Electromagnetic Healing.
Go Beyond the Surface.

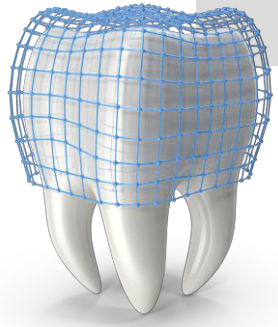
PALTOP®
A Keystone Dental Company

Fast Forward Your Implants Practice

Magdent's innovative pulsed electromagnetic field (PEMF) healing abutments go beyond the surface to stimulate and reinforce the body's natural healing process for dental implant procedures.

The patented technology accelerates regeneration of bone and soft tissue, shortening osseointegration time, and enabling successful implant procedures in high-risk patients like heavy smokers, diabetes and osteoporosis patients, etc..

By reducing inflammation, the technology becomes an essential component for suppressing peri-implantitis and accelerating bone growth.



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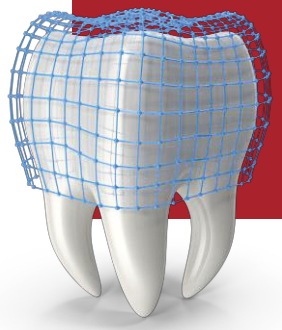
Dental Implantation Challenges



The Long Healing Period

This process can take between 3-6 months (and up to 9 months in cases of bone grafts)

Failure with High - Risk Patients

patients with osteoporosis, diabetes, and heavy smokers (~20%) have a high failure risk

Peri-implantitis

inflammation appears in around the dental implant in ~43% of cases, and can cause implant failure

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There Is a Solution:

PEMF Bone Growth Stimulators (BGS) accelerates bone healing by up to x3

Pulsed Electro Magnetic Field (PEMF)–low intensity electric and magnetic fields combined. It is generated by passing an alternating current through a coil.

PEMF creates potential deference at the cell membrane level and stimulates the differentiation and proliferation of stem cells (MSCs) into bone forming cells (osteoblasts).

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MED©
Bone Growth Stimulator

Similar design
Shaped like a healing abutment

No learning curve
Used according to standard healing abutment protocols

Made of
Titanium body incorporating a battery, coil and microelectronics

Variety
Can be compatibility with up to 85 % of implants brands

Clinical Value
A unique solution for the dentist

Duration
30 days of continuous operation upon activation

Envision the future of implantology

PALTOP® A Keystone Dental Company

YouTube Link

Our Product
The MED© enhances osteogenesis after implantation

How it works:

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Our Product:

The MED© stimulates osteogenesis with inflammatory condition

Acceleration of the healing process

Increase in bone implant contact

Increase in trabecular bone volume density

The only treatment for Peri-implantitis

Fully Commercialized Product which can fits to up to 85% of the brands sold globally

The future of implantology is here

Strong Scientific Backing

Published in Peer Reviewed Journals:

- 2 clinical trials
- 1 animal trial
- 2 in-vitro trials

In Progress:

- 2 clinical trials – Osteogenesis
- 2 clinical trials – Peri - implantitis
- 1 clinical trial - Keratinized Gingiva

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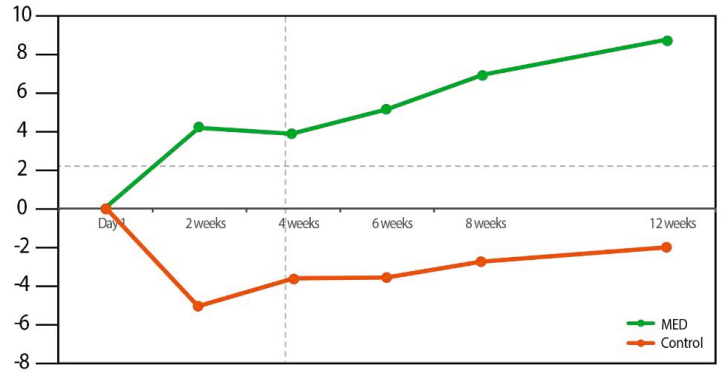
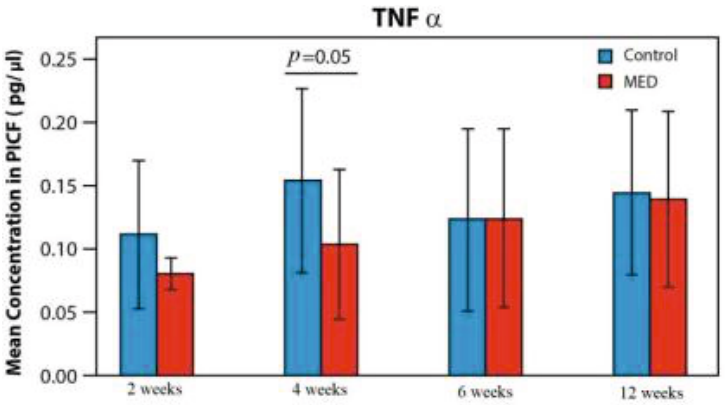
Randomized controlled clinical trial on 40 implants placed in 20 patients

Implant stability change from baseline in ISQ (Implant Stability Quotient)





Effect of the Pulsed Electromagnetic Field (PEMF) on Dental Implants Stability: A Randomized Controlled Clinical Trial

Materials. 2020 Apr 3;13(7):1667

- Significant13 % increase in implant stability at test group Vs. 2 % decrease in control over all time points
- 50% difference in TNF α raise in4 weeks after implantation
- 25% difference in radiograph evaluation of marginal bone loss

