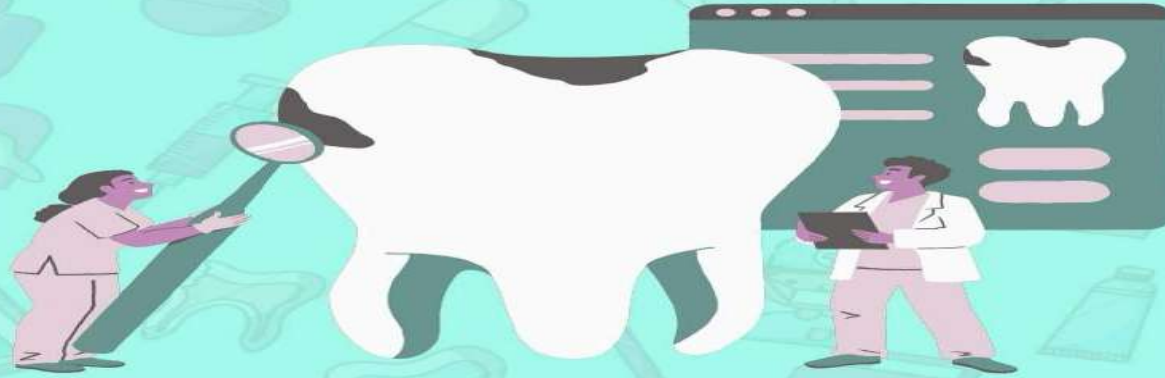




INTRODUCTION TO DENTISTRY



LEC NO. : Eight
DONE BY : Dr. Amir Freatat

وَقُلْ رَبِّ زِدْنِي عِلْمًا



Introduction to Dentistry

Orthodontics & Pediatrics

Dr. Abdelrahman M. Galal



At the end of this lecture, the students will be able to:

- Define orthodontics and pedodontics
- Appraise the relation between orthodontics and other dental diseases
- Identify the demands for orthodontic treatment
- Recognize the possible disadvantages of orthodontic treatment

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A. (Orthodontics)

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Definition

03

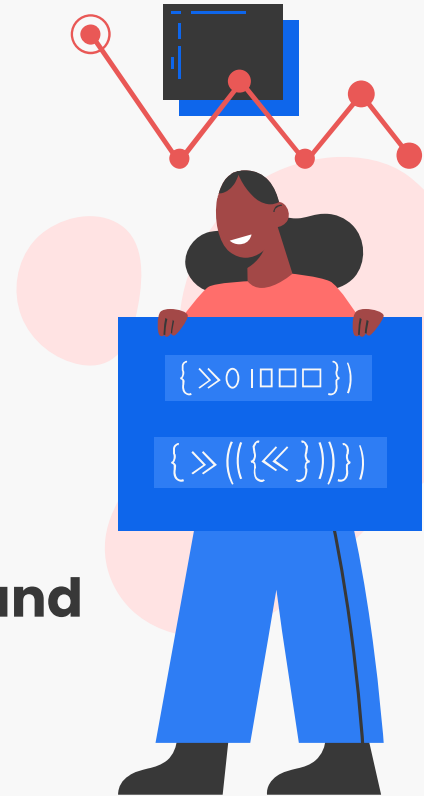
Demands for
orthodontic
treatment

02

Relations between
orthodontics and
other dental
diseases

04

The disadvantages and
potential risks of
orthodontic
treatment



A



01

Orthodontics

branch of dentistry
gives the teeth
the normal
appearance





Orthodontics تقويم الأسنان



[]

A branch of dentistry concerned with facial growth, with development of the dentition and occlusion, and with the diagnosis, interception, and treatment of occlusal anomalies.

الطباق

محدد

وجود شذوذ (خلل) في الإطباق



[]



