CURASEPT®

THE VALUE
OF SCIENTIFIC
RESEARCH

IS YOUR BEST GUARANTEE

NEW
clinical evidences.

SOME HIGHLIGHTS FROM CLINICAL STUDIES

"The answer to the question –whether ADS works or not – is: the chlorhexidine with ADS does eliminate the side effect of staining."

"The chlorhexidine with ADS® appeared to be effective in preventing stain on the teeth".

Lang NP, et al. 2012
Swiss Dent

"Chlorhexidine with ADS® caused less pigmentation, was burdened by less side effects and was more agreeable than a chlorhexidine without ADS®; chlorhexidine with ADS® was as effective as chlorhexidine without ADS® in reducing gingival signs of inflammation in the post-surgical early healing phase".

Cortellini P, Pini Prato GP, Tonetti M, et al. 2008
Journal of Clinical Periodontology

"Post-surgery plaque control regimen based on CHX and CHX+ADS®+HA mouthrinses is associated with optimal quality of early wound healing.
This positive finding can be partly explained by the substantial antiplaque and antigingivitis effect".

Trombelli L, et al. 2018
International Journal of Hygiene

CURASEPT ADS
ORAL CARE SYSTEM

ADS: ANTI DISCOLORATION SYSTEM

A system that reduces **tooth pigmentation**, the most common and troublesome side–effect associated with the use of chlorhexidine.

INTERFERENCE WITH MAILLARD REACTION

Thanks to Sodium Metabisulphite, ADS® transforms diketosamines into Bertagnini compounds, interrupting the sequence of these reactions.

INTERFERENCE WITH THE PROTEIN DENATURATION REACTION

Thanks to Ascorbic Acid, ADS® reduces Fe^{3+} to Fe^{2+}, preventing the formation of organic ferric sulphides.

UNALTERATED ACTIVITY OF CHLORHEXIDINE

ADS® components do not affect the substantivity of chlorhexidine, do not impair its bactericidal, bacteriostatic and denaturating activity and do not bind to molecules in solution.

CLINICALLY CONFIRMED EFFICACY

Chlorhexidine with ADS® can reduce plaque and gingival inflammation as chlorhexidine alone (also described by Italian Ministerial Guidelines on Oral Health, 2014), but it significantly reduces tooth staining.

COMPLETE SAFETY AND VERSATILITY

Chlorhexidine with ADS® can be safely used for both short– and long–term treatments. Depending on the concentrations and on the addition of other components,the whole Curasept ADS® portfolio can be used for many clinical purposes.

ALCOHOL-FREE FOR A BETTER COMPLIANCE

The absence of alcohol reduces pain, mucosal dehydration and irritations during rinsing. It prevents the risk of developing diseases that are related to the prolonged use of alcohol–based mouthwashes.

ALCOHOL - FREE

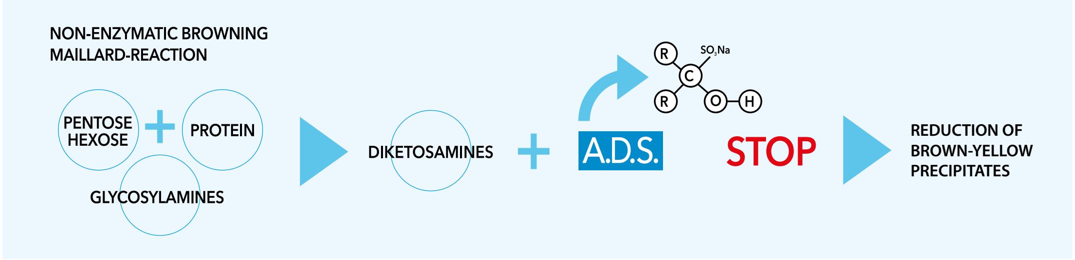
A PATENTED SYSTEM

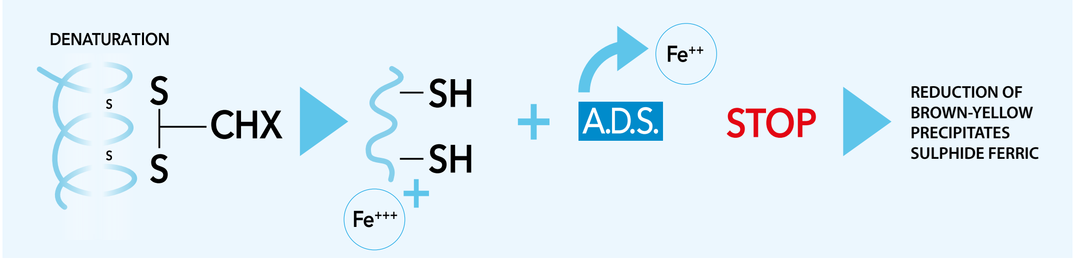
“Non–staining” chlorhexidine.
The original and still essential innovation.

Excerpt from section “Companies News”
Newsletter SIdP
Information Bulletin of the Italian Society of Periodontology
N° 19 – June 2017

NON-STAINING CHLORHEXIDINE: THE CLINICAL EVIDENCES

Chlorhexidine is at present the most effective mouth antiseptic, as it is considered the “gold standard” in the field. **Tooth pigmentation is possibly the most reported side effect related to the use of Chlorhexidine**, and it can lead to a consistent limit, lowering the patient compliance with the prescribed treatment. In Periodontology, the compliance with the prescribed treatment is however requested for its clinical success, during the active treatment and during management therapy as well.
Curasept S.p.A developed at the beginning of the year 2000, a patented system called Anti Discoloration System (ADS®), included in the Curasept ADS® line products.





The ADS® system can affect the two main reactions liable for the stains: the Maillard reaction and the protein
denaturation process.
The efficacy of Curasept ADS® against the gingival irritation was confirmed by many in vitro and in vivo studies. Such studies, (among which, for example Cortellini 2008, cross–over, 48 patients; Solis 2011, cross–over, 15 patients; Graziani 2015, controlled trial, 70 patients) clearly prove **how the gingival inflammation control in patients undergoing oral surgery is guaranteed by the regular use of 0.20% Curasept ADS® mouthwash, in case of complete interruption of any other oral hygiene practice.**
A few studies assumed that the ADS® system integration, consisting of sodium metabisulphite and ascorbic acid, even though lessening stains, could reduce Chlorhexidine efficacy thus limiting its action (Li & Lang 2012, Guggenheim & Meier 2011). However it is however strange that renowned scientists simply reported the opposite, that is that Chlorhexidine is perfectly working while the ADS® system is entirely ineffective or barely effective (Addy 2005, Bevilacqua 2016). **However never forget that the compounds of ADS® can't chemically interact with Chlorhexidine in the solution form, and therefore they can't affect its efficacy.**
As for the different results obtained between the studies on Curasept ADS®, it is possible to report that the selection of the protocol, population and statistical analysis as well could affect the results when the antiseptic mouthwash efficacy is to be tested. It can therefore reasonably possible to more positively assess studies forecasting real clinical use of the tested product and the analysis of subjects in a statistically predetermined number, not healthy volunteers, as they do not represent real operating conditions.

Solderer, Kaufmann, Hofer, Wiedemeier, Attin, Schmidlin – 2018

Clinic of Preventive Dentistry, Periodontology and Cariology, Center of Dental Medicine, University of Zurich, Plattenstrasse 11, 8032 Zurich, Switzerland
Statistical Services, Center of Dental Medicine, University of Zurich, Zurich, Switzerland

Efficacy of chlorhexidine rinses after periodontal or implant surgery: a systematic review

OBJECTIVE

To evaluate the benefits of chlorhexidine rinsing after periodontal or implant surgery in terms of plaque and inflammation reduction potential. Furthermore, to monitor whether the concentration changes or additives in CHX solutions reduce side effects associated with its use.

METHODS

750 ARTICLES → 34 ARTICLES SELECTED → 11 ARTICLES INCLUDED IN THE REVISION

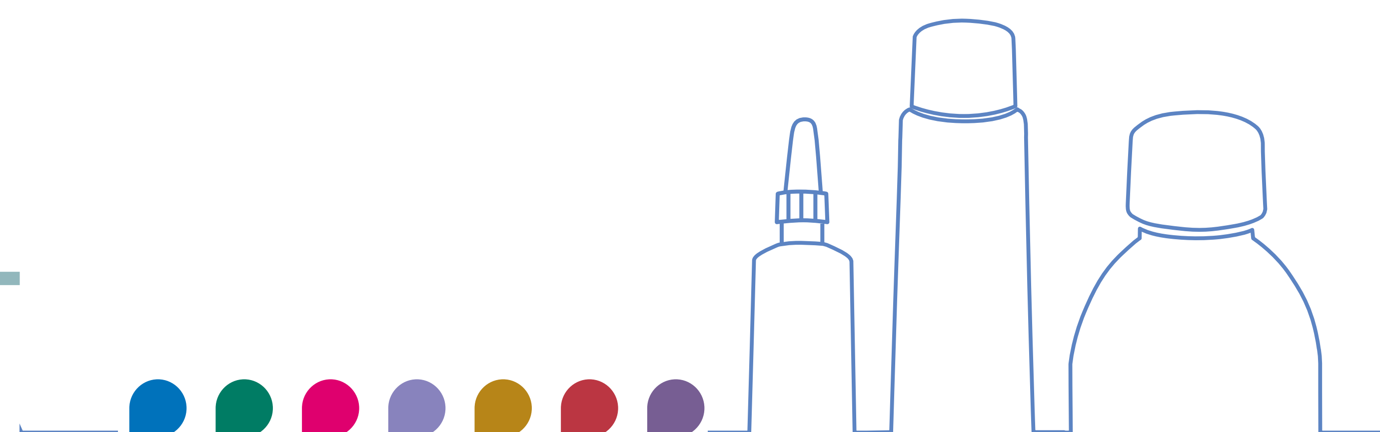
RESULTS

The use of CHX after surgery showed in general significant reduction in plaque (means of 29–86% after 1 week) and bleeding (up to 73%) as compared to placebo. No consensus, however, was found regarding the most beneficial CHX formulation avoiding side effects.

MAIN CONCLUSION

- Chlorhexidine rinsing helps to reduce biofilm formation and gingival inflammation after surgery. However, no additional reduction of periodontal probing depth over any given placebo or control solution could be found irrespective of whether CHX was used or not. **The use of additives such as antidiscoloration systems (ADS)** or herbal extracts **may reduce side effects while retaining efficacy**.

ADS® STUDIES



CURASEPT ADS ORAL CARE SYSTEM

TABLE OF ADS® STUDIES

AUTHOR	DENTAL BRANCH (periodontology, ortho...)	CURASEPT ADS® FORMULA	COMPARISON FORMULA	STUDY TYPE	N° OF PATIENTS IN VIVO IN VITRO SAMPLES	IS ADS® EFFECTIVE AGAINST STAINS?	IS CHX + ADS® EFFECTIVE AGAINST PLAQUE AND INFLAMMATION?
Trombelli 2018 International Journal of Dental Hygiene; EUROPERIO 9, Amsterdam (June 20-23, 2018)	PERIODONTOLOGY ORAL SURGERY	CURASEPT 0.20% WITH HYALURONIC ACID	CHLORHEXIDINE 0.20%	CLINICAL	35		✓
Cortellini 2008 J Clin Period	PERIODONTOLOGY ORAL SURGERY	CURASEPT 0.20%	CHLORHEXIDINE 0.20%	CLINICAL	48	✓	✓
Varoni 2017 Am J Dent	PREVENTION	CURASEPT 0.12%	CHLORHEXIDINE 0.12%	CLINICAL	22	✓	✓
Palaia 2018 Clin Oral Invest	ORAL SURGERY	CHLORHEXIDINE 0.20% WITH HYALURONIC ACID	CHLORHEXIDINE 0,20% PLACEBO	CLINICAL	56	NOT EVALUATED	✓
Solis 2011 J Periodont	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	CHLORHEXIDINE 0.20%	CLINICAL	15	✓	✓
Bernardi 2004 Int J Dent Hygiene	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	CHLORHEXIDINE 0.20%	CLINICAL	15	✓	✓
Brambilla 2018 Unpublished data	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	• PVP-VA coll 0,1% • CHX GEL 1% • CHX 0.12% freshly prepared	LABORATORY	80 disks obtained from natural teeth	NOT EVALUATED	✓
Moroz 2017 Annals of Parasitology	PREVENTION	CURASEPT 0.05%	OTHER 12 MOUTHWASHES	LABORATORY	36 plates	NOT EVALUATED	✓
Bevilacqua 2016 Am J Dent.	PREVENTION PERIODONTOLOGY ORAL SURGERY	CURASEPT 0.20%	• CHLORHEXIDINE 0.20% • CHLORHEXIDINE 0.12%	CLINICAL	53		✓
Jurišić 2018 Int J Dent Hygiene	ORTHODONTICS PREVENTION	CURASEPT 0.20%	• CHX 0.20% • PLACEBO	CLINICAL	80	NOT EVALUATED	✓
Donati 2012 Dental Clinics	ORAL SURGERY/ONCOLOGY	CURASEPT 0.20% AND GEL 1%	STANDARDIZED ORAL HYGIENE ONLY	CLINICAL	52	NOT EVALUATED	✓
Gasparone 2014 Poster - EFOSS-IADH Congress, Berlin	ORAL SURGERY	CURASEPT 0.20% AND CHLOROBUTANOL	CURASEPT 0.20%	CLINICAL	42		✓
Addy 2005 Int J Dent Hygiene	PREVENTION PERIODONTOLOGY	CURASEPT 0.12% AND CURASEPT 0.20%	CHX 0.20% AND ALCOHOL	LABORATORY	24 acrylic blocks		✓

CURASEPT ADS ORAL CARE SYSTEM

TABLE OF ADS® STUDIES

AUTHOR	DENTAL BRANCH (periodontology, ortho...)	CURASEPT ADS® FORMULA	COMPARISON FORMULA	STUDY TYPE	N° OF PATIENTS IN VIVO IN VITRO SAMPLES	IS ADS® EFFECTIVE AGAINST STAINS?	IS CHX + ADS® EFFECTIVE AGAINST PLAQUE AND INFLAMMATION?
Ramberg 2013 Poster	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	• CHX 0,12%/CPC 0.05% • CHX 0.12% ALCOHOL • NAF 0.05%	CLINICAL	17	✓	
Abdalrahman 2014 Master of Science Thesis	PREVENTION	CURASEPT 0.20%	• CHX 012% + CPC ALCOOL FREE • CHX 0.20% WITH ALCOHOL • PLACEBO	LABORATORY	56 culture plates	NOT EVALUATED	✓
Graziani 2015 Oral Health Prev Dent	PREVENTION PERIODONTOLOGY	CURASEPT 0.2%	• CHX 0.20% WITH ALCOHOL • CHX 0.20% ALCOHOL FREE • PLACEBO	CLINICAL	70	✓	✓ Effective on bleeding index
Marrelli 2015 Ann Stomatol	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	• CHX 0,20% WITH ALCOHOL • CHX 0,20% ALCOHOL FREE • PLACEBO	CLINICAL	200	✓	✓
Kouadio 2017 J Clin Exp Dent	PREVENTION	CURASEPT 0.12%	• CHX 0.10% AND CHLOROBUTANOL 0.5% • POSITIVE CONTROL (TEA)	LABORATORY	Extracted teeth (unknown number)	✓	NOT EVALUATED
Bassani 2007 Poster	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	CHX 0.20% WITH ALCOHOL	CLINICAL	50	✓	✓
Graziani 2009 Doctor Os	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	• CHX 0.20% WITH ALCOHOL • CHX 0.20% ALCOHOL FREE • PLACEBO	CLINICAL	40	✓	
Basso 2008 Dental Cadmos	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	CHX 0.20% WITH ALCOHOL	CLINICAL	30	✓	✓
Basso 2005 Dental Cadmos	PREVENTION PERIODONTOLOGY	CURASEPT 0.20%	CHX 0.20%	CLINICAL	20	✓	✓
Li, Lang 2012 Swiss Dent	PREVENTION PERIODONTOLOGY	CURASEPT 0.12%	• CHX 0.12% • PLACEBO	CLINICAL	26	✓	
Bellia 2006 Università di Napoli	ORTHODONTICS PERIODONTOLOGY	CURASEPT 0.2% AND CURASEPT 0.12% TOOTHPASTE	CHX 0.2% 0.20% AND CURASEPT 0.12% TOOTHPASTE	CLINICAL	45	✓	
Weinstein 2015 Doctor Os		ALL FORMULAS WITH ADS® SYSTEM		REVIEW	30 publications examined		
van Swaaij 2018 Poster Europerio 9, Amsterdam		MOUTHWASHES WITH ADS® SYSTEM		REVIEW	87 publications examined 11 selected	✓	✓