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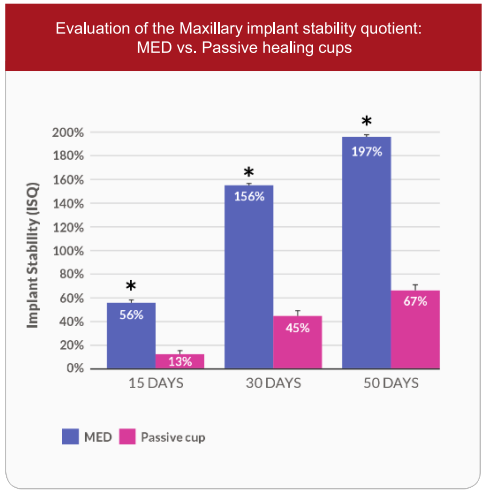
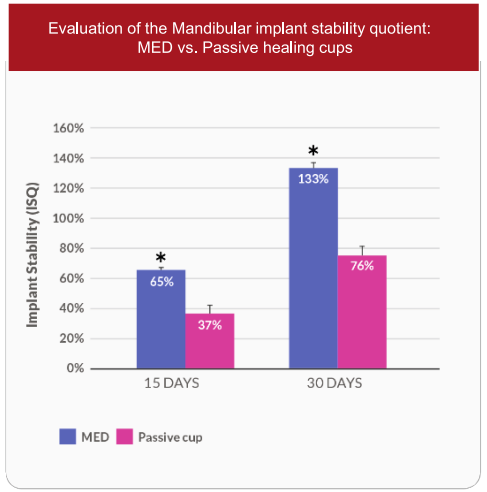
Retrospective controlled clinical trial on 24 implants placed in 12 patients

Upper Jaw



The implant stability quotients were calculated at 15, 30 and 50 days of healing before conventional loading. Results are expressed as the percentage change from the baseline to the loading time point ± SD.

Lower Jaw



The implant stability quotients were calculated at 15 and 30 days of healing before conventional loading. Results are expressed as the percentage change from the baseline to the loading time point ± SD.

Miniaturized Electromagnetic Device Abutment Improves Stability of Dental Implants

Journal of Craniofacial Surgery.2019 Jun;30(4):1055-1057.

- Significant difference in stability rates between groups
- Similar effect at all bone types

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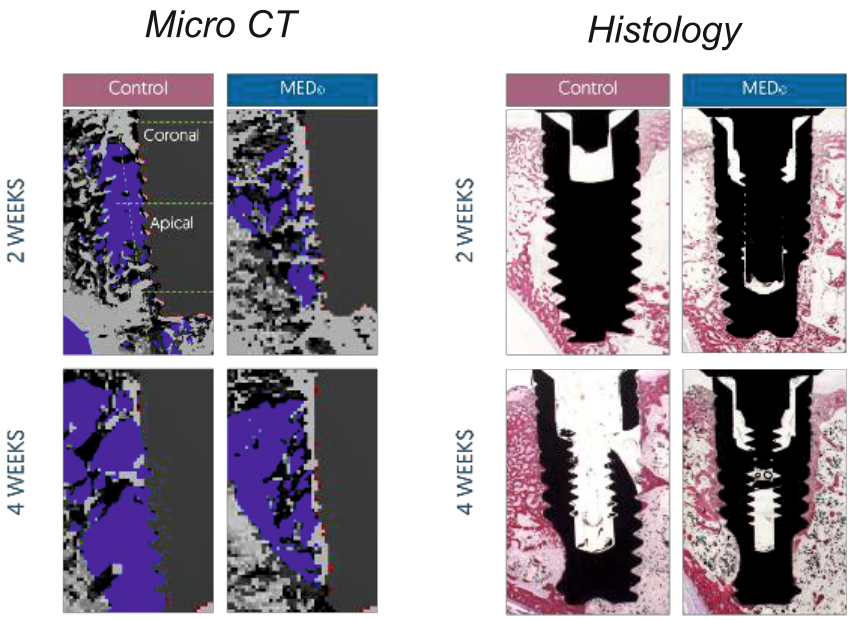
Controlled preclinical study on New Zealand rabbit tibia with micro-CT and histology



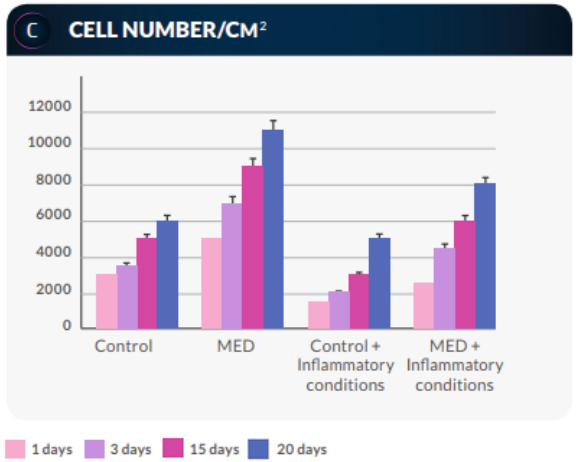
A new device for improving dental implant anchorage: a histological and micro-computed tomography study in rabbit

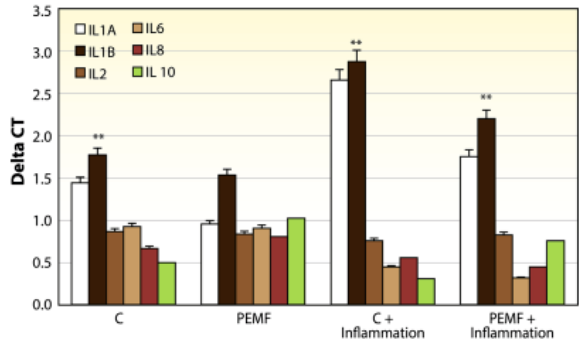
Clinical Oral Implants Research2016 Aug;27(8):935-42.

- 48% increase in Bone to Implant Contact (%OI)
- 62% increase in trabecular bone volume density (BV/TV)
- 73% increase in connectivity density (Conn. D)
- 44% increase in the number of trabeculae (Tb.N)
- 32% decrease in trabecular spacing (Tb.Sp)

Controlled in-vitro study to assess osteoblasts formation in normal & inflammatory conditions

New Mature Bone Cell Formation





Pulsed electromagnetic fields increase osteogenesis commitment of MSCs via the mTOR pathway in TNF-α mediated inflammatory conditions: an-in vitro study

Scientific Reports (Nature publishing) *2018 Mar 23;8(1):5108 .*

- Increase in MSC differentiation to osteoblasts
- Increase in MSC differentiation to osteoblasts in inflammatory conditions
- Enhanced mTOR signaling by increasing AKT, MAPP kinase, and RRAGA values
- Increase inRunx, *osteopontin, osteonectin, osteocalcin collagen type I, wnt, foxO, ALP, BMP2 and BMP7 levels
- Lower levels of *IL1B and higher levels of IL10

