

Photo Activated Disinfection



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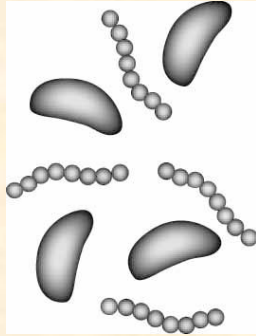
- New, Proven, Effective Treatment
- Eliminates all bacterial and fungal infections in:
 - » Endodontics
 - » Caries
 - » Periodontics
 - » Implants
 - » Trauma
 - » Dry Socket
- LED Technology
- Affordable



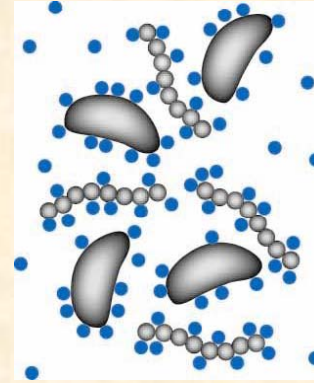
Photo Activated Disinfection

- Just two components
 - Pharmaceutical grade Tolonium Chloride photosensitiser solution
 - Delivered to site of infection
 - Selectively tags all bacteria
 - Red light at 633nm activates solution
- Result
 - Singlet oxygen disrupts outer wall of cell bacteria
 - Proven to kill 99.99+% of all oral bacteria
 - Bacteria do not develop resistance

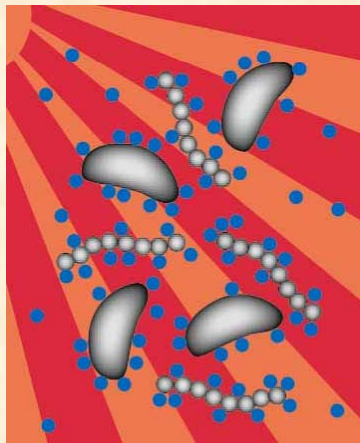
How does PAD work ?



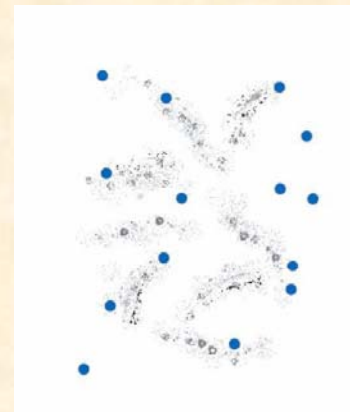
Mixed lactobacilli and streptococci bacteria in an infection