01

VAN SWAAIJ BWM, VAN DER WEIJDEN GA, BAKKER EWP, SLOT DE - 2018

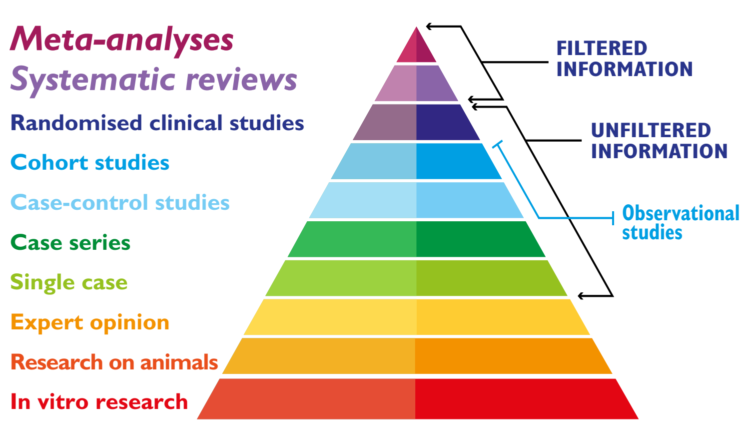
The efficacy of chlorhexidine mouthwash, with and without an Anti Discolouration System (ADS®), on the parameters plaque, gingivitis and staining control. A systematic review and meta-analysis.

AIM OF SYSTEMATIC REVIEW

To determine whether combining chlorhexidine with ADS® is efficacious in reducing tooth discolouration, whilst maintaining the plaque- and gingivitis-reducing effects of chlorhexidine.

87 publications analysed, 11 articles selected for review (6 with protocols in which mechanical hygiene was discontinued, 5 in which mechanical hygiene was not discontinued). It was possible to obtain 14 direct comparisons, 9 of which were included in the final metaanalysis.

Systematic reviews and meta-analysis: the highest level of scientific evidence



CONCLUSIONS

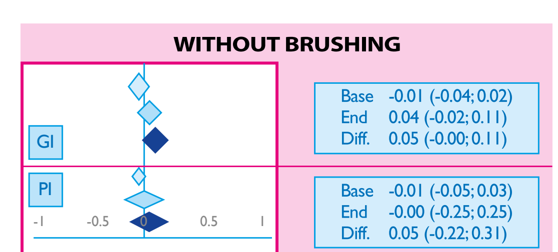
- Adding ADS® to a chlorhexidine mouthwash significantly reduces tooth discolouration and does not affect the action of chlorhexidine in controlling gingival inflammation and plaque indices. The recommendation resulting from this review is that the chlorhexidine + ADS® combination should be taken into consideration, given its efficacy in reducing plaque and gingival inflammation associated with anti-discolouration activity.

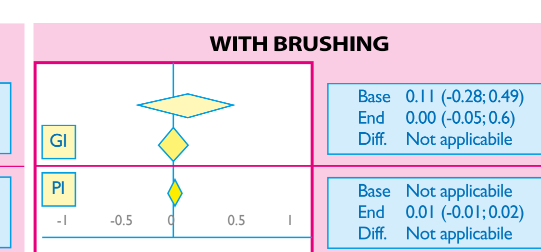
Results of the systematic review with the group without brushing (above, 6 publications, 8 comparisons) and with brushing (below, 5 publications, 6 comparisons).

WITHOUT BRUSHING						
Author, year	**Intervention**	**SI**	**PI**	**BI**	**GI**	**Control**
Basso et al. (2008)	CHX + ADS® 0.2%	+	○	□	○	CHX 0.2%
Li et al. (2013)	CHX + ADS® 0.12%	+	–	□	–	CHX 0.12%
Weinstein et al. (2014)	CHX + ADS® 0.09%	+	○	□	○	CHX 0.2%
Marrelli et al. (2015)	CHX + ADS® 0.2%	+	+	□	□	CHX 0.2% (A)
		+	–	□	□	CHX 0.2% (B)
Cortellini et al. (2008)	CHX + ADS® 0.2%	+	□	□	○	CHX 0.2%
Bevilacqua et al. (2016)	CHX + ADS® 0.2%	○	○	○	○	CHX 0.2%
		○	○	○	○	CHX 0.12%

WITH BRUSHING						
Author, year	**Intervention**	**SI**	**PI**	**BI**	**GI**	**Control**
Bernardi et al. (2004)	CHX + ADS® 0.2%	+	○	□	○	CHX 0.2%
Solis et al. (2010)	CHX + ADS® 0.2%	+	○	○	□	CHX 0.2%
Graziani et al. (2013)	CHX + ADS® 0.2%	○	–	○	○	CHX 0.2% (A)
		○	–	○	○	CHX 0.2% (B)
Pereira et al. (2017)	CHX + ADS® 0.2%	+	○	□	□	CHX 0.2%
Varoni et al. (2017)	CHX + ADS® 0.12%	○	○	○	□	CHX 0.12%

SI: Stain Index. **PI**: Plaque Index. **BI**: Bleeding Index. **GI**: Gingival Index.
+: Significant difference in favour of CHX + ADS®. **–**: Significant difference in favour of CHX.
o: No significant difference. **□**: No data available (not tested).





The charts show the results of the meta-analysis. The minimal deviation from the value "zero" confirms that there is no significant difference between Curasept ADS® and chlorhexidine without ADS® in controlling plaque and gingival inflammation.

02 TROMBELLI L, FARINA R, ET AL - 2018

Clinical efficacy of a chlorhexidine-based mouth rinse containing hyaluronic acid and an Anti Discolouration System in patients undergoing flap surgery.

OBJECTIVE

To evaluate post-surgical healing of the soft tissue after the use of chlorhexidine (CHX) 0.20% mouthwashes with or without anti-discolouration system (ADS®) and hyaluronic acid (HA) 0.20%.

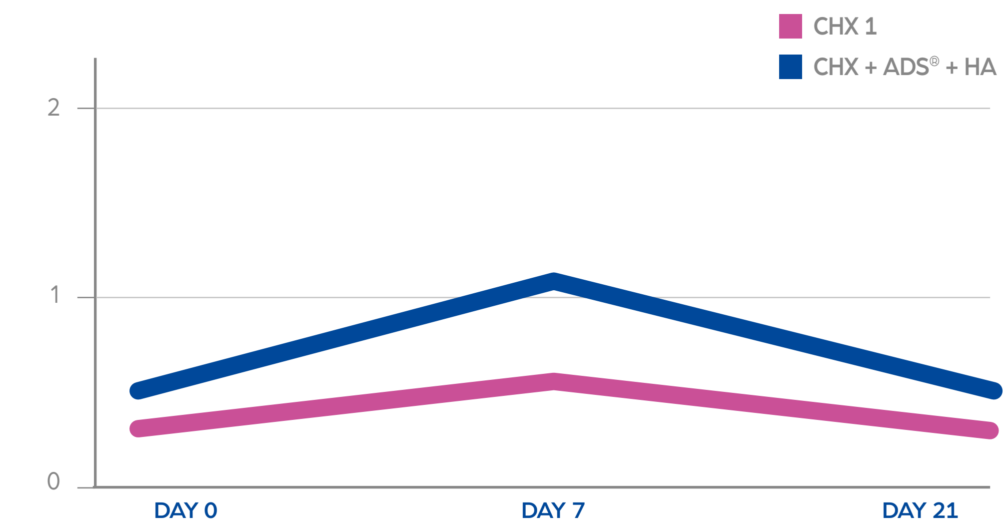
35 patients undergoing oral surgery consisting of the elevation of a full-thickness flap, evaluated for a 21-day period.

International publication of a triple blind, parallel-arm, randomized controlled trial.

RESULTS

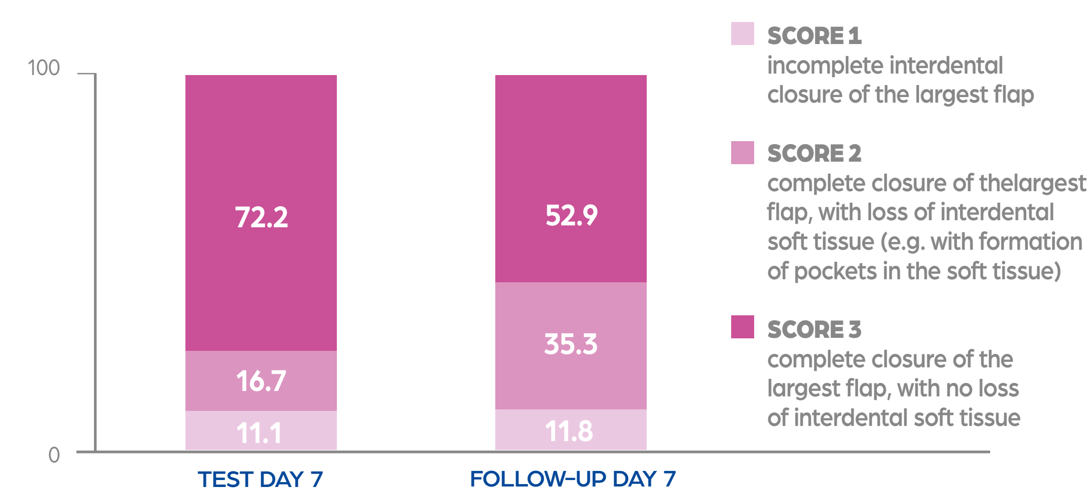
- **CHX+ADS® leads to an excellent surgical wound healing quality.**
- **CHX+ADS® shows a powerful anti-plaque activity, comparable to that of conventional CHX 0.20% without ADS®.**

Gingival index trend in the trial period



The group treated with Curasept 0.20% ADS® + HA presented gingival index control comparable to the group treated with chlorhexidine 0.20% alone.

Wound healing in the interproximal area



At follow-up day 7, 72.2% of patients treated with Curasept 0.20% ADS®+ HA presented complete interproximal wound closure in respect to just 52% in the group treated with chlorhexidine 0.20% without ADS®+HA.

03 CORTELLINI P, PINI PRATO G, TONETTI M, ET AL 2008

Chlorhexidine with an Anti Discolouration System after periodontal flap surgery: a crossover, randomized, triple-blind clinical trial.

OBJECTIVE

To evaluate the efficacy, the side effects, and the patient acceptance of a 0.20% chlorhexidine mouthwash containing ADS® compared with a traditional 0.20% chlorhexidine mouthwash without ADS®.

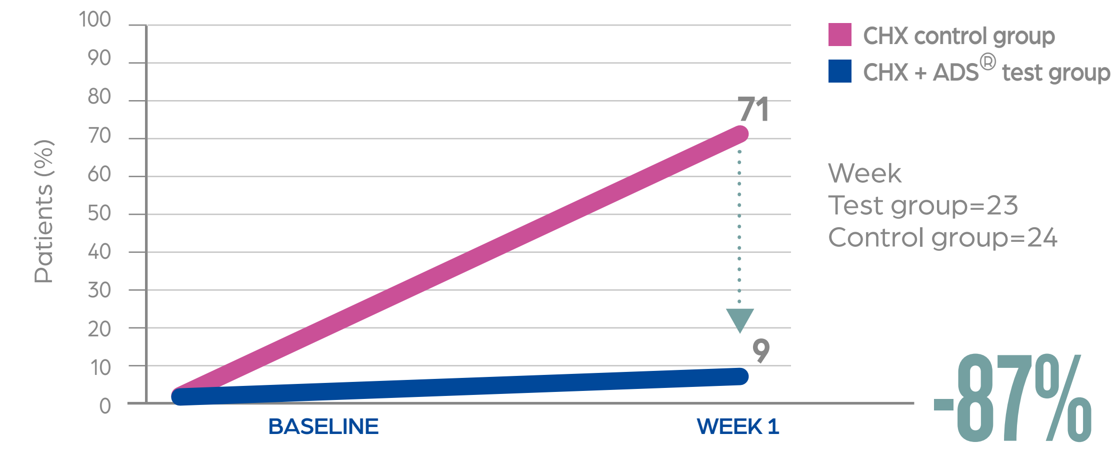
Study conducted on 48 patients with advanced periodontal disease undergoing periodontal flap surgery.

International publication of a triple blind, randomized controlled crossover trial.