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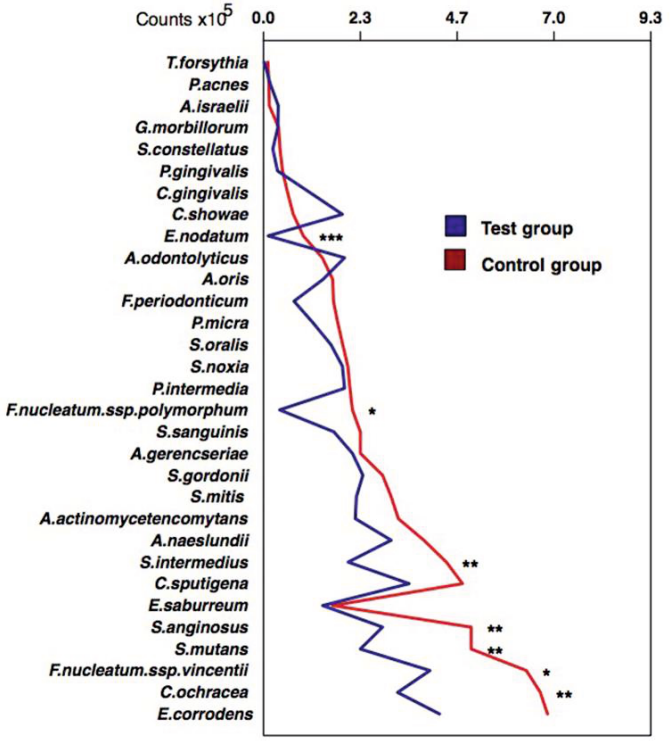
Controlled in-vitro study to assess the influence of (PEMF) on bacterial biofilm colonization around implants

Changes in bacterial biofilm around implant



Mean bacterial counts (x10.) of the biofilms formed on the titanium surfaces of the Control group, without the electromagnetic healing cap being activated, and the Test group, with the electromagnetic healing cap activated on the first day and kept for the seven days of biofilm formation. The data were analyzed using the Mann-Whitney test ($p < 0.05$; $p < 0.01$, $p < 0.001$).

Antimicrobial effects of a pulsed electromagnetic field: an in vitro polymicrobial periodontal subgingival biofilm model

Biofouling. 2020:1 -8

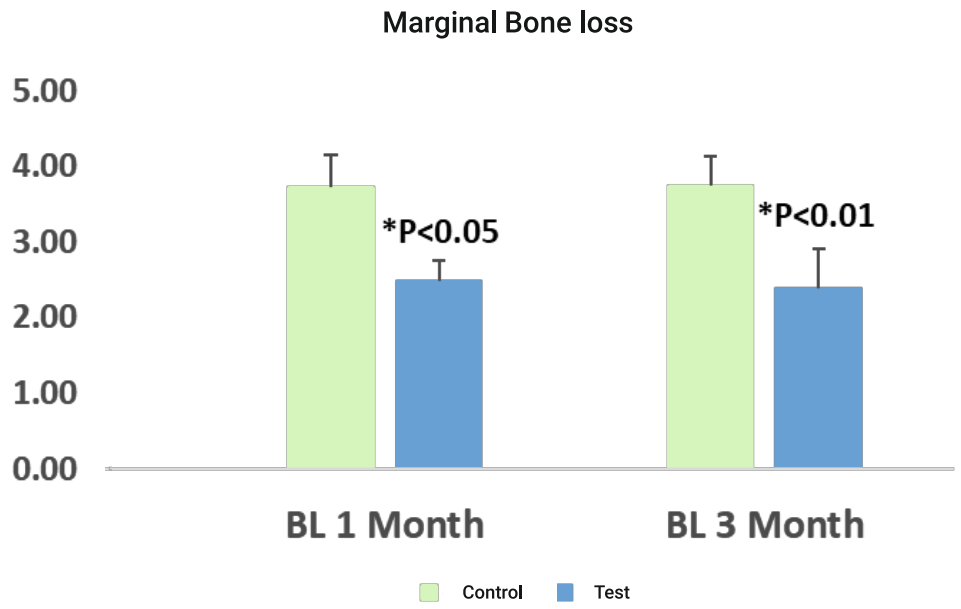
- The mean total bacterial counts were lower in the Test group vs the control group ($p < 0.05$)
- Antimicrobial effects on the bacterial species and can be used to control bacterial colonization around dental implants

PALTOP® A Keystone Dental Company

Peri-implantitis Clinical Trial

A prospective double blind randomized controlled trial that examinedPEMFin treatmentof peri-implantitis on patients that weretreatedwith dentalimplantsand crowns a few years ago

One month after treating with MED, we saw a reduction of marginal bone loss which remains constant after 3 months follow up



The clinical trial was completed during September 2022, and is being finalized for publication these days.

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RAMBAM Health Care Campus

Focused Pulsed Electromagnetic Field is an Effective Adjunctive Treatment in implant with periimplantitis: prospective randomized double-blind controlled clinical trial

Yaniv Mayer, Juan Khouri, Jacob Horwitz, Hadar Zigdon

Department of Periodontology, School of Graduate Dentistry, Rambam Health Care Campus (RHCC), Haifa, Israel.

Introduction: As dental implants becoming the first choice to replace teeth that were lost or congenitally missing, an ever-greater concern for periimplantitis and its consequences is imminent. Potential use of PEMFs as modulator of immune responses alone or in combination with pharmacological therapies represents a novel frontier of investigation with interesting clinical perspectives.

The Miniaturized Electromagnetic Device (MED – which was invented, designed and owned by Magdent®), is small enough to fit most dental implants. The MED is shaped like a simple healing abutment and is easily screwed into the implant. It is removed at the end of the treatment period following standard healing abutment placement protocols. ***The purpose*** of this randomized, double-blind clinical trial was to compare traditional non-surgical implants' surface debridement alone, to non-surgical implants' surface debridement combined with pulsed electromagnetic field (PEMF) generation around dental implants with periimplantitis.

Electromagnetic Healing: Go Deeper, Heal Faster

Higher success rate with high risk patients (heavy smokers, diabetes, oncologic patients, sponges bone etc.) - increasing patients pool

improves the **quality of care**, increase efficiency & **productivity** to your practice.

