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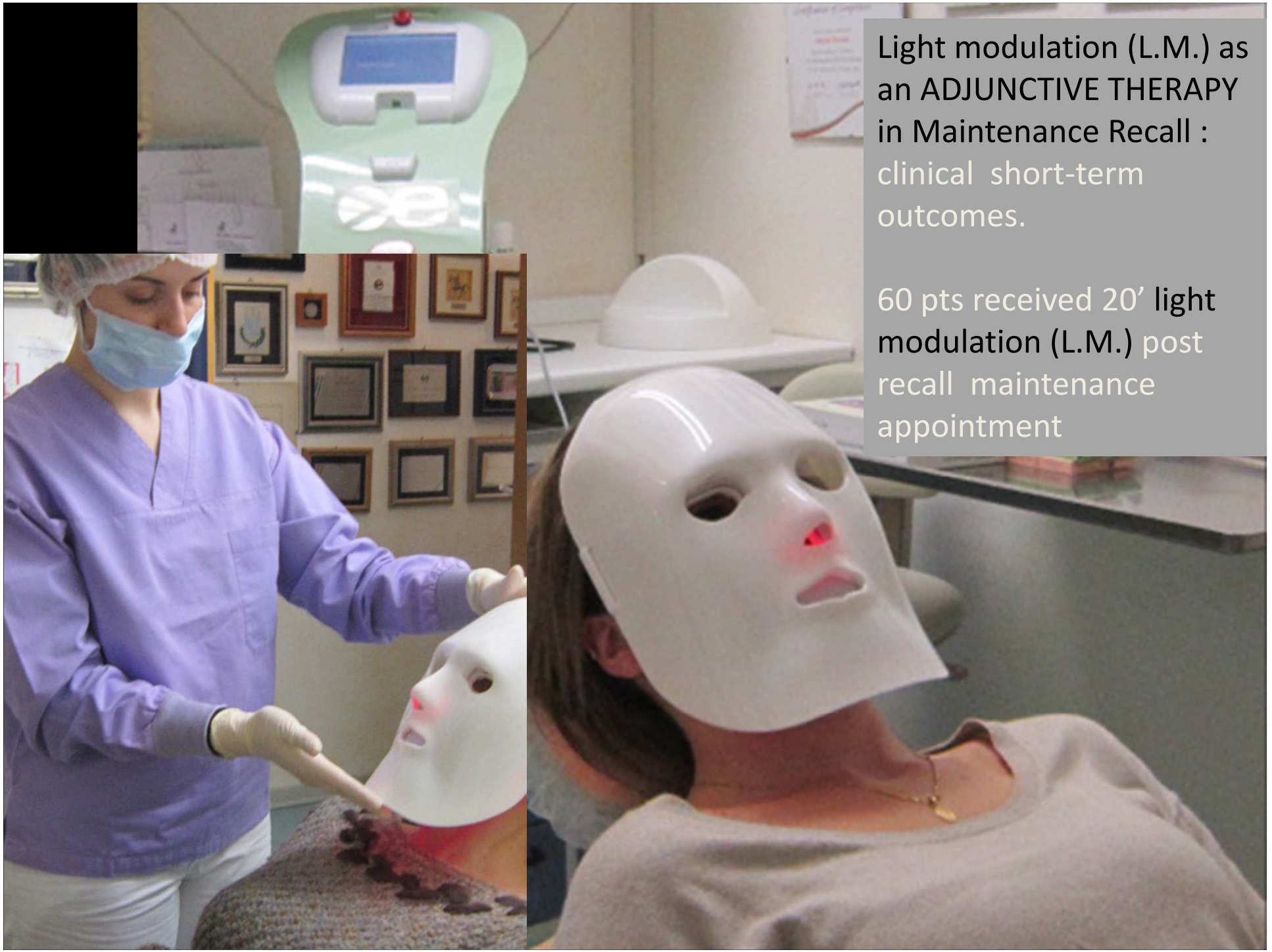
PHOTOBIOSTIMULATION (PBS) with INFRARED LED LIGHT (E-LIGHT® MODULATION TECHNOLOGY) as an ADJUNCTIVE THERAPY in Maintenance Recall : A PRELIMINARY STUDY



Light modulation (L.M.) as an ADJUNCTIVE THERAPY in Maintenance Recall : clinical short-term outcomes.

