

## Bijlage 4

### Beschrijvende tabel en 'GRADE' tabellen 'behandeling van peri-implantaire mucositis'

Beschrijvende tabel studies 'peri-implantaire mucositis'						
Study reference	Study characteristics	Patient characteristics	Intervention	Comparison/Control	Follow up	Outcome measures and effect size
<i>Patient-administered plaque control measures: Powered toothbrushing (I) versus manual toothbrushing (C)</i>						
Swierkot, 2013 <sup>mu1</sup>	<p><u>Type of study:</u> RCT, parallel</p> <p><u>Setting:</u> University</p> <p><u>Country:</u> Germany</p> <p><u>Source of funding:</u> Industry</p>	<p><u>Inclusion criteria</u> Patients with PPD <math>\geq</math> 5mm with BOP and no bone loss.</p> <p><u>Exclusion criteria:</u> Unknown</p> <p><u>N total at baseline:</u> N=83</p>	<p><u>Intervention:</u> Patients received power-driven brush (Philips Sonicare); toothbrushing according to manufacturer's instructions.</p> <p><u>Procedure:</u> All patients brushed for 2 min 2x/day with Colgate Total" during the study period . They were not allowed to chew gum, use mouth rinses, dental floss or other oral hygiene devices during the study period. OHI at every visit (3,6,9 and 12 months).</p>	<p><u>Control intervention:</u> Patients performed manual toothbrushing (Oral-B); brushing according to the modified Bass technique.</p>	<p><u>Length of follow up:</u> 12 months</p> <p><u>Loss to follow up:</u> N=12</p>	<p><u>Outcome measures:</u> Bleeding on probing (BOP)</p> <p><u>Effect</u> <u>BOP:</u> No statistically significant differences (<math>p &gt; 0.05</math>) between groups (any of the outcome parameters).</p> <p><u>Other measures in study:</u> Plaque index (PI) Pocket depth (PD) Gingival index (GI) Mucosal recession (REC) Probing attachment level (PAL)</p>
<i>Patient-administered plaque control measures: Toothbrushing with antiseptic gel or special toothpaste (I) versus conventional toothpaste (C)</i>						
Ramberg, 2009 <sup>mu2</sup>	<p><u>Type of study:</u> RCT, double-blind, parallel</p> <p><u>Setting:</u> University, private practice</p> <p><u>Country:</u> Sweden, Italy</p> <p><u>Source of funding:</u> industry</p>	<p><u>Inclusion criteria:</u> Patients with treated periodontitis, having lost teeth due to periodontal disease and restored with <math>\geq</math> 2 implants with <math>\geq</math> 1 implant site with BOP</p> <p><u>Exclusion criteria:</u> Patients with untreated periodontal disease or peri-implantitis; with carious lesions requiring immediate restorative treatment; with use of antibiotics 1 month prior to study; being pregnant or breast feeding; with a</p>	<p><u>Intervention:</u> Patients received/performed brushing of teeth and implant restorations 2x/day for 1 min with a soft-bristled toothbrush and toothpaste containing 0.3%triclosan/ 2% copolymer.</p> <p><u>Procedure:</u> Patients received OHI and information to use only the assigned toothpaste for 6 months. No restrictions with respect to dietary and smoking habits during 6 months.</p>	<p><u>Control intervention:</u> Patients received/performed brushing of teeth and implant restorations 2x a day for 1 min. with a soft bristled toothbrush and a sodium fluoride silica base toothpaste.</p>	<p><u>Length of follow up:</u> 6 months</p> <p><u>Loss to follow up:</u> N=0</p>	<p><u>Outcome measures:</u> Bleeding on probing (BOP)</p> <p><u>Effect</u> <u>BOP:</u> I: 53.8% to 29.1% C: 52.3% to 58.8% <math>p &lt; 0.001</math></p> <p><u>Other measures in study:</u> Pocket depth (PD) Presence of plaque</p>