Offering **cutting-edge technology** without investing in capital equipment

Increase revenue by charging the patient extra for a **premium treatment** method

Stay on-top of the trend and technology

Improve your clinic reputation ahead of the curve

PALTOP®
A Keystone Dental Company

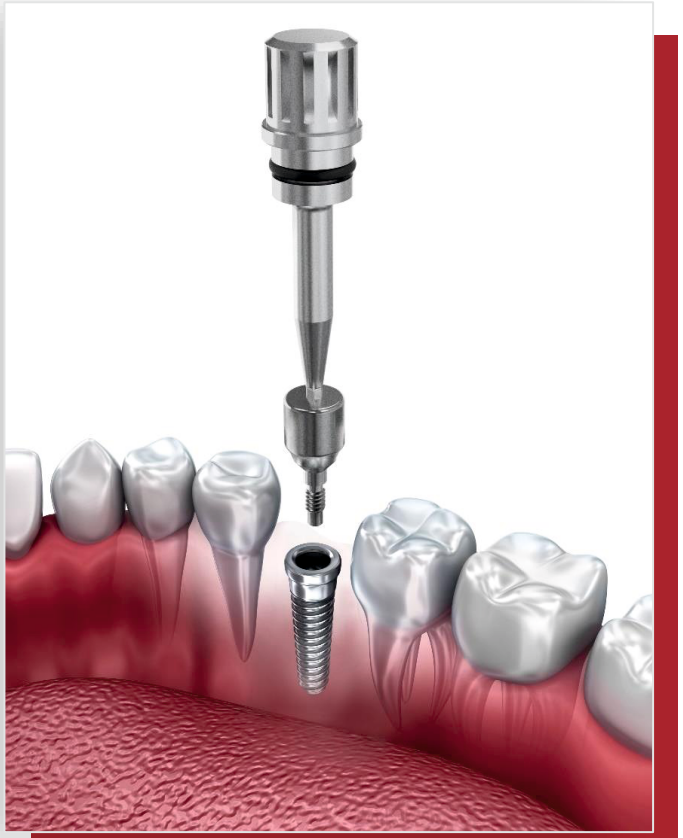
Accelerate Your Implants Procedure

Faster recovery

Successful implantation in high-risk patients

Reducing inflammation

Bone Growth in Inflammatory Condition



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Age: 60 Years old; **Patient Condition**: Healthy; **Procedure**: Implants & Stable Bridge