60 pts received 20’ light modulation (L.M.) post recall maintenance appointment

Light modulation (L.M.) : clinical short-term outcomes on periodontitis patients in maintenance

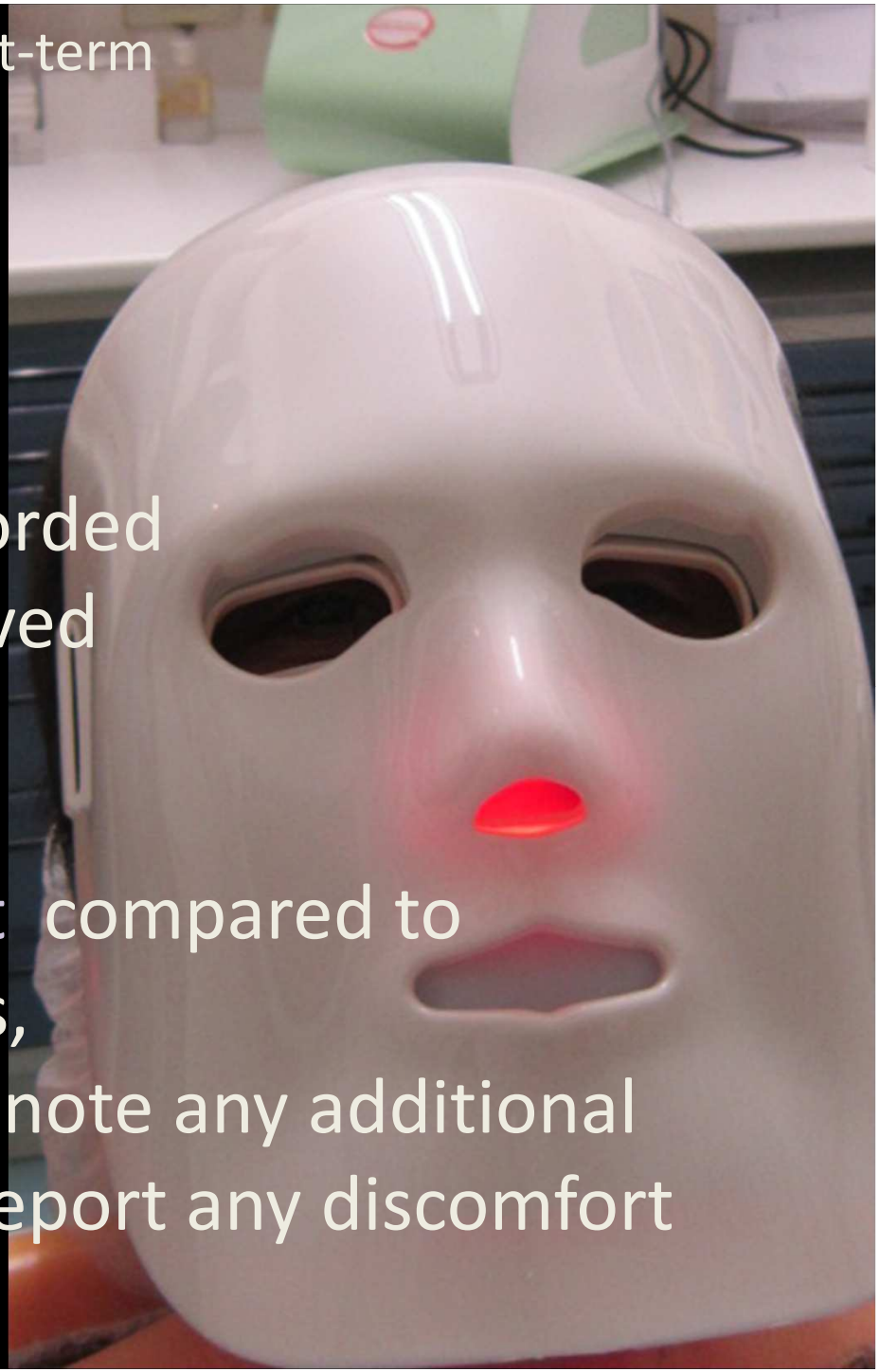
60 pts received 20’ light modulation (L.M.) post maintenance recall visit

