

Wann können Implantate gerettet werden und wann nicht?
Erfolgs- und Misserfolgskriterien,
Entfernungs- und Rettungsstrategien.

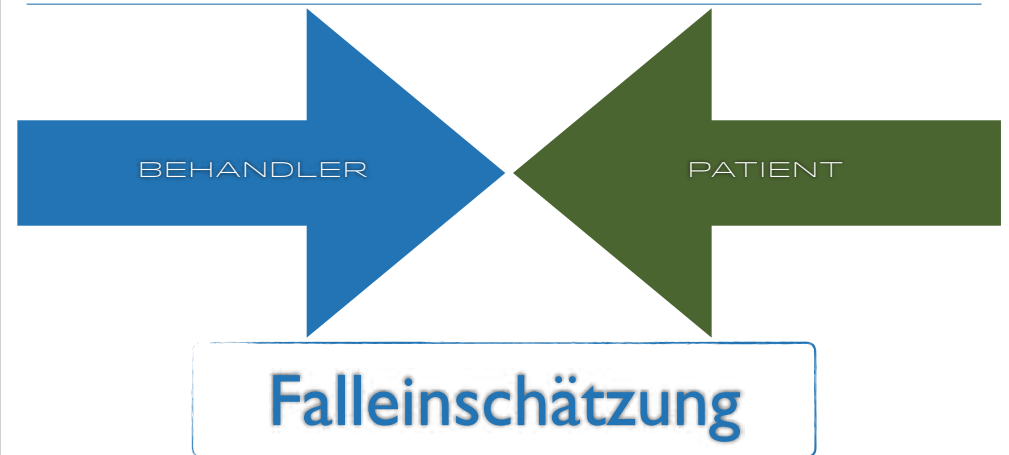


- APW/DGZMK
- HONORARY AMBASSADOR SLOW DENTISTRY
- PRO BONO FÄLLE MIT GEISTLICH UND BEGO
- BEZAHLTE VORTRÄGE FÜR BEGO, GEISTLICH, MECTRON, STRAUMANN, NOBEL, CAMLOG, DENTSPLY ETC
- GREENVIU GMBH

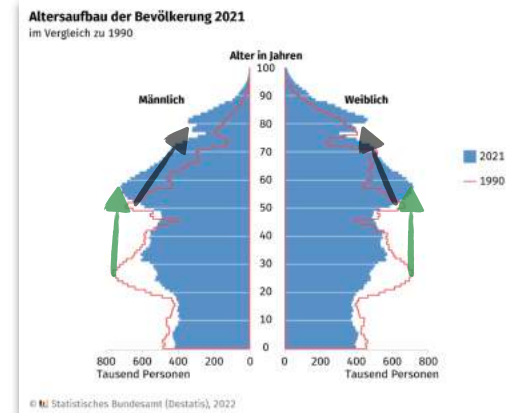


Chirurgisches Können
Selbsteinschätzung
Material
Planung

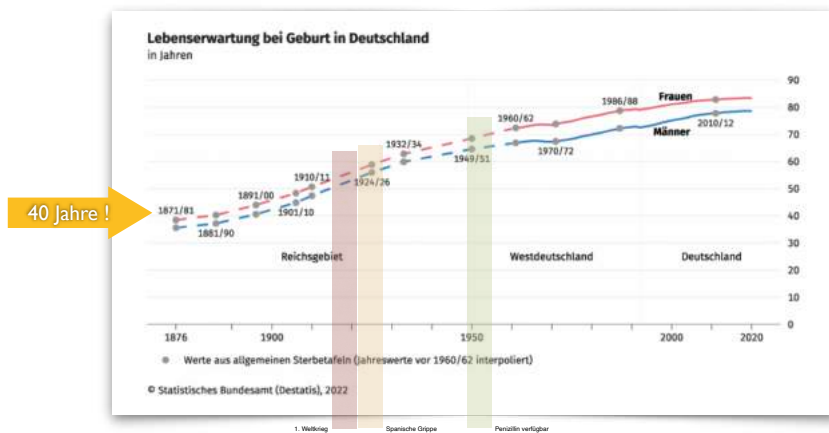
Erkrankungen
Compliance
Finanzielle Bereitschaft
Habits



QUANTIFIZIERUNG DES PROBLEMS



https://www.destatis.de/DE/Themen/Querschnitt/Demografischer-Wandel/_inhalt.html



https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Sterbefaelle-Lebenserwartung/_inhalt.html#sprg229094

Durchschnittliche Lebenserwartung (Periodensterbetafel): Deutschland, Jahre, Geschlecht, Vollendetes Alter																
Sterbetafel Deutschland																
Durchschnittliche Lebenserwartung $e(x)$ (Jahre)																
Geschlecht	2004/06	2005/07	2006/08	2007/09	2008/10	2009/11	2010/12	2011/13	2012/14	2013/15	2014/16	2015/17	2016/18	2017/19	20	
Vollendetes Alter																
männlich																
0 Jahre	76,64	76,89	77,17	77,33	77,51	77,72	77,72	77,90	78,13	78,18	78,31	78,36	78,48	78,63		
20 Jahre	57,24	57,49	57,74	57,90	58,05	58,25	58,24	58,41	58,61	58,66	58,79	58,83	58,96	59,10		
40 Jahre	37,98	38,20	38,44	38,59	38,73	38,93	38,92	39,06	39,24	39,29	39,42	39,45	39,56	39,69		
60 Jahre	26,58	26,75	26,93	27,04	27,16	27,31	27,28	27,38	27,51	27,52	27,62	27,62	27,69	27,77		
65 Jahre	16,77	16,93	17,11	17,22	17,33	17,48	17,46	17,55	17,69	17,71	17,81	17,80	17,87	17,94		
80 Jahre	7,51	7,56	7,65	7,67	7,71	7,77	7,68	7,70	7,79	7,81	7,91	7,92	8,00	8,08		
weiblich																
0 Jahre	82,08	82,25	82,40	82,53	82,59	82,73	82,80	82,88	83,05	83,06	83,20	83,18	83,27	83,36		
20 Jahre	62,56	62,72	62,85	62,97	63,03	63,16	63,22	63,29	63,45	63,46	63,61	63,60	63,67	63,75		
40 Jahre	42,92	43,08	43,20	43,32	43,37	43,50	43,57	43,63	43,77	43,79	43,93	43,92	43,99	44,07		
60 Jahre	24,49	24,61	24,71	24,81	24,85	24,96	25,03	25,07	25,19	25,19	25,32	25,28	25,34	25,39		
65 Jahre	20,18	20,31	20,41	20,52	20,56	20,68	20,74	20,79	20,90	20,90	21,03	21,00	21,06	21,11		
80 Jahre	8,87	8,92	8,97	9,04	9,06	9,13	9,17	9,20	9,29	9,30	9,43	9,42	9,50	9,56		

<https://www-genesis.destatis.de/genesis/online?sequenz=tabelleErgebnis&selectionname=12621-0002&zeitscheiben=16&sachmerkmal=ALT577&sachschlüssel=ALTVOLL000,ALTVOLL020,ALTVOLL040,ALTVOLL060,ALTVOLL065,ALTVOLL080#breadcrumb>

BVND

BUNDESVERBAND
NIEDERGLASSENER
DIABETOLOGEN E.V.

BUNDESZAHNÄRZTEKAMMER

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Pressemitteilung

Wie Diabetes und Parodontitis biologisch zusammenhängen BVND und BZÄK zum Welt Diabetesstag

Berlin/Heidenheim, 11. November 2022 – Rund 8,5 Millionen Menschen in Deutschland sind an Diabetes mellitus Typ 2 erkrankt. Hinzu kommt eine Dunkelziffer von mindestens 2 Millionen Menschen. An Parodontitis leiden rund 35 Millionen. Biologisch hängen beide Volkskrankheiten zusammen, darauf verweisen der Bundesverband der Niederelassenen Diabetologen e.V. (BVND) und die Bundeszahnärztekammer (BZÄK) anlässlich des Welt Diabetesstags am 14. November.

https://www.bzaek.de/fileadmin/PDFs/pm22/221111_Diabetestag.pdf

ROBERT KOCH INSTITUT



Konsequenzen des Alterns

<http://www.gbe-bund.de/pdf/GESBER2015.pdf>



Rang	FRAUEN		MÄNNER	
	Todesursache (ICD-10)	Anteil (%)	Todesursache (ICD-10)	Anteil (%)
1	Ischämische Herzkrankheiten (I20–I25)	13,3	Ischämische Herzkrankheiten (I20–I25)	15,6
2	Zerebrovaskuläre Krankheiten (I60–I69)	7,6	Lungenkrebs (C33–C34)	6,9
3	Herzinsuffizienz (I50)	6,5	Zerebrovaskuläre Krankheiten (I60–I69)	5,4
4	Alzheimer-Krankheit und andere Demenz (F01, F03, G30)	5,2	Chronische Krankheiten der unteren Atemwege (J40–J47)	4,2
5	Hypertensive Herzkrankheit / Herz- und Nierenkrankheit (I11, I13)	4,6	Herzinsuffizienz (I50)	3,7
6	Brustkrebs (C50)	3,8	Darmkrebs (C18–C21)	3,2
7	Lungenkrebs (C33–C34)	3,3	Prostatakrebs (C61)	3,1
8	Chronische Krankheiten der unteren Atemwege (J40–J47)	3,2	Unfälle (V01–X59)	2,6
9	Diabetes mellitus (E10–E14)	3,0	Alzheimer-Krankheit und andere Demenz (F01, F03, G30)	2,5
10	Darmkrebs (C18–C21)	2,6	Diabetes mellitus (E10–E14)	2,4
	Summe	53,0	Summe	49,6



Rang	FRAUEN		MÄNNER	
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	Summe	53,0	Summe	49,6

Kardiovaskulär

z.B. Herzinfarkt,
Schlaganfall,
Thrombose

Cave:
Antikoagulation,
Notfälle

Metabolisch

z.B. Diabetes,
Osteoporose

Cave:
Immunsuppression
Bisphosphonate

Onkologisch

z.B. Karzinome,
Lymphome

Cave:
Immunsuppression
Bisphosphonate

Pharmacy (Basel). 2018 Jun; 6(2): 43.