		<p>history of allergies to personal care/consumer products or their ingredients; with medical conditions prohibiting not eating/drinking for up to 2 hours; with uncontrolled diabetes; with regular use of anti-inflammatory drugs.</p> <p><u>N total at baseline:</u> N=59</p>				
Heitz-Mayfield, 2011 <sup>mu3</sup>	<p><u>Type of study:</u> RCT, multicenter, parallel</p> <p><u>Setting:</u> University, private practice</p> <p><u>Country:</u> Australia, Switzerland, Italy</p> <p><u>Source of funding:</u> Research grant of the International Team of Implantology (ITI) and the Clinical Research Foundation for the Promotion of Oral Health, Switzerland.</p>	<p><u>Inclusion criteria:</u> Patients with 1 implant diagnosed with peri-implant mucositis (BOP with no loss of supporting bone).</p> <p><u>Exclusion criteria:</u> Smokers (&gt; 20 cigarettes /day); uncontrolled diabetes; inadequate oral hygiene (FMPS &gt; 25%); untreated periodontitis.</p> <p><u>N total at baseline:</u> N=29</p>	<p><u>Intervention:</u> Patients were instructed to brush around the implant twice daily using 1cm of 0.5% CHX gel for a period of 4 weeks (blinded bottle)</p> <p><u>Procedure:</u> Following baseline measurements implants in both groups were mechanical debrided (using titanium-coated curettes or carbon fibre curettes + prophylaxis with rubber cup and polishing paste) . No maintenance during follow up.</p>	<p><u>Control intervention:</u> Patients were instructed to brush around the implant twice daily using 1cm of placebo gel for a period of 4 weeks (blinded bottle)</p>	<p><u>Length of follow up:</u> 3 months</p> <p><u>Loss to follow up:</u> N=0</p>	<p><u>Outcome measures:</u> Bleeding on probing (BOP)</p> <p><u>Effect:</u> <i>BOP (mean number of sites):</i> I: 2.5 (1.0) to 1.2 (0.9) at 1 month to 1.1 (0.9) at 3 months C: 2.3 (1.0) to 1.0 (1.0) at 1 month to 0.7 (0.9) at 3 months</p> <p>No differences in change in BOP between groups at 1 or 3 months (p&gt;0.1).</p> <p><u>Other measures in study:</u> Pocket depth (PD) Suppuration Presence of plaque Microbiological parameters</p>
<i>Patient-administered plaque control measures: Adjunctive antiseptic mouthrinse (I) versus placebo (C)</i>						
Ciancio, 1995 <sup>mu4</sup>	<p><u>Type of study:</u> RCT, double-blind, parallel</p> <p><u>Setting:</u> University</p> <p><u>Country:</u> USA</p> <p><u>Source of funding:</u> Industry</p>	<p><u>Inclusion criteria:</u> Patients with good general health, with ≥ 2 dental implants with bleeding on probing, a mean modified gingival index &gt; 1.5 and a mean plaque index &gt; 1.7.</p> <p><u>Exclusion criteria:</u> Orthodontic appliances; diabetes; gross oral pathology; requiring prophylactic antibiotic coverage for dental</p>	<p><u>Intervention:</u> Patients received/ performed normal oral hygiene, rinse 2x/day for 30 sec with 20 ml of an essential oil mouthrinse (Listerine).</p>	<p><u>Control intervention:</u> Patients received/performed normal oral hygiene, rinse 2x/day for 30 sec with 5% hydroalcohol placebo mouthrinse.</p>	<p><u>Length of follow up:</u> 3 months</p> <p><u>Loss to follow up:</u> N=0</p>	<p><u>Outcome measures:</u> Ainamo and Bay bleeding index (BI)</p> <p><u>Effect:</u> <i>BI:</i> I: 0.56 ± 0.02 to 0.30 ± 0.06 C: 0.65 ± 0.06 to 0.50 ± 0.06 <i>p&lt;0.01</i></p> <p>Twice daily use of an antiseptic mouthrinse may provide benefits in the maintenance of dental implants.</p>

		treatment.  <u>N total at baseline:</u> N=20				<u>Other measures in study:</u> Pocket depth (PD) Plaque index (PI) Modified gingival index (mGI) Clinical attachment level (CAL)
<i>Patient-administered plaque control measures: Adjunctive antiseptic mouthrinse (I) versus antiseptic gel (C)</i>						
De Siena, 2013 <sup>mus</sup>	<u>Type of study:</u> RCT, parallel  <u>Setting:</u> Research institute  <u>Country:</u> Italy  <u>Source of funding:</u> industry	<u>Inclusion criteria</u> Patients with a full-arch reconstruction supported by four implants placed in the intraforaminal region in the mandible or in anterior maxilla with distal cantilever extensions. Implants with bleeding on probing or spontaneous bleeding with local swelling, plaque accumulation at the implant-abument level, peri-implant radiographic bone resorption < 3mm.  <u>Exclusion criteria:</u> Antibiotic treatment within 6 months before beginning of the study; topical antimicrobial treatment within 4 weeks before beginning of the study; presence of active infection with suppuration; presence of peri-implant bone loss 3 mm (calculated since definitive prosthesis placement) evaluated through the use of periapical radiographs with individualized holder; uncontrolled diabetes mellitus.  <u>N total at baseline:</u> N=30	<u>Intervention:</u> Mechanical debridement at baseline + patients received/performed rinsing for 1 min with 10 ml of a 0.2% CHX solution with antidiscoloration system (ADS) 2x/day for 10 days.  <u>Procedure:</u> Patients were advised not to modify their usual oral hygiene manoeuvres during the test period.	<u>Control intervention:</u> Mechanical debridement at baseline + patients received/performed application of 1% CHX gel with ADS with tips for self- administration in the pockets 2x/day for 10 days.	<u>Length of follow up:</u> 3 months  <u>Loss to follow up:</u> N=7	<u>Outcome measures:</u> Bleeding index (BI)  <u>Effect:</u> <i>BI (% of implants with score 0):</i> I: 0% to 69.2% C: 0% to 60%  No statistically significant differences ( $p > 0.05$ ) between groups at any time point. In both groups after 10 days a significant reduction from baseline .  <u>Other measures in study:</u> Plaque index (PI) Pocket depth (PD) Presence of suppuration Patient satisfaction Presence of discoloration
<i>Patient-administered plaque control measures: Adjunctive antiseptic power irrigation (I) versus antiseptic mouthrinse (C)</i>						
Felo, 1997 <sup>mu6</sup>	<u>Type of study:</u>	<u>Inclusion criteria:</u>	<u>Intervention:</u>	<u>Control intervention:</u>	<u>Length of follow up:</u> 3 months	<u>Outcome measures:</u> Ainamo and Bay bleeding index (BI)