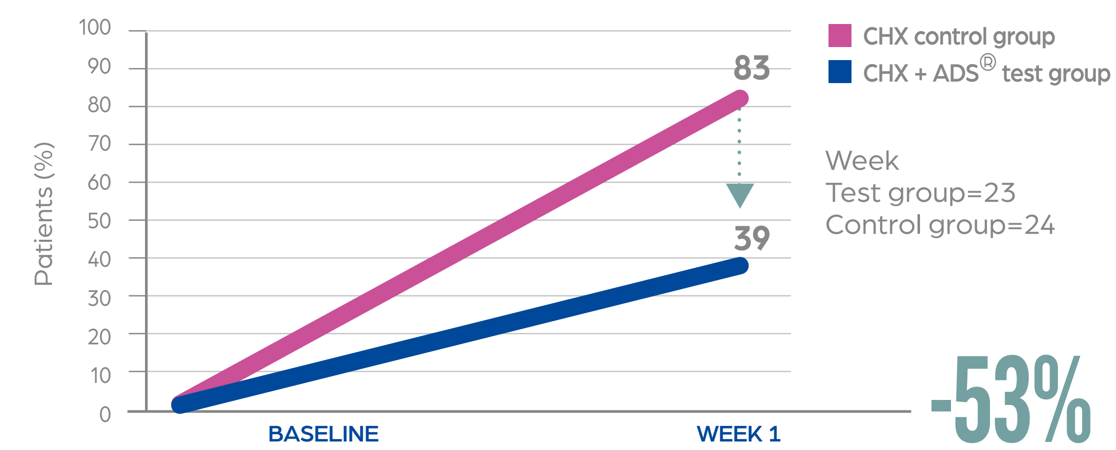
RESULTS

- **Identical efficacy in reducing gingival inflammation.**
- **Superior satisfaction: no alteration of taste or salt perception in the CHX+ADS® group.**
- **Less irritation of oral tissue and mucosa in the CHX+ADS® group.**
- **Significant reduction in tooth discolouration in the CHX+ADS® group.**

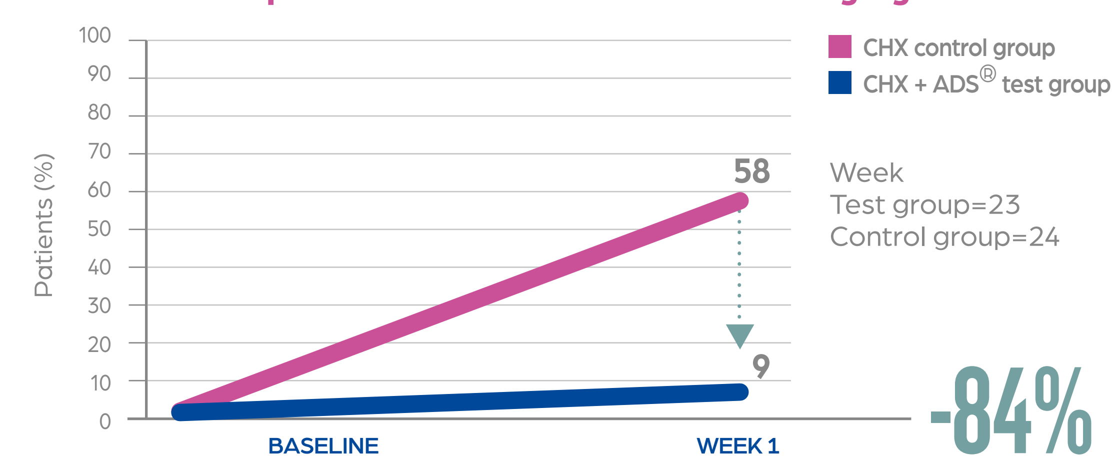
-87% of patients with discolouration in the incisal area



-53% of patients with discolouration in the interproximal area



-84% of patients with discolouration in the gingival area



The graphs show the percentage of patients who reported dental discolouration after just one week of mouthwash use. For all three tooth areas considered, the ADS® mouthwash caused much less discolouration than a traditional mouthwash without ADS®.

04

VARONI EM, LODI G, CARRASSI A, ET AL 2017

Efficacy of an Anti Discolouration System (ADS®) in a 0.12% chlorhexidine mouthwash.

OBJECTIVE

To determine the efficacy of an Anti Discolouration System (ADS®) in a 0.12% chlorhexidine mouthwash.

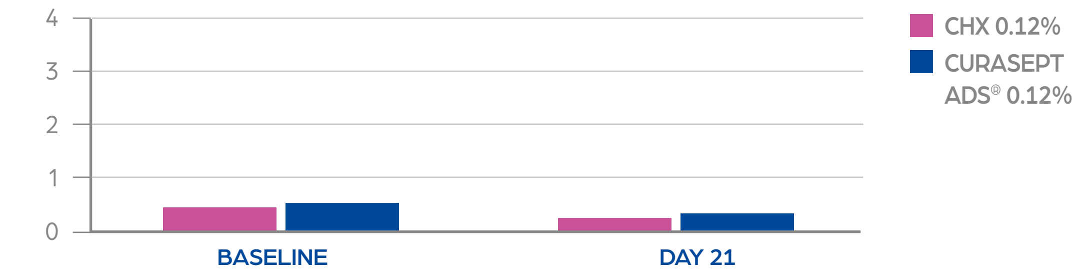
Study conducted on 22 volunteers, who performed two cycles of oral rinses with both products in addition to their normal daily oral hygiene routine.

International publication of a triple-blind, randomised cross-over clinical trial.

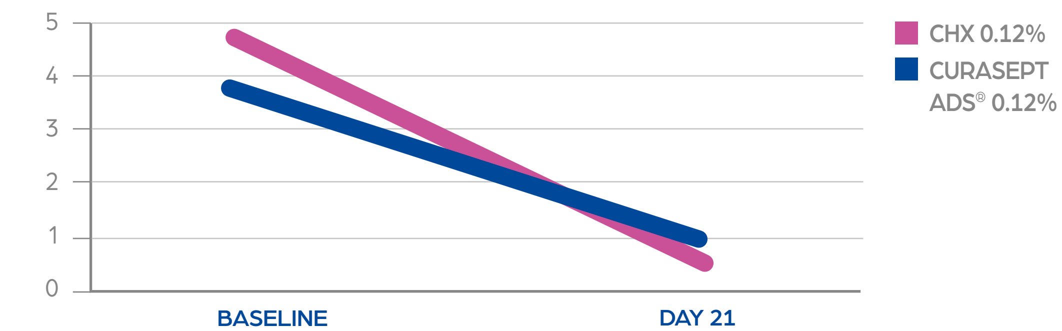
RESULTS

- **The addition of ADS® does not reduce the clinical efficacy of chlorhexidine.**
- **Fewer side effects in comparison with a 0.12% chlorhexidine mouthwash without ADS®.**
- **Evaluation of clinical photographs by dentists and dental hygienists revealed less intense discolouration than with a similar mouthwash that did not contain ADS®.**

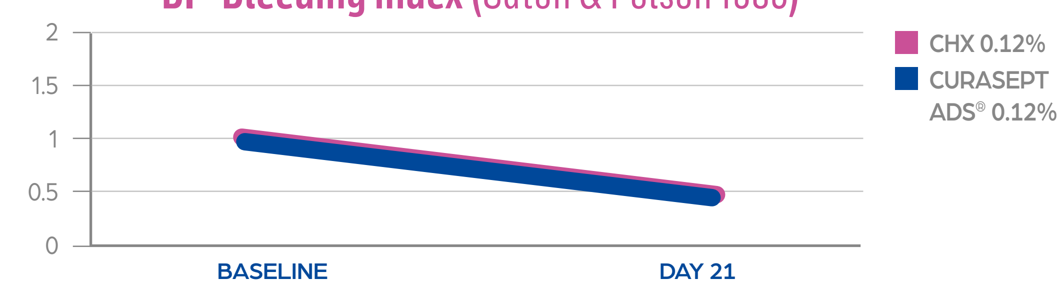
Periodontal Screening & Recording - PSR



PI plaque index

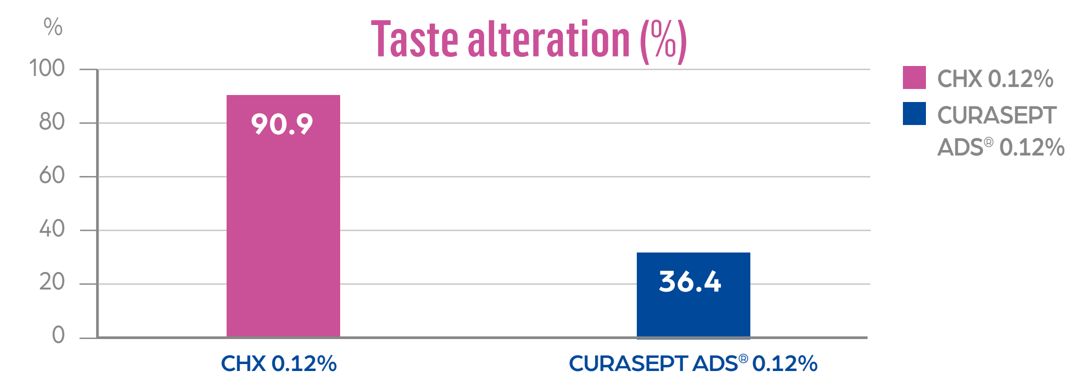


BI - Bleeding index (Caton & Polson 1985)



The graphs demonstrate the effects of the 2 mouthwashes on periodontal health (PSR), plaque (PI) and gingival bleeding (GI). Curasept ADS® 0.12% mouthwash produces the same clinical benefits as a traditional ADS®-free 0.12% chlorhexidine mouthwash but, in the opinion of the dentists and dental hygienists involved in the study, is associated with less discolouration.

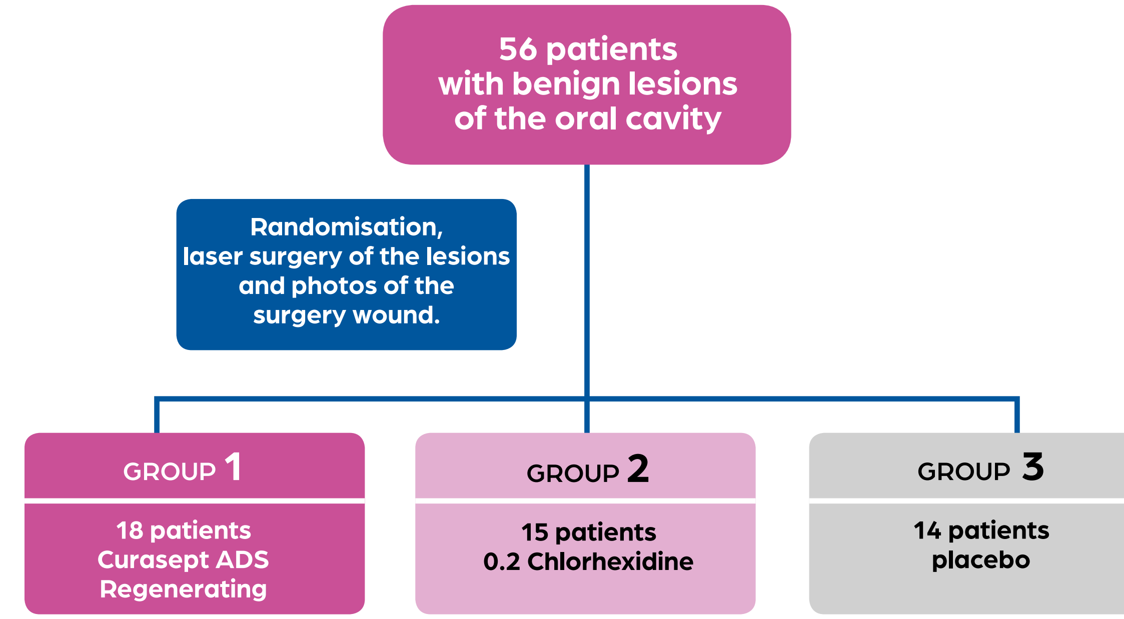
Taste alteration (%)



Traditional ADS®-free 0.12% chlorhexidine mouthwash caused altered taste perception in almost all cases, in comparison with just over a third of patients after the use of Curasept ADS® 0.12%.

05 PALAIA G ET AL 2018

Evaluation of wound healing and postoperative pain after oral mucosa laser biopsy with the aid of compound with chlorhexidine and sodium hyaluronate: a randomized double blind clinical trial.



OBJECTIVE

Assess second-intention healing of the surgical wound and post-surgery pain after the laser surgery and use of a chlorhexidineand sodium hyaluronate-based mouthwash.

56 patients with benign oral cavity lesions undergoing laser-assisting removal biopsy.

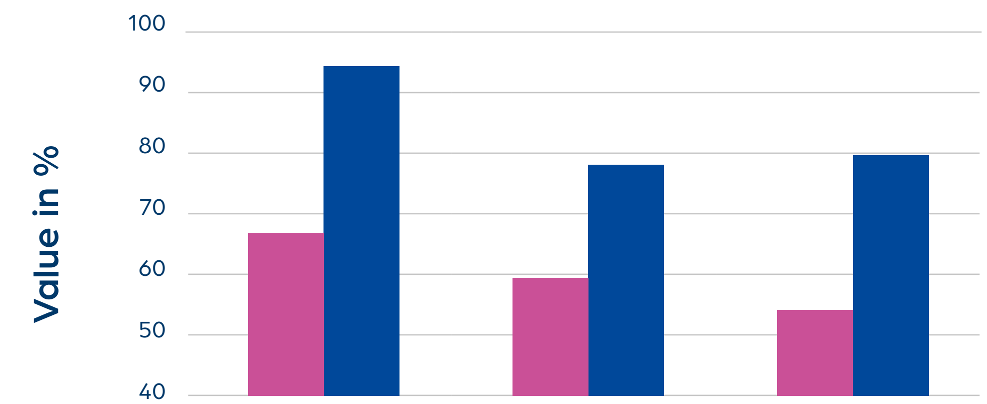
International publication of a clinical controlled randomised doubleblind trial, in parallel groups.

Re-assessment after 7 and 14 days with photos. The lesion area which is still present is confronted with the initial lesion size, through a software and the healed lesion area is reported in % (PHI, Percentage Healing Index).

RESULTS

- **The mouthwash holding chlorhexidine and sodium hyaluronate is an effective support to increase the second-intention would healing.**
- **The use of a mouthwash holding chlorhexidine and sodium hyaluronate can be suggested after laser surgery, in the absence of sutures to get the best possible wound healing.**

Lesion reduction %



	CHX 0,2 + HA	CHX 0,2	Placebo
7 days	67.25	58.67	54.55
14 days	94.35	77.79	78.98

In the diagram the Percentage Healing Index (PHI) after confronting the initial lesion area with the lesion area still present after 7 and 14 days. Remark that the group CHX + HA reported at any interval a higher healing percentage that the group simply administered Chlorhexidine (CHX) which on its turn does not exhibit any further benefit to healing if compared to the placebo.

SOLIS C, ET AL
2011

0.20% chlorhexidine mouthwash with an Anti Discolouration System Versus 0.20% chlorhexidine mouthwash: a prospective clinical comparative study.

OBJECTIVE

To evaluate the efficacy and side effects of a 0.20% chlorhexidine mouthwash containing ADS® compared with a traditional formulation without ADS® after 15 days of oral rinses.

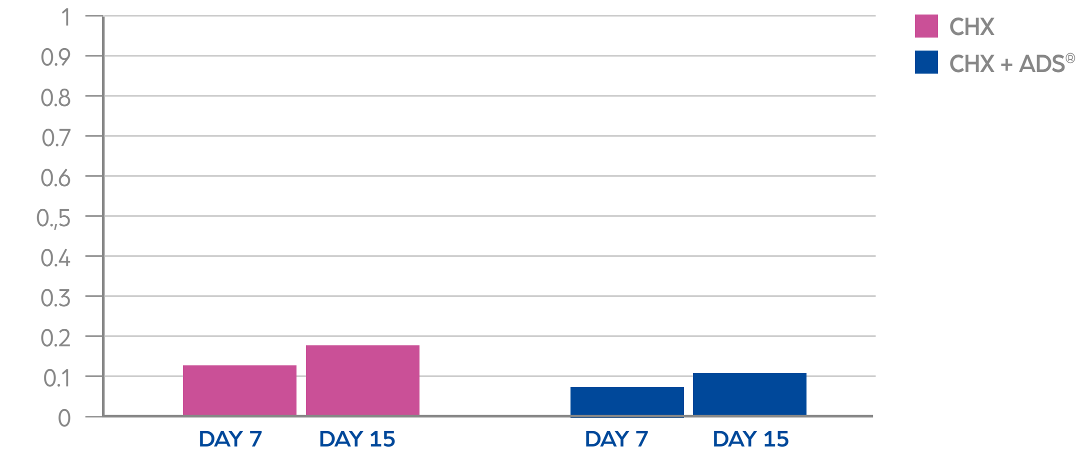
Study conducted on 15 patients with periodontal disease.

