

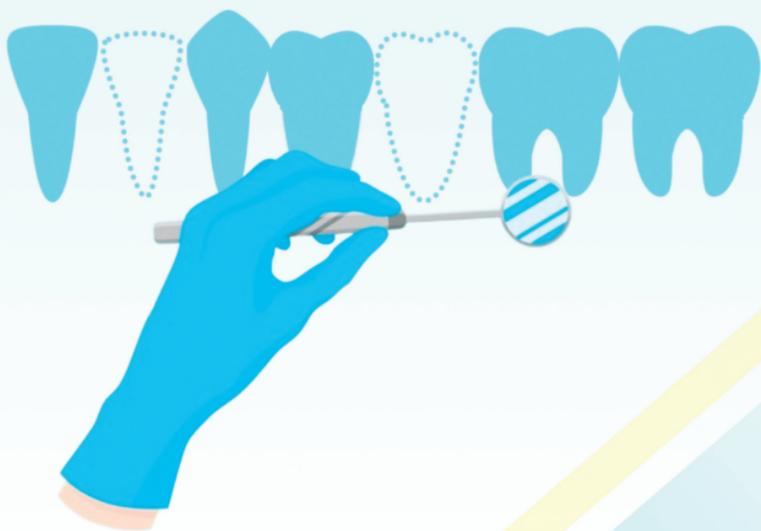
QUICK REFERENCE FOR HEALTHCARE PROVIDERS



Ministry of Health Malaysia  
Oral Health Programme

# MANAGEMENT OF HYPODONTIA

(SECOND EDITION)



## KEY MESSAGES

1. Hypodontia is a condition characterised by the congenital absence of one or more teeth.
2. Hypodontia is further defined as congenital agenesis of less than 6 teeth, oligodontia is when 6 or more teeth are missing and anodontia is when agenesis of all teeth excluding third molars.
3. Aetiology of hypodontia is multifactorial and it is linked to genetic and environmental factors.
4. In diagnosing hypodontia, intraoral radiograph should be considered once a tooth is clinically missing and panoramic radiograph should be delayed until age of 9 to 10 years old.
5. Cone Beam Computed Tomography should be avoided as a diagnostic tool for hypodontia patients.
6. Essential pre-treatment records may include panoramic and lateral cephalometric radiographs, dental casts, intra- and extra-oral photographs in hypodontia patients.
7. Management of hypodontia depending on treatment need either conservative or active treatment.
8. Conservative treatment includes preservation of deciduous teeth and acceptance of occlusion and function.
9. Active treatment includes interceptive treatment and/or requiring comprehensive treatment.
10. Interceptive treatment by extraction of infraoccluded deciduous teeth may be considered.
11. Comprehensive treatment involving space management of hypodontia patients (space closure or space opening) should be managed by a multidisciplinary team.
12. Orthodontic space closure should be considered when both space closure and prosthetic replacement are feasible.
13. Dual retention post-orthodontic treatment may be considered in patients with high relapse tendency.

This Quick Reference provides key messages & a summary of the main recommendations in the Clinical Practice Guidelines (CPG) Management of Hypodontia (Second Edition)

Details of the evidence supporting these recommendations can be found in the above CPG, available on the following websites:

Ministry of Health Malaysia: [www.moh.gov.my](http://www.moh.gov.my)

Oral Health Technology Section  
Oral Health Programme  
Ministry of Health Malaysia  
Level 5, Block E10, Precinct 1,  
Federal Government Administrative Centre,  
62590 Putrajaya, Malaysia

## EXAMINATION AND DIAGNOSIS

Patient's complaint	
Complaint	Commonly associated with aesthetic, function and speech difficulties
History taking	
Medical	Possible association with medical conditions such as Ectodermal Dysplasia and Down Syndrome
Dental	To exclude clinically missing teeth due to either extraction or trauma
Family	Presence of hypodontia in other family members is an indication of a genetic basis
Clinical examination	
Extra-oral	Facial profile and facial height
Intra-oral	Associated dental features include microdontia, conical teeth, ectopic eruption, retained deciduous teeth, reduced alveolar ridge development, delayed eruption of permanent teeth, enamel defects, and abnormal tooth position
Investigation	
Radiographic imaging	Include periapical views, upper standard occlusal radiographs and dental panoramic radiographs.