Published online 2018 May 14. doi: [10.3390/pharmacy6020043](https://doi.org/10.3390/pharmacy6020043)

PMCID: PMC6025009

PMID: 29757930

Comprehension of Top 200 Prescribed Drugs in the US as a Resource for Pharmacy Teaching, Training and Practice

Andrea V. Fuentes, Moises D. Pineda, and Kalyan C. Nagulapalli Venkata*

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025009/>

1. Lisinopril ACEi Antihypertensive PO ADR: CV, CNS BB: Pregnancy	2. Levocetylline Hypocytidine PO ADR: CV, CNS BB: Weight Loss	3. Atorvastatin HMG-CoA Reductase Inhibitor Antihyperlipidemic PO ADR: GI, Diarrhea ADR: CV, CNS	4. Metformin Biguanide Antidiabetic PO ADR: GI, Diarrhea ADR: Lactic Acidosis	5. Simvastatin HMG-CoA Reductase Inhibitor Antihyperlipidemic PO ADR: CV, CNS	6. Omeprazole PPI Anti-GERD PO ADR: Carcinoma, CDAD	7. Amlodipine Dihydropyridine CCB Antihypertensive PO ADR: CV, CNS Respiratory	8. Metoprolol Beta-Blocker Antihypertensive PO ADR: CV, CNS	9. Acetaminophen Hydrocodone Quinal Analgesic PO ADR: CV, CNS BB: Respiratory Depression	10. Abiraterone Androgen Receptor Antagonist PO ADR: Respiratory, CNS
11. Hydrochlorothiazide Thiazide Antihypertensive PO ADR: CV, Endocrine	12. Lorazepam Benzodiazepine Antihypertensive PO ADR: Respiratory BB: Fetal Toxicity	13. Gabapentin Anticonvulsant PO ADR: CNS, Viral Infection	14. Sertraline SSRI Antidepressant PO ADR: CNS, GI BB: Suicidal Thoughts	15. Furosemide Loop Diuretic Antihypertensive PO ADR: CV, Endocrine BB: Electrolyte Loss	16. Acetaminophen Analgesic PO ADR: Endocrine, Renal BB: Hepatotoxicity	17. Amlodipine Dihydropyridine CCB Antihypertensive PO ADR: CV, CNS Respiratory	18. Permethrin HMG-CoA Reductase Inhibitor Antihyperlipidemic PO ADR: CV, CNS	19. Amoxicillin Antibiotic PO ADR: CV, GI	20. Diltiazem SSRI Antihypertensive PO ADR: CNS, GI BB: Suicidal Thoughts
21. Clonidine SSRI Antihypertensive PO ADR: CNS, GI BB: Suicidal Thoughts	22. Lorazepam Benzodiazepine Antihypertensive PO ADR: CNS, GI BB: Suicidal Thoughts	23. Metoprolol Beta-Blocker Antihypertensive PO ADR: CNS, GI BB: Suicidal Thoughts	24. Fluticasone Corticosteroid Nasal ADR: CNS	25. Zolpidem Benzodiazepine Antihypertensive PO ADR: CNS, GI BB: Suicidal Thoughts	26. Carvedilol Beta-Blocker Antihypertensive PO ADR: Endocrine, Renal BB: Hepatotoxicity	27. Potassium Chloride Electrolyte Supplement PO ADR: Endocrine	28. Tramadol Opioid Analgesic PO ADR: CNS, GI BB: Respiratory Depression	29. Fampridine PPI Anti-GERD PO ADR: CNS	30. Montelukast Leukotriene Receptor Antagonist PO ADR: CNS, Dermatologic
31. Escitalopram SSRI Antidepressant PO ADR: CNS, GI BB: Suicidal Thoughts	32. Prednisone Corticosteroid Anti-inflammatory PO ADR: CV, Endocrine	33. Rosuvastatin HMG-CoA Reductase Inhibitor Antihyperlipidemic PO ADR: CV, CNS	34. Naproxen NSAID Analgesic PO ADR: CNS, GI BB: Thrombotic Events	35. Metoprolol Beta-Blocker Antihypertensive PO ADR: CV, CNS BB: Thrombotic Events	36. Insulin Glargine Insulin Inj. ADR: Primarily Hypoglycemia	37. Hydrochlorothiazide & Lisinopril ACEi/Diuretic Antihypertensive PO ADR: CV, CNS BB: Fetal Toxicity	38. Chazapron Benzodiazepine Anticonvulsant PO ADR: CNS BB: Concomitant with Opioids	39. Aspirin Salicylate Antiplatelet PO ADR: CV, CNS	40. Clopidogrel Antiplatelet PO ADR: Hematologic, Dermatologic BB: CYP2C3 Poor Metabolizer
41. Glycidol Sulfonylurea Antidiabetic PO ADR: CNS, Dermatologic BB: Blood Risk	42. Warfarin Anticoagulant PO ADR: Hematologic, CV BB: Blood Risk	43. Cyclosporine Immunosuppressant PO ADR: CNS, GI	44. Insulin Human Antidiabetic Inj. ADR: CV, Endocrine	45. Tamoxifen Alpha-1-Antagonist Urinary Retention PO ADR: CV, CNS	46. Zolpidem SSRI Antihypertensive PO ADR: CNS BB: Suicidal Thoughts	47. Ethinyl Estradiol Norgestimate Contraceptive PO ADR: CV, CNS BB: Clotting	48. Diltiazem SSRI Antihypertensive PO ADR: CV, CNS BB: Suicidal Thoughts	49. Rastibine Hormone H2 Antagonist PO ADR: CV, CNS	50. Valsartan SSRI Antihypertensive PO ADR: CNS, Dermatologic

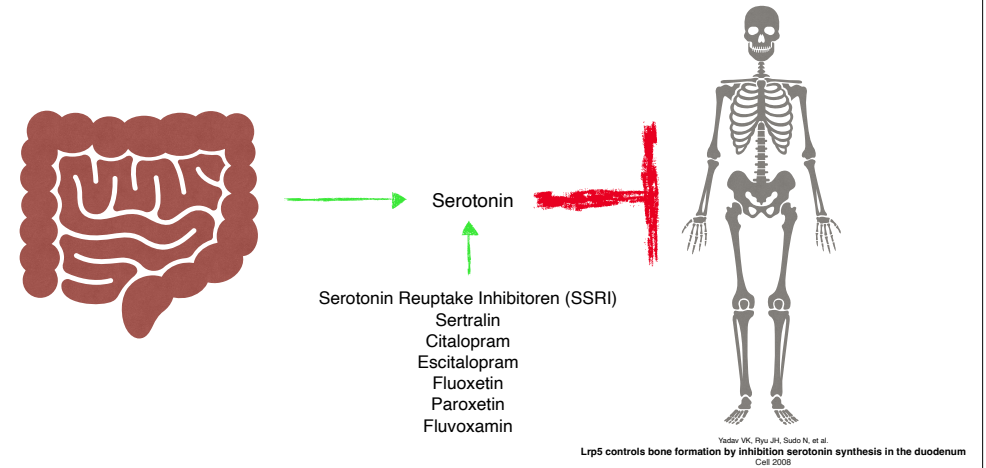
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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025009/>

Antikoagulantien	Antirheumatika	Antiresorptiva
Zytostatika; onkologische Therapeutika	Immunsuppressiva	Analgetika
Antidepressiva	Protonenpumpeninhibitoren	Thrombozytenaggregationshemmer

Antidepressiva



Antidepressiva

Journal of Prosthodontics 2019

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Relationship between Selective Serotonin Reuptake Inhibitors and Risk of Dental Implant Failure

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²Guang'anmen Hospital China Academy of Chinese Medical Sciences, Beijing, China
³Division of Biomedical Statistics and Informatics Mayo Clinic, Rochester, MN

RESEARCH REPORTS Clinical

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E. Rastikerdar¹, S. Abi Nader¹,
N.G. Daniell², B. Nicolau³,
and F. Tamimi¹ *

Selective Serotonin Reuptake Inhibitors and the Risk of Osseointegrated Implant Failure: A Cohort Study