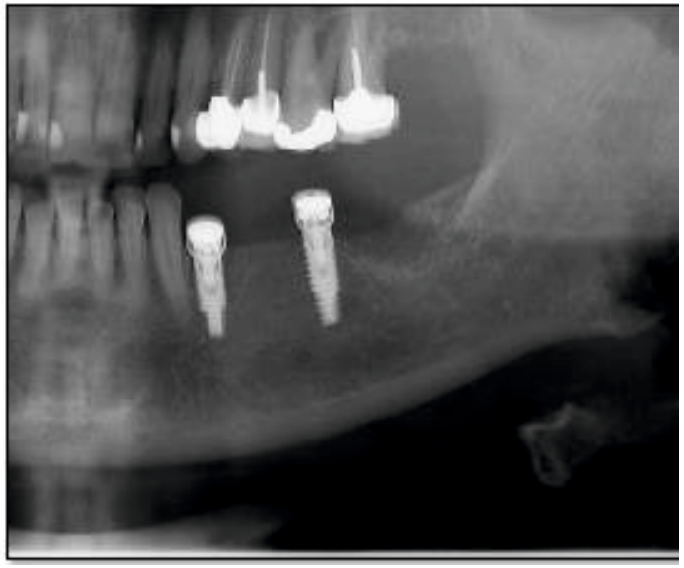
18/7/2019
Insertion Day

16/09/2019
Impression Day

7/10/2019
1 Week post Crown restoration

61 days

20 days



PALTOP®
A Keystone Dental Company

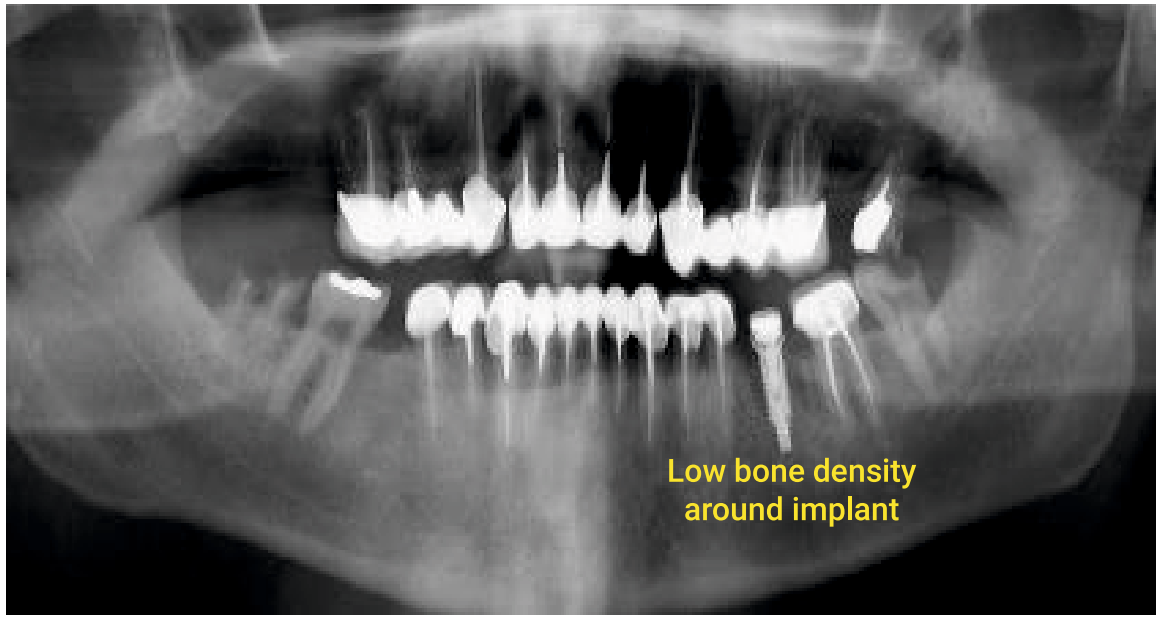
By Dr. D. Jagudaev

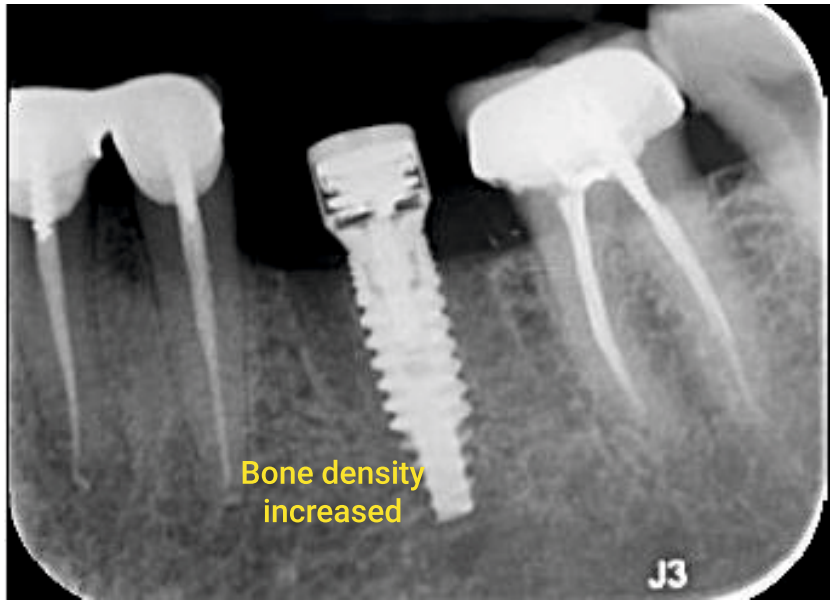
Age: 71 Years old; **Patient Condition**: Healthy; **Procedure**: Implants & Stable Bridge

11/7/19
Extraction & Insertion Day

60 days

10/09/2019
Impression Day





PALTOP®
A Keystone Dental Company

By Dr. D. Jagudaev

Age: 63 Years old; **Patient Condition**: Healthy; **Procedure**: Implants & Stable Bridge

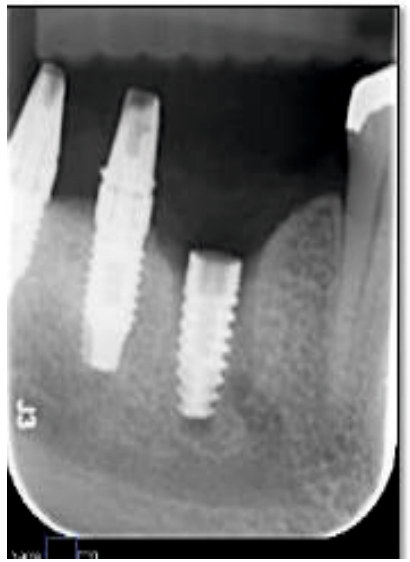
20/11/2019
Insertion Day

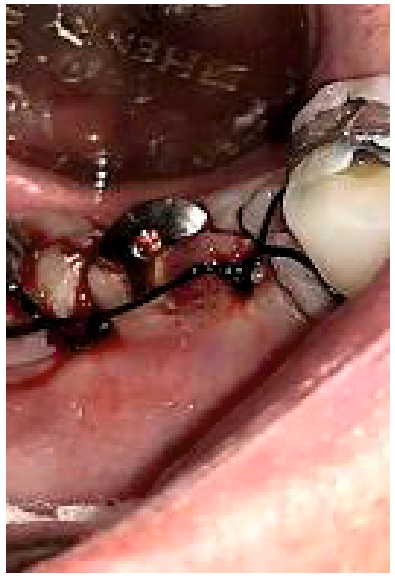
60 days

20/01/2020
Impression Day

15 days

30/01/2020
Restoration day





Broken Implant replacement

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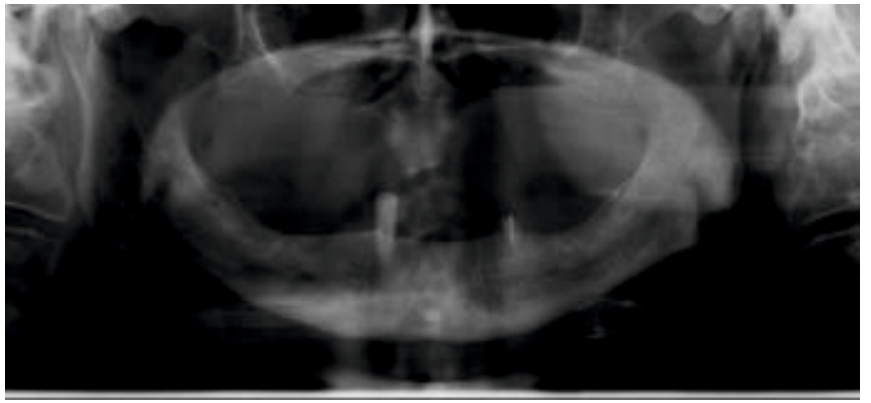
By Dr. D. Jagudaev

Smokers

Meta-Analysis > J Clin Periodontol. 2020 Apr;47(4):518-528. doi: 10.1111/jcpe.13257.
Epub 2020 Feb 7.



Levels of smoking and dental implants failure: A systematic review and meta-analysis

Roohollah Naseri [1], Jaber Yaghini [2], Awat Feizi [3]

Affiliations + expand

PMID: 31955453 DOI: 10.1111/jcpe.13257

Results: Having additional information supplied by the authors, 23 articles were selected for final analysis. The meta-analyses based on implant- and patient-related data showed a significant increase in the RR of implant failure in patients who smoked >20 cigarettes per day compared with non-smokers (implant based: p = .001; RR: 2.45; CI: 1.42-4.22 and patient based: p < .001; RR: 4; CI: 2.72-5.89).

Conclusion: The risk of implant failure was elevated with an increase in the number of cigarettes smoked per day.