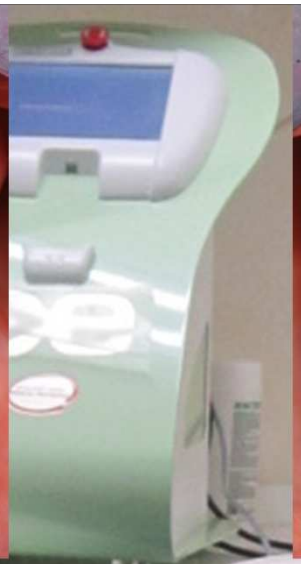
No adverse effect were recorded

31 patients (ca 50 %) perceived some additional benefit,

8 of them (13,3 %) claimed a remarkable better comfort compared to previous clinical experiences,

29 subjects (48,3 %) did not note any additional advantage, as they did not report any discomfort post recall visit.



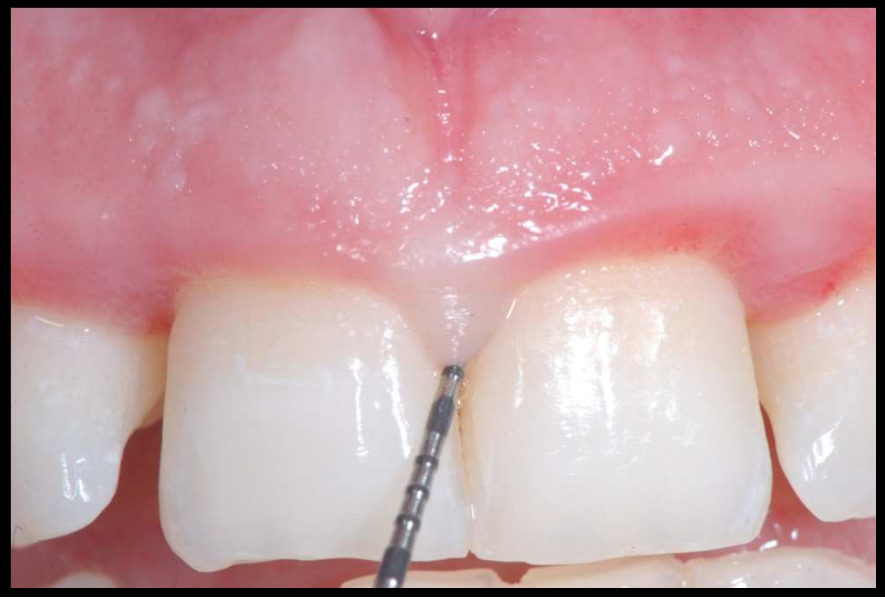


Immediate Post Professional Hygiene Reall and Gingival Remodelling.

Clinical aspect following 20’ **INFRARED LED LIGHT (E-LIGHT®** light modulation (L.M.) **TECHNOLOGY) as an ADJUNCTIVE THERAPY**