¹Faculty of Dentistry, McGill University, Montreal, Quebec, Canada; and ²State Coast Oral Surgery, Moncton, New Brunswick, Canada; ³Corresponding author, fahd.tamimi@mcgill.ca

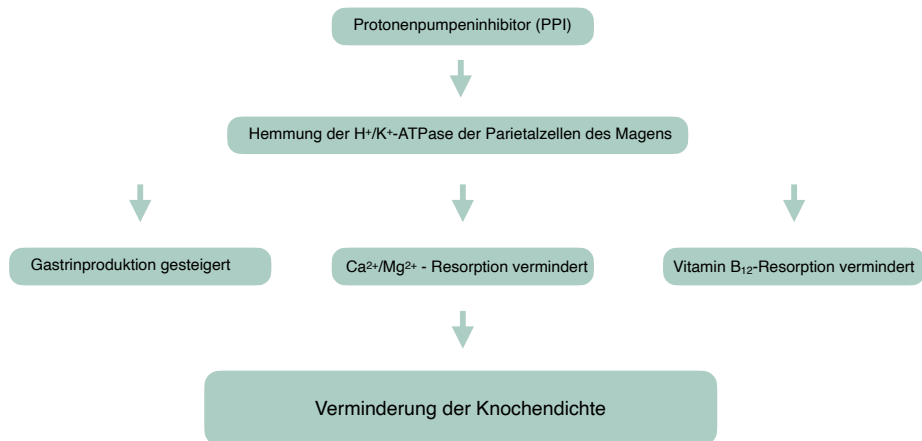
J Dent Res 93(11):1054-1061, 2014



Dauerhaft und langfristige Einnahme von SSRIs (vor allem Sertralin) vor der enossalen Implantation sind mit einem erhöhten Risiko eines Implantatverlustes vergesellschaftet (ca. 4-6 Monate nach Implantation); mutmaßlich wird die Fähigkeit des Knochens, sich an veränderte Belastungsverhältnisse anzupassen, reduziert.

Antikoagulantien	Antirheumatika	Antiresorptiva
Zytostatika; onkologische Therapeutika	Immunsuppressiva	Analgetika
Antidepressiva	Protonenpumpeninhibitoren	Thrombozytenaggregationshemmer

Protonenpumpeninhibitoren



Protonenpumpeninhibitoren

Intake of Proton Pump Inhibitors Is Associated with an Increased Risk of Dental Implant Failure

Bruno Ramos Chrcanovic, DDS, MSc, PhD^{1,2}/Jenö Kisch, DDS²/
Tomas Albrektsson, MD, PhD³/Ann Wennerberg, DDS, PhD⁴

Int J Oral Maxillofac Implants 2017

REVIEW ARTICLE

WILEY

Medication-related dental implant failure: Systematic review and meta-analysis

Vivianne Chappuis¹ | Gustavo Avila-Ortiz² | Mauricio G. Araujo³ | Alberto Monje⁴

Clin Oral Implants Res 2018

Proton Pump Inhibitors and the Risk of Osseointegrated Dental Implant Failure: A Cohort Study

Xia Wu, DDS, MSc, PhD candidate^{*}/Khadijeh Al-Abedalla, DDS, MSc^{*}/
Samer Abi-Nader, BSc, DMD, MSc, FRCD(C)^{*}/Nach G Daniel, BSc, MSc, FRCD(C)^{*}/
Belinda Nicolau, DDS, MSc, PhD^{*}/Faleh Tamimi, DDS, MSc, PhD^{*}

Clin Implants Dent Rel Res 2017

Schlussfolgerung: der langfristige Einsatz von PPIs reduziert die Knochenqualität und erhöht das Risiko des Implantatverlustes (höchstes Risiko mutmaßlich innerhalb der ersten 2 Jahre nach Implantation)

Über 20% der Bevölkerung unter 30 Jahre nehmen Antidepressiva

<https://www.aerzteblatt.de/nachrichten/137007/Mehr-Antidepressiva-fuer-junge-Maedchen-verordnet>

<https://www.aerzteblatt.de/archiv/59092/Depressive-Stoerungen-im-Kindes-und-Jugendalter>

<https://www.aerzteblatt.de/archiv/218368/Von-der-Empfehlung-zur-Umsetzung-Empfehlungen-der-S3-Leitlinie-und-Wahl-von-Antidepressiva-bei-Kindern-und-Jugendlichen-Analyse-von-Daten-der-Barmer-Krankenkasse>

<https://www.aerzteblatt.de/archiv/199426/Depressive-Symptomatik-bei-Jugendlichen>

https://www.versorgungsatlas.de/fileadmin/ziva_docs/93/VA_18-07_Bericht_PsychStoerungenKinderJugendl_V2_2019-01-15.pdf

<https://link.springer.com/article/10.1007/s40211-017-0238-x>

Depression, Psychosen, Essstörungen, ADHS
Zahlen müssen addiert werden

Peri-implantitis prevalence, incidence rate, and risk factors: A study of electronic health records at a U.S. dental school

Khushfayyar Kerdasheh Chang¹, Joseph Finkelshtein², Panos N Papapanou³

Affiliations + expand
PMID: 30768875 DOI: 10.1111/jocri.13416

Abstract

Objectives: We assessed peri-implantitis prevalence, incidence rate, and associated risk factors by analyzing electronic oral health records (EHRs) in an educational institution.

Methods: We used a validated reference cohort comprising all patients receiving dental implants over a 3.5-year period (2,127 patients and 6,129 implants). Electronic oral health records of a random 10% subset were examined for an additional follow-up of ≥2.5 years to assess the presence of radiographic bone loss, defined as ≥2 mm longitudinal increase in the distance between the implant shoulder and the supporting peri-implant bone level (PIL) between time of placement and follow-up. "Intact" implants had no or ≤2 mm PIL increase from baseline. Electronic oral health record notes were reviewed to corroborate a definitive peri-implantitis diagnosis at implants with progressive bone loss. A nested case-control analysis of peri-implantitis-affected implants randomly matched by age with "intact" implants from peri-implantitis-free individuals identified putative risk factors.

Results: The prevalence of peri-implantitis over an average follow-up of 2 years was 34% on the patient level and 21% on the implant level. Corresponding incidence rates were 0.16 and 0.10 per patient-year and implant-year, respectively. Multiple conditional logistic regression identified ill-fitting fixed prosthesis (OR = 5.8; 95% CI: 1.6–21.1), cement-retained prosthesis (OR = 4.9; 2.1–10.5), and radiographic evidence of periodontitis (OR = 3.6; 1.7–7.6) as statistically associated with peri-implantitis. Implant location in the mandible (OR = 0.02; 0.003–0.2) and use of antibiotics in conjunction with implant surgery (OR = 0.19; 0.05–0.7) emerged as protective exposures.

Conclusions: Approximately 1/3 of the patients and 1/5 of all implants experienced peri-implantitis. Ill-fitting ill-designed fixed and cement-retained restorations, and history of periodontitis emerged as the principal risk factors for peri-implantitis.

20% aller Implantate
in einem 2 Jahreszeitraum

<https://pubmed.ncbi.nlm.nih.gov/30768875/>

> Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2010 Sep;110(3):281-6.
doi: 10.1016/j.imole.2010.01.031. Epub 2010 May 8.

Prognosis of the implants replaced after removal of failed dental implants

Young-Kyun Kim ¹, Joo-Young Park, Su-Gwon Kim, Hyun-Jung Lee

<https://pubmed.ncbi.nlm.nih.gov/20452257/>

The failure rate of the second implant after removal of failed implant was 11.7%

Review > Int J Oral Maxillofac Implants. 2016 May-Jun;31(3):636-45.
doi: 10.1180/joms.4312.

Feasibility of Dental Implant Replacement in Failed Sites: A Systematic Review

Wenjie Zhou, Peng Wang, Alberto Moras, Rana Elmaghrabi, Wei Huang, Yizhen Wu

<https://pubmed.ncbi.nlm.nih.gov/27183062/>

The survival rate for implant replacement at the second attempt was 88.84%

Review > Clin Exp Dent Res. 2019 Aug 21;6(8):712-724. doi: 10.1002/cre2.234.
eCollection 2019 Dec.

Removal of failed dental implants revisited: Questions and answers

Alex Soderberg ¹, Adrian Al-Jazzawi ², Philipp Schmitt ³, Ronald Jung ⁴, Thomas Attin ⁵, Patrick R Schmitt ⁶

<https://pubmed.ncbi.nlm.nih.gov/31890309/>

Implantation in previously failed sites irrespective of an early or late failure results in 71% to 100% survival over 5 years

1. VERLUSTURSACHEN

2. WELCHE IMPLANTATE SIND NICHT ZU RETTEN

3. SITUATIONSORIENTIERTE STRATEGIEAUSWAHL

4. FAZIT

1. VERLUSTURSACHEN

2. WELCHE IMPLANTATE SIND NICHT ZU RETTEN

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4. FAZIT

RISIKOFAKTOREN

Funktion	Medizin	Habits	Chirurg
KFO	PPI & SSRI	Rauchen	Positionierung
Bruxismus	Antiresorptiva & Bestrahlung	Mundhygiene / Karies	Augmentation
Störkontakt	Stoffwechselerkrankungen	Incompliance	Hart und Weichgewebe
	Parodontitis / Periimplantitis		Implantatform und Belastungsform



zm online

News CME Termine Archiv Inserat Markt

Home > April 2022 > Chronische Kiefer nach COVID-19: SARS-CoV-2 zu Implantatverlusten

Aus der Wissenschaft

Führt SARS-CoV-2 zu Implantatverlusten?



