

# Tooth Microabrasion

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# Etiology of White lesions

- 1. Tooth decay.**
2. Disturbance in enamel maturation after illness and **high fever** or **premature birth**
- 3. Demineralization around the removed orthodontic brackets**, related to:  
poor oral hygiene and consumption of high cariogenic diet.

*(D.D: developmental lesion: more round, opaque and whiter)*

# Etiology of White lesions

**3. Fluorosis:** over exposure to fluoride during tooth development will give tooth with low mineral content and high porosity.

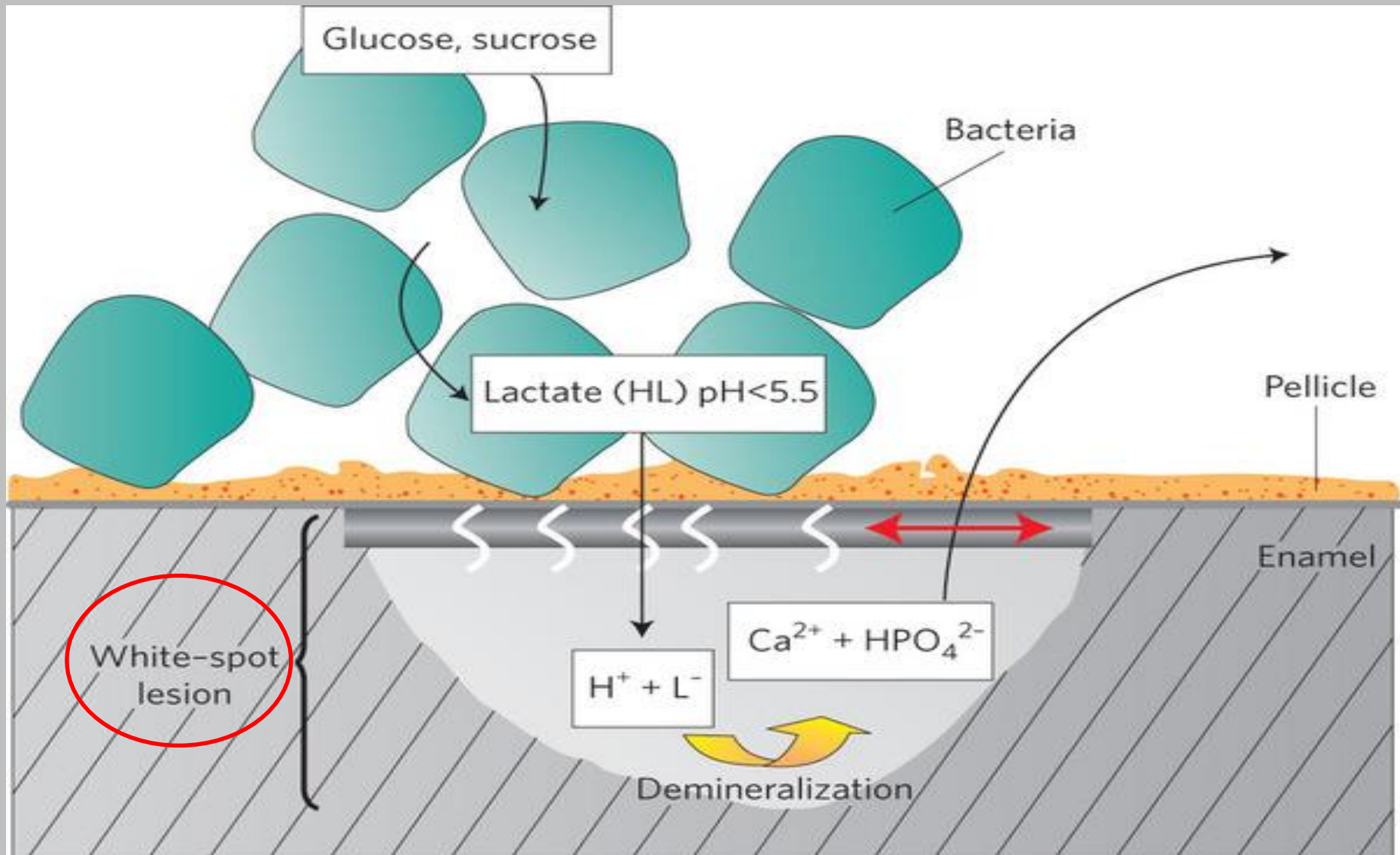
*(Risk period 20-30 months of age)*

**4. Trauma to anterior teeth :**

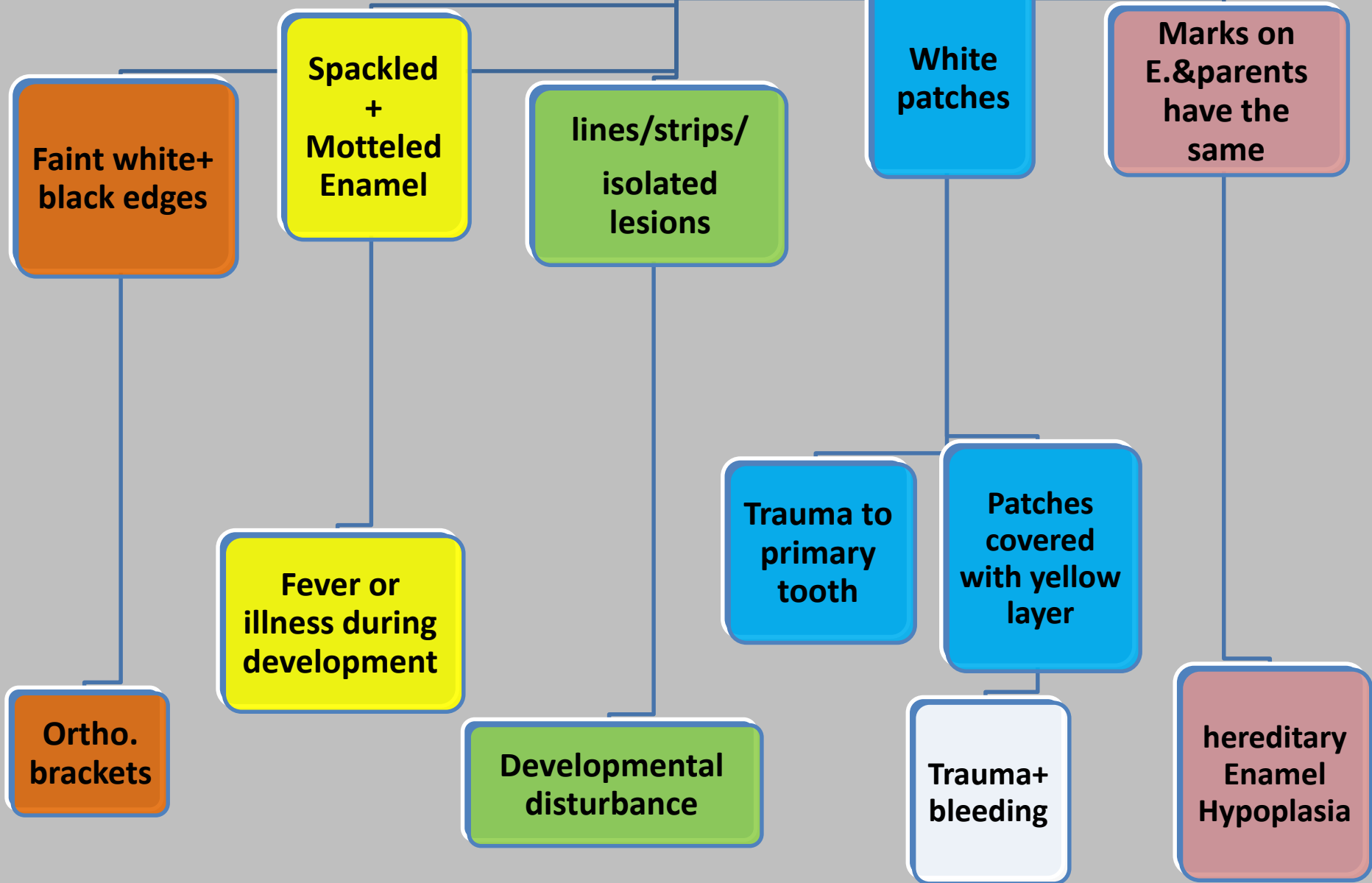
Enamel Hypoplasia

*(White lesion with yellow or brown area above due to blood broken down products).*