Baseline

few days following 20’ light modulation (L.M.)
post maintenance recall visit

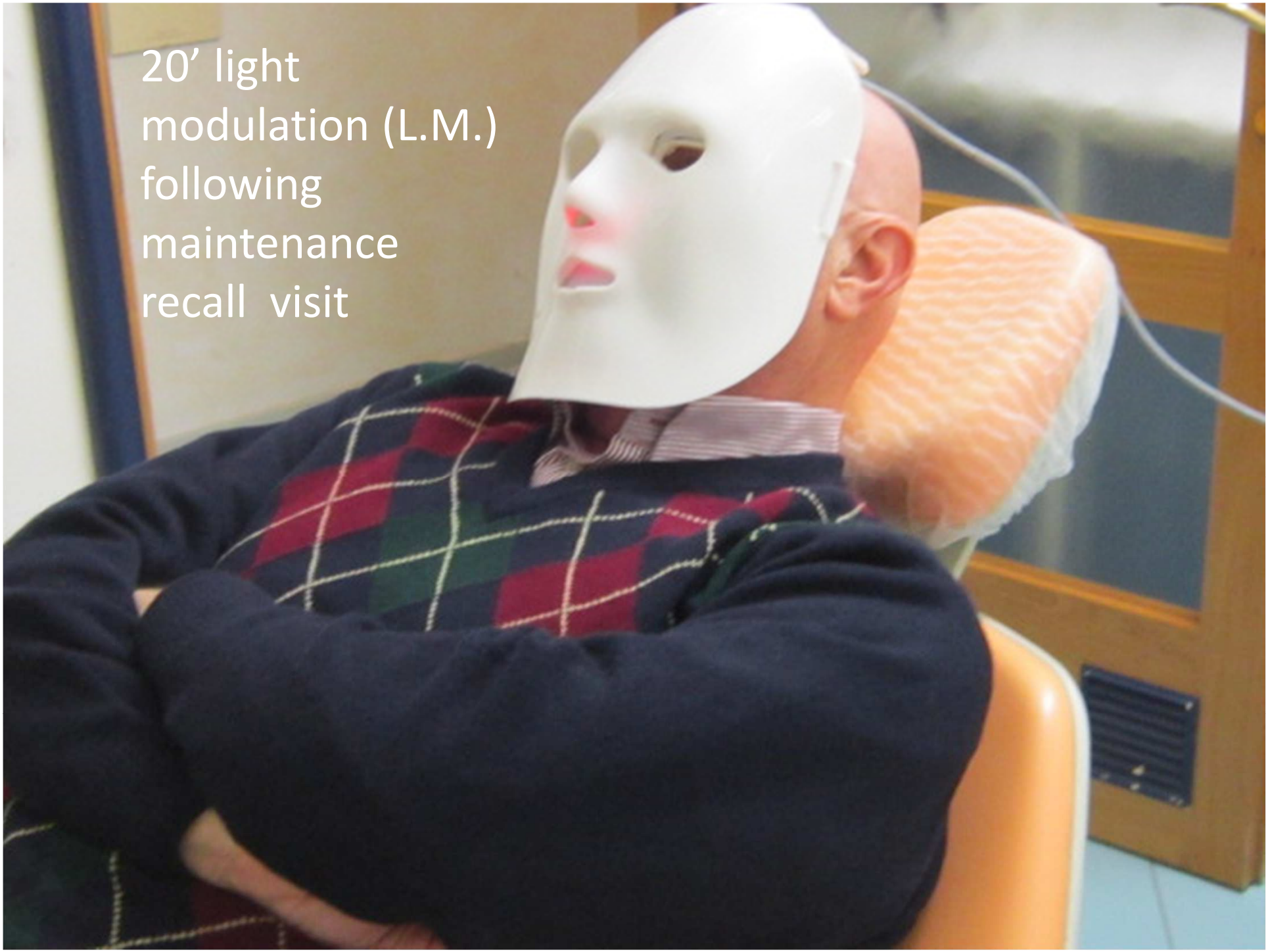


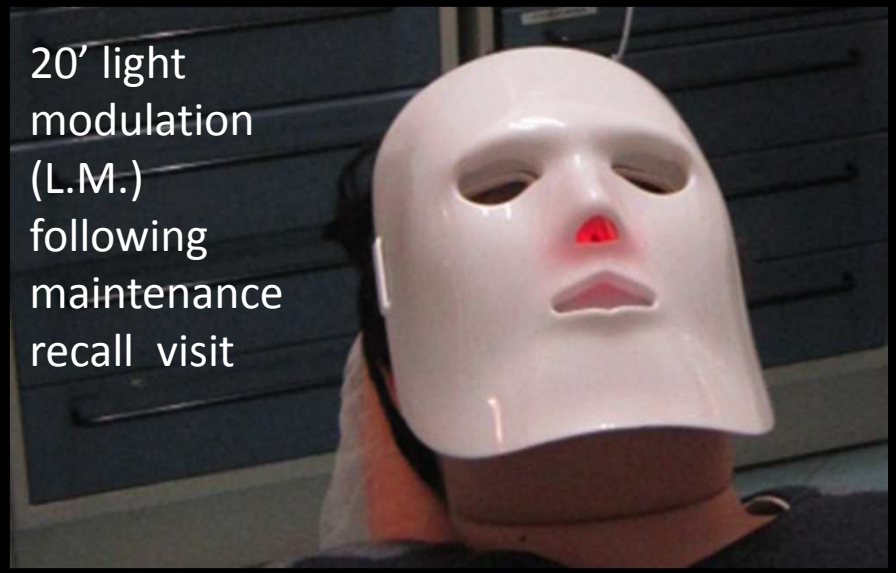
Immediately following 20’ light modulation (L.M.), post maintenance recall visit 2 mm BoP -