Prevalence of malocclusion

UK child dental health survey 2003

malocclusion *بها نون من*

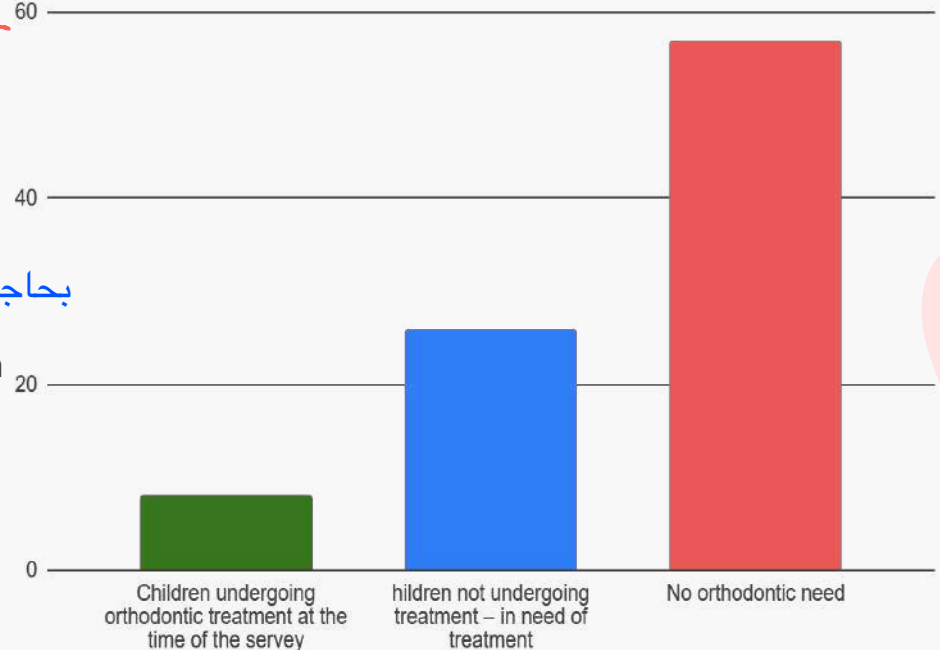
8 % *و يخضعون للعلاج*

Children undergoing orthodontic treatment at the time of the survey

26 % *بحاجة الى العلاج ولكن لا يتم*

Children not undergoing treatment - in need of treatment

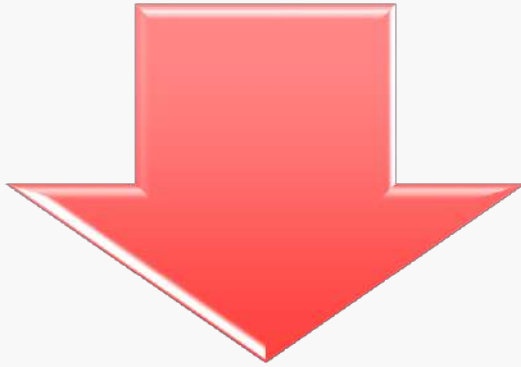
57 %



الحوار انه بيت الفوا عرو والاضار

The need for treatment

{ }



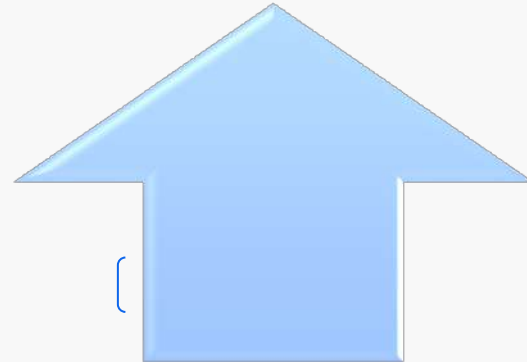
Worsening of dental health (e.g. caries)

Failure to achieve
aims of treatment



- ✓ Improved function
- ✓ Improved aesthetics
- ✓ Psychological benefits

فوائد نفسية تزيد من self confidence



[]



02

**Relations between
orthodontics and
other dental
diseases**

{ }

Dental Caries

اسنانِ نحرِ مرتبے

Children which have malalignment of teeth possess reduced potential for natural tooth-cleansing and increase the risk of caries

العناية الذاتيه بالاسنان



Periodontal diseases

Good tooth brushers are motivated to brush around irregular teeth, whereas in the individual who brushes infrequently their poor plaque control is clearly of more importance.



Speech problems

« If a patient cannot attain ^{تحقيق} contact between the incisors anteriorly, this may contribute to the production of a lisp (interdental stigmatism).



يمكن ان يحدث العديد من المشاكل في النطق فيحدث لدغة (lisp) خصوصا عندما يعاني من عدم

