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Clinical evidence overview

NiTi Brush for peri-implantitis

Rev. 2 · 12 October 2026

34 verified publications in which the NiTi Brush is identifiable as the instrument used for implant-surface decontamination. A paper is listed only when it has been read in full and verified against the publisher's record; the count is therefore a floor, not a census.

34	9	20	59	141	723	1,088+	6~120
PUBLICATIONS	RCT	COUNTRIES	INSTITUTIONS	INVESTIGATORS	PATIENTS	IMPLANTS	MONTHS

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RANDOMISED AND CONTROLLED CLINICAL TRIALS

01 Reconstructive surgical therapy of peri-implantitis: a multicenter randomized controlled clinical trial

Clin Oral Implants Res · 2022

DOI: 10.1111/clr.13972

Derks J, Ortiz-Vigón A, Guerrero A, Donati M, Bressan E, Ghensi P, Schaller D, Tomasi C, Karlsson K, Abrahamsson I, Ichioka Y, Dionigi C, Regidor E, Berglundh T

Institutions: University of Gothenburg (Sahlgrenska Academy), Sweden · Public Dental Service, Region Västra Götaland, Sweden · Clínica Ortiz-Vigón PerioCentrum, Bilbao, Spain · Complutense University of Madrid, Spain · Clínica Guerrero, Marbella, Spain · University of Padua, Italy · University of Trento, Italy · private practice, Planegg, Germany

Instrument: "a rotating titanium brush{{FN-TIBRUSH}} (Nano NiTi Brush, HANS KOREA CO. Ltd) used at up to 1200 rpm under continuous irrigation".

Outcome (combined therapy, both arms). 138 patients (147 implants); pocket-depth reduction about 3.7 mm and bone gain about 1.0 mm at 12 months.

02 Bone substitute material in the surgical therapy of peri-implantitis: 3-year outcomes of a randomized controlled trial

Clin Oral Implants Res · 2025

DOI: 10.1111/clr.14393

Alibegovic L, Trullenque-Eriksson A, Ortiz-Vigón A, Guerrero A, Donati M, Bressan E, Karlsson K, Dionigi C, Regidor E, Ichioka Y, Tomasi C, Ghensi P, Schaller D, Abrahamsson I, Berglundh T, Derks J

Institutions: University of Gothenburg (Sahlgrenska Academy), Sweden · Public Dental Service, Region Västra Götaland, Sweden · Clínica Ortiz-Vigón PerioCentrum, Bilbao, Spain · Complutense University of Madrid, Spain · Clínica Guerrero, Marbella, Spain · University of Padua, Italy · University of Trento, Italy · private practice, Planegg, Germany

Instrument: "a rotating titanium brush (Nano NiTi Brush, HANS KOREA CO. Ltd) under irrigation with saline".

Outcome (combined therapy, both arms; 3-year follow-up of study 1). pocket depth reduced by 3.2–3.5 mm and marginal bone level gained 1.1–1.3 mm at 3 years.

03 The adjunctive effect of a resorbable membrane to a xenogeneic bone replacement graft in the reconstructive surgical therapy of peri-implantitis: a randomized clinical trial

J Clin Periodontol · 2023

DOI: 10.1111/jcpe.13796

Regidor E, Ortiz-Vigón A, Romandini M, Dionigi C, Derks J, Sanz M

Institutions: ThinkingPerio Research / Clínica Ortiz-Vigón PerioCentrum, Bilbao, Spain · Complutense University of Madrid, Spain · University of Gothenburg (Sahlgrenska Academy), Sweden

Instrument: "a rotating titanium brush (Nano NiTi Brush, HANS KOREA CO. Ltd, Goyang, South Korea) at up to 1200 rpm under continuous irrigation with saline".

Outcome (combined therapy, both arms). 43 patients; no implant lost at 12 months.

04 Significance of barrier membrane on the reconstructive therapy of peri-implantitis: a randomized controlled trial

J Periodontol · 2023

DOI: 10.1002/JPER.22-0511

Monje A, Pons R, Vilarrasa J, Nart J, Wang HL

Institutions: University of Michigan, Ann Arbor, USA · Universitat Internacional de Catalunya, Barcelona, Spain · University of Bern, Switzerland

Instrument: NiTi brushes (Hans Korea Co., Gyeonggi-do, Korea) for about 2–3 min at 600 rpm.