<https://www.zm-online.de/artikel/2022/02/20-gruppierprophylaxe-nach-corona-2022-gruppierprophylaxe-nach-corona-fuehrt-sars-cov-2-zu-implantatverlusten>

Ergebnisse

Die Infektion führt zu einem signifikanten Verlust von Knochentrabekeln, und zwar zu allen drei untersuchten Zeitpunkten. Die stärksten akuten Krankheitssymptome hatten die Hamster vier Tage nach der Infektion. Sie erhoben sich generell nach etwa sieben bis zehn Tagen.

An der distalen Metaphase des Femurs zeigten die Tiere bereits nach vier Tagen (akute Phase), nach 30 Tagen (Erholungsphase) und nach 60 Tagen (chronische Phase) einen fortschreitenden Verlust an Knochentrabekeln im Mikro-Computertomogramm (CT). Auch 60 Tage nach der Infektion war die Knochendichte nicht wieder auf dem Niveau wie vor der Infektion. Diese Ergebnisse zeigten sich auch in der Tibia und den Wirbelkörpern, sowohl im Mikro-CT als auch in den histologischen Untersuchungen. Das trabekuläre Knochenvolumen von mit SARS-CoV-2 infizierten Hamstern betrug nach 60 Tagen weniger als 50 Prozent, verglichen mit der Kontrollgruppe.

Dies führten die Forscher auf vier Hauptursachen zurück:

1. SARS-CoV-2 aktiviert die Osteoklasten und damit die knochenabbauenden Prozesse. So wurden in den infizierten Kieferknochen eine doppelt so hohe Anzahl an Osteoklasten gefunden wie in der Kontrollgruppe.
2. SARS-CoV-2 stört die inflammatorische Mikroumgebung im Skelett ohne direkte Infektion. Das heißt, der entzündliche Knochenverlust war nicht durch unmittelbare, direkte Beteiligung des Virus im Knochengewebe verursacht.
3. Durch SARS-CoV-2 bedingte Zytokine regeln die Osteoklastengewebe hoch. So fanden die Forscher einen sechsfachen Anstieg des Markers IL-1 β , einen siebenfachen Anstieg von TNF- α und einen dreifachen Anstieg von IL-6 in den Knochengeweben nach vier Tagen bei der infizierten Gruppe im Vergleich zur Kontrollgruppe.
4. Eine pro-inflammatorische Kaskade trägt zur pathologischen Knochenresorption.



Abstract

BACKGROUND: Aggressive periodontitis renders a great challenge to the conventional implant due to the risks of infection and ongoing marginal bone loss (MBL). A study about full-arch immediate implant and restoration in patients with advanced generalized aggressive periodontitis (GAP) was not read, even though the All-on-4 concept has been proven to be predictable for edentulous patients.

PURPOSE: This prospective study aimed to evaluate the feasibility and medium-term outcomes of immediate implant and rehabilitation based on the All-on-4 concept in patients with advanced GAP via clinical and radiographic analyses.

MATERIALS AND METHODS: Seventeen patients (mean age 39.4 years) with advanced GAP received immediate postextraction implant and rehabilitation based on the All-on-4 concept between January 2009 and January 2014. Eighty implants were inserted into 20 arches (7 maxillae and 13 mandibles). The average follow-up duration was 5 years (range 2-7). Complications, probing depth, and plaque, bleeding, and gingiva indices were evaluated. MBL was measured based on the panoramic radiographs taken immediately after surgery and annually thereafter.

RESULTS: The cumulative survival rate (CSR) of the implants was 98.75% (79/80) after an average of 5 years. One tilted implant failed due to peri-implantitis. The average peri-implant MBL was 0.8 ± 0.4 and 1.2 ± 0.3 mm after 1 and 7 years, respectively. The CSR was 100% (20/20) for definite prostheses, while 85% (17/20) for provisional prostheses. The average probing depth, and plaque, bleeding, and gingiva indices at the last recall visit were 3.0 ± 0.5 , 1.2 ± 0.4 , 0.5 ± 0.5 , and 0.4 ± 0.4 mm, respectively. Patient showed high satisfaction to the overall effects.

CONCLUSIONS: Based on this study, the All-on-4 concept provided predictable outcomes in patients with GAP in 2- to 7-year follow-ups, and averted the severe bone defect area of aggressive periodontitis.



Clin Oral Implants Res. 2007 Dec;18(6):669-79. Epub 2007 Sep 13.

A comprehensive and critical review of dental implant prognosis in periodontally compromised partially edentulous patients.

Karoussis IK¹, Kotsovilis S, Fourmousis I.



OBJECTIVES: The outcome of implant treatment in periodontally compromised partially edentulous patients has not been completely clarified. Therefore, the aim of the present study was to perform, applying a systematic methodology, a comprehensive and critical review of the prospective studies published in English up to and including August 2006, regarding the short-term (<5 years) and long-term (>5 years) prognosis of osseointegrated implants placed in periodontally compromised partially edentulous patients.

MATERIAL AND METHODS: Using The National Library Of Medicine and Cochrane Oral Health Group databases, a literature search for articles published up to and including August 2006 was performed. At the first phase of selection the titles and abstracts and at the second phase full papers were screened independently and in duplicate by the three reviewers (I. K. K., S. K., I. F.).

RESULTS: The search provided 2987 potentially relevant titles and abstracts. At the first phase of evaluation, 2956 publications were rejected based on title and abstract. At the second phase, the full text of the remaining 31 publications was retrieved for more detailed evaluation. Finally, 15 prospective studies were selected, including seven short-term and eight long-term studies. Because of considerable discrepancies among these studies, meta-analysis was not performed.

CONCLUSIONS: No statistically significant differences in both short-term and long-term implant survival exist between patients with a history of chronic periodontitis and periodontally healthy individuals. Patients with a history of chronic periodontitis may exhibit significantly greater long-term probing pocket depth, peri-implant marginal bone loss and incidence of peri-implantitis compared with periodontally healthy subjects. Even though the short-term implant prognosis for patients treated for aggressive periodontitis is acceptable, on a long-term basis the matter is open to question. Alterations in clinical parameters around implants and teeth in aggressive periodontitis patients may not follow the same pattern, in contrast to what has been reported for chronic periodontitis patients. However, as only three studies comprising patients treated for aggressive periodontitis were selected, more studies, specially designed, are required to evaluate implant prognosis in this subtype of periodontitis. As the selected publications exhibited considerable discrepancies, more studies, uniformly designed, preferably longitudinal, prospective and controlled, would be important.



J Clin Periodontol. 2008 Sep;35(8 Suppl):292-304. doi: 10.1111/j.1600-051X.2008.01275.x.

Peri-implant diseases: diagnosis and risk indicators.

Heitz-Mayfield LJ¹.



BACKGROUND: Peri-implant diseases include peri-implant mucositis, describing an inflammatory lesion of the peri-implant mucosa, and peri-implantitis, which also includes loss of supporting bone.

METHODS: A literature search of the Medline database (Ovid), up to 21 January 2008 was carried out using a systematic approach, in order to review the evidence for diagnosis and the risk indicators for peri-implant diseases.

RESULTS: Experimental and clinical studies have identified various diagnostic criteria including probing parameters, radiographic assessment and peri-implant crevicular fluid and saliva analyses. Cross-sectional analyses have investigated potential risk indicators for peri-implant disease including poor oral hygiene, smoking, history of periodontitis, diabetes, genetic traits, alcohol consumption and implant surface. There is evidence that probing using a light force (0.25 N) does not damage the peri-implant tissues and that bleeding on probing (BOP) indicates presence of inflammation in the peri-implant mucosa. The probing depth, the presence of BOP, and suppuration should be assessed regularly for the diagnosis of peri-implant diseases. Radiographs are required to evaluate supporting bone levels around implants. The review identified strong evidence that poor oral hygiene, a history of periodontitis and cigarette smoking, are risk indicators for peri-implant disease. Future prospective studies are required to confirm these factors as true risk factors.



1. VERLUSTURSACHEN
2. WELCHE IMPLANTATE SIND NICHT ZU RETTEN
3. SITUATIONSORIENTIERTE STRATEGIEAUSWAHL
4. FAZIT



Abstract

BACKGROUND: Over time, the percentage of dental implants that fail increases because of biological and technical issues. Inevitably, clinicians will dedicate more time to dealing with ailing and failing dental implants.

METHODS: The authors searched the literature for articles that addressed diagnostic manifestations of failed implants and reasons for their demise, as well as survival rates of dental implant reimplantations.