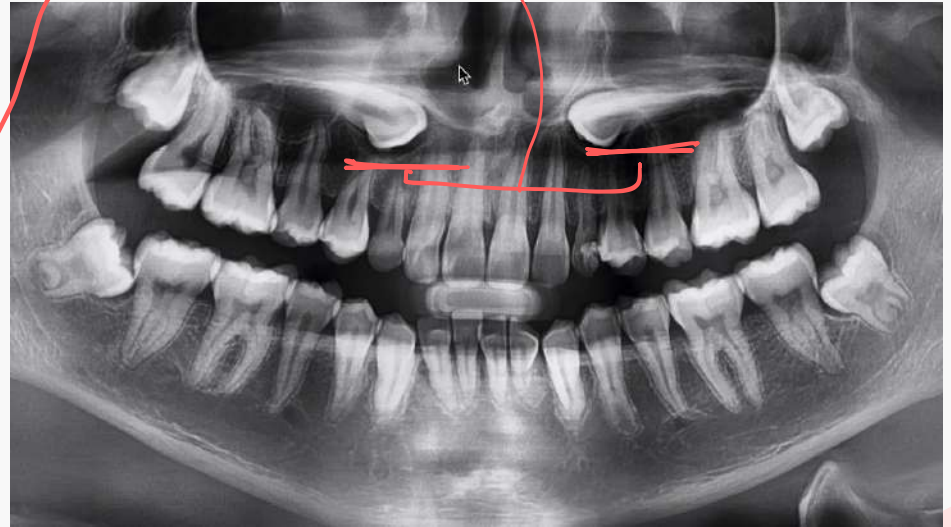
وجود

Tooth impaction

أسنان داخل اللثة ولكن لم يتم
بزوغها بعد

Unerupted impacted teeth, for example maxillary **canines**, may cause resorption of the roots of adjacent teeth.

يمكن ان تؤثر سلباً على الاسنان
المجاورة فيحدث بها اهتزاز



Psychological and social effect of malocclusion

تقريب الذات

Self-Esteem

Individuals with malocclusion may experience lower self-esteem due to self-perceived appearance

تصور الذات

Quality of life

Good oral health is associated with overall psychological and social well-being



Factors influencing the psychological impact of malocclusion

الشدة

Severity

The impact varies based on the severity of malocclusion



Factors influencing the psychological impact of malocclusion

الدكتور هشام لدى الأطفال أكثر
تأثيراً

**Age, Gender, and
Ethnicity**

العرق

These factors influence
how malocclusion

affects an individual's
psyche



How it affects on the (نفسية الفرد بعد ذاته)

Factors influencing the psychological impact of malocclusion

تأثير الحالة الاجتماعية والاقتصادية

Socioeconomic Status

These factors influence how malocclusion affects an individual's psyche



03

Demands for orthodontic treatment



مثل وجود سنين ماحاذيين اي مقابلين لبعض احدهما خلف الاخر

The awareness of tooth alignment and malocclusion, and willingness to undergo orthodontic treatment, are greater in the following groups:

- Females
- Higher socio-economic families/groups
- In areas which have a smaller population to orthodontist ratio





{ } * للاشخاص الذين
لا يتقبلون التقويم
الطبيعي (بمظهره المزيج)



The demand for treatment has also been elevated by the increased availability of **less visible** appliances

شفاف almost



{ }

04

The disadvantages and potential risks of orthodontic treatment

{ }

Root resorption

Patients appear to be more susceptible and undergo more marked root resorption:

- Shortened roots with evidence of previous root resorption
- Pipette-shaped or blunted roots → جذر ضعیف
- Teeth which have suffered a previous episode of trauma
- Iatrogenic - use of excessive forces; intrusion; prolonged treatment [] time



له علاجی
 علاج استخوان
 و استخوان
 و استخوان
 و استخوان

{ }

»»

Loss of periodontal support

- Reduced access for cleansing following the placement of fixed appliances, leads to an increase in **gingival inflammation**.
التهاب في اللثة
- This normally reduces or resolves **following removal of the appliance**.
بعد
- In most patients this is minimal, but if **oral hygiene is poor, more marked loss may occur**.
- **Management of risk:** Improve oral hygiene. Avoid moving teeth out of alveolar bone



Demineralization

يُصابُ خاليًا بالظهور ايد
(مُصابيح)

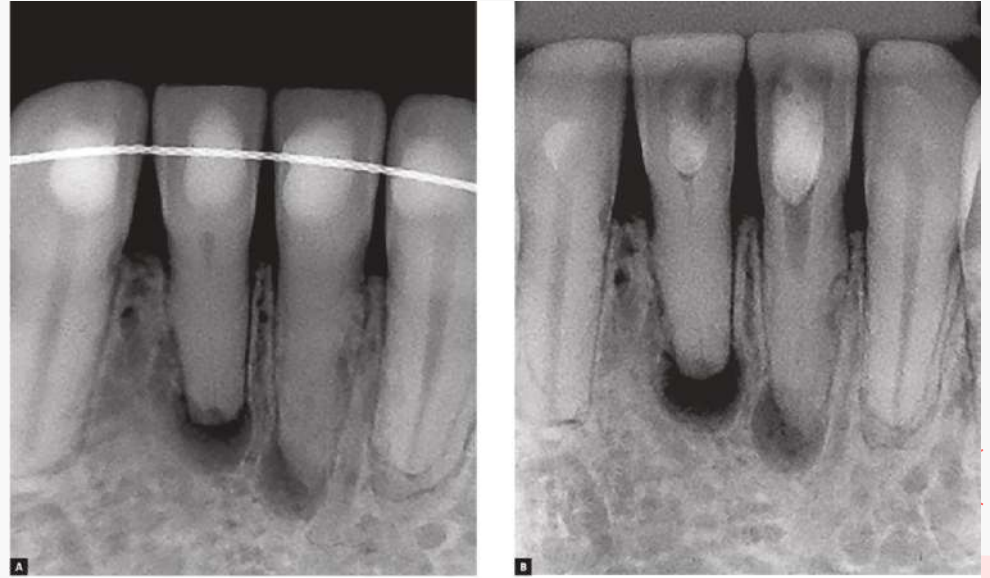
- Caries or demineralization occurs when a cariogenic plaque occurs in association with a high-sugar diet. Cariogenic bacteria live in biofilm and attack dental enamel by converting sugar and starch into acids that dissolve out calcium from
- The presence of fixed orthodontic appliances predisposes to plaque accumulation as tooth cleaning around the components of the appliance is more difficult.
- **Management of risk:** Dietary advice, improve oral hygiene, increase availability of fluoride