## TYPES OF HYPODONTIA



Hypodontia



Oligodontia



Anodontia

## REFERRAL

Hypodontia is suspected when there is:

- 1.5 years delayed eruption from its chronological eruption age
- 6 months delay after contralateral tooth has erupted
- absence of bulge upon palpation of eruption site
- prolonged retained deciduous teeth
- a family history of hypodontia
- history of congenitally missing deciduous teeth
- anomalies associated with hypodontia seen

IOTN is used to assess the need for orthodontic treatment.

Hypodontia is categorised under Grade 5 and 4 in IOTN which indicates a high need for orthodontic treatment.

Early referral should be considered once hypodontia is diagnosed.

Comprehensive treatment requiring space management of hypodontia patients should be managed by orthodontist or multidisciplinary team.

## MANAGEMENT

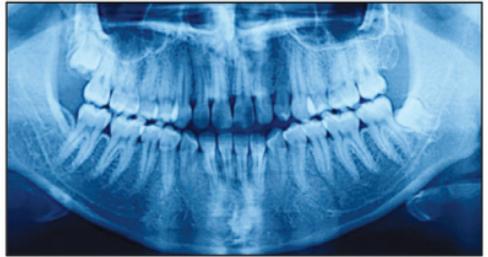
Management of hypodontia depends on various factors and treatment need.

Preservation of retained deciduous teeth may be considered in hypodontia patients.

Factors to determine prognosis of retained deciduous are:

- caries
- restoration
- root resorption
- bone resorption
- periapical or interradicular pathology
- ankylosis
- infraocclusion
- gingival recession

Extraction of infraoccluded deciduous teeth may be considered.



**Figure :** A case of retained deciduous tooth

Comprehensive treatment involving space management can be either space closure or space opening. Orthodontic space closure should be considered when both space closure and prosthetic replacement are feasible.



**Figure :** Orthodontic space closure

Factors to be considered when prosthetic replacement using an implant in hypodontia patient:

- medical condition
- completion of growth
- oral hygiene
- thickness of ridge or bone volume at hypodontia site
- diameter of dental implant
- space availability
- root parallelism
- operator skill
- cost



**Figure :** Pre- and post-implant treatment of missing right MxL1

Premolars with open apex may be considered for autotransplantation in hypodontia patient.

## RETENTION

Post-orthodontic retentions are required to prevent relapse of teeth.

Factors to be considered when prescribing types of retainers for hypodontia patients are:

- initial malocclusion
- treatment modality (open space or close space)
- tendency of relapse
- oral hygiene
- patients' compliance
- patients' preference
- operator's skill & laboratory support
- cost

Dual retention post-orthodontic treatment may be considered in patients with high relapse tendency.