International publication of a double-blind, crossover, comparative study.

RESULTS

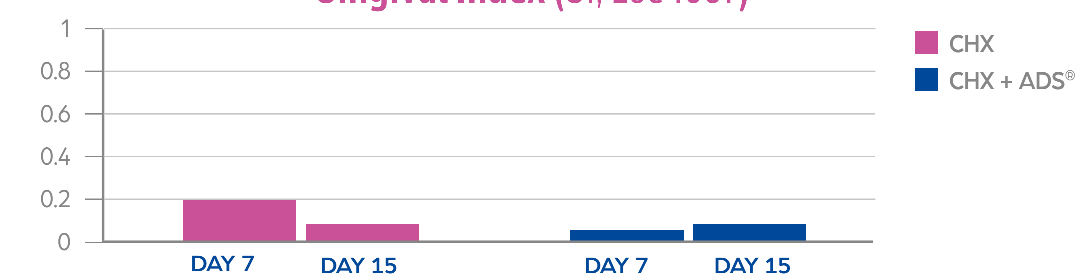
- A mouthwash containing chlorhexidine 0.20% and ADS® is equally effective against plaque and gingivitis as a mouthwash containing chlorhexidine 0.20% without ADS®.
- Less dental discolouration in patients with periodontal problems.
- Minimal side effects for CHX + ADS®.

Plaque Index (PI, Silness e Loe 1964)



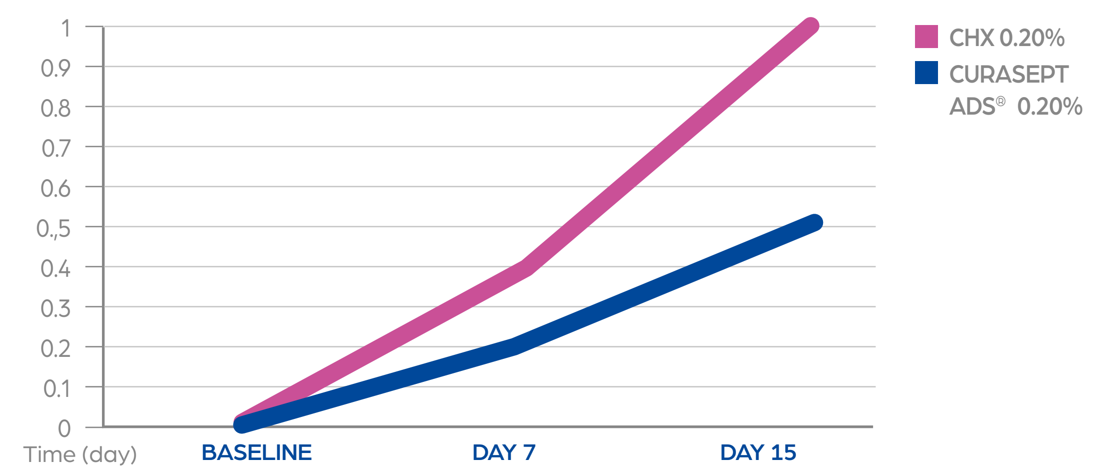
Plaque Index after 7 and 15 days of use of the 2 mouthwashes. No significant difference.

Gingival Index (GI, Loe 1967)



Gingival Index after 7 and 15 days of use of the 2 mouthwashes. Despite an initial greater inflammation after 7 days in the chlorhexidine-only group, there were no significant differences between the two mouthwashes.

BI - Brecx Staining Index



The formation of dental stains after 7 and 15 days was always greater in patients using the ADS®-free mouthwash.

07

BERNARDI L, ET AL 2004

Chlorhexidine with an Anti Discolouration System. A comparative study.

OBJECTIVE

To evaluate the efficacy and side effects of a 0.20% chlorhexidine mouthwash containing ADS® compared with a traditional formulation without ADS®.

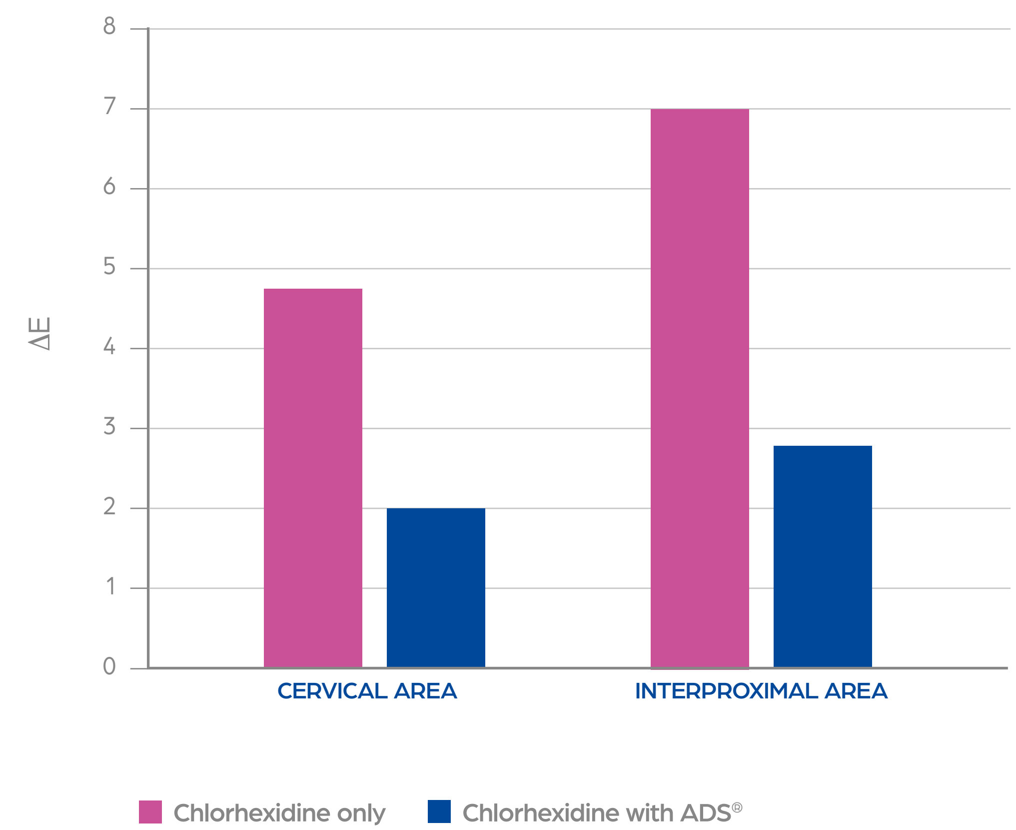
The study was conducted on 15 healthy volunteers, who underwent one oral rinse cycle for each mouthwash. Discolouration was analysed using a spectrophotometer.

International, single-blind, crossover publication.

RESULTS

- **Use of a CHX+ADS® mouthwash had a comparable efficacy to a conventional CHX mouthwash in controlling plaque and gingival bleeding.**
- **A CHX+ADS® mouthwash reduced dental discolouration in the cervical and interproximal areas, normally more susceptible to staining.**

Tooth discolouration: Tooth colour variation revealed by spectrophotometry



Before and after 15 days of oral rinses, the difference in tooth colour revealed by spectrophotometry was much more marked in patients who had used a traditional mouthwash without ADS®.

08

BRAMBILLA E, IONESCU A
2018

Evaluation of anti-biofilm activity of mouthwashes and oral gels containing chlorhexidine Anti Discolouration System and polyvinylpyrrolidone vinyl acetate.

ADS® DOES NOT AFFECT CHLORHEXIDINE ACTIVITY

OBJECTIVE

To evaluate the anti-biofilm activity of various mouthwashes and gels containing chlorhexidine, Anti Discolouration System (ADS®) and PVP-VA.

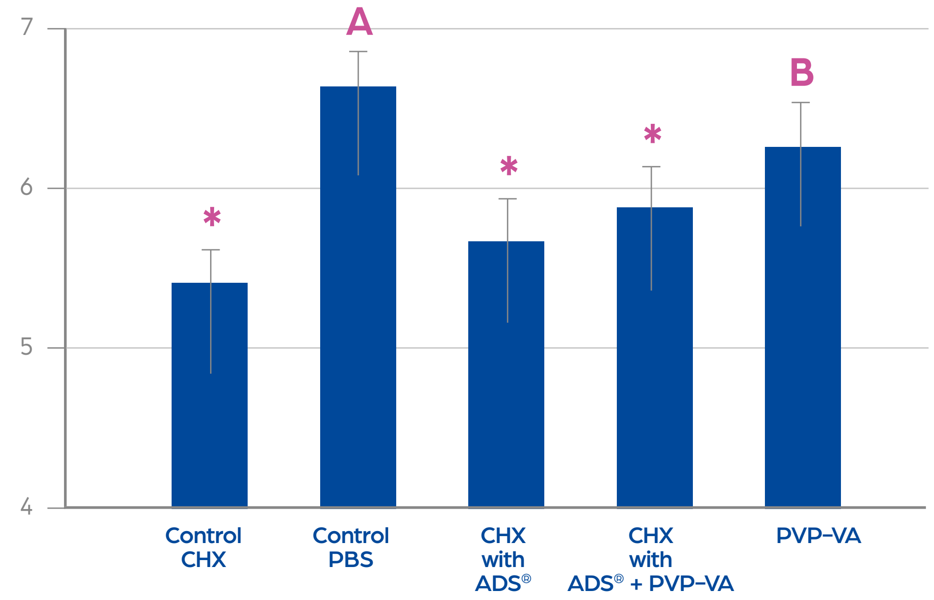
80 discs of enamel from extracted natural teeth were prepared and the anti-biofilm activity was evaluated using a bioreactor (modified drip-flow reactor, mDFR) to recreate an oral microenvironment model.

In vitro, comparative, blinded Italian study.

CONCLUSIONS

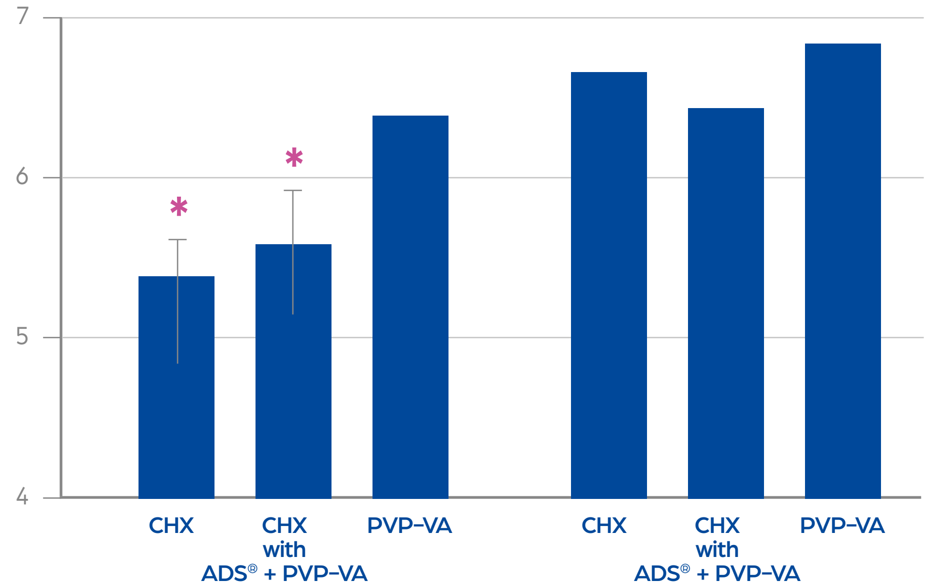
- **The presence of ADS® in chlorhexidine mouthwashes and gels did not have any effect on the antibacterial performance of the tested preparations.**

MOUTHWASH EXPERIMENT 1



*All chlorhexidine mouthwashes showed a significantly higher antibacterial efficacy than the control PBS sample (**A**) and than PVP-VA alone (**B**), (***=p<0.05**)*

GEL EXPERIMENT 2 GEL EXPERIMENT 3



*Both chlorhexidine gels showed a similar rapid and marked antibacterial activity (Experiment 2)(***=p<0.05**).*
After 24 hours (Experiment 3), the CHX, ADS® and PVP-VA gel was the only one to show mild residual activity.

MOROZ J, KURNATOWSKI P
2017
The in vitro activity of selected mouth rinses on standard strains of fungi.

OBJECTIVE

To evaluate the antifungal activity of selected mouthwashes available on the market against some of the fungal strains responsible for the most common forms of oral candidiasis (thrush).

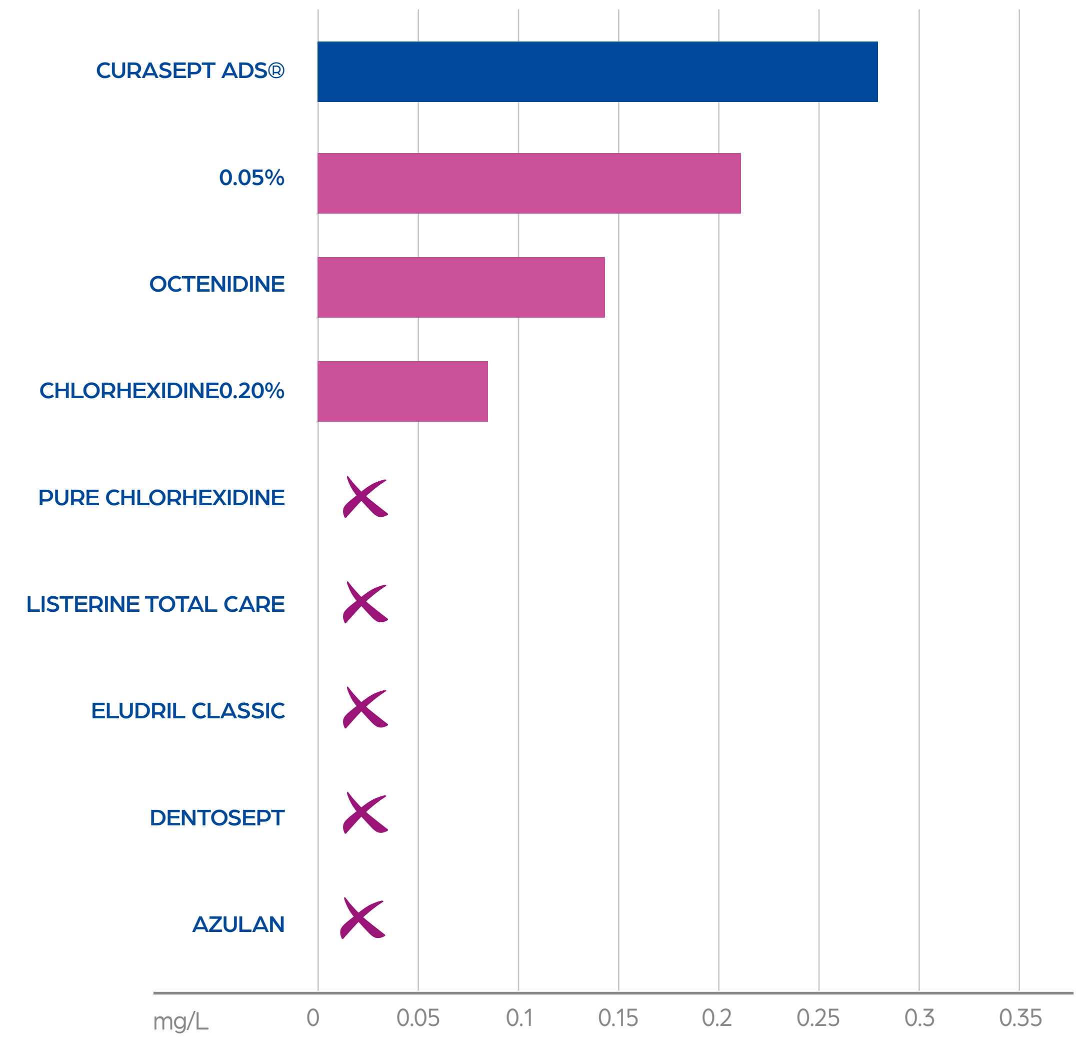
The antifungal activity of different mouthwashes was tested against 8 common fungal strains through evaluation of the zone of inhibition on laboratory culture plates.