Pulpal injury

«
• An excessive amount of apical movement may result in pulpal mortality or a decrease in blood flow to the pulp.

{ } **Management of risk:** If history of previous trauma to incisors, counsel patient



لے
علاقہ
واقفہ
السن

»»

Failure to achieve treatment objectives

بها علاقة بالركتور

Operator factors	Patient factors
Errors of diagnosis	Poor oral <u>hygiene/diet</u>
Errors of treatment planning	<u>Failure to wear appliances</u> ← كالتقويم
<u>Anchorage</u> loss ← مهم جداً في التركيبات السنية	Repeated appliance breakages
Technique errors	Failed appointments

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B. (Pedodontics)

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Definition

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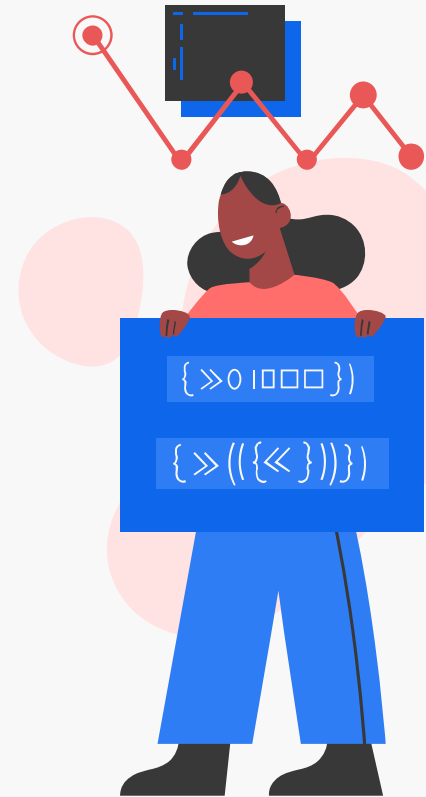
History of
Pedodontics

03

Importance of
deciduous teeth

04

Objectives of
Pedodontics



B



01

Pedodontics



Pedodontics (American Academy of Pediatric Dentistry)

An age-defined specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs (AAPD).



02

History of Pedodontics



- 1737: Gerauldy wrote theories of teeth eruption and exfoliation
- 1763: Joseph Hurlock publishes a book about children's dentistry
- 1764: Robert Bunon (**Father of Pedodontics**) establish the importance of deciduous teeth
- 1865: The first children dental clinic was opened at Strasburg, Germany



ROBERT BUNON
1702-1748

- 1926: Detroit Pedodontics Study club started by Dr. Samuel D Harris (Father of children's dentistry organizations worldwide)
- 1947: American Academy of Pedodontics was established
- 1984: American Academy of Pedodontics was named American Academy of Pediatric Dentistry



03

imp for → speech
→ eating
→ development of oral cavity

Importance of deciduous teeth

for jaw growth



Development of the Oral Cavity:

- Deciduous teeth help in the development of the oral cavity.
- They maintain the proper arch length within the jaw and provide a guide for the pathway of permanent teeth that begin to erupt.



Mastication

- They allow proper mastication, which is essential for digestion.



Space maintenance

- They maintain a place for the permanent teeth.
- Premature loss of deciduous teeth can lead to a lack of space, which is a significant factor in the development of malocclusion.



Facial Appearance

- Deciduous teeth contribute to forming the proper and normal face appearance.



Speech Development

- They ensure a clear speech pattern. The positioning of the teeth can affect the way sounds are formed.