Baseline
6 months post

Baseline

Immediately following 20’ light modulation (L.M.) post maintenance recall visit 2 mm BoP -


20’ light
modulation (L.M.)
following
maintenance
recall visit


20’ light
modulation
(L.M.)
following
maintenance
recall visit

BASELINE

1 WEEK LATER

Particularly in case of localized light to moderate gingival inflammation, associated to stresss as aggravating factor, **PHOTOBIOSTIMULATION (PBS) with INFRARED LED LIGHT (E-LIGHT®** light modulation (L.M.) **TECHNOLOGY) as an ADJUNCTIVE THERAPY to non surgical periodontal convetional** seems to convey potential benefits


20’ light modulation (L.M.)
following maintenance
recall visit
Ena oral

635 nm irradiation-induced decrease in inflammation is crucial for regulating LPS-induced inflammation during bacterial infection in periodontal disease.

WonBong Lim†,W B et al., Modulation of Lipopolysaccharide-Induced NF-jB Signaling Pathway by 635 nm Irradiation via Heat Shock Protein 27 in Human Gingival Fibroblast Cells.Photochemistry and Photobiology, 2013, 89: 199–207

A 30-min monochromatic infrared energy (MIRE) produced a significantly greater microcirculation and capillary blood cell velocity (CBV) increase.

Mak MC , Cheing GL. Immediate effects of monochromatic infrared energy on microcirculation in healthy subjects. Photomed Laser Surg. 2012 Apr;;30(4):193-9.