PAD solution (in blue) selectively tags all bacteria

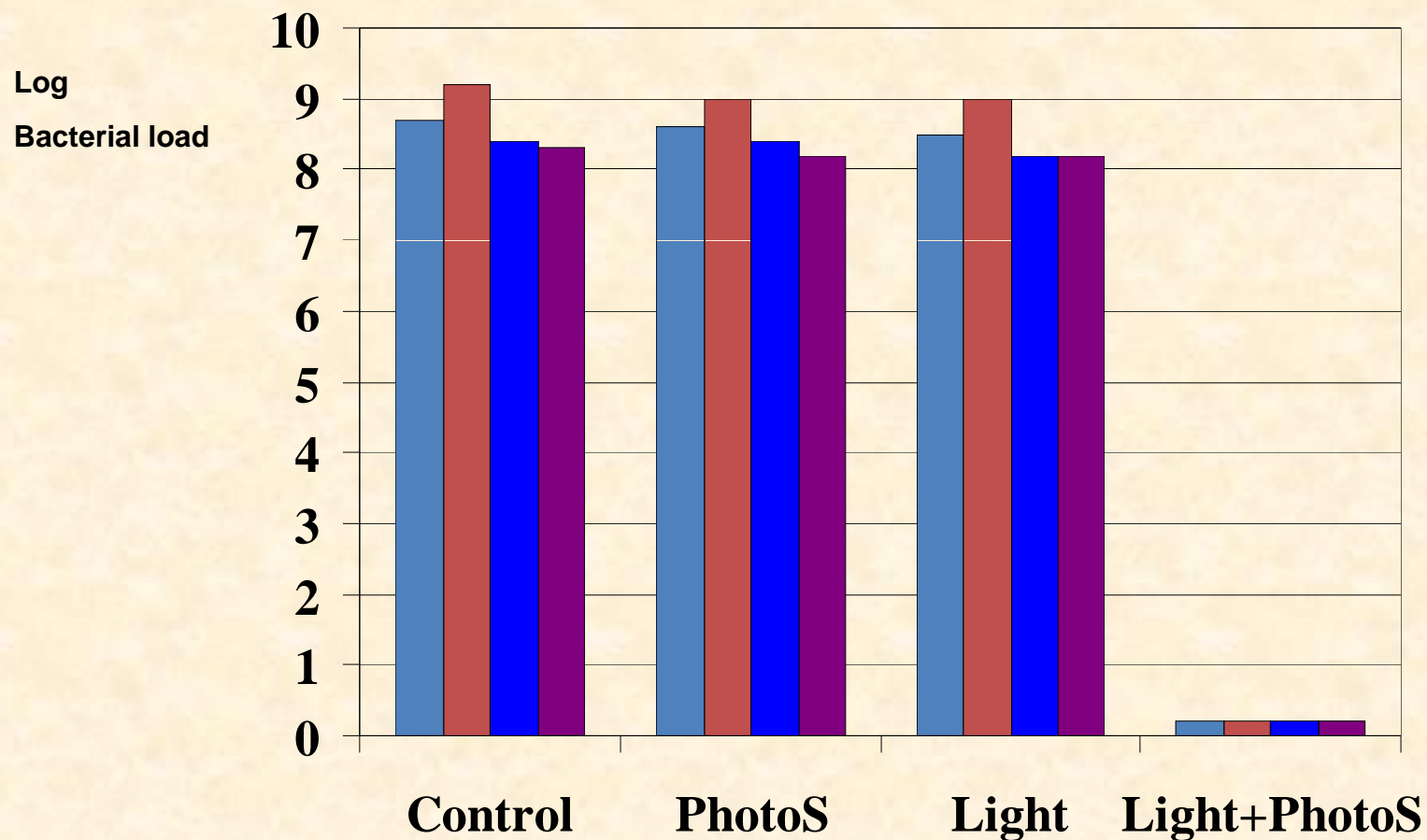


Solution activated by red light releasing singlet oxygen



Bacteria eliminated

Effectiveness of PAD on S mutans in planktonic solution



Clinically Proven

- First developed at the Eastman Dental Hospital, University College London
- Successfully used by dentists for 5 years
- 6 year ongoing UK independent clinical trial
 - 350+ patients
 - teeth symptom free
 - evidence of radiographic peri-radicular healing
 - Successful re-treatments of 56 previous endodontic failures