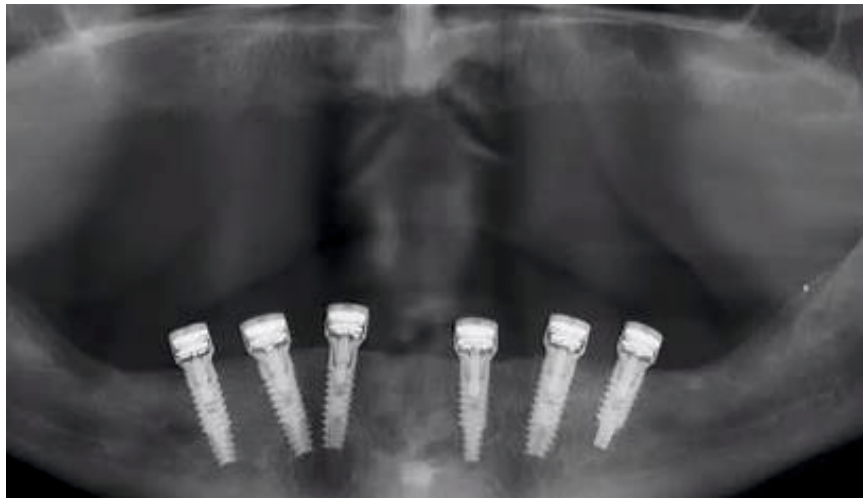
Age: 70 Years old; **Patient Condition**: Smokers; **Procedure**: Implants & Stable Bridge

Heavy smoker, 6 implants in edentulous mandible. Magdent allowed a faster healing process

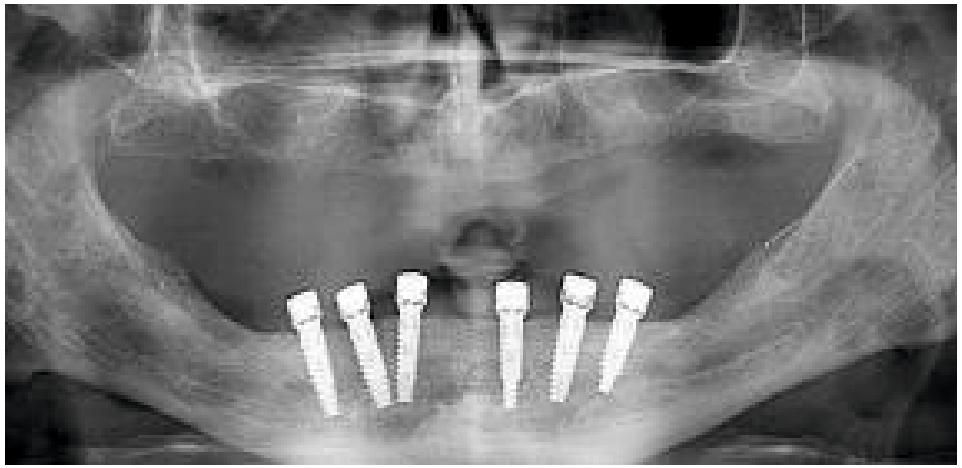
29/10/2019
Insertion Day

45 days

15/12/2019
Impression Day



Low bone density around implant



PALTOP® A Keystone Dental Company

By Dr- D. Jagudaev

Age: 55 Years old; **Patient Condition**: Smokers; **Procedure**: Implants & Stable Bridge

Heavy smoker, close sinus lifting, including ridge preservation, a complete healing and final restoration within 82 days.

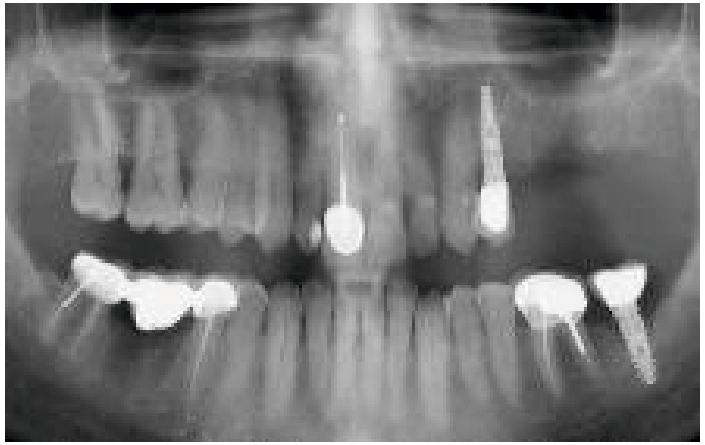
15/10/2019
3 Months after extraction

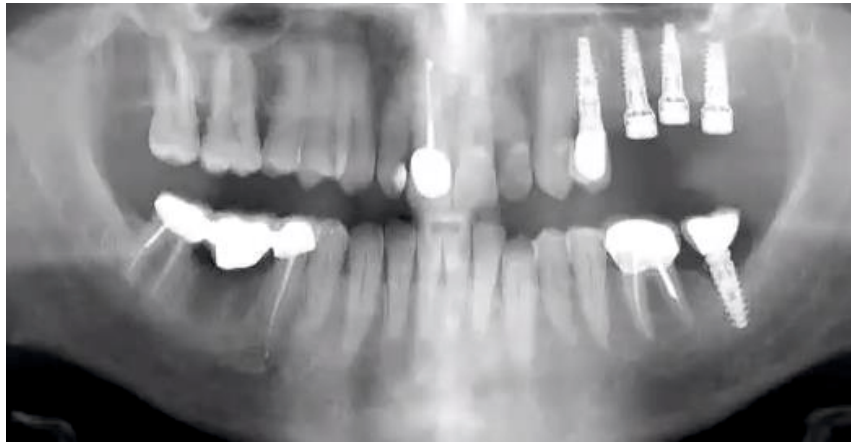
24 days

07/11/2019
Implantation & Crestal & Sinus Lifting

82 days

27/01/2020
Final restoration





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By Dr. D. Jagudaev

Age: 73 Years old; **Patient Condition**: Diabetes;

Long term diabetes patient, Glucose 200 mg/dL, all teeth at lower jaw were extracted; D4 Bone, Immediate insertion of 7 implants