RESULTS: The authors found that there is no precise cut point (besides 100 percent) with regard to the amount of bone loss in the absence of mobility that indicates an implant has failed. The decision to treat or explant an ailing implant is a judgment call by the treating clinician. Survival rates found in the literature after first and second reimplantations ranged from 71 percent to 100 percent and 50 percent to 100 percent, respectively. The 100 percent findings were based on small groups of implants, and there were scant data addressing implant survival after second reimplantations.

CONCLUSIONS: The decision to remove an implant needs to be based on clinical assessments, radiographic evaluations or both. If the implant is deemed hopeless, there are devices that facilitate their removal. Furthermore, reimplantations can be performed successfully, but their survival rate appears to be lower than that of implants placed at sites from which they were not lost formerly.

PRACTICAL IMPLICATIONS: Ailing dental implants should not be condemned prematurely, because patients often respond to treatment of peri-implantitis. Many patients desire reimplantations in sites in which implants have failed. This procedure is valuable, especially if it makes possible the fabrication of an implant-supported fixed or removable prosthesis.



Abstract

OBJECTIVES: To review and summarize the literature concerning peri-implantitis diagnostic parameters and to propose guidelines for peri-implantitis diagnosis.

MATERIAL AND METHODS: An electronic literature search was conducted of the MEDLINE (Ovid) and EMBASE databases for articles published between 2011 and 2016. Sequential screening at the title/abstract and full-text levels was performed. Systematic reviews/guidelines of consensus conferences proposing classification or suggesting diagnostic parameters for peri-implantitis in the English language were included. The review was recorded on PROSPERO system with the code CRD42016033287.

RESULTS: The search resulted in 10 articles that met the inclusion criteria. Four were papers from consensus conferences, two recommended diagnostic guidelines, three proposed classification of peri-implantitis, and one suggested an index for implant success. The following parameters were suggested to be used for peri-implantitis diagnosis: pain, mobility, bleeding on probing, probing depth, suppuration/exudate, and radiographic bone loss. In all of the papers, different definitions of peri-implantitis or implant success, as well as different thresholds for the above mentioned clinical and radiographical parameters, were used. Current evidence rationale for the diagnosis of peri-implantitis and classification based on consecutive evaluation of soft-tissue conditions and the amount of bone loss were suggested.

CONCLUSIONS: Currently there is no single uniform definition of peri-implantitis or the parameters that should be used. Rationale for diagnosis and prognosis of peri-implantitis as well as classification of the disease is proposed.



Symptome: Lockerung, Pus - Sekretion, Schmerz auf Belastung

Entscheidung: Mit dem Patienten für / wieder Erhaltversuch

Konsequenz: Wenn kein Erhaltversuch sinnvoll
—> Entfernung mit / ohne Regeneration



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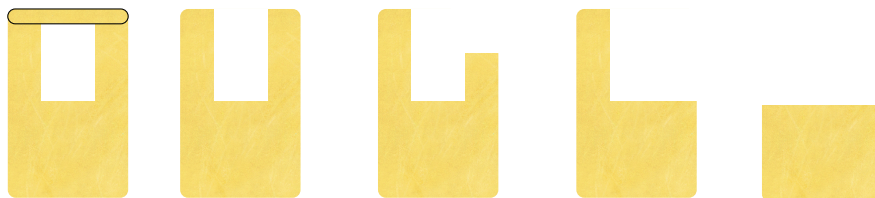


HANDLUNGSOPTIONEN

	Nur entfernen	Kieferkamm erhalten	Kieferkamm augmentieren
Dafür	Schnell, „Billig“, Infektion kann ausheilen	Schnell, moderater Mitteleinsatz	Größtmöglicher Hart- und Weichgewebsgewinn
Dagegen	Hart- und Weichgewebsverlust	Fremdmateriale in Infektion, Größere Defekte können nicht regeneriert werden	Fremdmateriale in Infektion, Planungsaufwand, finanzieller Aufwand
Folge	Alveolarkamm kollabiert	Erhalt der vorhandenen Gewebe kann erreicht werden	Erfolg: Implantierfähiges Lager Misserfolg: Muss nachaugmentiert werden



Defekt - Biologie

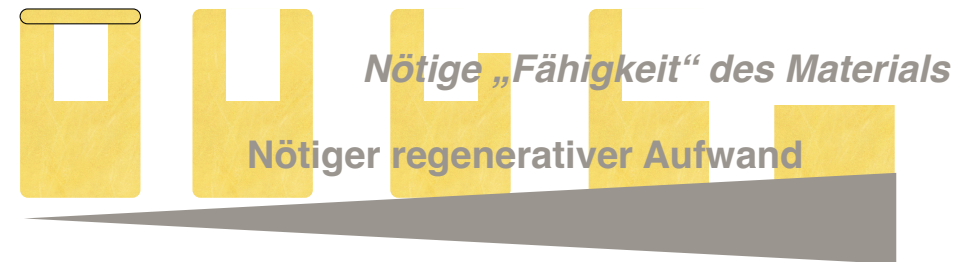


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Regenerationspotential



Defekt - Biologie



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Regenerationspotential

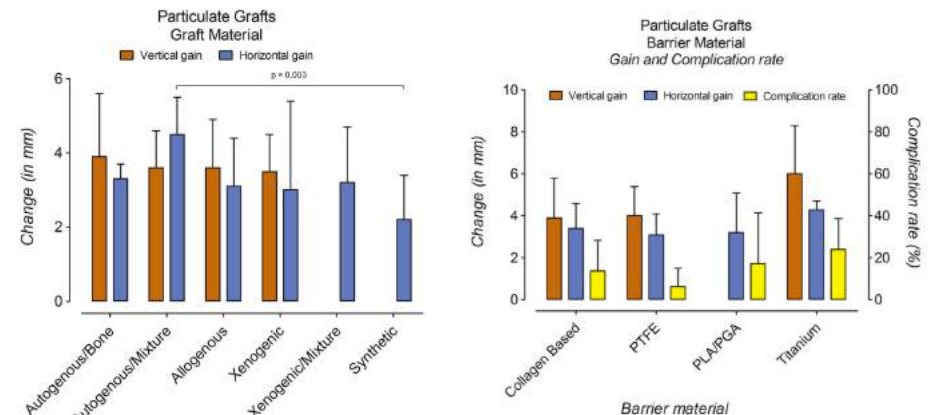
Defekt - Biologie

Nötige „Fähigkeit“ des Chirurgen

Nötiger regenerativer Aufwand

+++

Regenerationpotential



Troeltzsch M, et al., Clinical efficacy of grafting materials in alveolar ridge augmentation: A systematic review; Journal of Cranio-Maxillo-Facial Surgery 2016

Int J Periodontics Restorative Dent. 2005 Feb;25(1):19-25.

Reduction of autogenous bone graft resorption by means of bio-oss coverage: a prospective study.

Malorano C¹, Beretta M, Salina S, Santoro F.

[Author information](#)

¹ Department of Oral Surgery, University of Milan School of Dentistry.

Abstract

Bone grafting may be required prior to implant placement, at the time of implant placement, or subsequent to it. The aim of this study was to compare the healing of onlay block grafts when deproteinized bovine bone coverage was used with the healing of the grafts without such coverage. The purpose was a clinical evaluation of deproteinized bovine bone's ability to reduce grafted bone resorption. The results indicated that bovine bone can be placed over grafted areas, taking advantage of its osteoconductive properties and compensating for the natural bone resorption caused by remodeling.

Int J Oral Maxillofac Implants. 2002 Mar-Apr;17(2):238-48.

The use of ramus autogenous block grafts for vertical alveolar ridge augmentation and implant placement: a pilot study.

Proussaefs P¹, Lorzada J, Kleinman A, Rohrer MD.

[Author information](#)

¹ School of Dentistry, Graduate Program in Implant Dentistry, Loma Linda University, California 92350, USA. pProussaefs@hotmail.com

[Author info](#)

¹ Departme

Abstract

PURPOSE: This study presents a clinical, radiographic, laboratory, and histologic/histomorphometric analysis of the use of mandibular ramus block autografts for vertical alveolar ridge augmentation and implant placement.

MATERIALS AND METHODS: Autogenous block autografts were fixed at the recipient site with fixation screws while a mixture of autogenous bone marrow and inorganic bovine material (Bio-Oss) was used at the periphery. All grafts appeared well incorporated at the recipient site during reentry surgery.

RESULTS: Radiographic measurements revealed an average of 6.12 mm vertical ridge augmentation 1 month after surgery and 5.12 mm 4 to 6 months after surgery. Laboratory volumetric measurements revealed an average of 0.91 mL alveolar ridge augmentation 1 month after surgery and 0.75 mL 6 months postoperatively. Linear laboratory measurements revealed 6.12 mm of vertical ridge augmentation 1 month postoperatively and 4.37 mm 4 to 6 months after surgery. Histologic evaluation indicated signs of active remodeling in all the specimens. Histomorphometric analysis of the peripheral particulate bone indicated bone present at 34.33% of the grafted area, while 42.17% of the area was occupied by fibrous tissue and 23.50% by residual Bio-Oss particles.

DISCUSSION: The results demonstrated the potential of mandibular block autografts harvested from the ascending ramus to maintain their vitality. Volumetric resorption rate of 17.58% and radiographic resorption rate of 16.34% were in accordance with previously published literature. Early exposure appeared to compromise the results, while late exposures did not affect the vitality of the block autografts.