Outcome (combined therapy, both arms). 33 patients (48 implants); mean disease resolution 77.1% at 12 months.

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05 Surface decontamination on the reconstructive therapy of peri-implantitis: a multicenter randomized clinical trial

Clin Implant Dent Relat Res · 2025 · 27(4)
DOI: 10.1111/cid.70075

Monje A, Navarro-Mesa S, Soldini C, Zappalá G, Peña P, Navarro JM Sr, Pons R

Institutions: University of Michigan, Ann Arbor, USA · Universitat Internacional de Catalunya, Barcelona, Spain · University of Bern, Switzerland · Brånemark Clinic, Las Palmas, Spain · private practice, Madrid, Spain

Instrument: "NiTi brushes (Hans Korea Co., Gyeonggi-do, Korea) at 600 rpm for approximately 2–3 min".

Outcome (combined therapy, both arms). 58 patients; disease resolution 87.5% (electrolytic adjunct) and 64.5% (hydrogen peroxide) at 12 months; no major complications.

06 Electrolytic surface decontamination in the reconstructive therapy of peri-implantitis: single-center outcomes of a randomized controlled trial

Int J Periodontics Restorative Dent · 2024
DOI: 10.11607/prd.7151

Monje A, Pons R, Peña P

Institutions: University of Michigan, Ann Arbor, USA · Universitat Internacional de Catalunya, Barcelona, Spain · University of Bern, Switzerland · private practice, Madrid, Spain

Instrument: NiTi brushes (Hans Korea Co., Gyeonggi-do, Korea) for about 2–3 minutes at 600 rpm.

Outcome (combined therapy, single-centre analysis of study 5). disease resolution about 91% with the electrolytic adjunct at 12 months.

07 Adjunctive electrolytic implant surface decontamination in the reconstructive surgical treatment of peri-implantitis — a randomized clinical trial

Clin Oral Implants Res · 2026 · 37
DOI: 10.1111/clr.70152

Regidor E, Ortiz-Vigón A, Berglundh-Gottlieb J, Bougas K, Derks J

Institutions: Clínica Ortiz-Vigón PerioCentrum (Arrow Development SL), Bilbao, Spain · Complutense University of Madrid, Spain · University of Gothenburg (Sahlgrenska Academy), Sweden

Instrument: "a rotating titanium brush (Nano NiTi Brush, Hans Korea, Goyang, South Korea) was used at up to 1200 rpm under continuous irrigation with saline".

Outcome (both arms). 40 patients (44 implants); no implant lost at 12 months; mean pocket-depth reduction 4.5 mm (brush alone) and 3.8 mm (brush plus electrolytic cleaning), marginal bone gain 1.9 mm and 2.1 mm; clinical, radiographic and patient-reported outcomes favourable in both groups, with no significant difference between them.

08 Extent of implantoplasty in the combined surgical therapy of peri-implantitis: a quasi-randomized clinical trial

Clin Implant Dent Relat Res · 2026 · 28
DOI: 10.1111/cid.70144

Monje A, Pons R, Aparicio C, Tarnow D, Rosen PS, Nart J

Institutions: Universitat Internacional de Catalunya, Barcelona, Spain · CICOM Monje Institute, Badajoz, Spain ·

University of Bern, Switzerland · Universitat Politècnica de Catalunya (UPC), Barcelona, Spain · ICREA, Barcelona, Spain · New York University College of Dentistry, USA · Rutgers School of Dental Medicine, Newark, USA

Instrument: "NiTi brushes (Hans Korea Co., Gyeonggi-do, Korea) at 600 rpm for approximately 2–3 min", in both groups.

Outcome (combined therapy, both groups). 33 patients (40 implants); all clinical parameters improved significantly; combined surgical therapy was "effective in arresting disease progression and restoring peri-implant health".