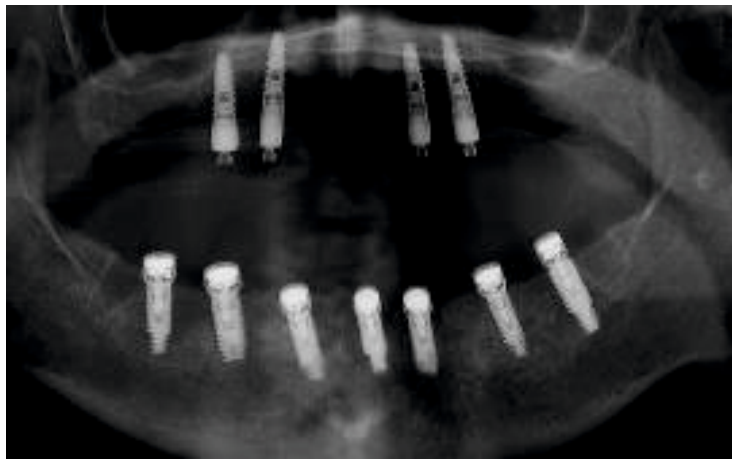
07/08/2019
Extraction & Insertion Day

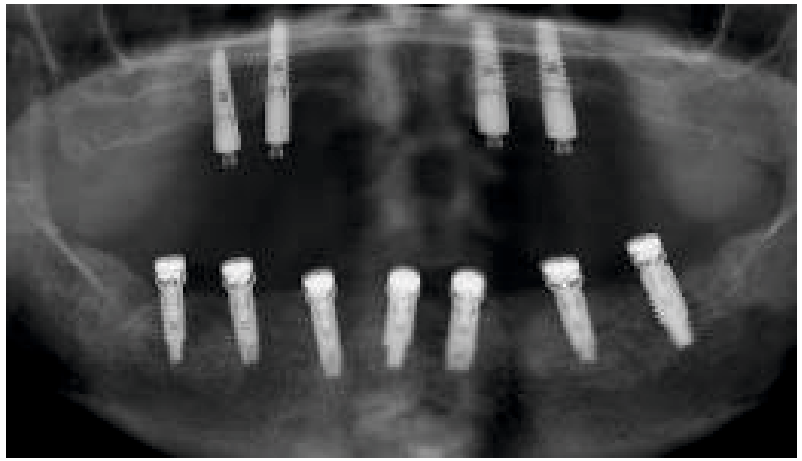
75 days

24/10/2020
Impression Day

14 days

07/11/2019
Final restoration





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By Dr. D. Jagudaev

Age: 50 Years old; **Patient Condition**: Patient suffers from Cancer, received biological treatment

Extraction & Insertion in the same day, 4 implants to support denture

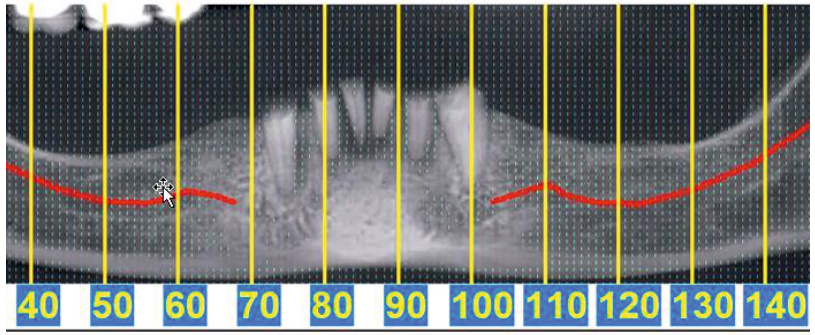
26/09/2019
insertion day

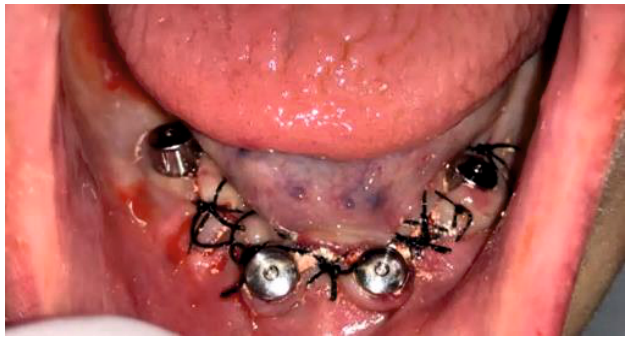
46 days

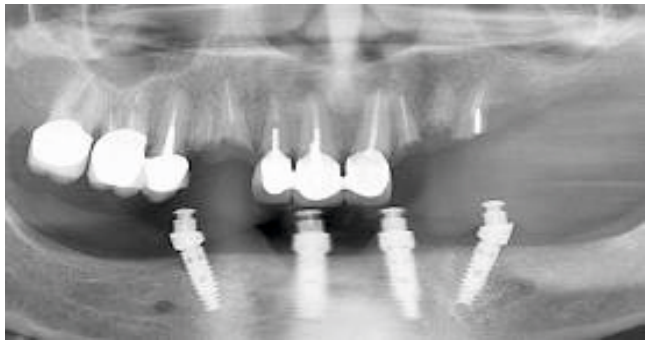
11/11/2019
Impression Day

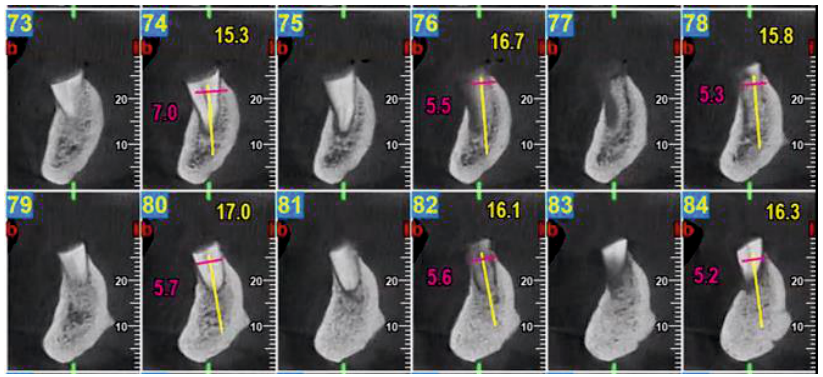
7 days

18/11/2019
Final restoration









PALTOP®
A Keystone Dental Company

By Dr. D. Jagudaev

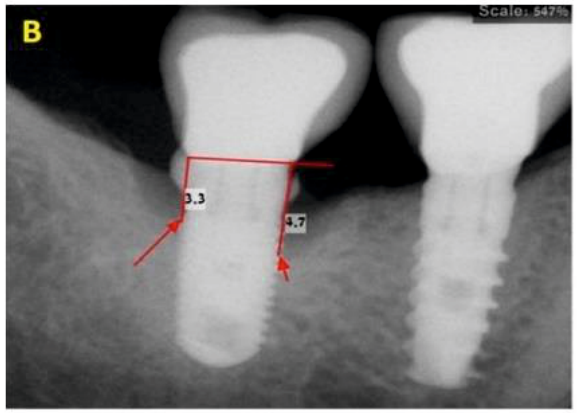
Age: 55 & 70 Years old; **Patient Condition**: Peri Implantitis;

Patients suffered from peri implantitis, approximately 2 years post implantation. MED was used as an adjunctive treatment and witnessed bone growth even during inflammation around the implant.