CONCLUSION: Mandibular block autografts can maintain their vitality when used for vertical alveolar ridge augmentation. Inorganic bovine mineral (Bio-Oss) can be used at the periphery of the block graft when mixed with autogenous bone marrow.

TroeltzschBrothers
Erfolg durch Wissen

Int. J. Oral Maxillofac. Implants, 2002 Mar-Apr;17(2):236-48.

The use of ramus autogenous block grafts for vertical alveolar ridge augmentation and implant placement: a pilot study.

Reduction study.

Maier C¹, Be...

Author info

1 Department...

Abstract

Bone grafting r... compare the h... coverage. The... indicated that t... natural bone re...

PURPOSE

block aut...

MATERIAL

bone mar... during res...

RESULTS

6 months... surgery at... postopera... Histomorph... was occur...

DISCUSS

vitality. V... literature...

CONCLUS

mineral (t...

Abstract

Maestre-Ferrin L¹, Boronat-López A, Peñarrocha-Diogo M, Peñarrocha-Diogo M.

Author information

1 Valencia University Medical and Dental School, Valencia, Spain.

Abstract

The purpose of this review was to analyze publications related to augmentation procedures using autologous onlay grafts and to evaluate the survival/success rates of implants placed in the augmented areas. An automated search was made in Medline, of clinical publications from 2002 to 2007, including at least 5 patients and with a minimum follow-up of 6 months. Ten papers were included. These suggested that grafts are indicated when the height of the alveolar crest is less than 5mm, or the width less than 4mm. The surface resorption of grafts protected by guided bone regeneration membranes was less than for unprotected grafts. Calvarial grafts suffered less resorption than did iliac grafts. The healing period of the graft until implant placement was, in most cases, 4-6 months. The most frequent complications in the recipient site were wound dehiscences. Prosthetic loading time was, in almost all patients, 3 months after implant placement. Implant survival rate ranged from 97.1% to 100%. Although, due to the difficulty in finding homogenous studies, the sample is small, we can conclude that autologous onlay block bone grafts are an effective procedure for alveolar crest augmentation; graft surface resorption is reduced when the grafts are protected by regeneration membranes; few complications arise from the procedure; and the success rate for implants placed in the reconstructed area is between 89.5 and 95.7%.

TroeltzschBrothers
Erfolg durch Wissen

HANDLUNGSOPTIONEN

TroeltzschBrothers
Erfolg durch Wissen

HANDLUNGSOPTIONEN

	Nur entfernen	Kieferkamm erhalten	Kieferkamm augmentieren
Indiziert	Schwere Infektion, Kaum vorhandenes Gewebe, Medizinische Risikofaktoren, Habits	Infektion, vorhandenes Restgewebe, Patient Compliant	Grosser Defekt, nicht Infiziert, Patient gesund, Patient Compliant
Kontraindiziert	Restgewebe vorhanden, nicht Infiziert, Patient gesund	Schwere Infektion, kaum vorhandenes Gewebe, medizinische Risikofaktoren, Habits	Schwere Infektion, nicht mobilisierbares Weichgewebe, medizinische Risikofaktoren, Habits
Material	—	DBBM - C & Resorbierbare Kollagenmembran & PRF	Individuelles Titangitter / Schalentechnik & Partikuläres Material & Resorbierbare Kollagenmembran & PRF

TroeltzschBrothers
Erfolg durch Wissen

Volumen

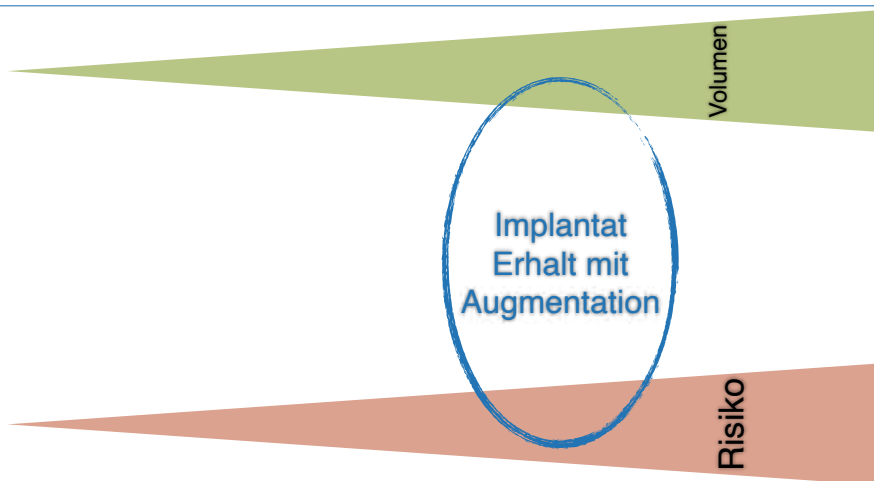
Risiko

Nur entfernen

Erhalt des Kieferkamms mit „Ridge Preservation“

Implantat Erhalt mit Augmentation

Kieferkamm weiter augmentieren



diamond burs, polishers, plastic and metal hand instruments, air scaler and air flow devices

Kister et. al, 2017

<https://pubmed.ncbi.nlm.nih.gov/27832905/>

nonsurgical (mechanical, antiseptic, and antibiotics), surface decontamination (chemical and laser), and surgical (air powder abrasive, resective, and regenerative)

Rokoya et. al, 2020

<https://pubmed.ncbi.nlm.nih.gov/32882741/>

The current evidence indicates that regenerative approaches to treat peri-implant defects are unpredictable.

Rokoya et. al, 2020

<https://pubmed.ncbi.nlm.nih.gov/32882741/>

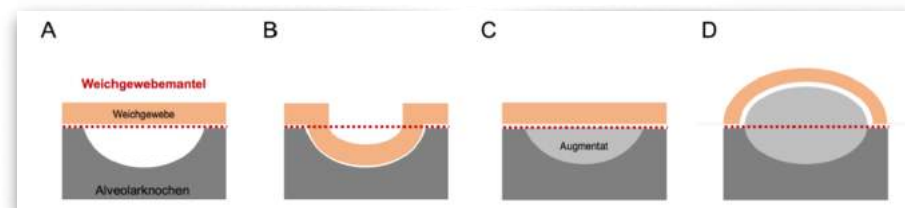
Treatment of Peri-implantitis-Electrolytic Cleaning Versus Mechanical and Electrolytic Cleaning-A Randomized Controlled Clinical Trial-Six-Month Results

Schlee et. al, 2020 <https://pubmed.ncbi.nlm.nih.gov/31703404/>

The present randomized clinical trial assesses the six-month outcomes following surgical regenerative therapy of periimplantitis lesions using either an electrolytic method (EC) to remove biofilms or a combination of powder spray and electrolytic method (PEC).

EC needs no further mechanical cleaning by powder spray. Complete re-osseointegration in peri-implantitis cases is possible

DEFEKT - BIOLOGIE



HANDLUNGSOPTIONEN

	Nur entfernen	Kieferkamm erhalten	Implantatrettung	Kieferkamm augmentieren
Dafür	Schnell, „Billig“, Infektion kann ausheilen	Schnell, moderater Mitteleinsatz	Implantat und Suprakonstruktion können erhalten bleiben	Größtmöglicher Hart- und Weichgewebsgewinn
Dagegen	Hart- und Weichgewebsverlust	Fremdmateriale in Infektion, Größere Defekte können nicht regeneriert werden	Erfolg nicht garantiert	Fremdmateriale in Infektion, Planungsaufwand, finanzieller Aufwand
Folge	Alveolarkamm kollabiert	Erhalt der vorhandenen Gewebe kann erreicht werden	Bei Erfolg günstigste Lösung ! Bei Misserfolg evtl partielle Verkleinerung des Defekts	Erfolg: Implantierfähiges Lager Misserfolg: Muss nachaugmentiert werden

HANDLUNGSOPTIONEN

	Nur entfernen	Kieferkamm erhalten	Implantatrettung	Kieferkamm augmentieren
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Material	—	DBBM - C & Resorbierbare Kollagenmembran & PRF	Reinigungsmethode, DBBM - C & Resorbierbare Kollagenmembran & PRF	Individuelles Titangitter / Schalenteknik & Partikuläres Material & Resorbierbare Kollagenmembran & PRF

HANDLUNGSOPTIONEN

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Material	—	DBBM - C & Resorbierbare Kollagenmembran & PRF	Reinigungsmethode, DBBM - C & Resorbierbare Kollagenmembran & PRF	Individuelles Titangitter / Schalentchnik & Partikuläres Material & Resorbierbare Kollagenmembran & PRF

HANDLUNGSOPTIONEN

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Material	—	DBBM - C & Resorbierbare Kollagenmembran & PRF	Reinigungsmethode, DBBM - C & Resorbierbare Kollagenmembran & PRF	Individuelles Titangitter / Schalentchnik & Partikuläres Material & Resorbierbare Kollagenmembran & PRF

„Ridge Preservation“

Lokal:

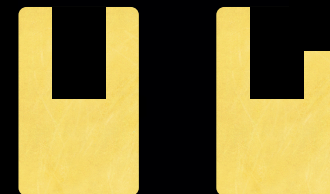
Infektstatus
Defektbiologie

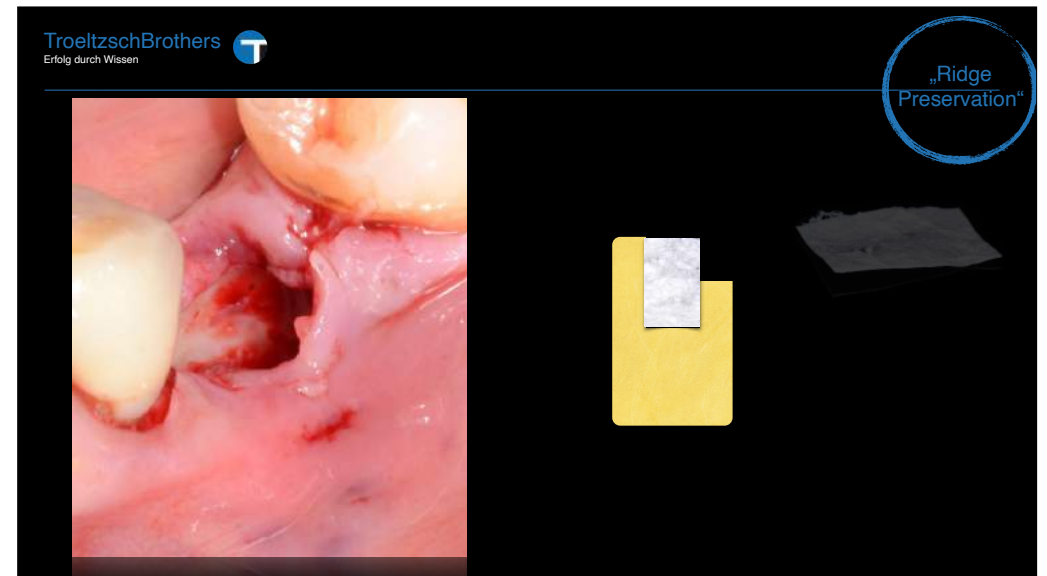
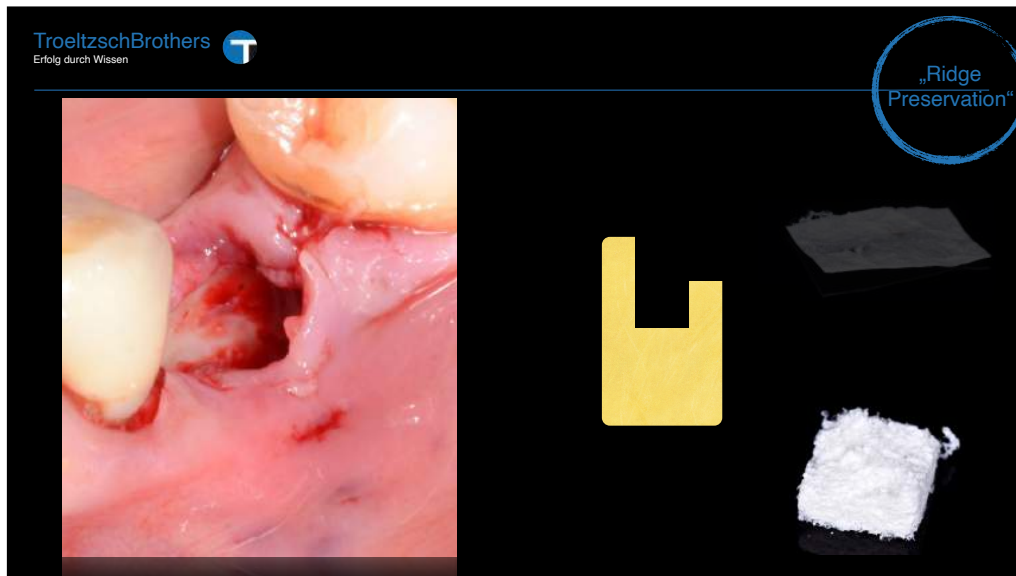
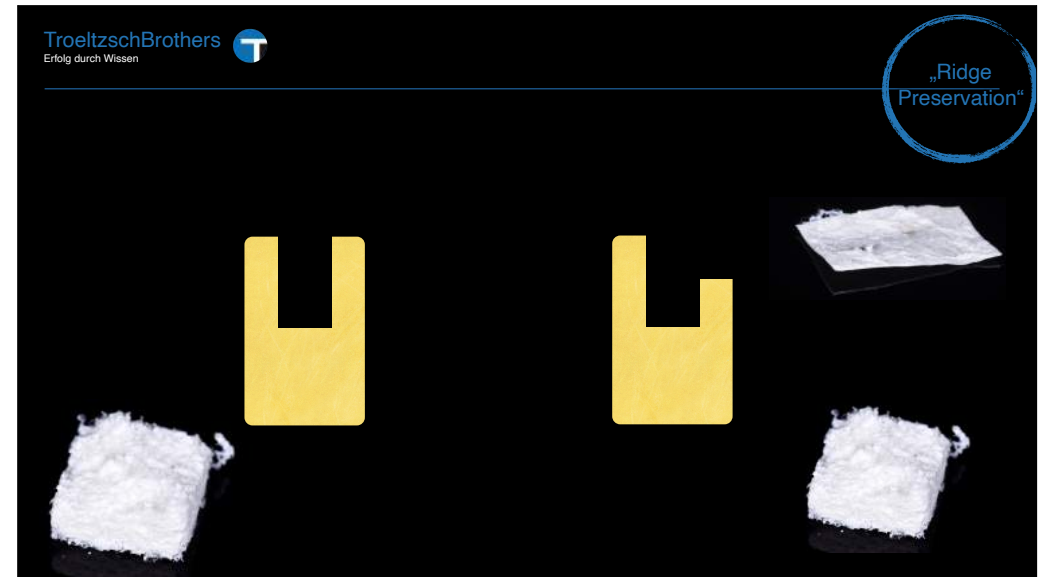
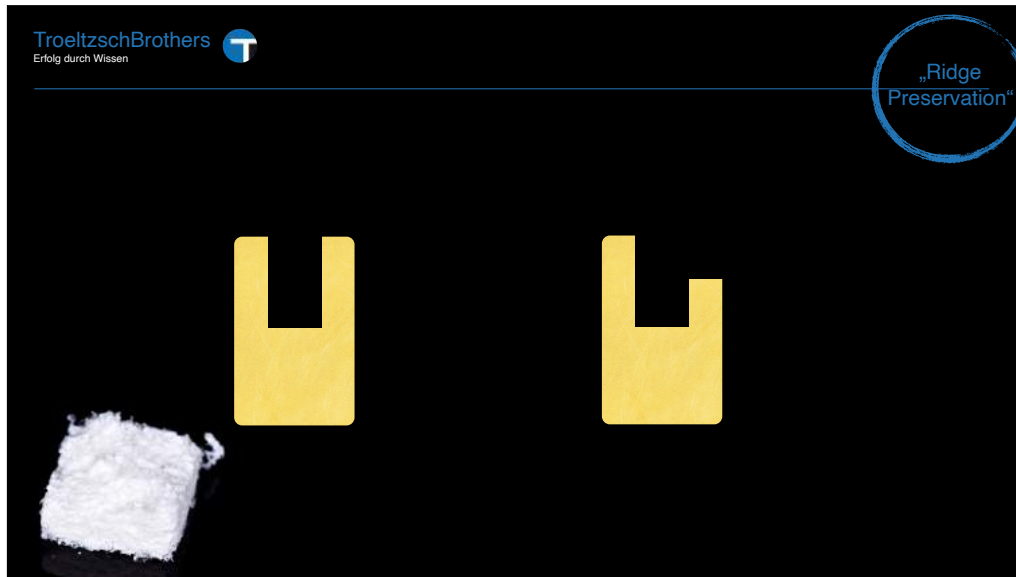
Generell:

Gesundheitszustand des Patienten
Compliance des Patienten
Fähigkeit des Chirurgen
Materialauswahl



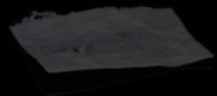
„Ridge Preservation“



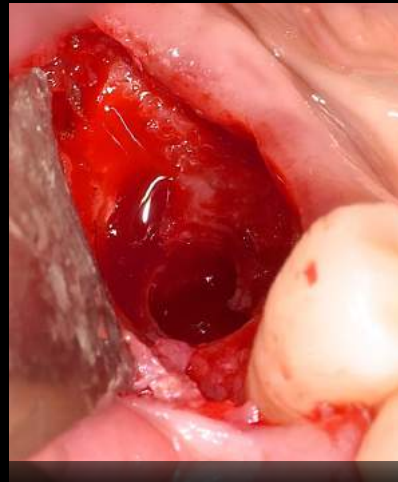




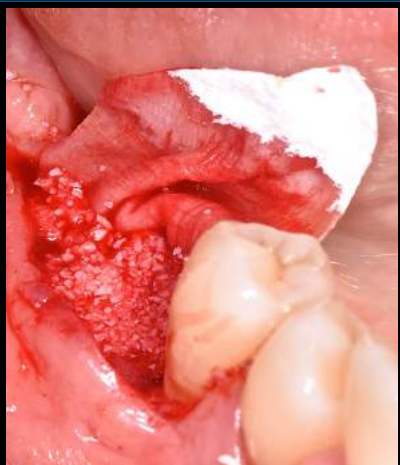
„Ridge
Preservation“



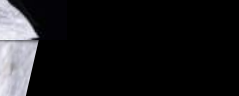
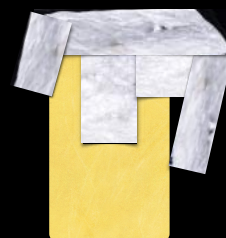
„Ridge
Preservation“



