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**Objective**

To compare the whitening efficacy, side effects and patients' perceptions of two whitening systems of similar peroxide concentrations but different delivery methods.

**Methods**

- ✓ Twenty voluntary patients (7 male, 13 female)
- ✓ Aged 23±3.7

**Inclusion Criteria**

- to have anterior tooth shade A2 or darker on the Vita shade Guide
- no periodontal disease,
- presence of all natural dentition,
- no previous bleaching treatment,
- the absence of caries and restoration on the maxillary anterior teeth,
- compliance to procedures to avoid staining from food and beverages during the treatment period

1h/day for 21 days

**Group 1:** pre-filled tray, 6% hydrogen peroxide (*Bite&White Ready 2 Use, Cavex*)

**Group 2:** custom tray, 16% carbamide peroxide (*Bite&White, Cavex*)



**Shade Evaluation**

baseline, 7, 14, 21 and 7 days after bleaching



(Vitapan Classical Shade Guide VITA Zahnfabrik, Bad Sackingen, Germany)

**Gingival and Tooth Sensitivity Evaluation**

Visual Analog Scale.

DATE	SENSITIVITY									
	1	2	3	4	5	6	7	8	9	10
1. DAY										
2. DAY										
3. DAY	X									
4. DAY		X								
5. DAY					X					
6. DAY		X								
7. DAY			X							
8. DAY				X						
9. DAY					X					
10. DAY									X	
11. DAY		X								
12. DAY										X
13. DAY						X				
14. DAY							X			
15. DAY						X				
16. DAY										X
17. DAY									X	
18. DAY										X
19. DAY								X		
20. DAY										
21. DAY										

**Questionnaire**

QUESTIONS	SCORES				
	1	2	3	4	5
1. Enough instructions to conduct the treatment?					
2. Easy to use?					
3. No interference with talking?					
4. Comfortable during application?					
5. No discomfort after application?					
6. Pleasant taste?					
7. Satisfactory whitening effect?					

1—agree; 2—somewhat agree; 3—no opinion; 4—somewhat disagree; 5—disagree

**Statistical Analyze**

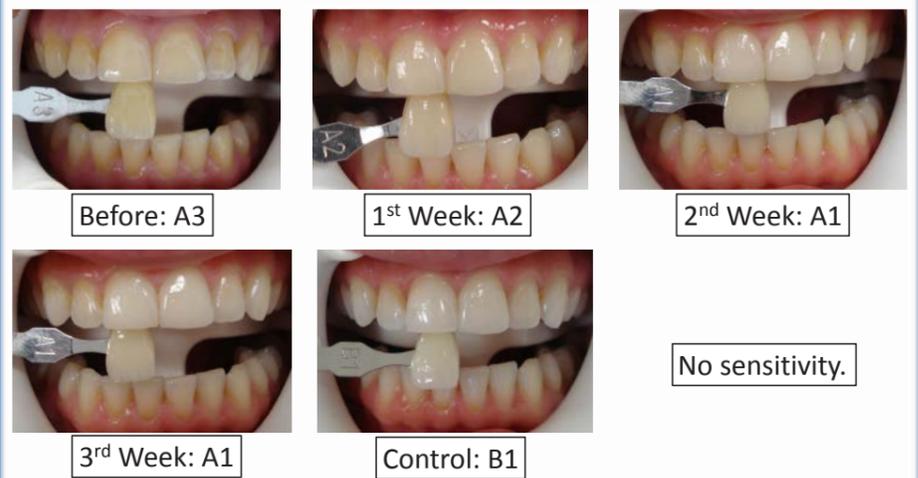
Mann-Whitney-U, Wilcoxon Signed Rank, Friedman and Chi-Square tests (p<0.05).

**Group 1: Bite&White Ready 2 Use**



No sensitivity.

**Group 2: Bite&White**



No sensitivity.

**Results**

differences between baseline and after bleaching (p<0.05).

Evaluation Period	Shade Guide Evaluation Shade median (min.-max.)		p
	Bite & White Ready 2 Use (n=10)	Bite & White (n=10)	
	Median (min. - max.)	Median (min. - max.)	
Baseline	12 (8-12)	8 (8-12)	0,143
One-Week	13,5 (12-15)	12 (12-15)	0,280
Two-Week	15 (12-16)	15,5 (12-16)	0,739
Three-Week	16 (12-16)	16 (15-16)	0,853
Four-Week	15,5 (12-16)	16 (15-16)	0,631

Shade median (min.-max.) in Different Evaluation Periods for Groups Treated with Bite & White Ready 2 use or Bite & White p<0,05 (Mann-whitney U test)

no significant difference between the two systems (p>0.05).

Evaluation Period	Shade Guide Evaluation Shade median (min.-max.)		p
	Baseline	Four-Week	
Bite & White Ready 2 Use (n=10)	12 (8-12)	15,5 (12-16)	0,004
Bite & White (n=10)	8 (8-12)	16 (15-16)	0,004

Shade Median (min.-max.), Color Change and p-values Between Before and One Week after treatment (four-week) for Groups Treated with Bite & White Ready 2 use or Bite & White p<0,05 (Wilcoxon Signed Rank Test)

Tooth sensitivity	Bite & White Ready 2 Use (n=10) Median (min.-max.)	Bite & White (n=10) Median (min.-max.)	p
First week of treatment	0,16 (0-2,7)	1,92 (0-5,86)	0,043*
Second week of treatment	0 (0-4,17)	1,49 (0-5,57)	0,029*
Third week of treatment	0 (0-2,33)	1,71 (0-8,14)	0,043*

Median (min.-max.) Values for Weekly Tooth Sensitivity Reported by Subjects During Three Weeks in Different Treatment Groups p<0,05 (Mann-whitney U test)

QUESTIONS	SCORES					p
	1	2	3	4	5	
1. Enough instructions to conduct the treatment?	10/10					-
2. Easy to use?	7/5	3/2	-/3			0,096
3. No interference with talking?		-/5	-/5		10/-	p<0,001
4. Comfortable during application?	7/9	2/1	1/-			0,372
5. No discomfort after application?	5/9	3/1	2/-			0,083
6. Pleasant taste?	10/10					-
7. Satisfactory whitening effect?	8/10		2/-			0,474

1—agree; 2—somewhat agree; 3—no opinion; 4—somewhat disagree; 5—disagree  
Response scores of subjects who completed the three weeks of bleaching with Bite & White Ready 2 use / Bite & White (Chi-square test p<0,05)

**Conclusion**

Both bleaching systems were effective and safe for a three-week at home tooth-bleaching treatment, with few reported side effects such as transient tooth sensitivity.