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The Foot

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Review

The light revival: Does phototherapy promote wound healing? A review

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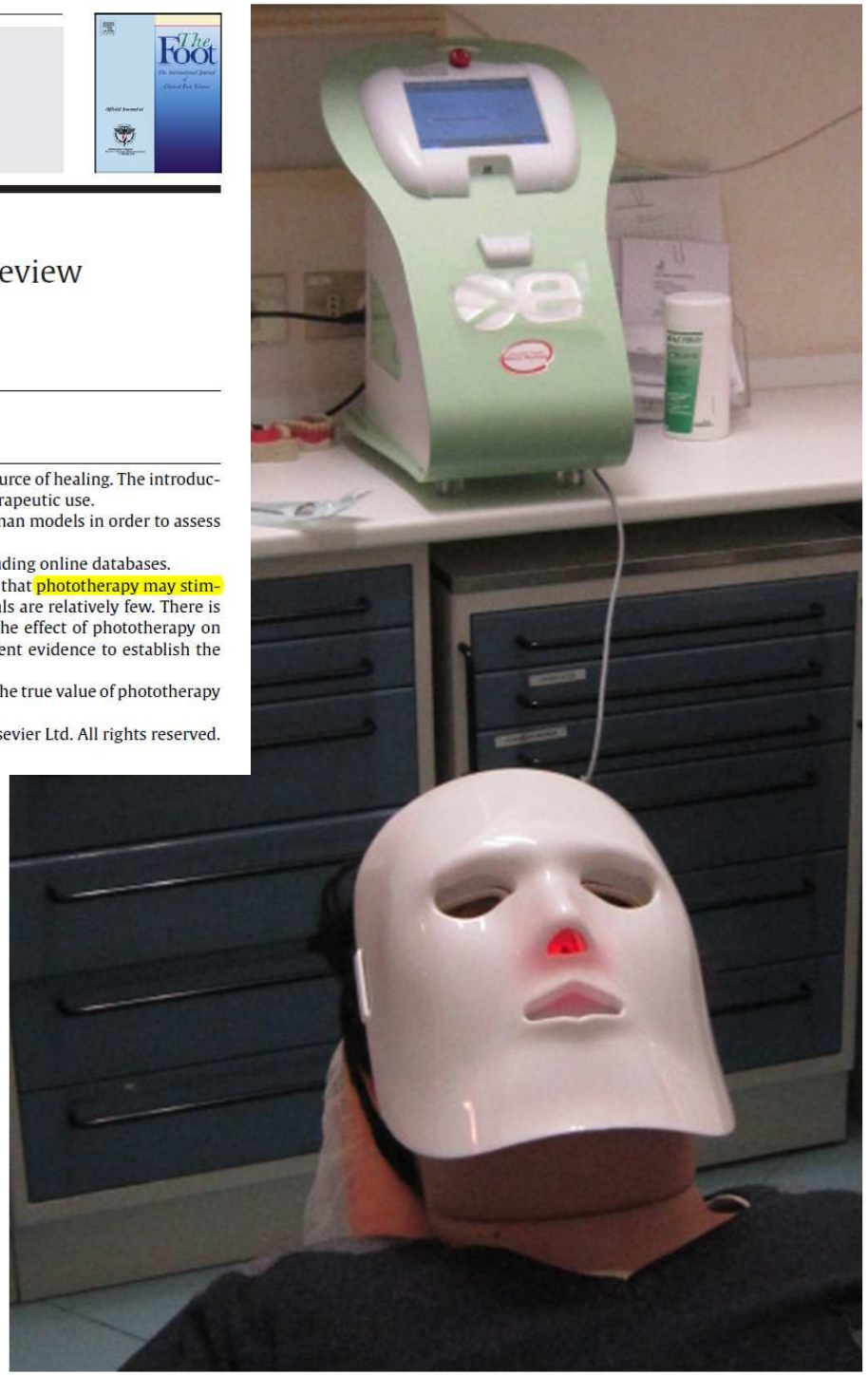
ABSTRACT

Background: Throughout history, light has been recognised as a potential source of healing. The introduction of lasers made it possible to modify and control light for optimum therapeutic use.
Aim: This paper reviews recent clinical trials that test phototherapy on human models in order to assess the value of phototherapy in routine wound care.
Method: A literature search was undertaken using a variety of sources including online databases.
Results: The results of numerous in vitro and animal investigations suggest that phototherapy may stimulate cell activity and promote tissue repair. Reports of human clinical trials are relatively few. There is inconsistency of selected treatment parameters amongst studies testing the effect of phototherapy on wound healing. Clinical trials using human models do not provide sufficient evidence to establish the usefulness of phototherapy as an effective tool in wound care regimes.
Conclusion: Further well designed research trials are required to determine the true value of phototherapy in routine wound care.



Phototherapy may stimulate cell activity and promote tissue repair.

Photobiomodulation by light in the red to near infrared range (630–1000 nm) using low energy lasers or light-emitting diode (LED) arrays has been shown to accelerate wound healing. Gene discovery studies conducted using microarray technology documented a significant upregulation of gene expression in pathways involved in mitochondrial energy production and antioxidant cellular protection.