	<p>RCT, double-blind, parallel</p> <p><u>Setting:</u> Department of Veteran Affairs</p> <p><u>Country:</u> USA</p> <p><u>Source of funding:</u> Industry</p>	<p>Patients with <math>\geq 2</math> dental implants supporting complete dentures with bleeding mean gingival index <math>&gt; 1.5</math>, plaque index <math>&gt;1.5</math> and PD <math>\leq 3</math> mm.</p> <p><u>Exclusion criteria:</u> Unknown</p> <p><u>N total at baseline:</u> N=24</p>	<p>Patients received/ performed normal oral hygiene with soft toothbrush (oral-B) and Colgate toothpaste + irrigation with 100ml of 0.06% CHX applied submucosally with power irrigator 1x/day.</p> <p><u>Procedure:</u> All patients received mechanical debridement at baseline.</p>	<p>Patients received/ performed normal oral hygiene with soft toothbrush (oral-B) and Colgate toothpaste + rinsing with 2 ml of 0.12% CHX 1x/day.</p>	<p><u>Loss to follow up:</u> N=0</p>	<p><u>Effect:</u> <i>BI (decrease):</i> I: 62% C: 33% <math>p=0.12</math></p> <p><u>Other measures in study:</u> Plaque Index (PI) Modified gingival Index (mGI) Staining index (SI) Calculus Index (CI)</p>
<b>Professional-administered plaque removal with or without adjunctive measures for biofilm removal: Air-abrasive device (I) versus manual/mechanical debridement (C)</b>						
<p>Ji, 2014<sup>mu7</sup></p>	<p><u>Type of study:</u> RCT, parallel</p> <p><u>Setting:</u> University</p> <p><u>Country:</u> China</p> <p><u>Source of funding:</u> Jian De United Dental Equipment Co. providing EMS AIR-FLOW master" and AIR-FLOW Perio" powder</p>	<p><u>Inclusion criteria:</u> Patients with at least one implant site with PD <math>\geq 4</math>mm and BOP positive, molar or premolar site, with no detectable loss of supporting bone as compared with periapical radiographs immediately after restoration. Only one implant system was selected (Straumann, Standard implant, SLA surface).</p> <p><u>Exclusion criteria:</u> Smokers; patients with systemic diseases (e.g. diabetes mellitus and osteoporosis) that might affect the study outcomes; peri-implant treatment within last 6 months; need of antibiotic treatment</p> <p><u>N total at baseline:</u> N=24</p>	<p><u>Intervention:</u> OHI + mechanical debridement (ultrasonic scaler with carbon fibre tips) + (on sites with PD <math>\geq 4</math> mm) air abrasive device, glycine powder.</p> <p>Before grouping, all the implants were treated by the examiner using ultrasonic scaler with carbon fiber tips. Only implants in the test group were further treated by the air abrasive device. During the follow-up visits, oral hygiene instruction (OHI) was reinforced when necessary. Outcome measures were re-examined at the 1- and 3-month post-treatment visits.</p>	<p><u>Control intervention:</u> OHI + mechanical debridement (ultrasonic scaler with carbon fibre tips).</p>	<p><u>Length of follow up:</u> 3 months</p> <p><u>Loss to follow up:</u> N=0</p>	<p><u>Outcome measures:</u> Modified bleeding index (mBI)</p> <p><u>Effect:</u> <i>mBI:</i> I: 1.4 (0.57) to 1.1 (0.58) C: 1.5 (0.65) to 1.0 (0.85) <i>n.s.</i></p> <p><i>Sites without bleeding:</i> I: 29.3% C: 42.1% <math>p=0.01</math></p> <p>non-surgical mechanical debridement may effectively control peri-implant mucositis, and adjunctive air-abrasive treatment seems to have a limited beneficial effect as compared with mechanical debridement alone.</p> <p><u>Other measures in study:</u> Modified plaque index (mPI) Pocket depth (PD)</p>
<p>Riben Grundström, 2015<sup>mu8</sup></p>	<p><u>Type of study:</u> RCT, parallel</p> <p><u>Setting:</u> University</p> <p><u>Country:</u></p>	<p><u>Inclusion criteria:</u> Patients with <math>\geq 1</math> peri-implant mucositis sites with probing depth <math>\geq 4</math>mm combined with bleeding with or without suppuration, with bone loss <math>\leq 2</math>mm assessed from the</p>	<p><u>Intervention:</u> OHI + air abrasive device, glycine powder.</p> <p><u>Procedure</u> Treatment was performed at baseline and at 3 and 6 months.</p>	<p><u>Control intervention:</u> OHI + ultrasonic debridement (ultrasonic scaler with plastic coated tips).</p>	<p><u>Length of follow up:</u> 12 months</p> <p><u>Loss to follow up:</u> N = 1</p>	<p><u>Outcome measures:</u> Bleeding on probing (BOP)</p> <p><u>Effect:</u> <i>BOP (% sites (SEM):</i> I: 43.9 (7.3 ) to 12.1 (3.8) % C: 53.7 (7.9) to 18.6 (6.4) %</p>