# Early stages of tooth decay caused by Bacteria bio-film



# D.D





# Treatment options

**Do nothing**

```
graph TD; DoNothing[Do nothing] --> FullCrowns[Full crowns (severe lesions)]; DoNothing --> Bleaching[Bleaching (home / professional)]; Bleaching --> MegaAbrasion[Mega-abrasion]; MegaAbrasion --> DirectComposite[Direct composite bonding]; DirectComposite --> IndirectPorcelain[Indirect porcelain veneer];
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The diagram is a flowchart titled "Treatment options" in an orange box at the top. Below it, a yellow box labeled "Do nothing" has two red arrows pointing to a blue box "Full crowns (severe lesions)" on the left and a green box "Bleaching (home / professional)" on the right. From the green box, a green arrow points down to a purple box "Mega-abrasion". From the purple box, a purple arrow points down and left to a teal box "Direct composite bonding". From the teal box, a teal arrow points up and left to a red box "Indirect porcelain veneer".

**Full crowns (severe lesions)**

**Bleaching (home / professional)**

**Indirect porcelain veneer**

**Mega-abrasion**

**Direct composite bonding**

# What is MICRO-ABRASION??

- It is the uses of chemical and mechanical technique to remove enamel discolorations by erode and abrade the enamel surface ,  
This will remove the brown and white spot enamel lesions on permanent teeth.
- *Note that some teeth have a deeper, irreversible stain or discoloration, as the result of root canal therapy or medications such as tetracycline.  
These deep stains are not improved by microabrasion.*



Microabrasion is used for very young children with a single isolated lesion, This would be followed later with full home bleaching.

A modification of this technique:

using a combination of the microabrasion with daily home application of :

Casein Phosphopeptide–Amorphous Calcium Phosphate Complexes

(CCP-ACP)

**Material used :** 18% hydrochloric acid and pumice to form purple or green paste

## **Technique :**

1. The material is directly applied to the teeth using a special cup with hard bristles. The material is gently massaged over the white lesion several times.
2. Only a few seconds(10 s) of application time are required, and then the paste should be rinsed.



3. Fluoride, in the form of a gel, is applied at the end of the treatment to restore the fluoride-rich layer that was removed with microabrasion.

4. Then finally polishing the treated tooth.



# Case Report



Defective enamel with orange and brown and white lesions.

Treatment plan:

1. home bleaching for 7 weeks.
2. followed by microabrasion.



- This patient was 17-years old.
- Chief complain: patient had prominent white spots on her two front teeth as a result of trauma to her baby teeth when she was an infant.
- Treatment plan:
  1. The lesions were removed on both teeth using microabrasion.
  2. The larger defect required additional removal with a drill(mega-abrasion) which was subsequently bonded.
  3. The other tooth (on your right, patient's left) did not require bonding



This patient was 16-years old when his mother brought him for treatment.

- **Chief complain**: severe brown and white stains.
- **Diagnosis**: He had fluorosis (brown stains) as well as generalized decalcification as a result of poor oral hygiene.
- **Treatment plan**:
  1. The first step in treating him was improve his oral hygiene. We worked for three months until his teeth were clean enough for me to consider any treatment.
  2. Then, we began by micro abrading his ten upper front teeth. This completely removed the brown stains, leaving the decalcified areas as well as a number of cavities between the teeth, which were subsequently repaired with bonded composite fillings.



- This patient had a noticeable brown band across his front two teeth of unknown cause.
- In one visit we rubber dam isolated his front two teeth and micro abraded them until the stain was barely noticeable.
- No follow up care was required.



This patient was 17-years old ,visit the dentist seeking for treatment.

- Chief complain: white spot lesions, following orthodontic treatment.
- Diagnosis: He had decalcification as a result of poor oral hygiene.
- Treatment plan:
  1. The first step in treating him was improve his oral hygiene
  2. Then, microabrasion procedure .
  3. Follow up after 8-weeks.





**THANKS  
FOR  
LISTENING**