International publication of a comparative in vitro study.

CONCLUSIONS

- **Curasept ADS® 0.05% shows antifungal activity against various Candida strains.**
- **In comparison with other mouthwashes for daily use, Curasept ADS® 0.05% is an effective choice for preventing oral candidiasis in susceptible subjects.**

Minimum Inhibitory Concentration (MIC)



In comparison with other mouthwashes for daily or long term use which showed no antifungal activity, Curasept ADS® with chlorhexidine 0.05% shows antifungal activity against tested fungal strains.

BEVILACQUA L, ET AL
2016

To evaluate the side effects (staining) and clinical efficacy of a chlorhexidine 0.20% + ADS® mouthwash against two traditional mouthwashes with chlorhexidine 0.12% or 0.20%.

OBJECTIVE

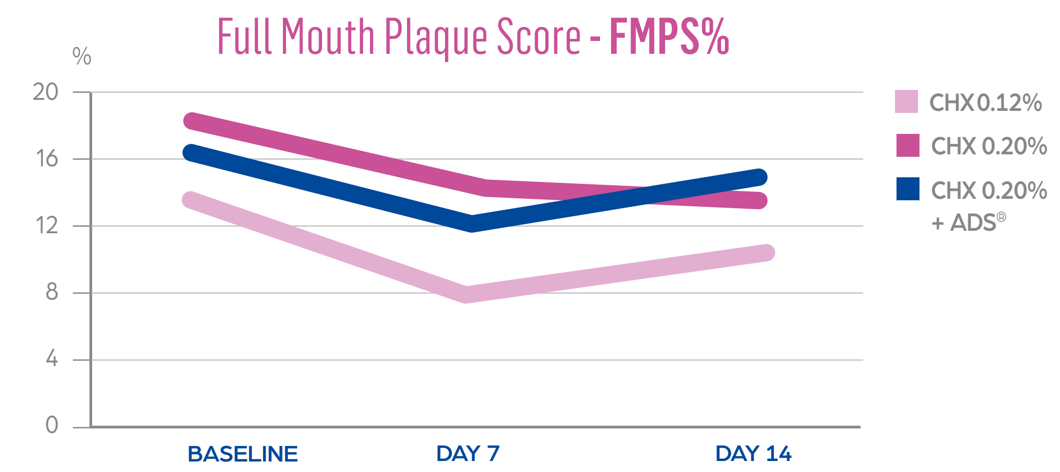
To evaluate the efficacy, the side effects, and the patient acceptance of a 0.20% chlorhexidine mouthwash containing ADS® compared with a traditional 0.20% chlorhexidine mouthwash without ADS®.

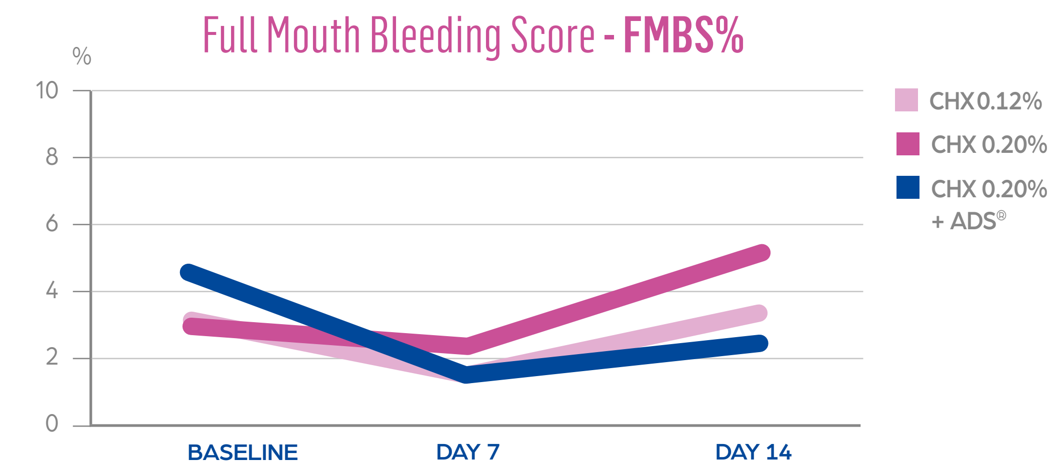
Clinical study conducted on 53 patients undergoing periodontal surgery. 14 days of oral rinses were prescribed with 3 different chlorhexidine formulations.

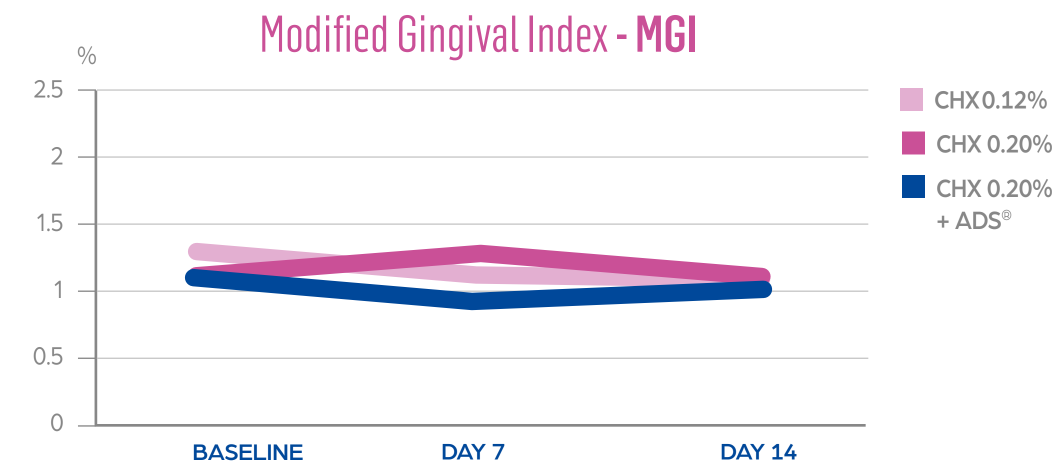
International publication of a double-blind, randomized controlled trial.

RESULTS

- **Chlorhexidine ADS® contrasts plaque and gingival inflammation as effectively as traditional ADS®-free chlorhexidine mouthwash.**
- **Reduced alteration of taste and flavour perception in comparison with ADS®-free chlorhexidine mouthwash.**







The graphs show the full mouth plaque score (FMPS) and gingival inflammation score (FMBS and MGI) for the 3 groups over the entire observation period. The chlorhexidine 0.20% + ADS® mouthwash was just as effective as the traditional ADS®-free chlorhexidine 0.20% and 0.12% mouthwashes.

ADS® DOES NOT AFFECT CHLORHEXIDINE ACTIVITY

11 JURIŠIĆ S, ET AL 2018

Assessment of efficacy of two chlorhexidine mouthrinses on oral hygiene and gingival health in adolescents wearing two types of orthodontic brackets.

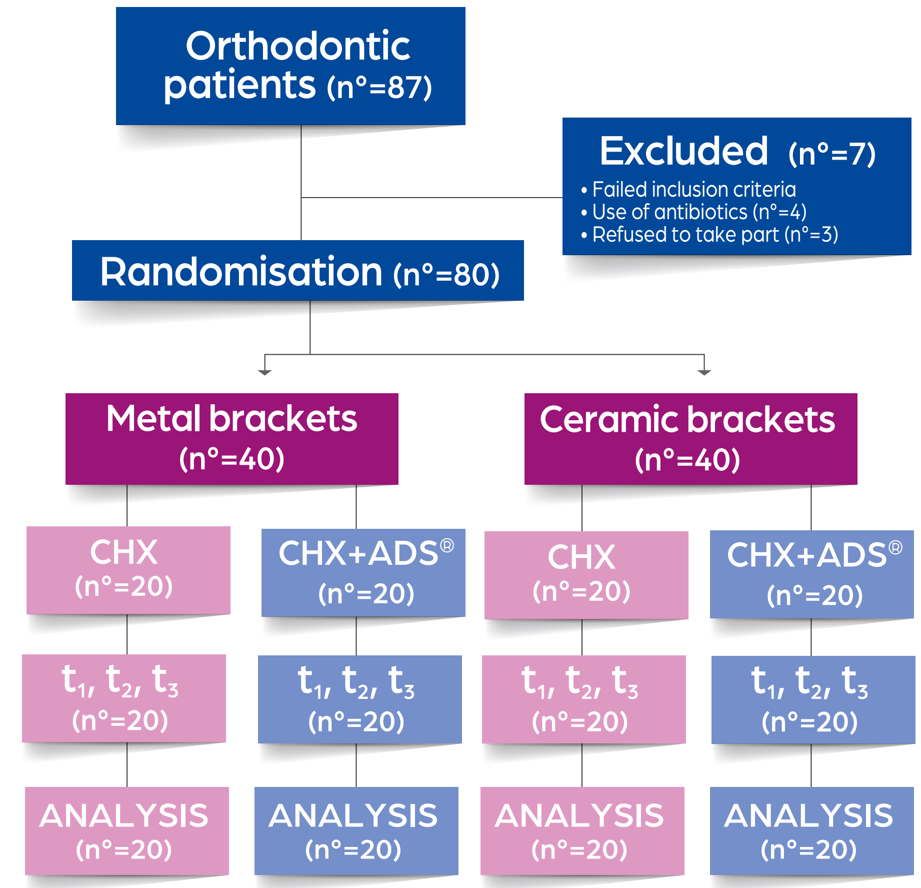
OBJECTIVE

To study the efficacy of two chlorhexidine (CHX) 0.20% mouthwashes on oral hygiene and gingival health in adolescents wearing fixed orthodontic brackets.

Study conducted on 80 adolescent patients who used a CHX 0.20% mouthwash or CHX 0.20% + ADS® mouthwash for 14 days during treatment.

International, in vivo, parallel-group comparative study.

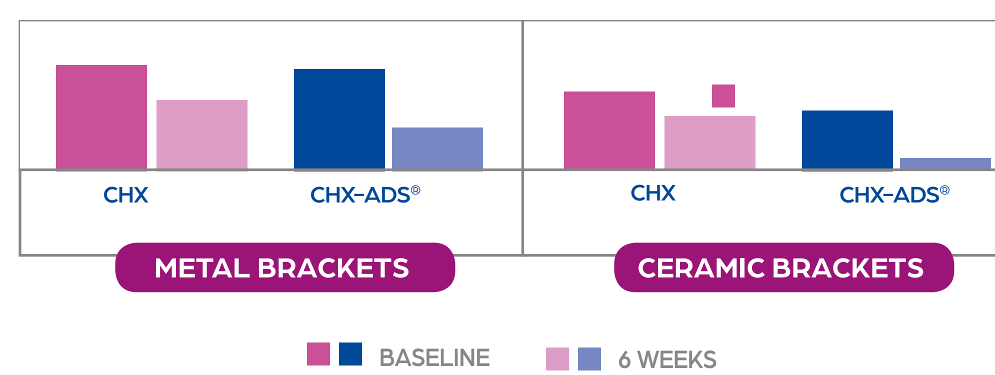
Distribution of the 80 patients enrolled using the Consort scientific method



CONCLUSIONS

- **The use of a CHX-ADS® mouthwash in patients with fixed orthodontic brackets led to improved gingival health in comparison with use of an ADS®-free mouthwash.**
- **The use of a mouthwash containing CHX e ADS® is recommended during orthodontic treatment.**

Gingival index (GI) before and after mouthwash use



In comparison with the group treated with CHX only, the use of a CHX+ADS® mouthwash led to a more significant reduction in the gingival index, regardless of the type of bracket used.

12

DONATI D, VIVIANO M, ET AL
2012

Management of extractive surgery in cancer patients taking bisphosphonates. Dental Clinics.

OBJECTIVE

To evaluate clinical healing and postoperative pain after tooth extraction using antibiotic + Curasept Gel containing chlorhexidine 1% for 6 days against antibiotic only for 10 days.

Study conducted on 52 cancer patients under treatment with intravenous bisphosphonates and undergoing tooth extraction.

Italian parallel-group randomised study.

RESULTS

CHLORHEXIDINE WITH ADS® GEL

- **No appearance of maxillary osteonecrosis.**
- **Possibility of reducing the duration of systemic administration of themedications normally prescribed for prophylactic purposes.**
- **Marked reduction in pain.**

Visual Analogue Scale (VAS) of post-operative pain

Results of the systematic review with the group without brushing (above, 6 publications, 8 comparisons) and with brushing (below, 5 publications, 6 comparisons).

Time	Group 0 Time VAS (MEAN)	Group 1 VAS (MEAN)
24 hours	2.92	1.15
48 hours	1.96	0.69
72 hours	1.38	0.07
5 days	0.65	0.03
21 days	0.34	0

The perceived pain was considerably lower in group 1 (with Curasept 1% gel), especially in the first postoperative days.

GASPARONE S, MOTTA J, ET AL 2014

Pilot study: comparison of a chlorhexidine + ADS® mouthwash and a chlorhexidine mouthwash with ADS® and chlorobutanol in extractive surgery.

OBJECTIVE

To evaluate the efficacy and pain reduction ability of a chlorhexidine 0.20% + ADS® + chlorobutanol mouthwash vs. a traditional chlorhexidine 0.20% + ADS® mouthwash.

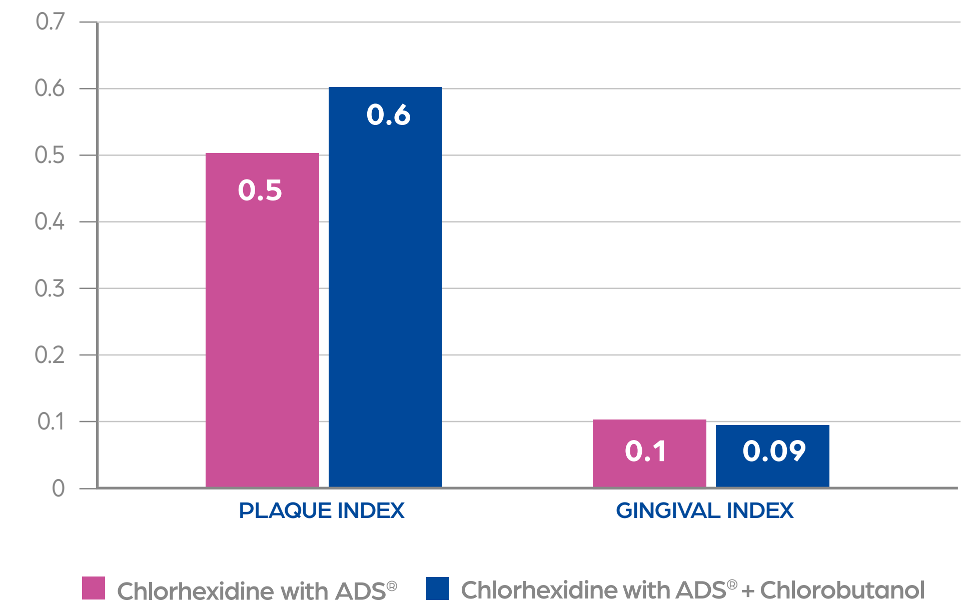
Study conducted on 42 patients undergoing tooth extraction.