	Sweden  <u>Source of funding:</u> partly supported by E.M.S. Switzerland	implant shoulder as a consequence of the bone healing remodelling process.  <u>Exclusion criteria:</u> Patients with uncontrolled diabetes (HbA1c > 55 mmol/mol); receiving medication known to have effect on gingival growth (eg. calcium channel antagonists, with immunosuppressants or antiepileptic drugs); requiring antibiotic prophylaxis or whom had received antibiotic treatment in the preceding 3 months; receiving systemic corticosteroids.  <u>N total at baseline:</u> N=37	Professional supra gingival cleaning was performed at 9 and 12 months. Oral hygiene instructions were reinforced at each visit.			<i>n.s.</i>  <u>Other measures in study:</u> Full-mouth plaque score (FMPS) Full-mouth bleeding score (FMBS) Probing depth (PD) Plaque score (implant) Suppuration Mucosal overgrowth and recession
<b>Professional-administered plaque removal with (I) or without adjunctive antiseptic therapy (C): Mechanical debridement with adjunctive chlorhexidine</b>						
Porras, 2002 <sup>mu9</sup>	<u>Type of study:</u> RCT, parallel  <u>Setting:</u> University  <u>Country:</u> Texas, USA  <u>Source of funding:</u> Not reported	<u>Inclusion criteria:</u> All patients had developed mucositis during the maintenance phase. Mucositis was defined as presence of supra- and subgingival plaque, a PD ≤ 5mm, evidence of inflammation (bleeding) and incipient bone loss. Patients had not received maintenance therapy for the last 3 months. Both fully and partially edentulous patients were allowed to participate.  <u>Exclusion criteria:</u> Patients with peri-implantitis or periodontitis; needing AB prophylaxis prior to dental treatment; with a history of atopy, rheumatic fever, congenital heart disease, blood dyscrasias, DM, AIDS, HIV, cancer, connective tissue	<u>Intervention:</u> Patients received OHI + mechanical cleansing (plastic scaler, rubber cups, polishing paste) + local irrigation CHX 0,12% + topical CHX gel application + 0.12% CHX mouthrinse twice a day for 10 days.  <u>Procedure</u> 2 weeks after treatment, all patients were recalled to reinforce oral hygiene instructions. Clinical and microbiological measurements were performed 1 and 3 months after treatment.	<u>Control intervention:</u> Patients received OHI + mechanical cleansing (plastic scaler, rubber cups, polishing paste).	<u>Length of follow up:</u> 3 months  <u>Loss to follow up:</u> N=0	<u>Outcome measures:</u> Bleeding on probing (BOP)  <u>Effect:</u> <i>BOP:</i> Baseline: 46.4% at disto-facial surfaces to 89.3% on the mesio-facial surfaces (range) 3 months: 14.3% on the lingual surfaces to 28.6% on the mesio-facial surfaces (range)  no significant differences between groups at any time point.  <u>Other measures in study:</u> Modified plaque index (mPI) Modified bleeding index (mBI) Pocket depth (PD) Clinical attachment level (CAL) Width of keratinized tissue (KM) Microbiological parameters