«
The growth of the lower jaw is complete at the age of 20
»

04

Objectives of Pedodontics

imp For preventive dentistry
»



1. Early diagnosis and promote treatment

العلاج المبكر يسهم في نتائج أفضل

- Introduce and implement the principles of preventive dentistry for early diagnosis of any dental problem.
- Early diagnosis of developing malocclusion is essential to prevent complications and allow for early interception.



2. Observation of developing dentition

- The general practitioner should call the child for dental visit at regular intervals to monitor the development of oral structures and refers the child to specialist if needed.



3. Restoration of damaged teeth

- Restoration of damaged or lost teeth maintain the harmony between soft and hard tissues.



في حياة الإنسان

4. Increase the dental health care knowledge

- The dental visits in the childhood period would increase the child awareness about how to care of his/her teeth.



→ with patients who have disabilities

5. Management of special patients

- Managing the physically and mentally compromised children in an efficient way to avoid complications and maintain general health of the child.



B

05

Patient assessment in Pedodontics

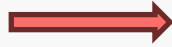
Like Medical history

إذا كان الطفل يعاني من
أمراض أو مشاكل السكري []



Patient assessment in Pedodontics

History taking



Medical history

- Cardiovascular disease
- Central nervous system disorders
- Endocrine disorder (e.g. diabetes).
- Gastrointestinal tract (e.g. hepatitis).
- Respiratory tract disorder (e.g. asthma, bronchitis, upper respiratory tract infections).
- Bleeding tendencies (include family history of bleeding problems).
- Urogenital system (renal disease, ureteric reflux).
- Allergies.
- Past operations or treatment/medications

Patient assessment in Pedodontics

تاريخ المريض النفا من مع الطفل
في الصياغة
أو في (GA)

History taking

Dental history

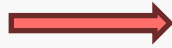
- Previous treatment (Child attitude).
- Eruption times and dental development.
- What preventive treatment has been undertaken previously.
- Methods of pain control used previously.

Growth and development

- Developmental milestones.
- Speech and language development.
- Motor skills.
- Socialization