09 Treatment of peri-implantitis with diode laser or mucosal flap surgery: a clinical randomized controlled trial

J Periodontol · 2025 · 96(10):1126-1137
DOI: 10.1002/JPER.24-0683

Malmqvist S, Qadri T, Lira-Junior R, Boström EA, Gustafsson A, Belibasakis GN, Silbereisen A, Johannsen G, Johannsen A

Institutions: Karolinska Institutet, Huddinge, Sweden · Kami Dental, Enköping, Sweden · Public Dental Health Services Stockholm, Sweden

Instrument: "the exposed threads of the implants were brushed with a titanium brush (NiTi Brush Pocket, HANS KOREA Co. Ltd., Goyang, South Korea)".

Outcome (flap-surgery arm, where the brush was used). 26 patients (29 implants) were randomised to diode-laser therapy or mucosal flap surgery; the NiTi Brush was used in the flap-surgery arm (12 patients, 12 implants). At 6 months a similar proportion of patients improved in both arms; among the improved patients, pocket depth was reduced by 1.81 mm after flap surgery and by 0.83 mm after laser therapy.

10 Regenerative surgical treatment of peri-implantitis: a one-year randomized clinical trial comparing autogenous bone and xenograft

J Osseointegr · 2026 · 18(3):102-107
DOI: 10.23805/JO.2026.764

Soliman OH, Malpassi C, Alanazi S, Emam ANM, Yousief SA, Baldini N

Institutions: Qena University, Qena, Egypt · University of Siena, Italy · Najran University, Saudi Arabia · Dar Al Uloom University, Riyadh, Saudi Arabia

Instrument: "mechanical debridement of the implant surface with titanium brushes (NiTi-brush, Hans Korea Co Ltd) under copious sterile saline irrigation", in both groups.

Outcome (both groups). 10 patients with bilateral peri-implant intrabony defects (20 defects, split-mouth) were randomised to one of two grafting materials after flap surgery and implant-surface decontamination; both groups improved significantly in clinical and radiographic parameters at 12 months, and no implant was lost.

CLINICAL STUDIES

01 Recombinant human platelet-derived growth factor-BB–mediated reconstructive therapy of advanced peri-implantitis bone defects: a case series

Int J Oral Implantol · 2025 · 18(1):47–57
PMID: 40047362

Monje A, Pons R, Barootchi S, Saleh MHA, Rosen PS, Sculean A

Institutions: University of Michigan, Ann Arbor, USA · Universitat Internacional de Catalunya, Barcelona, Spain · University of Bern, Switzerland · Harvard School of Dental Medicine, Boston, USA · Rutgers School of Dental Medicine, Newark, USA

Instrument: "NiTi brushes (Hans Korea, Gyenonggi-do, South Korea) for approximately 2 to 3 minutes at 600 rpm".

Outcome (combined therapy). 10 patients (13 defects); 100% implant survival at 1 year; mean pocket depth reduced by 4.5 mm.

02 Resolution of peri-implantitis by means of implantoplasty as adjunct to surgical therapy: a retrospective study

J Periodontol · 2021
DOI: 10.1002/JPER.21-0103

Monje A, Pons R, Amerio E, Wang HL, Nart J

Institutions: Universitat Internacional de Catalunya, Barcelona, Spain · University of Michigan, Ann Arbor, USA · CICOM, Badajoz, Spain

Instrument: NiTi brushes (Hans Korea Co., Gyeonggi-do, Korea).

Outcome (combined therapy). 43 patients (135 implants); implant survival 97.8% over a mean of about 24 months.

03 Effectiveness of modified and control protocols for the surgical therapy of combined peri-implantitis-related defects: a retrospective analysis

Clin Oral Implants Res · 2023
DOI: 10.1111/clr.14057

Schwarz F, Becker K, Albrecht C, Ramanauskaite A, Begic A, Obreja K

Institutions: Goethe University Frankfurt (Carolinum), Germany · University Hospital Düsseldorf, Germany

Instrument: "a titanium brush (Hans Korea Co.,Ltd., Gyeonggi-do, Korea)".

Outcome (combined therapy). 36 patients (40 implants); median bleeding on probing reduced by 58–67% at 12 months across all protocols.

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04 Defect angle as prognostic indicator in the reconstructive therapy of peri-implantitis

Clin Implant Dent Relat Res · 2023
DOI: 10.1111/cid.13244

Monje A, Pons R, Sculean A, Nart J, Wang HL

Institutions: University of Michigan, Ann Arbor, USA · Universitat Internacional de Catalunya, Barcelona, Spain · University of Bern, Switzerland

Instrument: NiTi brushes (Hans Korea Co., Gyeonggi-do, Korea).