		<p>diseases such as a systemic lupus erythematosus or any other systematic disease; and or drug therapy known to interfere with tissue healing; undergoing steroid therapy; on systematic AB or who had received AB therapy during the 3 months prior to initiation of the study; with radiographic evidence of bony lesion around the implant that required surgery; participating in other clinical trials; who smoked or reported use of alcohol were excluded.</p> <p><u>N total at baseline:</u> N=16</p>				
Thone-Mühling, 2010 <sup>mu10</sup>	<p><u>Type of study:</u> RCT, parallel</p> <p><u>Setting:</u> University</p> <p><u>Country:</u> Germany</p> <p><u>Source of funding:</u> University</p>	<p><u>Inclusion criteria:</u> Partially edentulous patients with treated chronic periodontitis and mucositis at all dental implants (BOP and/or a gingival index <math>\geq 1</math> at least at one site at baseline), absence of peri-implant bone loss during last 2 years before baseline).</p> <p><u>Exclusion criteria:</u> Patients with active periodontal treatment during the last 6 month; a history of systemic diseases; antibiotic or antiseptics use 6 month before study; teeth with furcation involvement degrees II or III; orthodontic treatment; pregnancy.</p> <p><u>N total at baseline:</u> N=13</p>	<p><u>Intervention:</u> Patients received subgingival scaling and root planning in one session (using periodontal hand instruments and an ultrasonic device at teeth and plastic scalers and polyetheretherketone-coated ultrasonic instruments at implants) + full-mouth disinfection with chlorhexidine (subgingival application of 1% CHX gel + brushing of the dorsum of the tongue for 1 min with 1% CHX gel + spraying of the tonsils for four times with 0.2% CHX spray + twice rinsing for 1 min with 0.2% CHX solution + 14 days rinsing once daily for 30 s with 0.2%CHX solution + 14 days spraying of the tonsils once daily with 0.2% CHX spray).</p> <p><u>Procedure:</u> After screening and before randomization patients received</p>	<p><u>Control intervention:</u> Patients received subgingival scaling and root planning in one session (using periodontal hand instruments and an ultrasonic device at teeth and plastic scalers and polyetheretherketone-coated ultrasonic instruments at implants)</p>	<p><u>Length of follow up:</u> 1,2, 4 and 8 months after treatment</p> <p><u>Loss to follow up:</u> N=2</p>	<p><u>Outcome measures:</u> Bleeding on probing (BOP)</p> <p><u>Effect:</u> <i>BOP:</i> I: 0.22 (0.11) (BL) to 0.16 (0.09) % C: 0.17 (0.19) (BL) to 0.17 (0.11) % <i>n.s.</i></p> <p>No significant differences between groups with regard to clinical parameters.</p> <p><u>Other measures in study:</u> Plaque index (PI) Gingival index (GI) Pocket depth (PD) Gingival recession (GR) Clinical attachment level (CAL) Microbiological parameters</p>

			repeated oral hygiene instructions and supragingival tooth and implant cleanings until they had excellent oral hygiene. Oral hygiene instructions were reinforced and clinical parameters were recorded after 1, 2, 4 and 8 months.			
<i>Professional-administered plaque removal with (I) or without adjunctive antiseptic therapy (C): Mechanical debridement with adjunctive ozone and/or hydrogenperoxide</i>						
McKenna, 2013 <sup>mu11</sup>	<u>Type of study:</u> RCT, split-mouth  <u>Setting:</u> University  <u>Country:</u> United Kingdom  <u>Source of funding:</u> Not reported	<u>Inclusion criteria:</u> Good oral hygiene and compliance with 2 week hygiene study; presence of four or more adjacent implant in the maxilla or mandible with a least 5 mm of interimplant space ; psychological suitability for the study; provision of written consent.  <u>Exclusion criteria:</u> Age under 18 or over 75 years; poor oral hygiene; peri-implantitis; smoking; pregnancy; diabetes; use of bisphosphonates. <u>N total at baseline:</u> N=20	<u>Intervention:</u> I1: application of Ozone (O3) and saline (0.9% NaCL)  I2: application of air (O2) and H2O2 (3%)  I3: application of Ozone (O3) and H2O2  <u>Procedure</u> All patients went through a 2 week pretrial phase during which clinically healthy gingiva would be achieved via cleaning, toothbrushing instruction and motivation. After this 2 week phase patients wore an individualized guard or gum shield for 21 days during toothbrushing to guard all four implant sites from cleaning, thereby inducing peri-implant mucositis. The four implant sites in each patient were randomly assigned to one of the four treatment groups. Treatments were performed at baseline and at day 7 and 14. Clinical measurements were performed at baseline and at day 7, 14 and 21.	<u>Control intervention:</u> Application of air (O2) and saline (0.9% NaCL)	<u>Length of follow up:</u> 21 days  <u>Loss to follow up:</u> N=0	<u>Outcome measures:</u> Bleeding index (BI)  <u>Effect:</u> <i>BI (21 days):</i> CI: 0.56 > I2: 0.18 = I1: 0.05 = I3: 0.05  The 3 interventions were more effective than the control intervention (p<0.01), but no differences between them.  <u>Other measures in study:</u> Plaque index (PI) Modified gingival index (mGI)
<i>Professional-administered plaque removal with (I) or without adjunctive antibiotic therapy (C): Manual debridement plus subgingival chlorhexidine application with adjunctive local antibiotics</i>						
Schenk,	<u>Type of study:</u>	<u>Inclusion criteria:</u>	<u>Intervention:</u>	<u>Control intervention:</u>	<u>Length of follow up:</u>	<u>Outcome measures:</u>