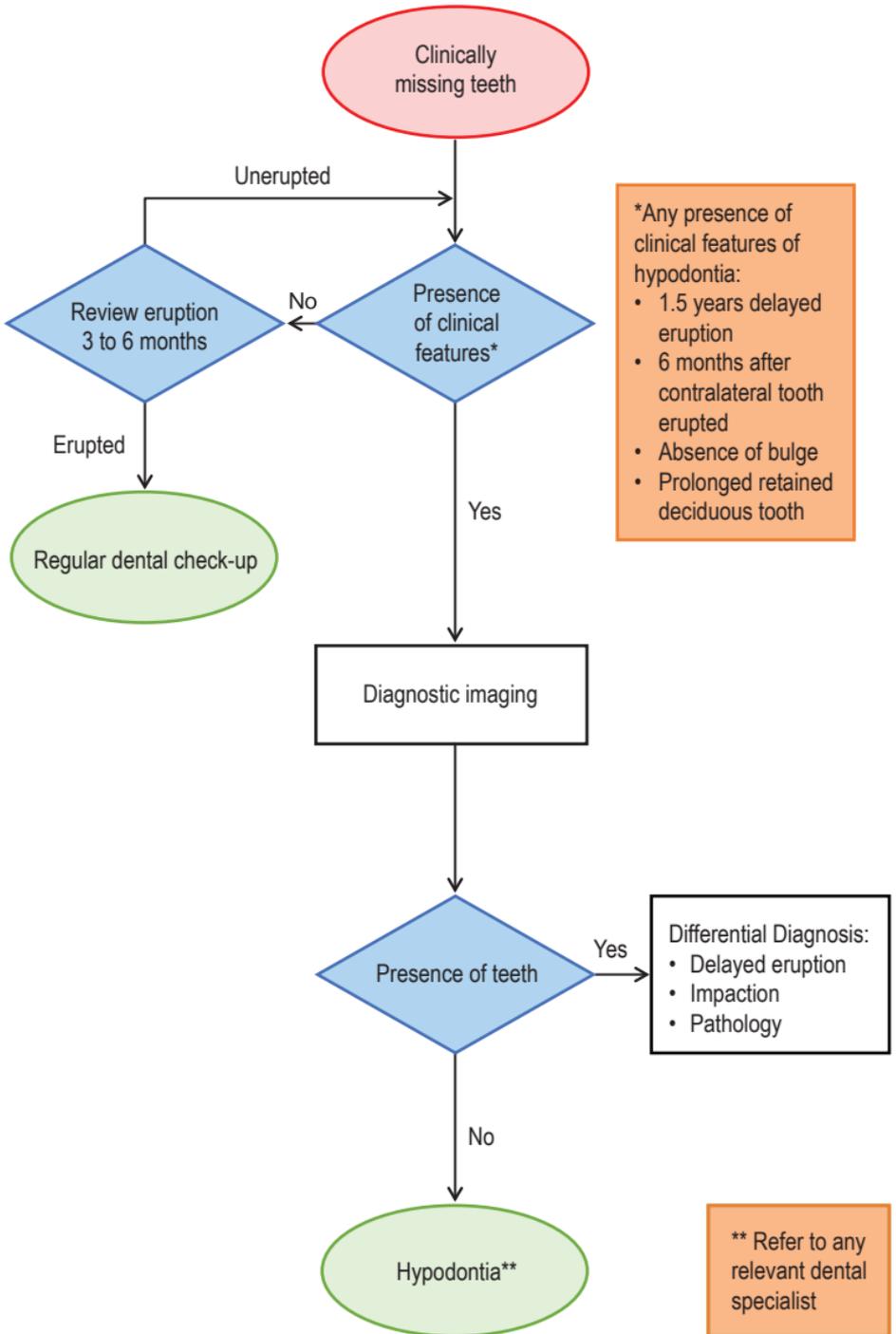
## ORAL HEALTH-RELATED QUALITY OF LIFE (OHRQoL)

Hypodontia has a negative impact on oral health-related quality of life (OHRQoL) however, it can be improved with appropriate management.

**SUMMARY MANAGEMENT OF HYPODONTIA**

Conservative Treatment	Preservation of deciduous teeth with acceptable occlusion. Patient satisfied with the dentition and not willing to commit lengthy and costly treatment.	
Interceptive Treatment	Reducing or eliminating the need for complex treatment by extraction of deciduous teeth with infraocclusion.	
Management by Space Closure	Orthodontic space closure Missing maxillary lateral incisors Missing mandibular second premolars Modification of tooth size and shape	Achieved either via orthodontically closing the space or modification of the tooth for aesthetic reasons. Factors to be considered for space closure: <ul style="list-style-type: none"> <li>• facial profile</li> <li>• canine angulation</li> <li>• shade of canine</li> <li>• gingival height</li> </ul>
Management by Space opening	Orthodontic space opening Rehabilitation with prosthetic replacement Auto transplantation Removable retainer Fixed retainer	Space opening involves orthodontic space redistribution to create enough space for future prosthetic replacements. Factors to be considered for space opening: <ul style="list-style-type: none"> <li>• facial profile</li> <li>• multiple missing teeth</li> <li>• cost</li> </ul>
Post-Orthodontic Treatment Retention	Final phase to maintain the teeth in their corrected positions after completion of orthodontic treatment. The choice between the retainers depends on the patient's individual needs and preferences.	

**ALGORITHM 1: DIAGNOSIS OF HYPODONTIA**



**ALGORITHM 2: MANAGEMENT OF HYPODONTIA BY MULTIDISCIPLINARY TEAM**