Outcome (secondary analysis of study 4). defect angle predicted radiographic bone gain after reconstructive therapy.

05 Absence of progressive bone loss following peri-implantitis surgical therapy with implantoplasty: a case series

Appl Sci · 2023 · 13(12):7224
DOI: 10.3390/app13127224

Brincat A, Antezack A, Sadowski C, Faure-Brac M, Ohanessian R, Monnet-Corti V

Institutions: Aix-Marseille University, France · Assistance Publique – Hôpitaux de Marseille (AP-HM), France · IHU Méditerranée Infection, Marseille, France · Institut de Recherche pour le Développement (IRD), Marseille, France

Instrument: "NiTibrushes (ICT Micro and ICT Nano, Hans Korea® Gyeonggi-do, South Korea)".

Outcome (combined therapy). 96.7% of 91 implants showed no progressive bone loss over 12–42 months.

06 Volumetric assessment of tissue changes following combined surgical therapy of peri-implantitis: a pilot study

J Clin Periodontol · 2020
DOI: 10.1111/jcpe.13335

Galarraga-Vinueza ME, Obreja K, Magini R, Sculean A, Sader R, Schwarz F

Institutions: Goethe University Frankfurt (Carolinum and University Hospital), Germany · Federal University of Santa Catarina, Florianópolis, Brazil · University of Bern, Switzerland

Instrument: "a titanium brush (Hans Korea Co., Ltd.)".

Outcome. 20 patients (28 implants); quantified soft-tissue healing over 6 months after combined surgical therapy.

07 Management of early dental implant complication: a report of two cases

Umm Al-Qura University, Makkah, Saudi Arabia · 2024
DOI: 10.54940/ms75920247

Babgi W, Felemban B

Institutions: Umm Al-Qura University, Makkah, Saudi Arabia

Instrument: "a titanium brush attached to a low-speed handpiece (HANS Korea Co., Ltd., NiTi Brush Omega, Korea)".

Outcome (combined therapy). both early complications resolved, with radiographic bone fill at 4–5 months.

08 Treatment outcome of surgical protocols for peri-implantitis: a retrospective cohort study in a specialised university centre

J Clin Periodontol · 2026 · 53(5):658-680
DOI: 10.1111/jcpe.70115

Zhou W, Ramanauskaite A, Raabe C, Cafferata EA, Lingwal N, Schwarz F

Institutions: Goethe University Frankfurt, Germany · Shanghai Jiao Tong University (Ninth People's Hospital), China · University of Bern, Switzerland · Universidad Científica del Sur, Lima, Peru

Instrument: "After removal of granulation tissues with a curette, implant surfaces were decontaminated using a titanium brush (Hans Korea Co. Ltd.)".

Outcome (all surgical protocols). 223 patients (406 implants) treated between 2018 and 2023 with four surgical protocols, mean follow-up 30.8 months; treatment success at 1 year in 54.7% of implants, with no significant difference between the protocols.

09 Bone stability after regenerative peri-implantitis treatment: a 10-year follow-up case study

Clin Adv Periodontics · 2026 · 16(3):477-484
DOI: 10.1002/cap.10359

Parma-Benfenati S, Roncati M, Parma-Benfenati L, Nava P

Institutions: University of Turin, Italy · University of Ferrara, Italy · University of Michigan, USA

Instrument: "final mechanical debridement was performed with a titanium brush (NiTi Brush, HANS Korea Co., Ltd.)".

Outcome (10-year case report). One mandibular molar implant treated with regenerative surgery in 2014; re-entries at 9 months, 8 years and 10 years showed bone fill of the intrabony defect and minimal marginal bone change over 10 years of supportive care.

TRANSLATIONAL AND LABORATORY STUDIES

01 Titanium micro-particles are commonly found in soft tissues surrounding dental implants

Commun Med · 2025
DOI: 10.1038/s43856-025-00756-3

Dionigi C, Nagy G, Derks J, Ichioka Y, Tomasi C, Larsson L, Primetzhofer D, Berglundh T

Institutions: University of Gothenburg (Sahlgrenska Academy), Sweden · Public Dental Service, Region Västra Götaland, Sweden · Uppsala University (Tandem Laboratory), Sweden

Instrument: implant surfaces at peri-implantitis sites decontaminated with titanium curettes and "a rotating titanium brush (Nano NiTi Brush, HANS KOREA CO. Ltd)".