Patient assessment in Pedodontics

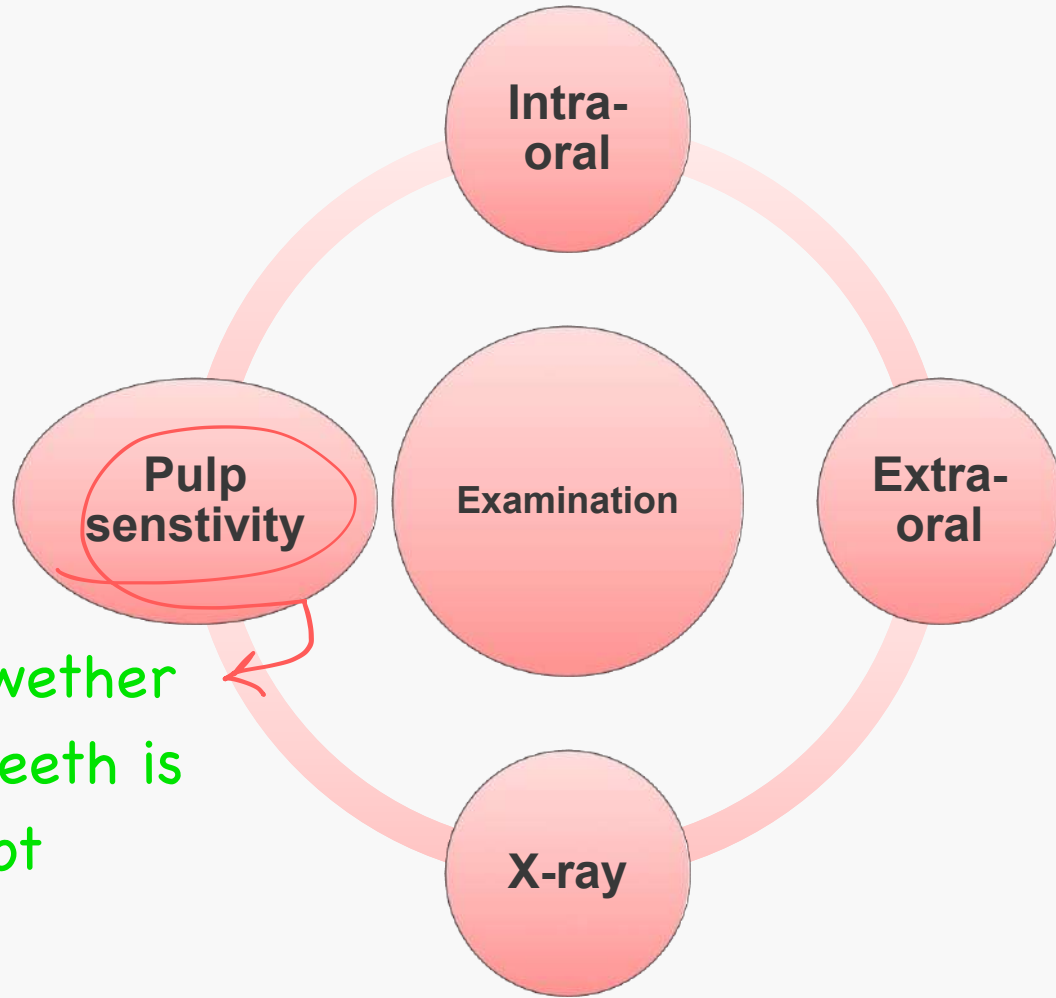
History taking



Family and social history

- Family history of serious illness.
- Schooling, performance in class.
- Speech and language problems.
- Pets/hobbies or other interests





To know wether
the the teeth is
vital or not



Assessment of disease risk



This assessment should be based on:



Past disease experience ✓



Current dental status ✓



Diet considerations ✓



Concomitant medical conditions ✓

{ }



[]

Handwritten Arabic text: "علاج"

- Three or more new lesions per year.
- Orthodontic treatment.
- Chronic illness or hospitalization.
- Medically compromised children.

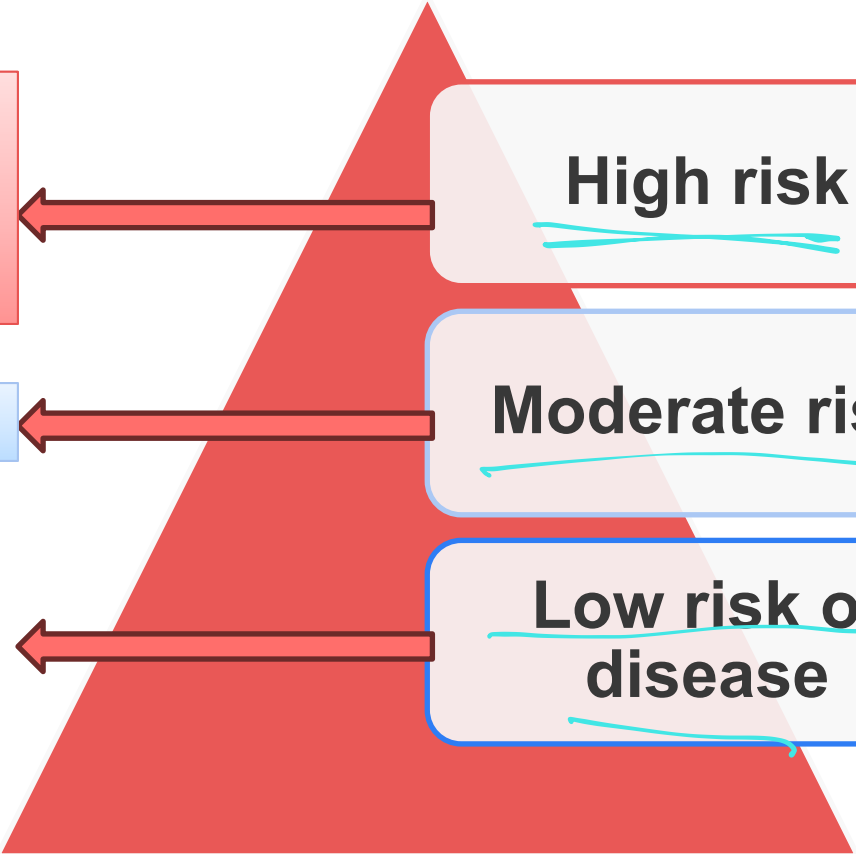
High risk

- One or two new lesions per year.

Moderate risk

- No caries present.
- Favorable family history
- Good oral hygiene.
- Access to community water fluoridation.