1997 <sup>mu12</sup>	<p>RCT, split-mouth</p> <p><u>Setting:</u> University</p> <p><u>Country:</u> Germany</p> <p><u>Source of funding:</u> Local antibiotics were provided by Alza Company, CA, USA</p>	<p>Patients age 19 to 75 years, with <math>\geq 2</math> endosseous implants with clinical signs of peri-implant mucositis (pocket depth <math>\geq 4</math>mm and BOP <math>\geq 1</math> site per implant, and/or peri-implant mucosal hyperplasia, without detectable peri-implant bone loss on radiographs, with no dental/implant prophylaxis within 3 month prior to baseline examination.</p> <p><u>Exclusion criteria:</u> Patients with systemic disorders; with rheumatic heart diseases, congenital heart defects, artificial heart valve or artificial joint replacements; with allergies to tetracycline or local anesthesia; oral yeast infections; systemic antibiotics within 3 months prior to baseline examination.</p> <p><u>N total at baseline:</u> N=8</p>	<p>OHI + supra- and subgingival scaling (steel curettes + rubber cup polishing) + 0.2% CHX mouthrinse twice daily for 10 days + adjunctive antimicrobial treatment by locally delivered tetracycline HCL (Tetracycline HCL fibers left in place for 10 days).</p>	<p>OHI + supra- and subgingival scaling (steel curettes + rubber cup polishing) + 0.2% CHX mouthrinse twice daily for 10 days</p>	<p>12 weeks</p> <p><u>Loss to follow up:</u> N=0</p>	<p>Bleeding on probing (BOP)</p> <p><u>Effect:</u> <u>BOP:</u> I: 67 (28)% to 50 (35)% C: 51 (24)% to 66 (33)% <i>n.s.</i></p> <p><u>Other measures in study:</u> Modified plaque index (mPI) Gingival recession (GR) Pocket depth (PD) Clinical attachment loss (CAL) Bone level (BL)</p>
<i>Professional-administered plaque removal with (I) or without adjunctive antibiotic therapy (C): Manual debridement with adjunctive systemic antibiotics</i>						
Hallström, 2012 <sup>mu13</sup>	<p><u>Type of study:</u> RCT, parallel</p> <p><u>Setting:</u> Speciality clinic</p> <p><u>Countries:</u> Sweden</p> <p><u>Source of funding:</u> University</p>	<p><u>Inclusion criteria:</u> Patients with probing depth <math>\geq 4</math>mm combined with bleeding and/or pus on probing . Periodontal lesions at remaining teeth had to be treated before enrolment.</p> <p><u>Exclusion criteria:</u> Patients with an osseo-integrated implant with <math>\geq 2.0</math>mm bone loss; pregnancy or breast feeding; diabetes mellitus, allergy to erythromycin or other macrolides; requiring antibiotic prophylaxis; using</p>	<p><u>Intervention:</u> OHI + mechanical debridement (titanium curettes + polishing using rubber cups and polishing paste) + systemic antibiotics (Azithromycin during 4 days (500 mg day 1 and 250 mg days 2-4)).</p>	<p><u>Control intervention:</u> OHI + mechanical debridement (titanium curettes + polishing using rubber cups and polishing paste)</p>	<p><u>Length of follow up:</u> 6 months</p> <p><u>Loss to follow up:</u> N=5</p>	<p><u>Outcome measures:</u> Bleeding on probing (BOP)</p> <p><u>Effect:</u> <u>BOP:</u> I: 82.6 (24.4)% to 27.3 (18.8)% C: 80.0 (25.0)% to 47.5 (32.3)% <i>n.s.</i></p> <p>No short-term differences between groups. Clinical improvements at 6 months may be attributed to improvements in oral hygiene.</p> <p><u>Other measures in study:</u> Full-mouth plaque score</p>