Finding. titanium micro-particles were a common finding in peri-implant soft tissues and were not associated with the occurrence of peri-implantitis.

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02 The effect of NiTi brush, polishing brush, and chemical agent on the dental implant surface morphology and cytocompatibility

Clin Implant Dent Relat Res · 2025 · 27:e13417
DOI: 10.1111/cid.13417

Brunello G, Becker K, Rauch N, Schwarz F, Becker J

Institutions: University Hospital Düsseldorf, Germany · University of Padua, Italy · Charité – Universitätsmedizin Berlin, Germany · Goethe University Frankfurt, Germany

Instrument: NiTi Brush (NANO, HANS KOREA).

> Finding. the NiTi brush group stored in saline showed significantly higher cell viability than the other treated groups (p up to 0.001); operative time was shorter than with the diamond polishing brush (48.2 vs 54.9 s, p = 0.017).

03 Quantity and size of titanium particles released from different mechanical decontamination procedures on titanium discs: an in vitro study

Dent J · 2024 · 12(5):123
DOI: 10.3390/dj12050123

Kao A, Tawse-Smith A, Ma S, Duncan WJ, Reid M, Atieh MA

Institutions: University of Otago (Sir John Walsh Research Institute), Dunedin, New Zealand · Mohammed Bin Rashid University of Medicine and Health Sciences, Dubai, United Arab Emirates · University of Jordan, Amman, Jordan

Instrument: "NiTi Brush Omega, Hans Korea, Gyeonggi-do, Republic of Korea".

> Finding. NiTi Brush released 6.45 ± 2.03 µg titanium per disc, about one-fifth of metal-tip ultrasonic scaling (34.0–34.4 µg); erythritol air-polishing and the PEEK-tip ultrasonic released less.

04 Mechanical removal of biofilm on titanium discs: an in vitro study

J Biomed Mater Res B Appl Biomater · 2022 · 110(5):1044-1055
DOI: 10.1002/jbm.b.34978

Ichioka Y, Derks J, Dahlén G, Berglundh T, Larsson L

Institutions: University of Gothenburg (Sahlgrenska Academy), Sweden

Instrument: "a rotating nickel-titanium brush (NiTi brush, Nano model, HANS Korea, South Korea) was used at a rotation speed of 1200 rpm under irrigation with saline".

> Finding (in vitro). On Streptococcus gordonii biofilm, residual bacteria were close to zero on smooth titanium discs with every method tested, while some remained on shot-blasted discs; the brush and air-polishing best restored the compatibility of the surfaces with osteoblast-like cells, although no method restored pristine levels.

05 Decontamination of biofilm-contaminated implant surfaces: an in vitro evaluation

Clin Oral Implants Res · 2023 · 34(10):1058-1072
DOI: 10.1111/clr.14136

Ichioka Y, Virto L, Nuevo P, Gamonal JD, Derks J, Larsson L, Sanz M, Berglundh T

Institutions: University of Gothenburg (Sahlgrenska Academy), Sweden · Complutense University of Madrid, Spain

Instrument: "The rotating nickel-TiB (NiTi brush, HANS Korea) was used at a rotational speed of 1200 rpm

under constant irrigation with saline".

Finding (in vitro). On implants placed in 3D-printed intrabony defect models with a multispecies biofilm, protocols that included the rotating brush or air-polishing removed more biofilm and surface carbon than gauze wiping alone; no protocol removed the biofilm completely.

06 Altered bacterial adhesion with changes in roughness of titanium surfaces after implant cleaning

Oral Biol Res · 2016 · 40(1):9-15
DOI: 10.21851/obr.40.1.201603.9

Kim SK, Lee JK, Park SH, Chang BS, Lee SY, Um HS

Institutions: Gangneung-Wonju National University, Gangneung, South Korea

Instrument: "ICB (I.C.T.®, HANS, Seoul, Korea) treatment … used until the RBM or SLA surface was removed with the rotatory instrument at 800 rpm". I.C.T. (Implant Cleaning Technique) is the former name of the NiTi Brush.