Low risk of disease

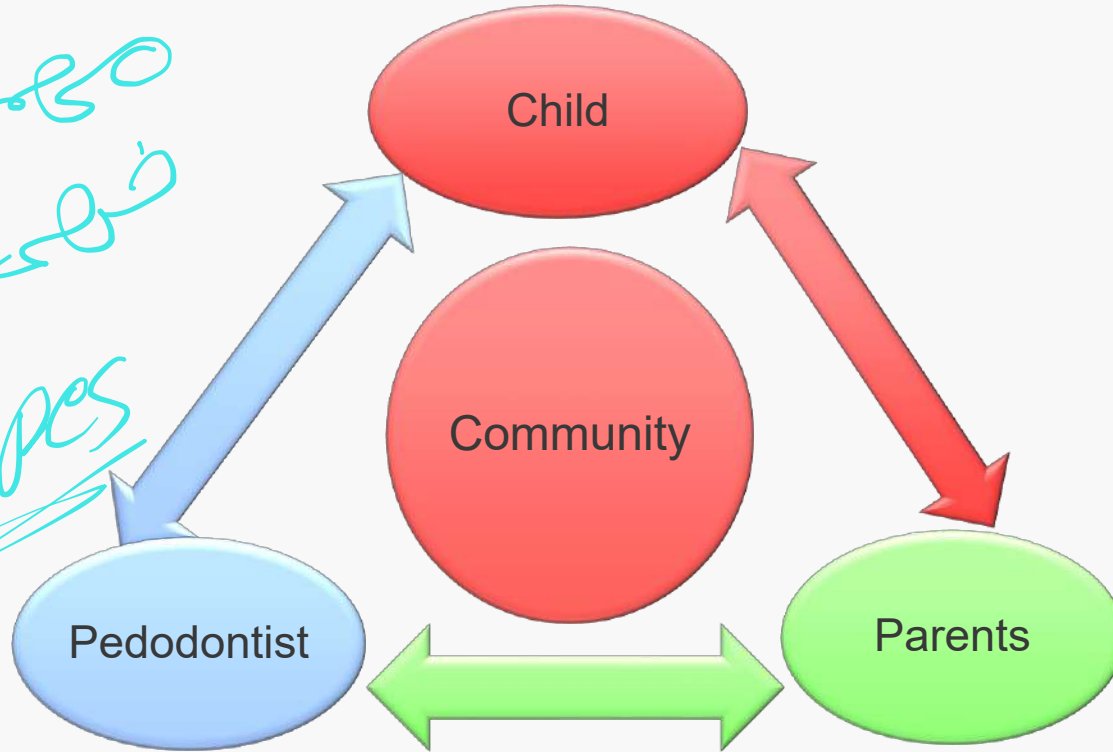




Pedodontics treatment triangle

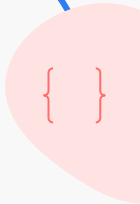


Modified pedodontics triangle



Handwritten notes in blue ink: "2 types" and "Child" with a scribble.

Handwritten note in blue ink: "2 types" with a double underline.



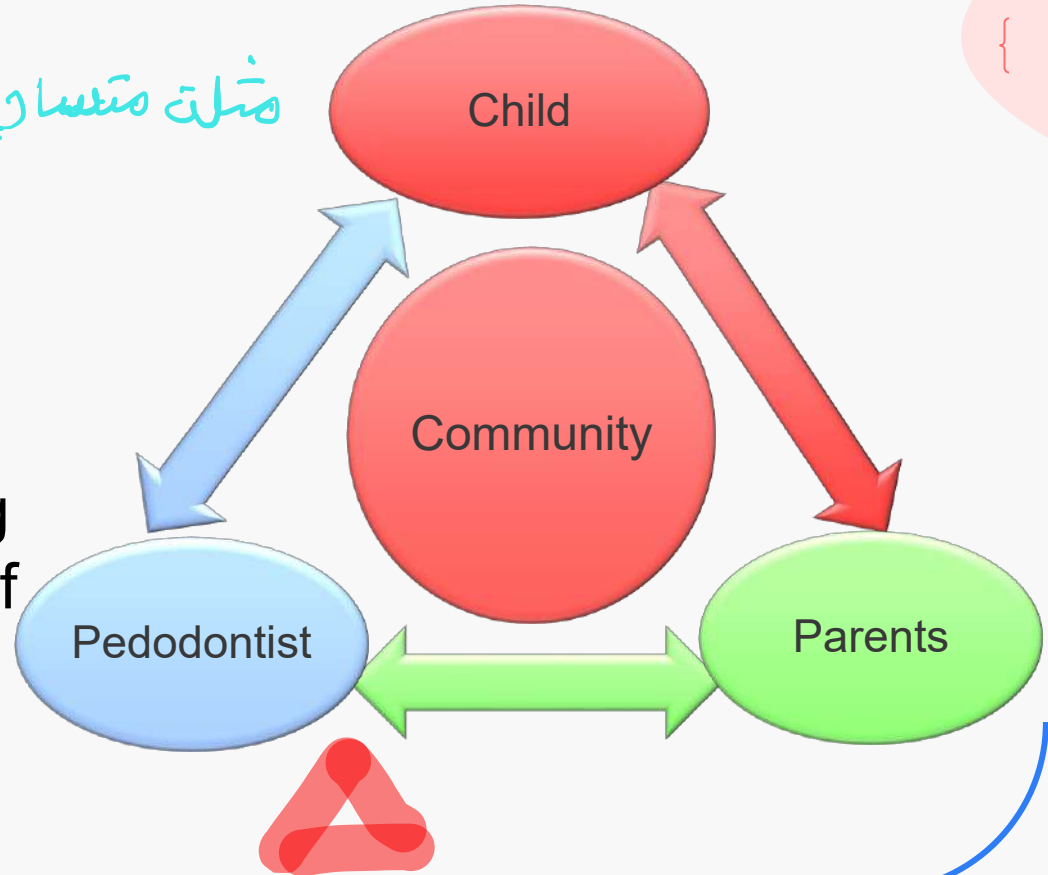
Modified pedodontics triangle

Authoritative parents

(Isosceles triangle)

The parent interfere in the conversation relation between the child and Pedodontist.

