

## Whitening Efficacy Assessment of Two Concentrations of In-Office Professional Bleaching Regimens

### *in vitro* study

M. Ward, S. Michaux, P. Schmitt, L. Jones, K. Herrin, J. Penchas, M. Eldiwany, *J Dent Res* 93(Spec Iss B):569, 2014 (www.iadr.org)

#### Objective:

To compare the whitening effect and safety of two Philips Zoom QuickPro in-office whitening varnish bleaching agents (PQPBA).

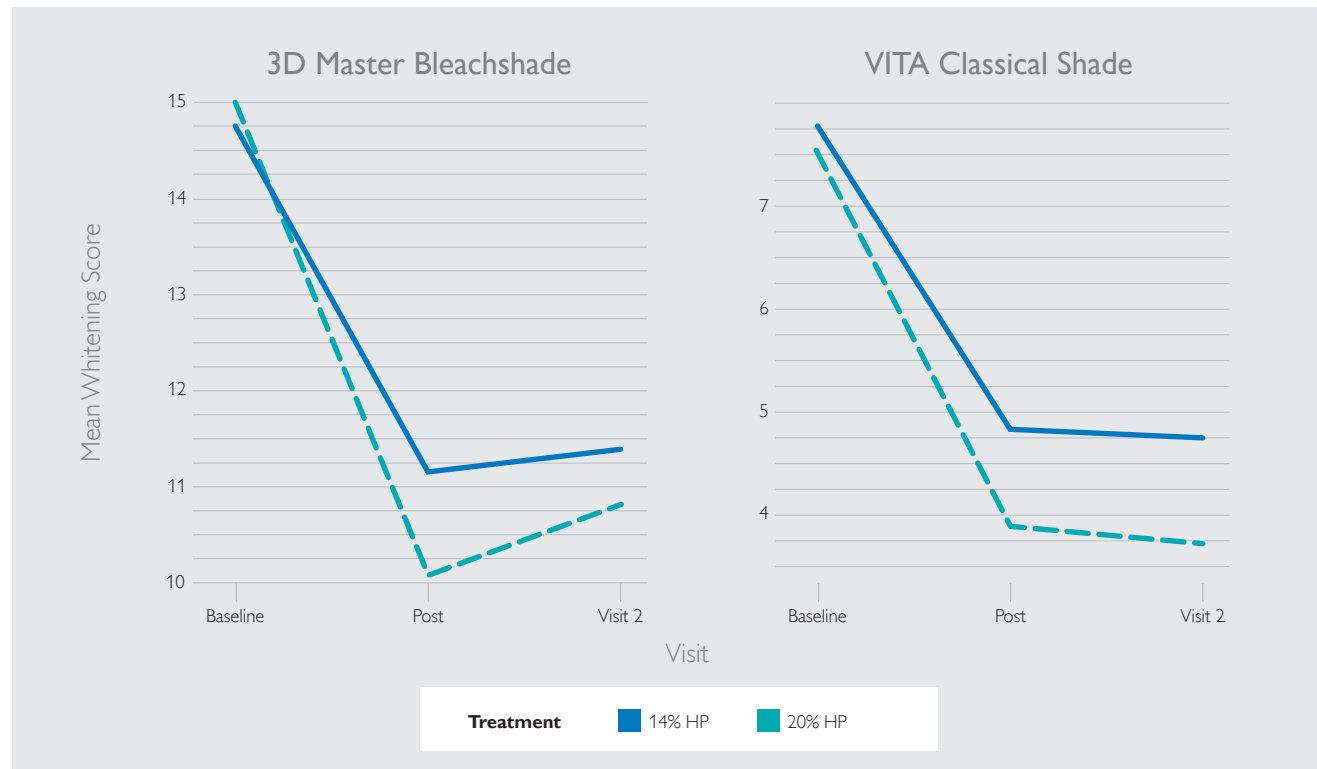
#### Materials:

- Eighty-eight subjects aged 14-75 years, with > A2-VITA Classical Shade (VCS; Bad Sackingen, Germany) on at least 4 of 6 maxillary teeth, were enrolled and randomly assigned to two treatments: Philips Zoom QuickPro Bleaching Agent 1 (PQPBA1 14% H<sub>2</sub>O<sub>2</sub>); or Philips Zoom QuickPro Bleaching Agent 2 (PQPBA2, 20%, H<sub>2</sub>O<sub>2</sub>).
- The IRB approved study was carried out in four location sites. Examiners were blinded and tooth shade was measured at baseline, post bleaching and Day 3 using VCS and VITA Bleached Guide 3D-Master (VBG). The bleaching procedures followed manufacturer's instructions (5-minute in-office application, patient removes varnish 30 minutes later). Clinical safety was evaluated by oral tissue examination, tooth sensitivity and whitening satisfaction questionnaires. The shade and color data were analyzed using a linear mixed-effects model.

#### Results:

Philips Zoom QuickPro 20% H<sub>2</sub>O<sub>2</sub> and 14% H<sub>2</sub>O<sub>2</sub> demonstrated statistically significant post-whitening improvement results relative to baseline on both measurement scales ( $p < 0.0001$ ). For between treatment comparisons, on the VCS scale the mean whiteness improvement for PQPBA2 was greater than for PQPBA1 (3.65 vs. 2.85,  $p < 0.074$ ) while on the VBG scale the mean whiteness improvement for PQPBA2 was greater than for PQPBA1 (4.81 vs. 3.28,  $p < 0.011$ ). The incidence of sensitivity and gingival irritation experienced by both patient groups was not significantly different. In group PQPBA1, 84% of patients and in group PQPBA2, 86% of patients stated sensitivity was acceptable, and 86% (PQPBA1) and 81% (PQPBA2) reported gum sensitivity was acceptable.

One subject in each group withdrew due to a non-product related reason.

**Results:**Treatment Effects of Both H<sub>2</sub>O<sub>2</sub> Concentrations (Pooled Together)Data Summary of Both H<sub>2</sub>O<sub>2</sub> Concentrations (Pooled Together)

3D Master SG	14% HP	Improvement Post	3.28 SGU
	14% HP	Visit 2	3.02 SGU
	20% HP	Improvement Post	4.81 SGU
	20% HP	Visit 2	4.37 SGU
VITA Classical SG	14% HP	Improvement Post	2.85 SGU
	14% HP	Visit 2	2.90 SGU
	20% HP	Improvement Post	3.65 SGU
	20% HP	Visit 2	3.99 SGU

**VITA Classical SG 20% HP**

Before



30 minutes after



Three days after

**VITA 3D Bleached SG 20% HP**

Before



30 minutes after



Three days after

**Conclusion:**

Overall, both the Philips Zoom QuickPro whitening varnish bleaching agents achieved noticeably whiter teeth, scored well in user experience, reported virtually no sensitivity and were safe to use. Philips QuickPro 20% H<sub>2</sub>O<sub>2</sub> whitening varnish achieved up to 4.81 shade (VBG scale) improvement.

Philips Zoom QuickPro Bleaching Agent 2 (20% H<sub>2</sub>O<sub>2</sub>) delivered significantly (VBG scale 4.81 shades on average with QuickPro 20%) better whitening result than Philips Zoom QuickPro Bleaching Agent 1 (14% H<sub>2</sub>O<sub>2</sub>) and achieved noticeably whiter teeth.