Finding (in vitro). On clean RBM and SLA titanium discs the brush reduced surface roughness (Ra 1.43 to 1.15 µm on RBM, 2.85 to 2.23 µm on SLA), and fewer bacteria adhered to the SLA discs afterwards; on RBM discs adhesion did not differ.

07 HAコーティングインプラントに対する各種清掃方法の比較 — Comparison of mechanical removal methods on HA-coated implant surfaces

J Jpn Soc Oral Implantol · 2014 · 27(3):370-376
DOI: 10.11237/jsoi.27.370

Suzuki A, Munakata M, Matsuura T, Tachikawa N, Kasugai S

Institutions: Tokyo Medical and Dental University, Japan · Kanagawa Dental University, Japan

Instrument: 「0.09 mm ニッケルチタンワイヤーのチタンブラシ（I.C.T., Hans Korea 社製）」 — a titanium brush of 0.09 mm nickel-titanium wire (I.C.T., made by Hans Korea), used at 3,000 rpm without irrigation (translation by HANS Korea). I.C.T. (Implant Cleaning Technique) is the former name of the NiTi Brush.

Finding (in vitro). With the hydroxyapatite coating as a stand-in for calculus, the brush alone left 5.6% of the coating on cylindrical and 60.8% on threaded implants, and air-abrasion followed by the brush left the least (0.4% and 1.1%); threads reduced removal with every method.

08 2-DG regulates immune imbalance on the titanium surface after debridement

Int J Mol Sci · 2023 · 24(14):11431
DOI: 10.3390/ijms241411431

Liu X, Deng S, Xie J, Xu C, Huang Z, Huang B, Chen Z, Chen S

Institutions: Sun Yat-sen University, Guangzhou, China · Guangdong Provincial Key Laboratory of Stomatology, Guangzhou, China · Guangdong Research Center for Dental and Cranial Rehabilitation and Material Engineering, Guangzhou, China

Instrument: "mechanically debrided using two different NiTi brushes in a sequence (NiTi brush, Nano and Pocket, HANS Korea, Seoul, Republic of Korea). The debridement was performed at a speed of 800 rpm for 40 s with each brush sequentially".

Finding (in vitro). The NiTi Brush was the mechanical debridement step of the study model; the study examined how immune cells respond to titanium surfaces after debridement and how 2-deoxy-D-glucose modulates that response.

09 Zirconia hybrid dental implants influence the biological properties of neural crest-derived mesenchymal stromal cells

Nanomaterials · 2024 · 14(5):392
DOI: 10.3390/nano14050392

Tagliaferri N, Pisciotta A, Orlandi G, Bertani G, Di Tinco R, Bertoni L, Sena P, Lunghi A, Bianchi M, Veneri F, Bellini P, Bertacchini J, Conserva E, Consolo U, Carnevale G

Institutions: University of Modena and Reggio Emilia, Italy · Istituto Italiano di Tecnologia, Ferrara, Italy · University of Ferrara, Italy

Instrument: "nickel–titanium brushes (I.C.T. Brush micro, Hans Korea Co. Ltd., Gyeonggi-do, Korea/De Ore, Verona, Italy) … used at 400 rpm and 600 rpm, respectively, for two sequential rounds of 45 s each". I.C.T. (Implant Cleaning Technique) is the former name of the NiTi Brush.

Finding (in vitro). On uncontaminated discs, brushing left visible grooves and a slight increase in roughness on titanium and no significant change on the zirconia-coated surface; dental-pulp stem cells kept their biological features after either cleaning procedure.

10 Micro-computed tomography analysis of peri-implant bone defects exposed to a peri-implantitis microcosm, with and without bone substitute, in a rabbit model: a pilot study

Bioengineering · 2024 · 11(4):397
DOI: 10.3390/bioengineering11040397

Panes C, Valdivia-Gandur I, Veuthey C, Sousa V, Del Sol M, Beltrán V

Institutions: Universidad de La Frontera, Temuco, Chile · Universidad de Antofagasta, Chile · King's College London, United Kingdom

Instrument: "the biofilm-contaminated cap was decontaminated by mechanical brushing treatment with titanium fibers (RotoBrush-Titanium, SALVIN, Charlotte, NC, USA)". Salvin Dental Specialties (Charlotte, NC) is HANS Korea's distributor in the United States; its RotoBrush titanium brushes are the NiTi Brush made by HANS Korea and sold under the Salvin label.