The parents are answering the questions on behalf of the child



كاري في نهن صهيبي

مشلة متساوي الزوايا
يتدخل الأهل في الحديث مع الطبيب

ليقر/تست/ Pedodontist
كيف يتعامل مع الطفل

[]

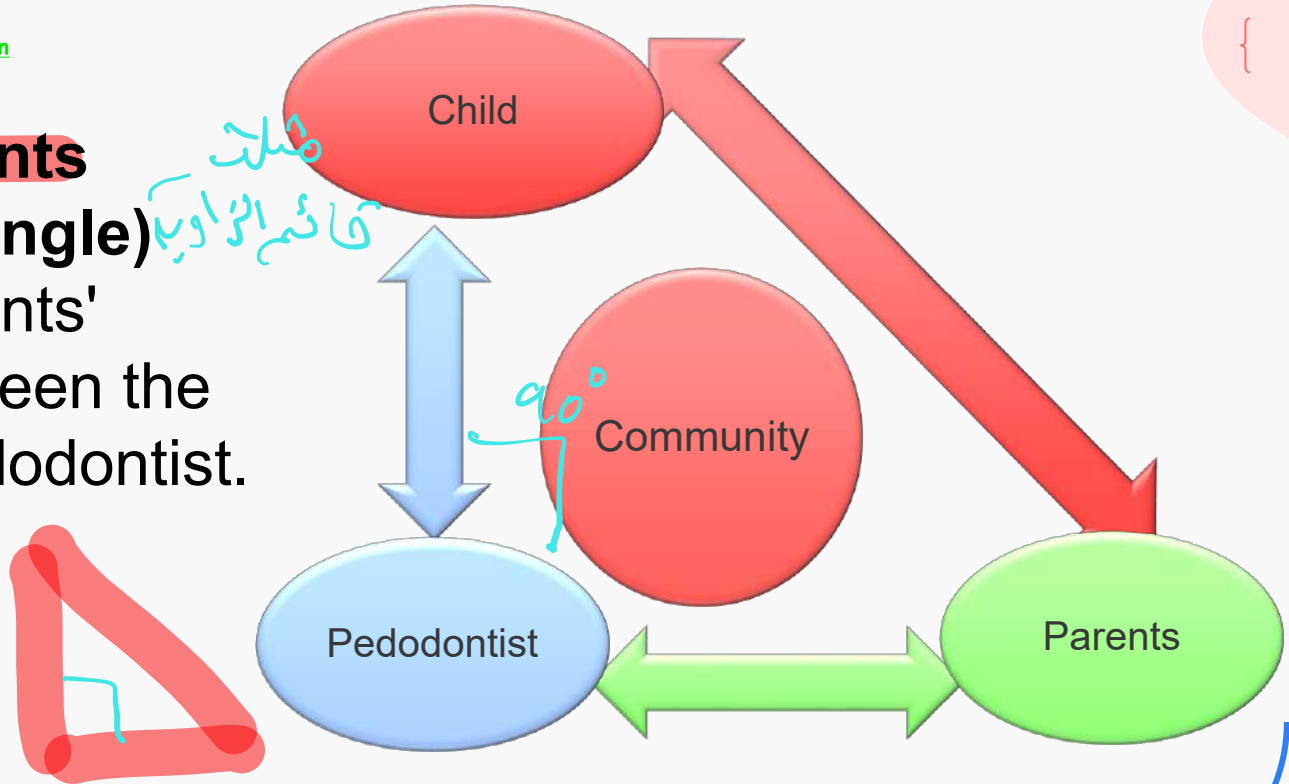
{ }

Modified pedodontics triangle

In this cases there is no conversation between parents and pedodontist

Neglecting parents (Right angle triangle)

Little, if any, parents' interception between the child and the Pedodontist.





*Thank
you*

References

- Cameron AC, Widmer RP. Handbook of pediatric dentistry. 3rd ed. 2008, Mosby, Elsevier.
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- 1. Pedodontics | Definition & Practice. Encyclopedia Britannica, <https://www.britannica.com/science/pedodontics> (1998).