„Ridge
Preservation“



„Ridge
Preservation“





„Ridge
Preservation“



„Ridge
Preservation“



Kieferkamm
augmentieren

Lokal:

Infektstatus
Defektbiologie

Generell:

Gesundheitszustand des Patienten
Compliance des Patienten
Fähigkeit des Chirurgen
Materialauswahl



Kieferkamm
augmentieren



1. VERLUSTURSACHEN

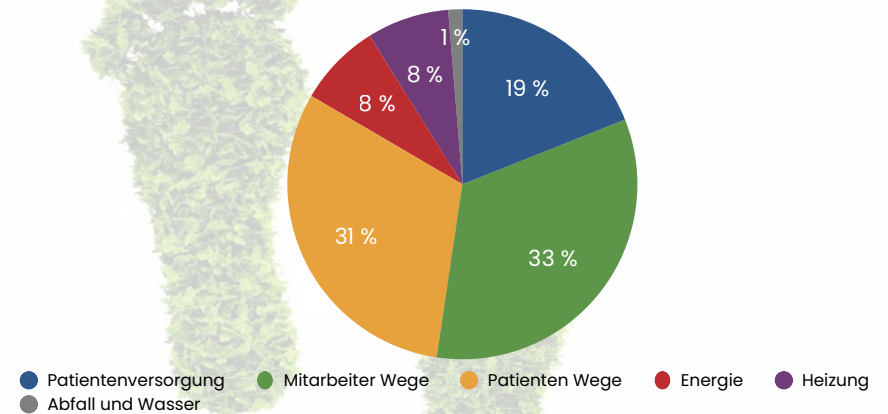
2. WELCHE IMPLANTATE SIND
NICHT ZU RETTEN

3. SITUATIONSORIENTIERTE
STRATEGIEAUSWAHL

4. FAZIT

Footprint

2014: 675,706 tCO₂e



Reduzieren

Qualität

Hochqualitative
Behandlung verringert die
Schritte und ist damit
nachhaltig und präventiv

Prävention

Eine Erkrankung zu
verhindern ist die
nachhaltigste Art diese zu
Behandeln.



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11 Schritte für morgen

Wir geben diese Informationen weiter, um medizinisches Fachpersonal dabei zu unterstützen, sofortige Maßnahmen in Richtung Nachhaltigkeit zu ergreifen. Diese Schritte können morgen ohne erhebliche Investitionen unternommen werden und können einen bedeutenden Beitrag zur Reduzierung der Umweltauswirkungen von Gesundheitspraktiken leisten. Durch die Umsetzung dieser Schritte können medizinische Fachkräfte den Energie- und

11 steps for tomorrow

We give this information forward to support healthcare professionals in taking immediate action towards sustainability. These steps can be taken tomorrow without significant investments and can make a meaningful impact on reducing the environmental impact of healthcare practices. By implementing

11 pași pentru mâine

Daștem aceste informații pentru a sprijini profesioniștii din domeniul sănătății în luarea unor măsuri imediate pentru durabilitate. Aceste pași pot fi luați mâine fără investiții semnificative și pot avea un impact semnificativ asupra reducerii impactului asupra mediului al practicii de sănătate. Prin implementarea



In der Vollmitgliedschaft:

- greenviu footprint calculator
- Individuelle Berechnung und Verbesserungstipps
- Nachhaltiger Hygiene Kurs
- NEU! Ausbildung zum Nachhaltigkeitsmanager
- Produktrabatte über unsere Partner
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RISIKOFAKTOREN

Funktion	Medizin	Habits	Chirurg
KFO	PPI & SSRI	Rauchen	Positionierung
Bruxismus	Antiresorptiva & Bestrahlung	Mundhygiene / Karies	Augmentation
Störkontakt	Stoffwechselerkrankungen	Incompliance	Hart und Weichgewebe
	Parodontitis / Periimplantitis		Implantatform und Belastungsform



RISIKOFAKTOREN IM DEMOGRAPHISCHEN WANDEL

Funktion	Medizin	Habits	Chirurg
KFO	PPI & SSRI	Rauchen	Positionierung
Bruxismus	Antiresorptiva & Bestrahlung	Mundhygiene / Karies	Augmentation
Störkontakt	Stoffwechselerkrankungen	Incompliance	Hart und Weichgewebe
	Parodontitis / Periimplantitis		Implantatform und Belastungsform



HANDLUNGSOPTIONEN

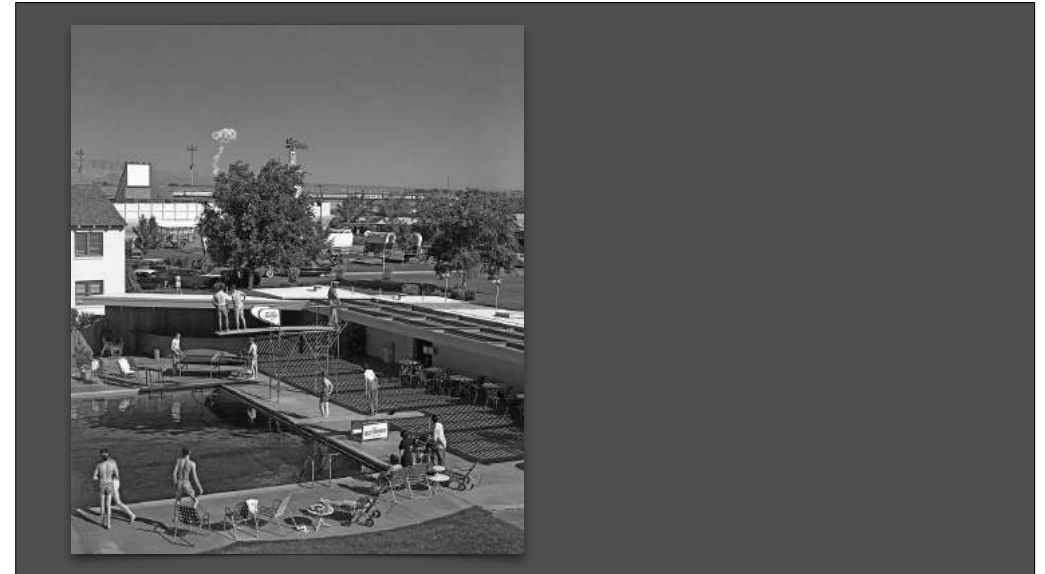
	Nur entfernen	Kieferkamm erhalten	Implantatrettung	Kieferkamm augmentieren
Dafür	Schnell, „Billig“, Infektion kann ausheilen	Schnell, moderater Mitteleinsatz	Implantat und Suprakonstruktion können erhalten bleiben	Größtmöglicher Hart- und Weichgewebsgewinn
Dagegen	Hart- und Weichgewebsverlust	Fremdmateriale in Infektion, Größere Defekte können nicht regeneriert werden	Erfolg nicht garantiert	Fremdmateriale in Infektion, Planungsaufwand, finanzieller Aufwand
Folge	Alveolarkamm kollabiert	Erhalt der vorhandenen Gewebe kann erreicht werden	Bei Erfolg günstigste Lösung! Bei Misserfolg evtl partielle Verkleinerung des Defekts	Erfolg: Implantierfähiges Lager Misserfolg: Muss nachaugmentiert werden



HANDLUNGSOPTIONEN

	Nur entfernen	Kieferkamm erhalten	Implantatrettung	Kieferkamm augmentieren
Indiziert	Schwere Infektion, Kaum vorhandenes Gewebe, Medizinische Risikofaktoren, Habits	Infektion, vorhandenes Restgewebe, Patient Compliant	Schwere Infektion, Regenerierbarer ossärer Bestand, Supra abnehmbar	Grosser Defekt, nicht Infiziert, Patient gesund, Patient Compliant
Kontraindiziert	Restgewebe vorhanden, nicht Infiziert, Patient gesund	Schwere Infektion, kaum vorhandenes Gewebe, medizinische Risikofaktoren, Habits	Erwartungen des Patienten	Schwere Infektion, nicht mobilisierbares Weichgewebe, medizinische Risikofaktoren, Habits
Material	—	DBBM - C & Resorbierbare Kollagenmembran & PRF	Reinigungsmethode, DBBM - C & Resorbierbare Kollagenmembran & PRF	Individuelles Titangitter / Schalentechnik & Partikuläres Material & Resorbierbare Kollagenmembran & PRF





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ENTFERNUNG