Italian parallel-group, randomised, triple-blind controlled study.

RESULTS

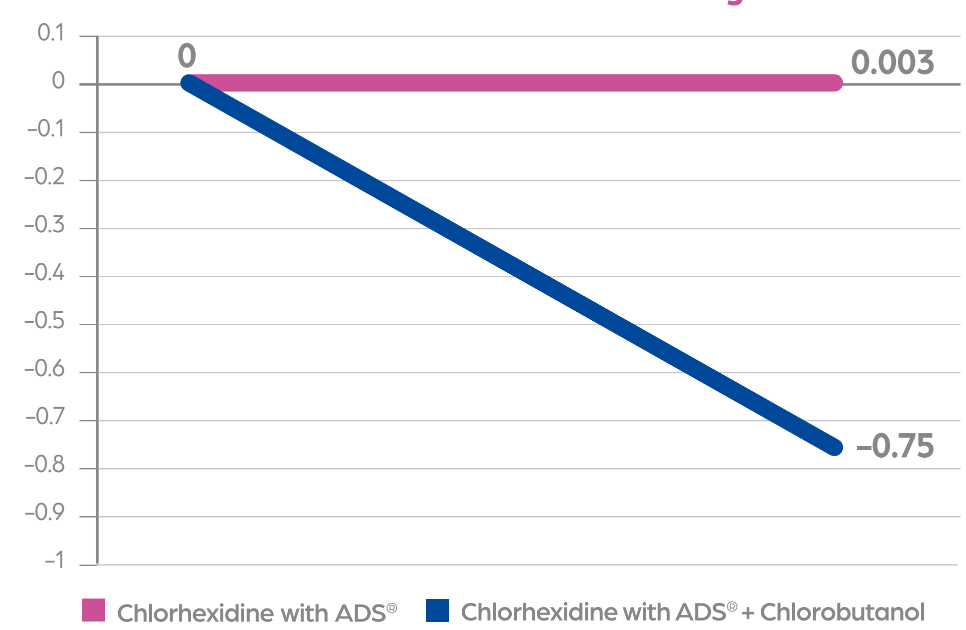
- **Similar efficacy in controlling plaque and gingival inflammation.**
- **Prevention of postextraction complications.**
- **Greater reduction of pain after tooth extraction.**

Trend of Plaque Index, Gingival Index



The two tested mouthwashes showed similar behaviour.

Pain variation after rinsing



Variation of pain perceived by patients immediately after rinsing. While with a traditional chlorhexidine the perceived pain remains unaltered, chlorhexidine with ADS® and Chlorobutanol determines an immediate and perceptible reduction of pain, turned out statistically significant to data analysis.

MORE ON CURASEPT ADS:

Other clinical studies on the efficacy of CURASEPT ADS®

CURASEPT® ORAL CARE SYSTEM ADS

"The use of chlorhexidine mouthwashes with formulations designed to prevent oral discolouration allows to obtain the antiseptic effect while reducing the adverse effect of discolouration of the oral surfaces".

Italian Ministry of Health,
Recommendations for the promotion of oral health, the prevention of oral diseases and orthodontic therapy in adults with neoplastic disease. 2014

"In conclusion, this study in vitro correlates with the plaque and gingivitis data described by Bernardi et al. (2004), namely that the formulation with the ADS® should be as efficacious as well established chlorhexidine mouthrinse products".

Addy M, Sharif N, Moran J.
Int J Dent Hygiene 2005

"DNA probe analyses showed no statistically significant difference from baseline for early colonizers in all groups (chlorhexidine with or without ADS®)"

Ramberg P et al.
Poster IADR Budapest 2013

"The Anti Discolouration System (ADS®) was effective in reducing tooth staining in a number of clinical studies.
Under current clinical conditions of use, such as after surgical and non-surgical periodontal therapy, the efficacy of chlorhexidine with ADS® proved to be excellent and it has a clear efficacy against plaque and gingivitis".

Weinstein T et al.
Doctor Os 2015 Critical Review on the efficacy of chlorhexidine-based mouthwash with Anti Discolouration System (ADS®)

"In mixed cultures (facultative and strict anaerobes), alcohol-free CHX formulations (Curasept® ADS® and Paroex®) have antimicrobial efficacies comparable to that of alcohol-containing CHX formulations (Corsodyl®) and pure CHX (0.20% and 0.12%)".

Abdalrahman BM.
The antimicrobial efficacy of three chlorhexidine mouth rinses: an in-vitro analysis. Graduation thesis, 2014.

GRAZIANI F, ET AL
2015

Dental plaque, gingival inflammation and tooth discolouration with different commercial formulations of 0.20% chlorhexidine rinse: a double-blind randomised controlled trial.

OBJECTIVE

To investigate the efficacy of three different formulations of chlorhexidine 0.20% in terms of plaque, gingival bleeding and staining control over a 35-day rinsing period.

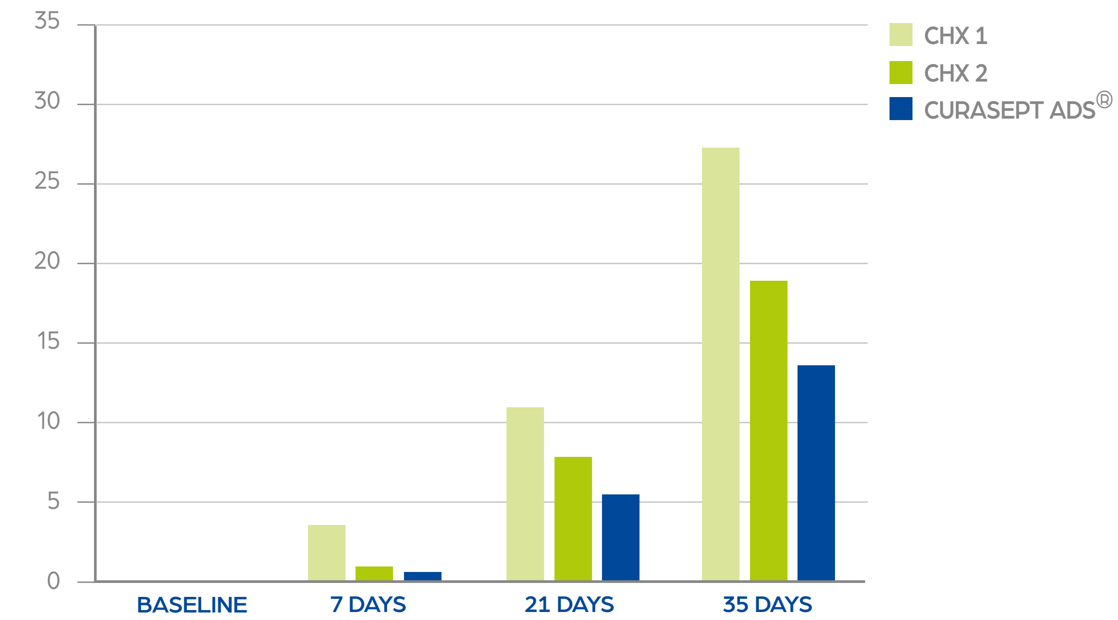
Study conducted on 70 patients with standardised oral hygiene instructions and staining analysis by spectrophotometer.

Italian parallel-group, double-blind, randomised controlled study.

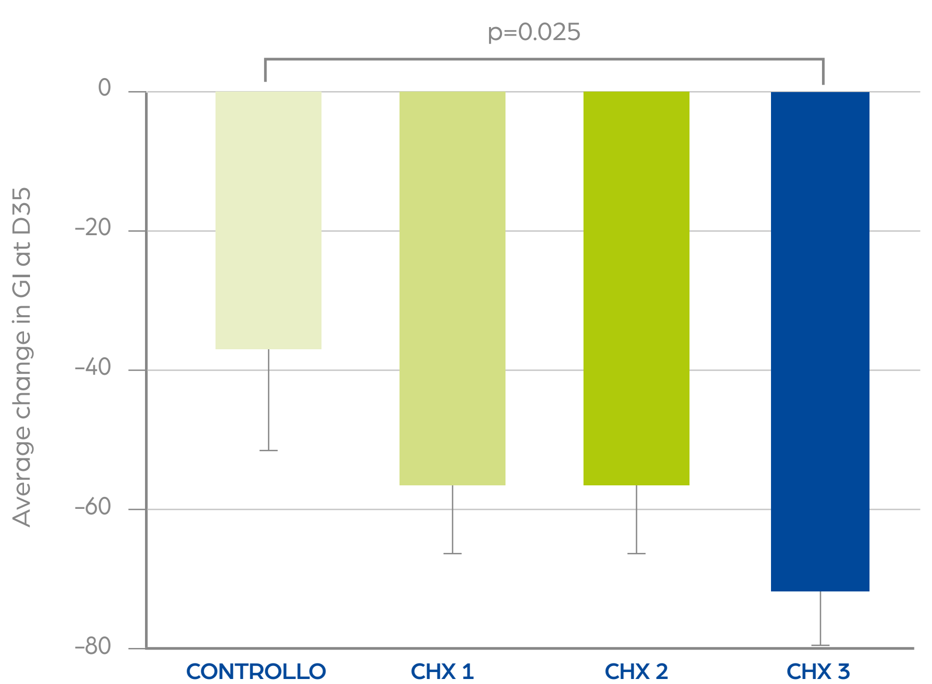
RESULT

- **There was less staining with CHX+ADS® as revealed by spectrophotometer in comparison with the other mouthwashes at all time points.**
- **CHX+ADS® also showed a higher control of gingival inflammation at the end of the observation period (35 days).**

Stain index



The group treated with Curasept ADS® showed a reduced tendency to develop dental discolouration throughout the observation period.



At day 35, the group treated with Curasept ADS® (CHX3) showed a greater reduction in gingival index values.

MARRELLI, ET AL 2015

A comparative, randomized, controlled study on clinical efficacy and dental staining reduction of a mouthwash containing chlorhexidine 0.20% and Anti Discolouration System (ADS®).

OBJECTIVE

To investigate the efficacy of three different formulations of chlorhexidine 0.20% in terms of plaque, gingival bleeding and staining control over a 35-day rinsing period.

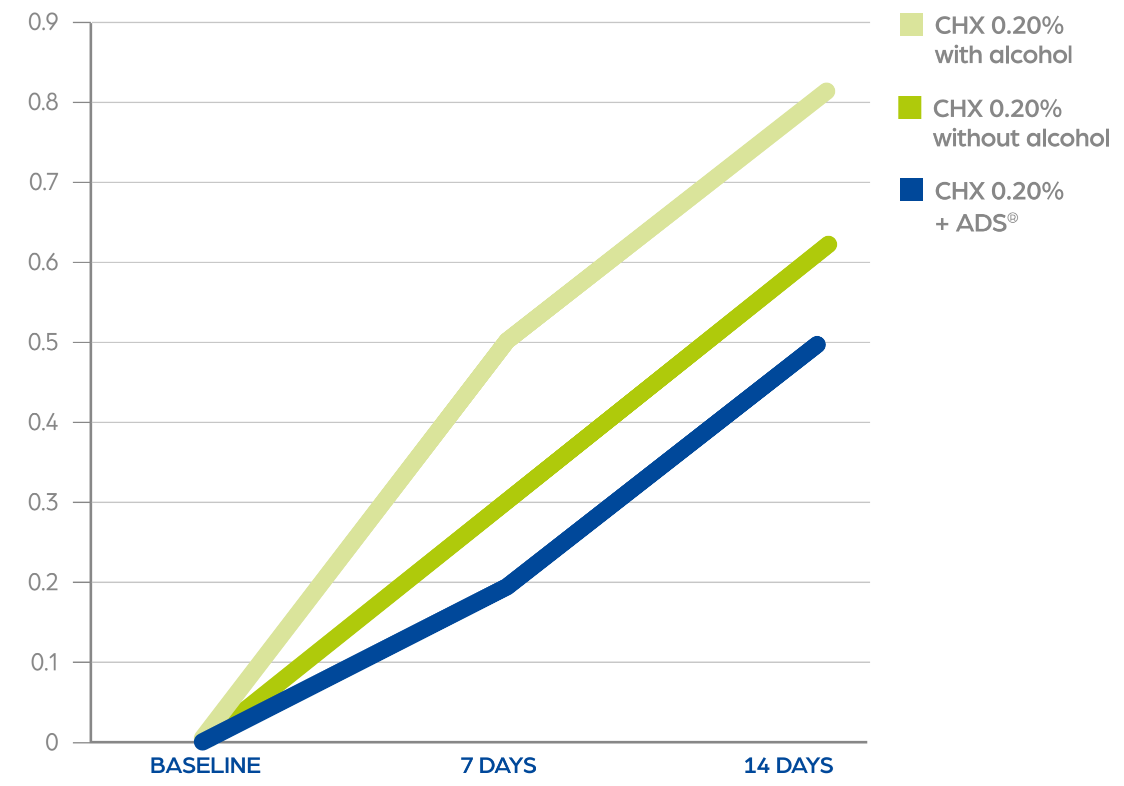
Study conducted on 200 patients who used a chlorhexidine 0.20% mouthwash with alcohol, a 0.20% chlorhexidine without alcohol or a chlorhexidine 0.20% + ADS® mouthwash without alcohol.

International, in vivo, parallel-group, randomised comparative study.

CONCLUSIONS

- **The chlorhexidine 0.20% + ADS® mouthwash proved effective in contrasting dental staining.**
- **The presence of ADS® did not reduce the antiplaque activity of chlorhexidine.**

Stain Index - SI



7 days after professional cleaning, the patients using the 0.20% chlorhexidine + ADS® mouthwash already presented less dental staining in respect to other tested mouthwashes. This difference was particularly evident in comparison with the mouthwash containing chlorhexidine 0.20% and alcohol.

KOUADIO AA, ET AL
2017

An image analysis model for investigating the staining effect of various chlorhexidine-based mouthwashes.