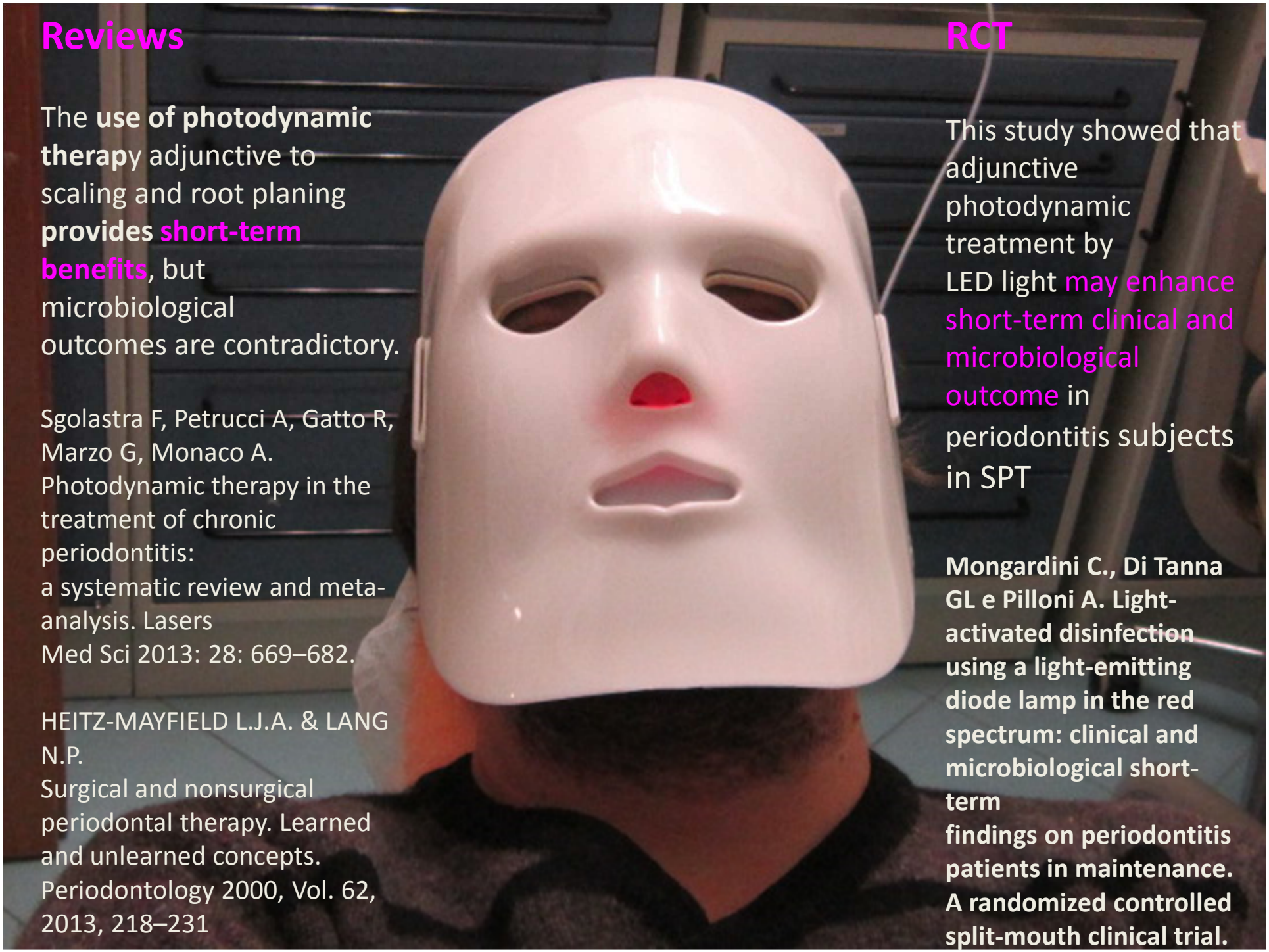
Eells J. T. et al., 2004

Reviews

The **use of photodynamic therapy** adjunctive to scaling and root planing **provides short-term benefits**, but microbiological outcomes are contradictory.

Sgolastra F, Petrucci A, Gatto R, Marzo G, Monaco A. Photodynamic therapy in the treatment of chronic periodontitis: a systematic review and meta-analysis. Lasers Med Sci 2013: 28: 669–682.

HEITZ-MAYFIELD L.J.A. & LANG N.P. Surgical and nonsurgical periodontal therapy. Learned and unlearned concepts. Periodontology 2000, Vol. 62, 2013, 218–231



RCT

This study showed that adjunctive photodynamic treatment by LED light may enhance short-term clinical and microbiological outcome in periodontitis subjects in SPT

Mongardini C., Di Tanna GL e Pilloni A. Light-activated disinfection using a light-emitting diode lamp in the red spectrum: clinical and microbiological short-term findings on periodontitis patients in maintenance. A randomized controlled split-mouth clinical trial.

Conclusions. All subjects exhibited satisfactory healing after the laser assisted non-surgical periodontal therapy. Based on clinical observations, the incorporation of light modulation (L.M.) post maintenance recall visit appears to be of value.