

﴿ سورة التوبة ﴾



قَاتِلُوهُمْ يُعَذِّبُهُمُ اللَّهُ بِأَيْدِيكُمْ وَيُخْزِهِمْ وَيَنْصَرِّغْكُمْ عَلَيْهِمْ
وَيَشْفِ صُدُورَ قَوْمٍ مُؤْمِنِينَ ﴿١٤﴾





Management of White Spot Lesions

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White Spot Lesions

The stage before cavitation in the development of dental caries is called white spot lesion.

It is characterized by subsurface demineralization areas formed under an intact enamel surface .

The mineral content in the affected area is reduced, which in turn affects the translucent feature of the enamel, and the color of these areas appears more opaque white. Hence, initial enamel lesions or flat surface caries are also called white spot lesions



Classifications of White Lesions on Enamel

01

Dental Fluorosis

02

Enamel opacities
Congenital
hypomineralisation of teeth,
due to infection or trauma as
infant

03

• White Spot
Lesions

04

Molar incisor
hypomineralisation (lack of
enamel development during
its maturation stage, which
affects the molar and incisor
teeth)



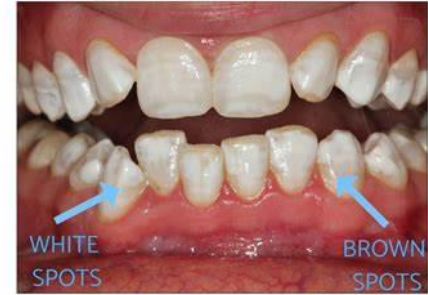
Dental Fluorosis

- Associated with cumulative fluoride intake during enamel development

Characteristics

White / yellowish lesion ▪ Not well defined

Symmetrical distribution



▪ Dental Fluorosis

- Affected teeth are *less susceptible to dental caries*.

✓ Mild Fluorosis



✓ Severe Fluorosis



Enamel opacities (VS , Fluorosis)

- More defined shape.
- Well differentiated from surrounding enamel.
- Often located in the middle of the crown.
- **Randomly distributed**



- Enamel Hypomineralization

- Well demarcated **opacities** on the labial surface, due to **injury or infection of the deciduous teeth**, which has affected mineralization of the permanent teeth .



- ❑ The WSL'S chalky appearance is an **optical phenomenon** caused by mineral loss in the subsurface and the surface of the enamel



Internal
loss of
minerals

External
(outer)
surface

• Visual Enamel Opacity ??

- Alteration of the enamel refractive index is the consequence of both :
 - surface roughness & loss of surface shine , plus
 - alteration of the internal reflection
- *Porous enamel scatters more light than sound enamel .*



•Porous enamel scatters more light than sound enamel .