COMPARISON

Eludril CHX 0.10% + chlorobutanol 0,5%.
CHX 0.10% + chlorobutanol 0.5% generic.
CHX 0.12% with ADS®

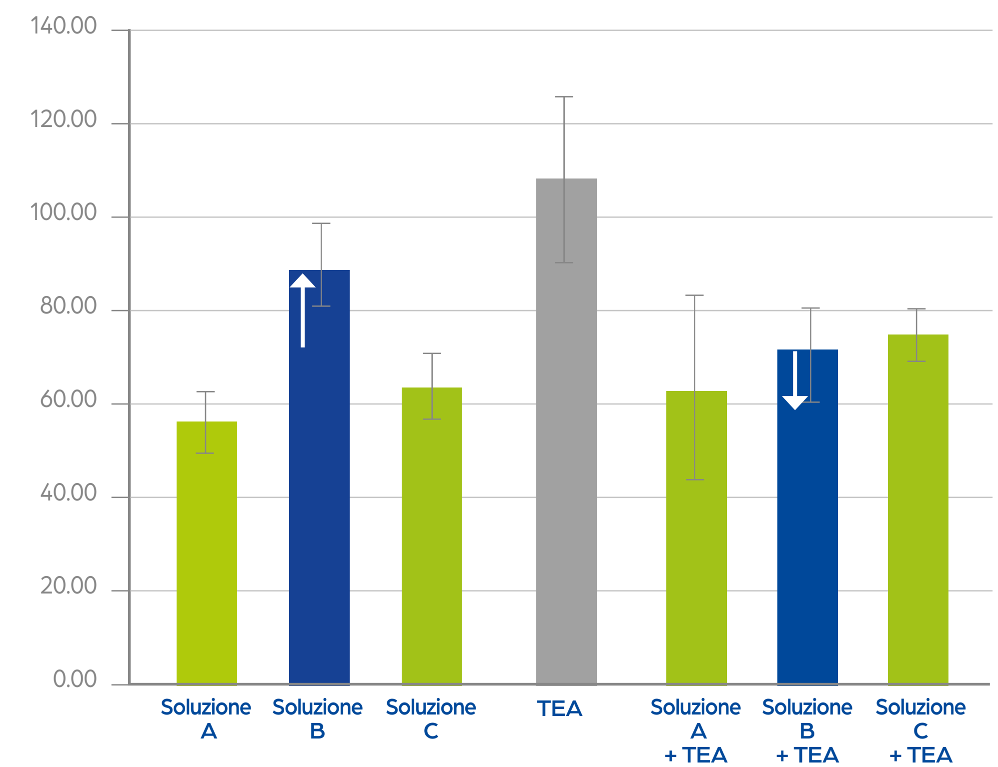
In vitro study of 80 extracted teeth and ivory disks.

In vitro analysis of staining of enamel disks prepared from extracted teeth after exposure to mouthwashes.

CONCLUSIONS

- **Chlorhexidine 0.12% + ADS® mouthwash has an effective anti-staining activity against coloured substances (such as tea).**
- **Disks exposed to CHX+ADS® were less stained than those exposed to ADS®-free products.**

Tooth discolouration: Tooth colour variation revealed by spectrophotometry



In the graph, solutions A and C contain chlorhexidine 0.1% and solution B is Curasept ADS® 0.12%. In saline solution, Curasept ADS® 0.12% stains more than the other 2 solutions because it contains more chlorhexidine (left of graph). But when exposed to tea (which is high in chromogens, right of graph), Curasept ADS® 0.12% is activated and causes less staining than the other two solutions, which in contrast show a higher tendency to cause staining.
This seems to demonstrate that exposure to coloured substances activates ADS®, thus triggering its benefits.

BASSANI, ET AL 2007

Efficacy of a new mouthwash containing chlorhexidine and ADS® (Anti Discolouration System).

OBJECTIVE

To evaluate the efficacy and side effects of a 0.20% chlorhexidine mouthwash + toothpaste containing ADS® compared with a mouthwash and toothpaste without ADS®.

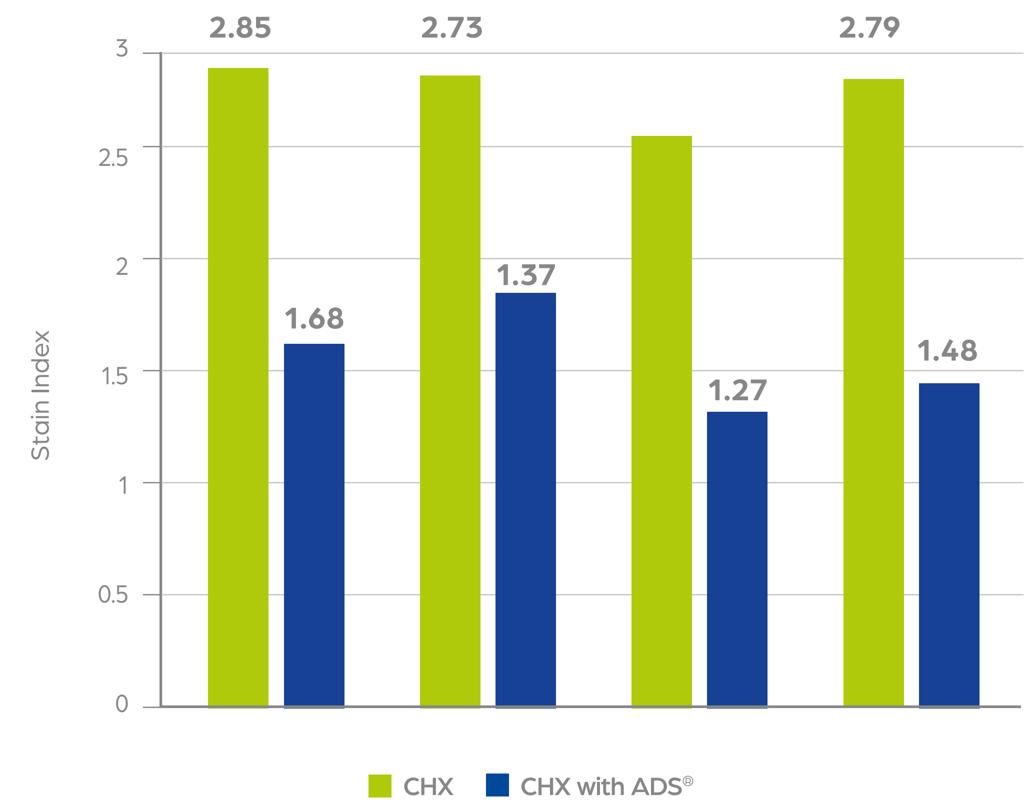
Study conducted on 50 patients with dental braces. Discolouration was measured by spectrophotometer.

Italian double-blind, parallel-group study.

RESULT

- **CHX + ADS® has a similar efficacy to traditional chlorhexidine in controlling plaque and gingival bleeding.**
- **A mouthwash with 0.20% chlorhexidine + ADS® guarantees notably less dental staining than a similar mouthwash without ADS®.**

Stain index trend



The difference in colour of the 4 teeth analysed before and after treatment was almost double in patients who used the ADS® –free formula.

GRAZIANI F, ET AL 2009

Dental plaque, gingival inflammation and tooth discolouration with different commercial formulations of 0.20% chlorhexidine rinse: a double-blind randomised controlled trial.

OBJECTIVE

To investigate the efficacy of 3 commercial chlorhexidine (CHX) 0.20% formulations in controlling plaque and discolouration.

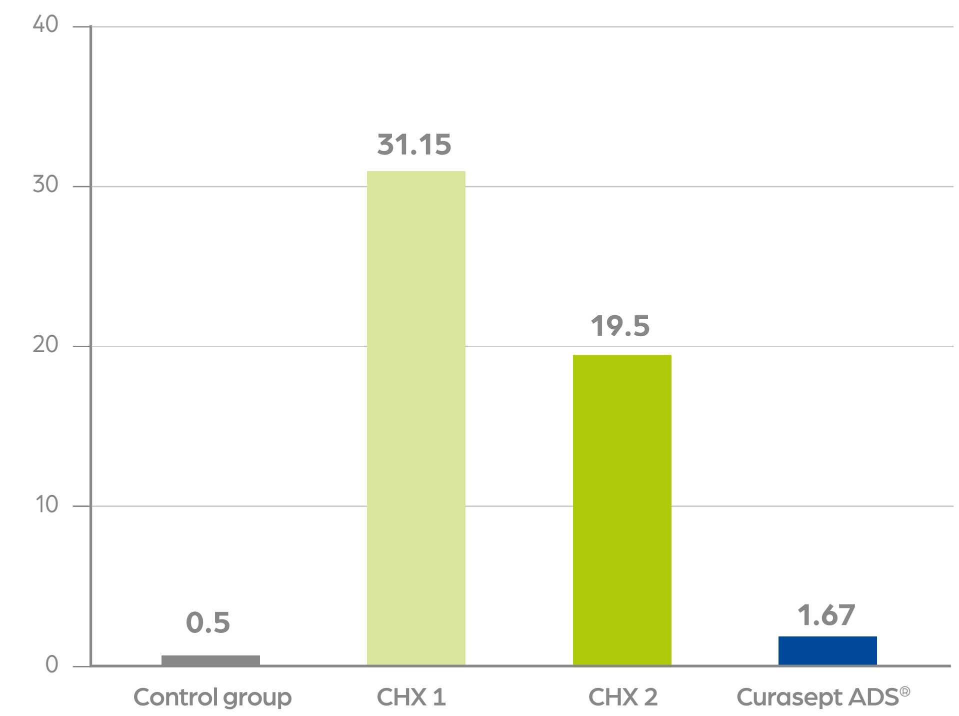
Study conducted on 40 patients with a standardised oral hygiene routine followed for 30 days.

Italian randomised, controlled, double-blind study.

RESULT

- **ADS® in a chlorhexidine 0.20% mouthwash effectively inhibits tooth staining in comparison with a 0.20% chlorhexidine mouthwash without ADS®.**

Stain index at 30 days



After 30 days of rinses, the Stain Index in the Curasept ADS® group is slightly higher in respect of that recorded in the control group and markedly lower in respect to the other chlorhexidine formulations tested.

BASSO M, ET AL
2008

Modified mouthwash for the reduction of chlorhexidine-induced tooth staining.

OBJECTIVE

To evaluate the efficacy, the side effects, and the patient acceptance of a chlorhexidine 0.20% mouthwash containing ADS® compared with a conventional chlorhexidine 0.20% mouthwash without ADS®.

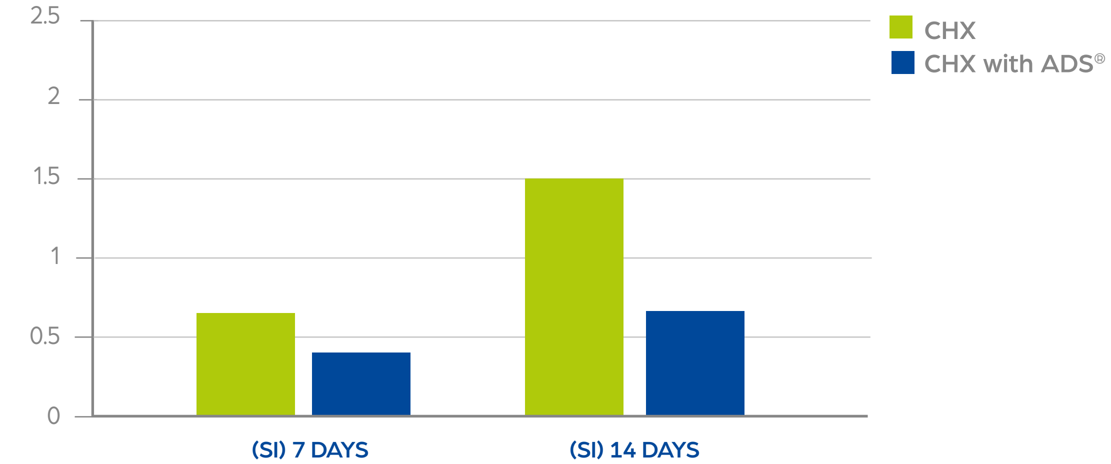
Study conducted on 30 patients who performed 14 days of rinses twice daily, using both tested mouthwashes with a washout period of 14 days and complete suspension of mechanical oral hygiene.

Italian randomized, controlled, double-blind, crossover study.

RESULT

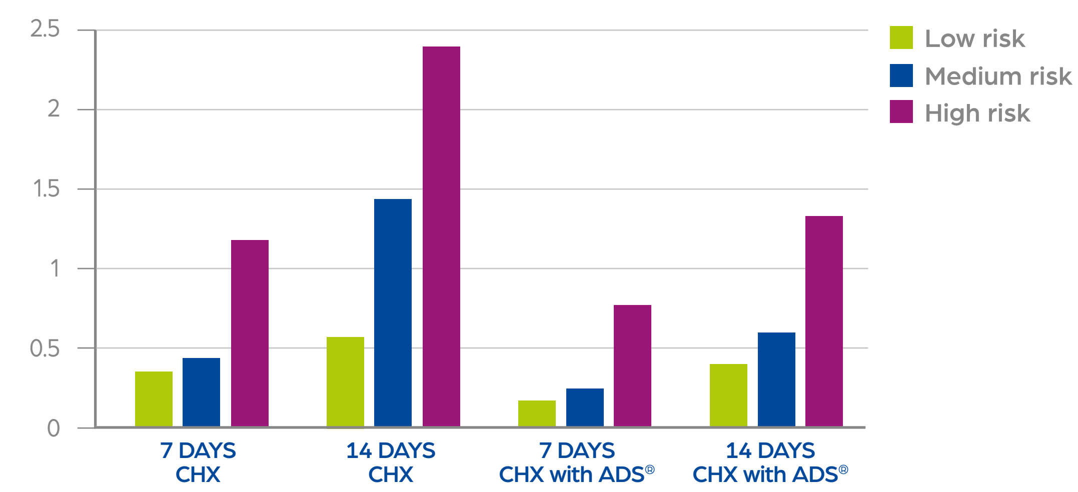
- **The chlorhexidine + ADS®, mouthwash can control plaque formation and prevent gingival inflammation as effectively as a conventional mouthwash without ADS®.**
- **No alteration of taste or salt perception.**
- **Significant inhibition of tooth staining for the ADS® mouthwash, even with high consumption of chromogenic substances.**

Stain index



The staining caused by the traditional mouthwash was more than double in respect of the one caused by the ADS® mouthwash.

Stain Index stratification on basis of staining risk



Risk of tooth staining		Number of cigarettes/day		
		0–4,9	5–15	>15
Number of cups of coffee or tea/day	0–0,9	11	3	3
	1–3	1	4	0
	>3	2	2	4

- Patients with a medium risk
- Patients with a low risk
- Patients at greatest risk of staining

The efficacy of the ADS® system rises with the introduction of staining substances, with a markedly reduced formation of stains.

ADS® REDUCES CHLORHEXIDINE STAINING

BASSO M, ET AL
2005

Dental plaque, gingival inflammation and tooth discolouration with different commercial formulations of 0.20% chlorhexidine rinse: a double-blind randomised controlled trial.

OBJECTIVE

To evaluate the efficacy, the side effects, and the patient acceptance of a chlorhexidine 0.20% mouthwash containing ADS® compared with a conventional chlorhexidine 0.20% mouthwash without ADS®.

Study conducted on 20 patients who performed 14 days of rinses twice daily using both tested mouthwashes with a washout period of 14 days and complete suspension of mechanical oral hygiene.