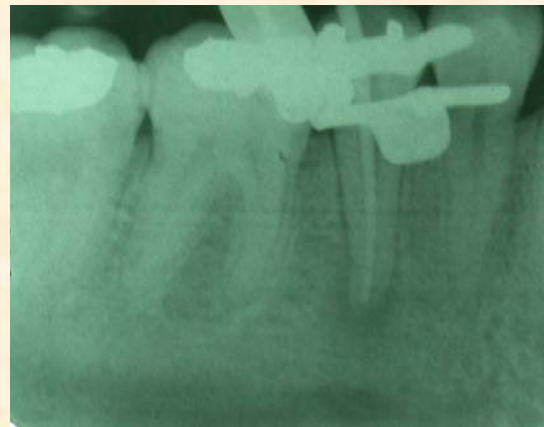
Results in Endodontic Trial

Courtesy of Stephen Bonsor

Pre -operative



Trial Point

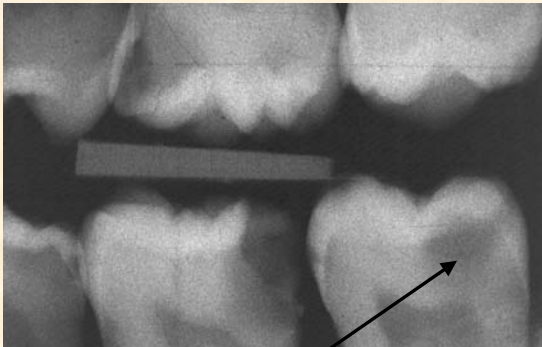


10 months

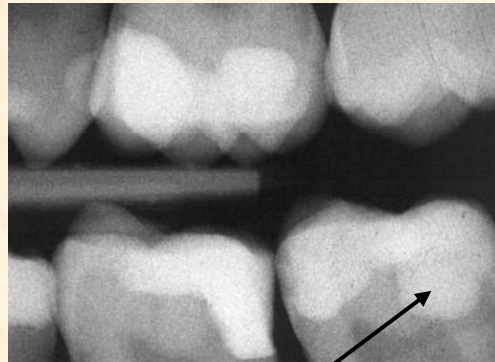


Results in Caries Trial

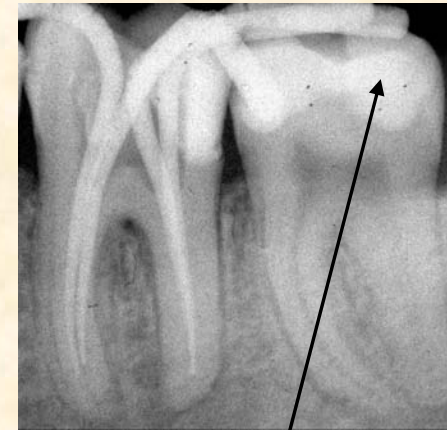
Courtesy of Tilo von Samson



Preoperative Radiograph showing large lesion on 37



Post PAD and operative radiograph showing restorations in 37. Note pulp proximity. Softened dentine retained



37 shows secondary/reparative dentine deposition and remains vital after 12 months

Results in Periodontal Trial

Courtesy of Phil Lucas



Before



After

Pocket reduced by 6mm three months after PAD treatment

Benefits of PAD

- Safe
 - No effect on healthy tissue
 - No known side effects
 - No staining of tooth, gingiva or restoration
- Quick, Simple and Easy
 - 60 seconds contact time with tolonium chloride solution
 - 60 -120 seconds light activation time
 - Easily integrated into normal treatment procedures
 - Proven LED technology
- Effective
 - All oral bacteria species eliminated by PAD
 - Including Enterococcus Faecalis
- Low treatment costs

Benefits in Endodontics

- **Successful treatment**
 - Aqueous solution penetrates canal fully.
 - Effective disinfection, reducing endodontic failure
 - Light transmission both by tip and scattering in tooth tissue
- **Safe solution**
 - No toxic side-effects
 - No adverse tissue reaction if apex breached, allowing treatment to continue.
 - Can replace the need for hypochlorite
- **Saves Chair Time**
 - Uncomplicated procedure
 - Reduces time to disinfect
 - Allows treatment in one visit

Benefits in Caries

- In Deep Decay
 - Less risk of pulpal exposure
 - Greater chance of retaining tooth
- Minimal Treatment
 - Less invasive cavity preparation
 - Less chance of recurring caries
 - Saves demineralised tissue
- Excellent for Children & Dental Phobics
 - Less need for anaesthetic and turbine
 - Encourages natural re-mineralisation
- In Fissure Sealing
 - Ensures no bacteria left before sealing.



Benefits in Periodontics

For all pockets

Effective

- Bacteria left after SRP are eliminated
 - Aqueous solution fully penetrates pockets and gingival tissue
 - Reaches furcation areas inaccessible to SRP
 - Effective removal of bacteria in surgery
- **Quick, Simple and Easy**
 - Pre-filled syringes
 - Easy application of solution
 - Shaped light guide
 - Wide area of light coverage
 - 2 minutes per treatment

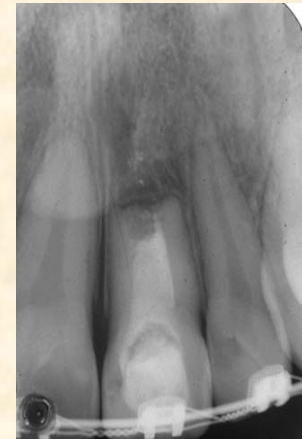
Benefits in Other Treatments

Courtesy Luc Martens

- Trauma
 - Disinfection of fractured teeth prior to restoration
 - Improved outcome
 - Saves tooth
- Partial Pulpotomy
 - Disinfect remaining pulp
 - Saves tooth
- Dry Socket
 - Remove bacteria from infected area
 - Socket heals



Pre-treatment



After 6 months



After 12 months