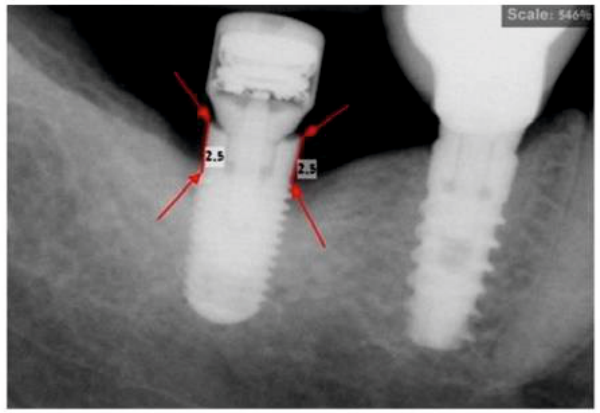
RAMBAM Health Care Campus

Case 1 - 30 days

Baseline

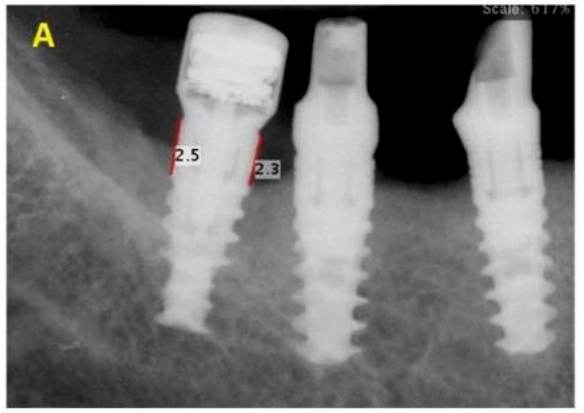


1 month

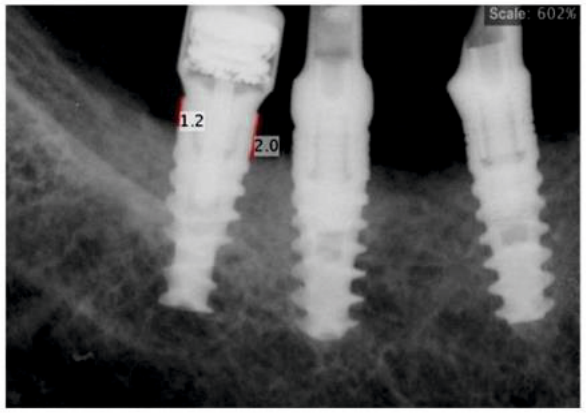


Case 2 - 90 days

Baseline



3 month



PALTOP® A Keystone Dental Company

Regulatory Approvals

CE

Annex II without section 4

This certification is subject to surveillance by MEDCERT.

Effective date: **2020-05-22**
Expiry date: **2024-05-27**

Report No.: 7162FS09F
Process No.: QS – 7162
Certificate No.: 7162GB410200522

Hamburg, 2020-05-22

MEDCERT Certification Body
(Dr. Andreas Schich)

ISO

EN ISO 13485:2016

This certification is subject to surveillance by MEDCERT.

Effective date: **2020-05-22**
Expiry date: **2023-02-26**

Report No.: 7162FS09F
Procedure No.: QS – 7162
Certificate No.: 7162GB445200522

Hamburg, 2020-05-22

MEDCERT Certification Body

FDA

In process

PALTOP®
A Keystone Dental Company

Clinical Recommendations

Enhanced osteogenesis: Producing Pulsed Electro Magnetic Field (PEMF), which has a major effect on osteoblasts, resulting in bone formation even in inflammatory conditions, Enhancing osteogenesis.

Magdent 's MED is the only real solution for Diabetic patients/ Smokers/ Cancer patients / Implants failure sites as it reduce their procedure risk.

Low Magnetic Current: The hollowed body of the healing cup contains electronic components. The Pulsed Electro Magnetic Field generates low level current in the bone around the implant surface of up to 2 mm. It is most effective around the top 7 mm of the implant & soft tissue.

Temporary Patrial Denture: Maximizing MED's procedure success and eliminating temporary rehabilitation leads to higher success rates than prolonged temporary rehabilitation

Identical Standard Protocol

- MED should only be tightened gently by hand until it can no longer be screwed on. Don't damage the MED.
- Not suitable for immediate loading.
- Use the MED during the rehabilitation process to maintain the gums' health.
- Don't cover the MED under the gingiva.
- The implant must be positioned at the bone level (crestal).
- Make sure there's no occlusal interference with opposing teeth.

PALTOP® A Keystone Dental Company

Meet the team:

Prof. Shlomo Barak
D.M.D

Founder &
Chairman of the Board

Adv. Benny Barak
LLB., M.B.A

Chief Executive Officer

Elinor Zohar

Director of R&D and
Manufacturing

Ran Tuttnauer

Board Member

Dr. Oleg Dolkart
PhD Medical Sc.

Chief Medical Officer

Elad Yakobson
B.Sc. Ind. Eng.

Chief Operations Officer

Galit Lass
Economics

Director of Marketing and
Business Development

Tal Shahar
B.Sc. Elec. Eng.

Head of Product

Advisory board

Dr. Ophir Fromovich D.M.D.

Founder and owner of AlphaBio Tec, which was sold to Nobel BioCare for 95M in 2008

Prof. Jamil Shibli PhD

Vice Dean of Dental Research, University of Guarulhos. Reviewer of the journals: International Journal of Oral and Maxillofacial Implants, COIR, Journal of Clinical Periodontology, Journal of Periodontology and Clinical Implant Dentistry.

Healing smiles through innovation!

PALTOP®
A Keystone Dental Company
Официальный дистрибьютор в России

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