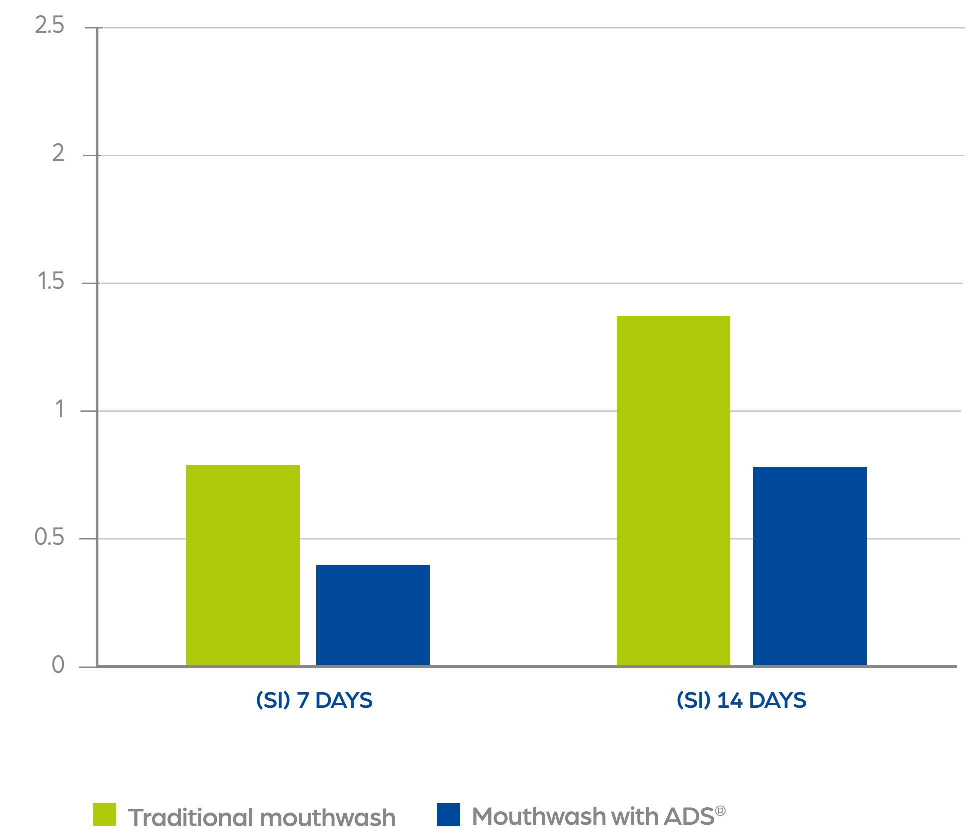
Italian randomised, controlled, double-blind, crossover study.

RESULT

CHLORHEXIDINE ADS®

- **The chlorhexidine +ADS® mouthwash had a similar efficacy compared to a conventional chlorhexidine mouthwash in preventing plaque formation and gingivitis.**
- **No alteration of taste or salt perception.**
- **Significant inhibition of tooth staining for the ADS® mouthwash.**

Stain index (SI) trend at 7 and 14 days



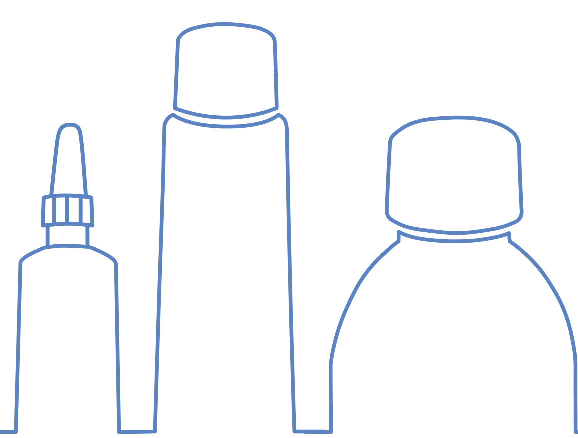
The two mouthwashes show different trends: staining with the ADS®-free mouthwash is more than double that of the ADS® mouthwash..

Other clinical studies on the anti-staining activity of CURASEPT ADS®

Clinical evaluation of the efficacy of two different chlorhexidine 0.20% mouthwashes in periodontal patients under orthodontic therapy.

"The chlorhexidine 0.20% control group showed excellent results in relation to extrinsic tooth staining and gingival inflammation.
Tooth staining and inflammation were in any case were in any case higher than those of the chlorhexidine 0.20% + ADS® "

Bellia 2006
University of Naples.

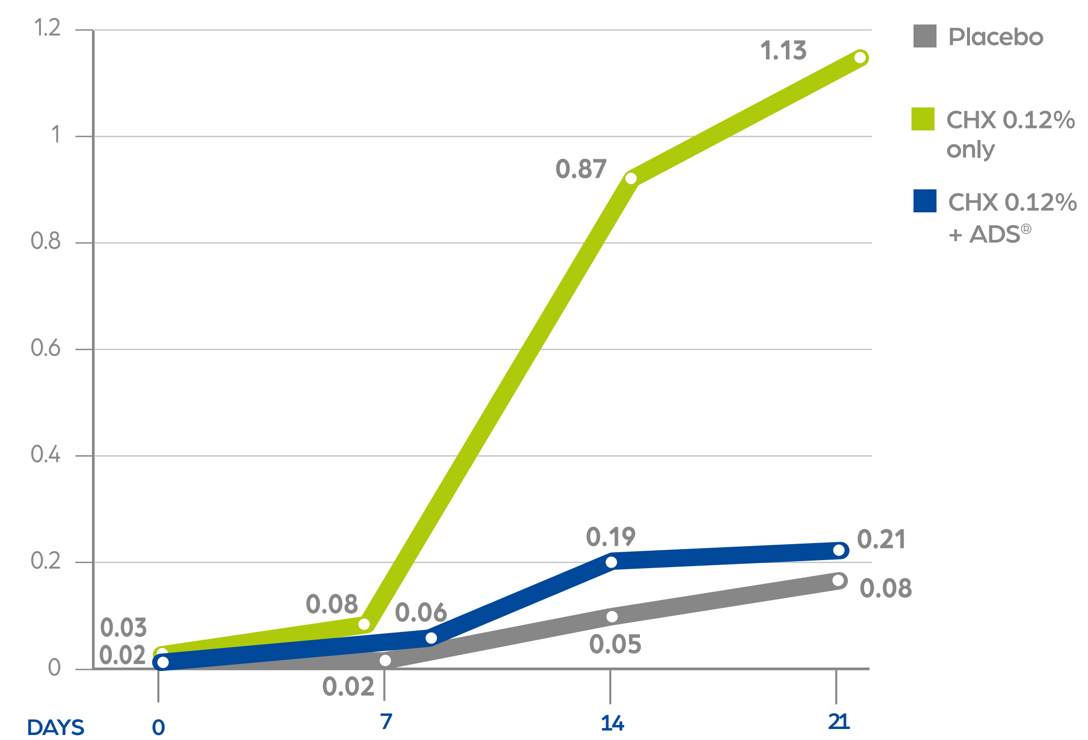


CURASEPT ADS ORAL CARE SYSTEM

Parallel-arm, randomized clinical trial on healthy volunteers to evaluate the efficacy of a chlorhexidine mouthwash with or without ADS®.

"The chlorhexidine with ADS® does eliminate the side effect of staining"

Variation in mean discolouration index over time



Li, Wang, Finger, Lang
Swiss Dent, 2012
Journal of Investigative and Clinical Dentistry, 2013.

CURASEPT® ADS

ORAL CARE SYSTEM

CLASSIC

THE **CHLORHEXIDINE-BASED** PRODUCT RANGE WITH ADS THAT PROTECT THE WHITENESS OF YOUR TEETH

CLASSIC

CURASEPT ADS® 205
Mouthwash
CURASEPT ADS® 705
Toothpaste
0.05% Chlorhexidine
+ 0.05% Fluoride

Anti-plaque and re-mineralising action.

CURASEPT ADS® 212
Mouthwash
CURASEPT ADS® 712
Toothpaste
0.12% Chlorhexidine

Prolonged anti-plaque action.

CURASEPT ADS® 220
Mouthwash
CURASEPT ADS® 720
Toothpaste
0.20% Chlorhexidine

Rapid and effective anti-plaque action.

TOPICAL USE

CURASEPT ADS® 350
Antiplaque Parodontal Gel
0.5% Chlorhexidine

CURASEPT ADS 1%
1% Parodontal Gel
1% Chlorhexidine + PVP-VA

This is Medical Device. CE
Read the instructions and package insert carefully.

USE MOUTHWASH WITH THE APPROPRIATE TOOTHPASTE, GEL AND TOOTHBRUSH FOR THE MAXIMUM EFFECT.

CURASEPT®
ORAL CARE SYSTEM

SPECIFIC

THE RANGE OF
ASSOCIATIONS WITH CHLORHEXIDINE
SUITABLE FOR SPECIFIC SURGICAL REQUIREMENTS

Astringent

Mouthwash – Toothpaste
Parodontal gel*

It effectively reduces the mucosal inflammation and the gingival bleeding.

*Medical Device CE

Soothing

Mouthwash – Toothpaste
Parodontal gel*

It immediately relieves pain, limiting oral NSAIDs prescription.

*Medical Device CE

Regenerating*

Mouthwash – Toothpaste
Parodontal gel

It protects the mucosa while rapidly healing woods and repairing tissues.

*Medical Device CE

Protective*

Mouthwash – Toothpaste
Parodontal gel

It protects the easily irritable mucosa from inflammation and recurrent gingival disorders.

*Medical Device CE

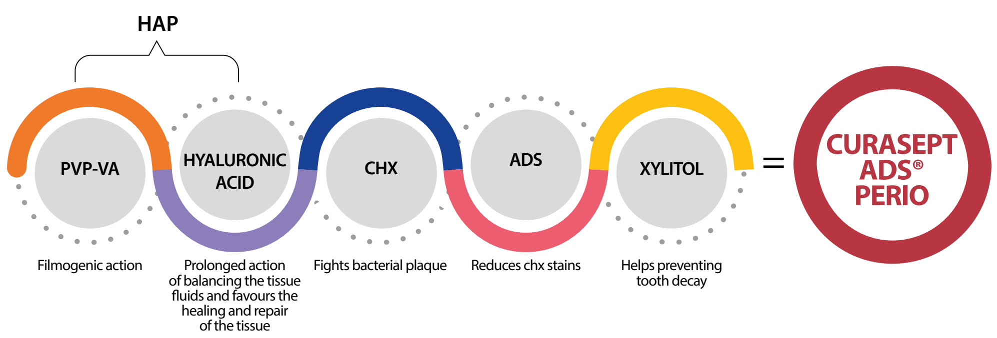
This is Medical Device. CE
Read the instructions and package insert carefully.

USE MOUTHWASH WITH THE APPROPRIATE TOOTHPASTE, GEL AND TOOTHBRUSH FOR THE MAXIMUM EFFECT.

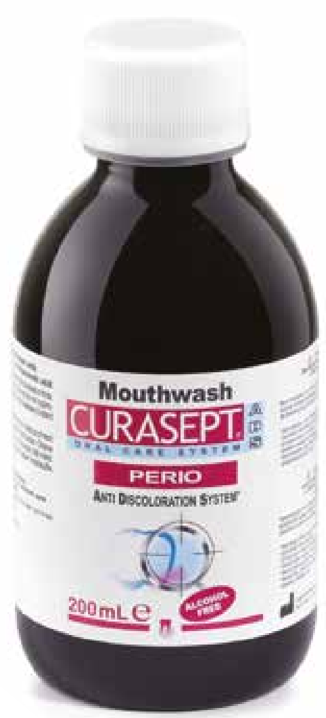
CURASEPT ADS ORAL CARE SYSTEM

CHX IN ASSOCIATION

CURASEPT ADS® PERIO



CURASEPT ADS® PERIO Mouthwash with
CHX 0.12 + ADS® system
in association with **PVP–VA and Hyaluronic Acid**

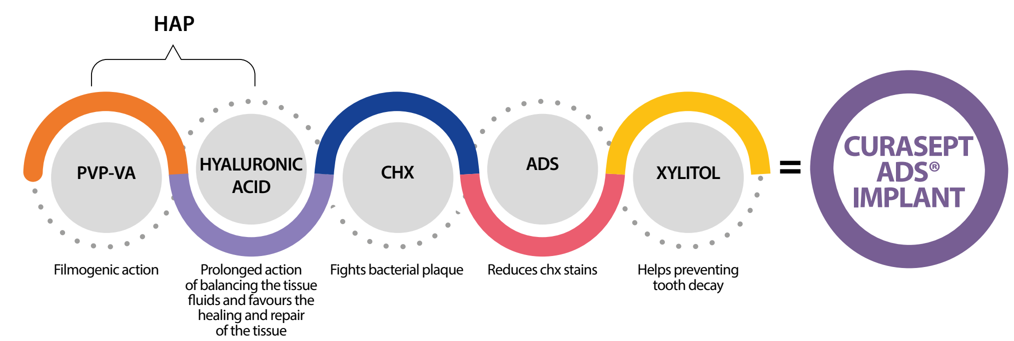


INDICATION

- Reduces pain.
- Protective in case of Gingivitis, periodontitis and mucosal traumas.
- Slows down plaque deposit.

Medical Device. CE
Read the instructions and package insert carefully.

CURASEPT ADS® IMPLANT



CURASEPT ADS® IMPLANT Mouthwash with
CHX 0.2 + ADS® system
in association with **PVP–VA and Hyaluronic Acid**

INDICATION

- Favours the healing processes and the repair of the tissues.
- Reduces pain.
- Antiplaque action.
- Effective support after professional treatments of perimplantitis.
- Fast action together with professional care in treatment of perimplant mucositis.

Medical Device. CE
Read the instructions and package insert carefully.

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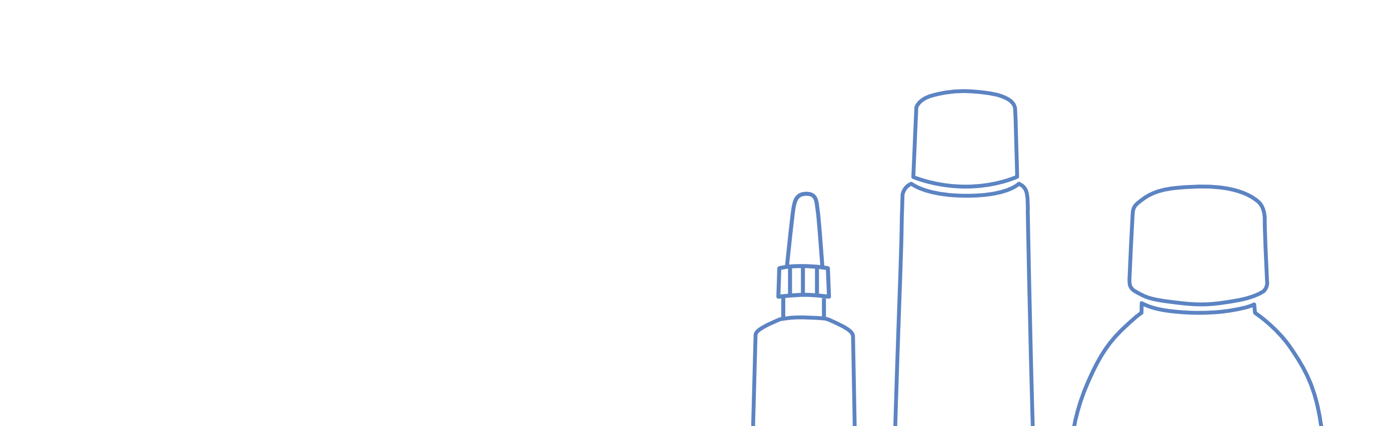

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