Finding (animal model). In 23 rabbits, titanium caps contaminated with a peri-implantitis biofilm were cleaned with the brush and photodynamic therapy before placement in tibial bone defects; bone regeneration, measured by micro-CT at 15 and 30 days, occurred in all groups.

11 Developing methods to prevent or treat microbial colonisation of titanium dental implant surfaces (doctoral thesis)

PhD thesis, University of Birmingham · 2015 · Appendix I, pp. 227-228
Narendrakumar K

Institutions: University of Birmingham (School of Dentistry), United Kingdom

Instrument: "The NiTi brush is intended to remove biological materials from the implant surface (Hans Korea, Korea)."

Finding (in vitro, thesis appendix). On gold-coated Grade IV titanium discs used as a contamination model, 30 s of brushing at 90 degrees to the surface reduced the gold weight percentage from 37.19% to 17.76% ($P < 0.01$).

REVIEWS

01 Mucositis and peri-implant disease treatment with chitosan and titanium brushes: a systematic review

J Clin Med · 2025 · 14:8306
DOI: 10.3390/jcm14238306

Pappolla Sessa C, Pappolla Sessa A, Martín-Vacas A, Docampo-Vázquez C, Aragoneses JM

Institutions: Universidad de Alcalá, Madrid, Spain · Universidad Alfonso X El Sabio, Madrid, Spain · Universidad Federico Henríquez y Carvajal, Santo Domingo, Dominican Republic · Euneiz University, Vitoria-Gasteiz, Spain · private practice, Toledo, Spain

Instrument: Figure 1 shows a titanium brush (POCKET® model, Hans Korea, Seoul, Republic of Korea).

Conclusion. chitosan and titanium brushes are safe and effective tools for implant surface decontamination, used as adjunctive devices within standardised protocols.

02 安心・安全なインプラント治療を行うために — Toward safe and secure implant treatment

J Jpn Soc Oral Exam · 2018 · 10(1):33–38 (review, in Japanese)
Hiroyasu K

Institutions: The Nippon Dental University Niigata Hospital, Japan

Instrument: Figure 8, "インプラント周囲炎への対応（NiTi Brush: HANS Korea 社）".

Content. for peri-implantitis, the exposed rough implant surface is polished to a smooth surface with a titanium brush to limit further deposit adhesion and bone resorption.

03 Retrospective on treating periimplantitis

Dentistry · 2015 · 5(12):1000348
DOI: 10.4172/2161-1122.1000348

Kusek ER

Institutions: Sioux Falls Family and Implant Dentistry, Sioux Falls, USA

Instrument: "The surface of the implant is cleaned with titanium brush (Salvin Dental Specialities Inc. Charlotte, NC)". Salvin Dental Specialties (Charlotte, NC) is HANS Korea's distributor in the United States; its RotoBrush titanium brushes are the NiTi Brush made by HANS Korea and sold under the Salvin label.

Content. Narrative review of common causes of peri-implantitis, illustrated with the author's cases; in the surgical protocol described, the implant surface is cleaned with the titanium brush before laser disinfection.

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04 The use of air abrasive devices for implant surface decontamination: a narrative review

Perio Clín · 2023 · (27):21-38

Regidor E, Amerio E, Derks J, Ortiz-Vigón A

Institutions: ThinkingPerio Research / Clínica Ortiz-Vigón PerioCentrum, Bilbao, Spain · Universitat Internacional de Catalunya, Barcelona, Spain · University of Gothenburg (Sahlgrenska Academy), Sweden · Complutense University of Madrid, Spain

Instrument: Figure 1, implant surface decontamination methods: "Titanium brushes ICT Nano® & Micro® (Hans Korea)". I.C.T. (Implant Cleaning Technique) is the former name of the NiTi Brush.

Content. Narrative review of air abrasive devices for implant surface decontamination; it cites in vitro work in which only air abrasive devices and titanium brushes reached the valleys between implant threads, and surgical studies in which titanium brushes and air polishing gave similar clinical improvements.

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