		prednisone or other anti-inflammatory medications; medications known to have effects on gingival growth; systemic antibiotics in preceding 3 months.  <u>N total at baseline:</u> N=48				Full-mouth bleeding score Presence of plaque at implants Pocket depth (PPD) Microbiological parameters
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### Overzicht 'Risk of bias' studies 'peri-implantaire mucositis'

		random sequence generation (selection bias)	allocation concealment (selection bias)	blinding (performance bias and detection bias)	incomplete outcome data (attrition bias)	selective reporting (reporting bias)	other bias
mu1	Swierkot, 2013	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
mu2	Ramberg, 2009	Unclear risk	Low risk	Low risk	Unclear risk	Unclear risk	Unclear risk
mu3	Heitz-Mayfield, 2011	Low risk	Low risk	Not reported (examiners)	Low risk	Low risk	Low risk
mu4	Ciancio, 1995	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk
mu5	De Siena, 2013	Low risk	Low risk	Not reported	Unclear risk	Unclear risk	Unclear risk
mu6	Felo, 1997	Low risk	Not reported	Low risk	Low risk	Unclear risk	Low risk
mu7	Ji, 2014	Low risk	Unclear risk	Low risk/high risk	Low risk	Not reported	Not reported
mu8	Riben Grundström, 2015	Low risk	Low risk	Low risk/high risk	Low risk	Not reported	Not reported
mu9	Porras, 2002	Unclear risk	High risk	High risk	Low risk	Not reported	Not reported
mu10	Thone-Mühling, 2010	High risk	Unclear risk	High risk	Low risk	Not reported	Not reported
mu11	McKenna, 2013	Low risk	High risk	Low risk	High risk	Not reported	Not reported
mu12	Schenk, 1997	Unclear risk	High risk	High risk	High risk	Not reported	Not reported
mu13	Hallström, 2012	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk

Dit overzicht is gebaseerd op de analyse van 'risk of bias' in:

- Schwarz F, Becker K, Sager M. (2015) Efficacy of professionally administered plaque removal with or without adjunctive measures for the treatment of peri-implant mucositis. A systematic review and meta-analysis. J Clin Periodontol; 42, Suppl 16: S202-213.
- Salvi GE, Ramseier CA. (2015) Efficacy of patient-administered mechanical and/or chemical plaque control protocols in the management of peri-implant mucositis. A systematic review. J Clin Periodontol; 42, Suppl 16: S187-201.

Samenvattende tabel van kwaliteitstoetsing studies 'peri-implantaire mucositis'							
Aantal studies	Design	Beperkingen <sup>1</sup>	Inconsistentie <sup>2</sup>	Indirect bewijs <sup>3</sup>	Imprecisie <sup>4</sup>	Andere overwegingen	Kwaliteit <sup>5</sup>
<i>BOP in behandeling van mucositis</i>							
8	RCT	Serieus <sup>a,b,d</sup>	Niet serieus	Niet serieus	Zeer serieus	Nee	Zeer laag
<i>(m)BI in behandeling van mucositis</i>							
5	RCT	Serieus <sup>a,b,d</sup>	Niet serieus	Niet serieus	Zeer serieus	Nee	Zeer laag
<p>1 Beperkingen: meer of minder beperkingen in opzet en uitvoering van onderzoek. Mogelijke bronnen van vertekening zijn:</p> <ul style="list-style-type: none"> <li>a selectieve toewijzing van de onderzoekdeelnemers (selectiebias)</li> <li>b vertekening door het ontbreken van blinding (performance bias)</li> <li>c vertekening van uitkomstmetingen door gebrek aan blinding van de effectbeoordelaar (informatiebias)</li> <li>d selectieve uitval van onderzoekdeelnemers (attrition bias)</li> <li>e selectieve publicatie van uitkomsten binnen hetzelfde onderzoek (reporting bias)</li> <li>f andere mogelijke bronnen van vertekening</li> </ul> <p>2 Inconsistentie: grote verschillen in behandel-effecten tussen studies die niet verklaard kunnen worden door bijvoorbeeld verschillen in populatie, interventies, uitkomsten en studiekwaliteit</p> <p>3 Indirect bewijs: afwijking van de vraag van het onderzoek ten opzichte van de uitgangsvraag</p> <p>4 Imprecisie: Onzekerheid over de grootte van het effect door bijvoorbeeld een kleine steekproef of weinig voorkomende events</p> <p>5 Op basis van de beoordeling van genoemde criteria wordt de volgende gradering van kwaliteit gebruikt:</p> <ul style="list-style-type: none"> <li>- Hoog: Het werkelijke effect ligt dicht in de buurt van de schatting van het effect</li> <li>- Matig: Het werkelijke effect ligt waarschijnlijk dicht bij de schatting van het effect maar er is een mogelijkheid dat het hier substantieel afwijkt</li> <li>- Laag: Het werkelijke effect kan substantieel verschillend zijn van de schatting van het effect</li> <li>- Zeer laag: Het werkelijke effect wijkt waarschijnlijk substantieel af van de schatting van het effect</li> </ul>							
Bron: Everdingen, JJE van et al. Evidence-based richtlijnontwikkeling. Een leidraad voor de praktijk. Houten, 2014.							

