radiological aspects

- Variable inclusion depth
- Variable axes
- Impact on the root morphology of the mandibular molars
- CBCT is essential to detect possible areas of ankylosis and possible internal resorptions





## Isolated forms

Related to genetic mutations in the *PTH<sub>R</sub>1* gene  
or unknown etiology

## Syndromic forms

PFE associated with other extra oral clinical manifestations

**Genetic or endocrine etiology**

Example 1: Enamel Renal Syndrome (amelogenesis imperfecta,  
intrapulpar calcifications, nephrocalcinosis)

Example 2: GAPO syndrome  
(**G**rowth retardation, **A**lopecia, **P**pseudoanodontia, **O**ptic atrophy)

## Consequences for the patient's life

Depending on the severity of the disease (number and distribution of affected teeth, depth of inclusion)

**Aesthetic consequences**

**Transmission  
of the genetic mutation**

**Low masticatory coefficient**

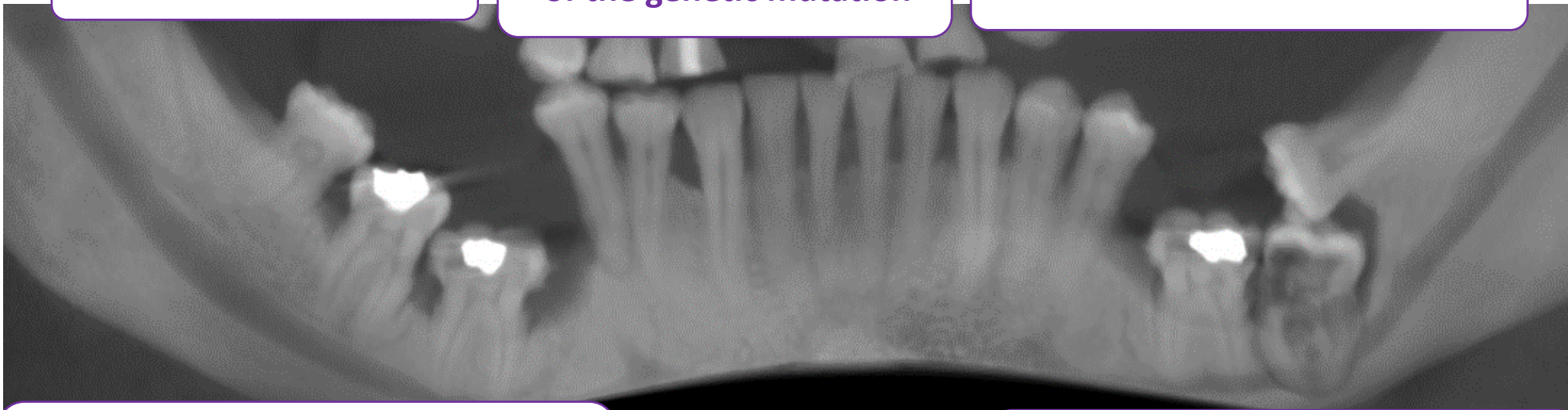
**Choice of food**  
(child who will avoid meat  
or hard food)

Possible consequences  
on the growth  
of the child

Disturbance of morphogenesis  
and eruption of permanent teeth  
when temporary teeth are affected

**Complex treatments**  
(duration, cost...)

**Caries risk** linked to access difficulties  
for brushing



## Therapeutic care : absence of consensus

**Overlay bonding**  
for partially visible teeth

**Orthodontic traction**  
High risk of failure (ankylosis)

**Removable over denture**

Therapeutic gradient  
according to the severity of the clinical features

**Therapeutic abstention**

**Avulsion +/- bone graft and prosthesis**

**Segmental osteotomy**