Wet

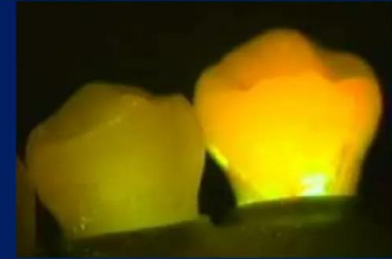


Dry

• Diagnostic Methods



- Fluorescence methods
 - QLF
 - Infra-red Fluorescence
- Transillumination

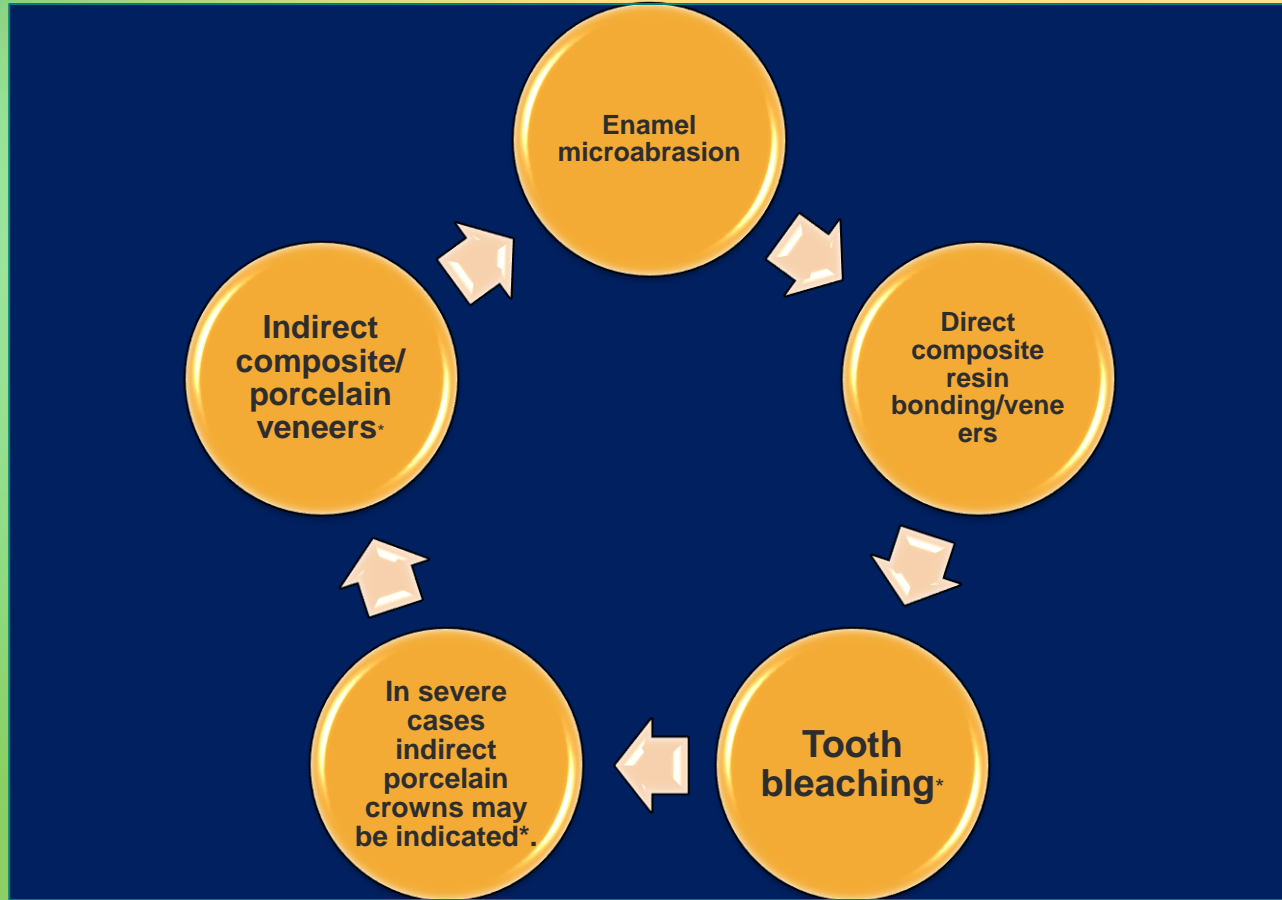


- Electrical Conductance
 - ECM
- Digital Radiography
 - DDR



Aesthetic treatment of white spots

*These treatments are not suitable for children under age of 18 years of age, due to the developing dentition,





So what is ICON?

The ICON (Infiltration CONcept) was designed as a minimally invasive resin infiltration system for treating incipient caries in patients of all ages.

The low viscosity unfilled resin, developed by the company DMG (Germany) camouflages white spots by means of optical manipulation, and no tooth tissue removal is strictly necessary.

The clear resin flows into the demineralised enamel, and has similar optical properties (similar refractive index) to the enamel, therefore reflecting light to match the the tooth's natural shade.




How is ICON used?


The resin is applied as part of three-part technique.


The use of rubber dam is essential to protect the soft tissues. Pre and post-operative photographs are important as part of your record keeping process



How is ICON used?

- 
- Apply Icon-Etch (HCL gel)
 - Directly onto white spot for two minutes
 - Agitate, remove with water, gently air dry

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- 2. Apply Icon-Dry (ethanol)
 - Directly onto white spot
 - Air dry after 30 seconds
 - This can be repeated up to five times, until the patient is happy with the appearance of the tooth

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- 3. Apply Icon-Infiltrant (unfilled resin)
 - Directly onto white spot
 - Remove excess material and allow to set for three minutes
 - Light cure each surface for 40 seconds
 - Repeat infiltration once more with a new tip, remove excess and allow to set, then light cure
 - Polish as necessary.

1.



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