



39th IACDE
National Conference



LASER: REVOLUTION IN IRRIGATION SYSTEM

Drawbacks of conventional instrumentation & irrigation techniques:- 1.File breakage, 2.Limited penetration into complex root canal anatomy, 3. Ineffective removal of debris & smear layer, 4.Risk of extrusion beyond the apex, 5.More treatment time

CONVENTIONAL LASER TECHNIQUE

Photothermal technique
(high power laser),
Direct irradiation cause
bacterial elimination

DRAWBACK

**1.Thermal
tissue damage**

2.Root resorption

3.Perforation

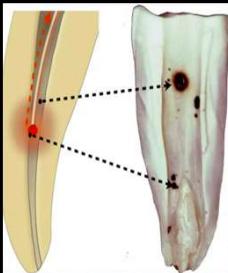
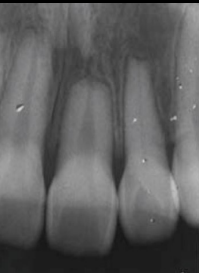
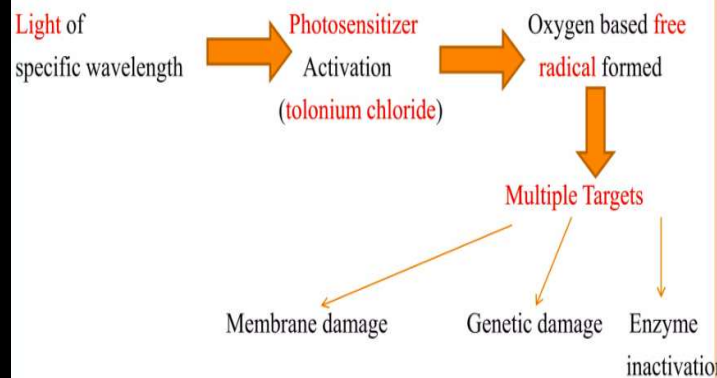


PHOTO ACTIVATED DISINFECTION



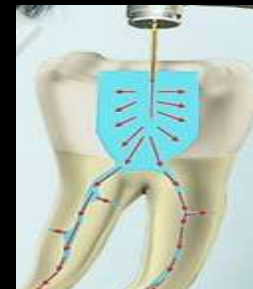
**Photochemical
technique (low
power laser),
Indirect radiation**



SWEEPS (shockwave- enhanced emission photoacoustic streaming)



Secondary cavitation bubble is formed due to shock waves from the collapse of the initial cavitation bubble.



Advantages:-

1. Deeper canal disinfection
2. No intracanal instrument fracture
3. Less canal preparation needed
4. No undesirable thermal effect
5. Safe for open apex