GRADE tabel: kwaliteitstoetsing studies 'peri-implantaire mucositis'										
Aantal studies	Design	Beperkingen	Inconsistentie	Indirect bewijs	Imprecisie	Andere overwegingen	Aantal patiënten	Effect	Kwaliteit	Belang
<i>Patient-administered plaque control measures: BOP in powered toothbrushing (I) versus manual toothbrushing (C)</i>										
1 <sup>mu1</sup>	RCT	Niet serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	83	Geen verschil	Laag	Cruciaal
<i>Patient-administered plaque control measures: BOP in toothbrushing with antiseptic gel or special toothpaste (I) versus conventional toothpaste (C)</i>										
2 <sup>mu2, mu3</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	59	I: 53.8% to 29.1% C: 52.3% to 58.8% P < 0.001 <sup>mu2</sup>  gemiddeld aantal I: van 2.5 tot 1.1 C: van 2.3 tot 0.7 NS <sup>mu3</sup>	Zeer laag	Cruciaal
<i>Patient-administered plaque control measures: BI in adjunctive antiseptic mouthrinse (I) versus placebo (C)</i>										
1 <sup>mu4</sup>	RCT	Niet serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	20	I: 0.56 ± 0.02 to 0.30 ± 0.06 C: 0.65 ± 0.06 to 0.50 ± 0.06 P < 0.01	Laag	Cruciaal
<i>Patient-administered plaque control measures: BI in adjunctive antiseptic mouthrinse (I) versus antiseptic gel (C)</i>										
1 <sup>mu5</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	30	% of implants with score 0: I: 0% to 69.2% C: 0% to 60% NS	Zeer laag	Cruciaal
<i>Patient-administered plaque control measures: BI in adjunctive antiseptic power irrigation (I) versus antiseptic mouthrinse (C)</i>										
1 <sup>mu6</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	24	Reductie: I: 62% C: 33% NS	Zeer laag	Cruciaal

<i>Professional-administered plaque removal with or without adjunctive measures for biofilm removal: mBI in air-abrasive device (I) versus manual/mechanical debridement (C)</i>										
1 <sup>mu7</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	24	mBI: I: van 1.4 tot 1.1 C: van 1.5 tot 1.0 NS	Zeer laag	Cruciaal
<i>Professional-administered plaque removal with or without adjunctive measures for biofilm removal: BOP in air-abrasive device (I) versus manual/mechanical debridement (C)</i>										
1 <sup>mu8</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	37	% plaatsen: I: van 43.9 tot 12.1 % C: van 53.7 tot 18.6 % NS	Zeer laag	Cruciaal
<i>Professional-administered plaque removal with (I) or without adjunctive antiseptic therapy (C): BOP in mechanical debridement with adjunctive chlorhexidine</i>										
2 <sup>mu9, mu10</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	29	Geen verschil	Zeer laag	Cruciaal
<i>Professional-administered plaque removal with (I) or without adjunctive antiseptic therapy (C): BI in mechanical debridement with adjunctive ozone and/or hydrogenperoxide</i>										
1 <sup>mu11</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	20	I: varieert van 0.05-0.18 C: 0.56 P < 0.01	Zeer laag	Cruciaal
<i>Professional-administered plaque removal with (I) or without adjunctive antibiotic therapy (C): BOP in manual debridement plus subgingival chlorhexidine application with adjunctive local antibiotics</i>										
1 <sup>mu12</sup>	RCT	Serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	8	I: van 67 % tot 50% C: van 51% tot 66 % NS	Zeer laag	Cruciaal
<i>Professional-administered plaque removal with (I) or without adjunctive antibiotic therapy (C): BOP in manual debridement with adjunctive systemic antibiotics</i>										
1 <sup>mu13</sup>	RCT	Niet serieus	Niet serieus	Niet Serieus	Zeer serieus	Nee	48	I: van 82.6% tot 27.3% C: van 80.0% tot 47.5%	Laag	Cruciaal
I interventiegroep C controlegroep (m)BI modified bleeding index BOP bleeding on probing										