



IQWiG Reports – Commission No. N15-01

Systematic treatment of parodontopathies¹

Extract

¹ Translation of the key statement of the final report N15-01 *Systematische Behandlung von Parodontopathien* (Version 1.0; Status: 5 March 2018). Please note: This document was translated by an external translator and is provided as a service by IQWiG to English-language readers. However, solely the German original text is absolutely authoritative and legally binding.

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Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen
Im Mediapark 8
50670 Köln
Germany

Phone: +49 221 35685-0

Fax: +49 221 35685-1

E-mail: berichte@iqwig.de

Internet: www.iqwig.de

This report was prepared in collaboration with external experts.

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External experts

- Marion Danner, Institute for Health Economics and Epidemiology, University Hospital Cologne, Cologne, Germany
- Sonja Derman, Centre for Dental, Oral and Orthodontic Medicine, University Hospital Cologne, Cologne, Germany
- Vera Venedey, Institute for Health Economics and Epidemiology, University Hospital Cologne, Cologne, Germany

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IQWiG employees

- Martina Lietz
- Moritz Felsch
- Charlotte Guddat
- Elke Hausner
- Thomas Jaschinski
- Fülöp Scheibler
- Milly Schröer-Günther
- Sibylle Sturtz

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Key statement

Research question

This report investigates the benefits of the following treatment methods with regard to patient-relevant outcomes in patients with parodontopathy requiring treatment:

- 1) Nonsurgical mechanical treatment of the affected periodontal tissue as monotherapy or as an adjunct to another treatment is investigated and compared with no treatment.
- 2) All non-antibiotic treatments are compared with nonsurgical mechanical treatment.
- 3) As regards antibiotic treatment, the following research questions are investigated:
 - a) Any antibiotic treatment (local or systemic, used alone or adjunctively) compared with nonsurgical mechanical treatment
 - b) Local antibiotic treatment as an adjunct to nonsurgical mechanical treatment compared with systemic antibiotic treatment as an adjunct to nonsurgical mechanical treatment
 - c) Microbiological diagnostics before systemic antibiotic treatment compared with systemic antibiotic treatment without prior microbiological diagnostics
- 4) Structured follow-up care (oral hygiene instruction, professional dental cleaning with manual instruments performed at regular intervals) is investigated under special consideration of individual components and factors and compared with no structured follow-up care.

Conclusion

Research question 1 – Nonsurgical mechanical treatment (NMT)

- NMT versus no treatment
There was an indication of benefit of NMT based on the outcome “attachment level.”
- NMT + Modified Widman Flap (MWF) versus no treatment
There was a hint of benefit of NMT with adjunctive MWF based on the outcome “attachment level.”
- NMT + osteoplasty versus no treatment
There was a hint of benefit of NMT with adjunctive osteoplasty based on the outcome “attachment level.”

Research question 2a – Laser

- Laser versus NMT
There was a hint of greater benefit of laser therapy alone based on the outcome “attachment level.”

- NMT + laser versus NMT
There was a hint of greater benefit of adjunctive laser therapy based on the outcome category “symptomatic gingivitis.”
Due to potential publication bias from unreported results of a completed, but unpublished study, this hint is to be viewed with reservations.
- Laser-assisted new attachment procedure (LANAP) versus NMT
There was no hint of greater benefit or harm of LANAP.

Research question 2b – Photodynamic therapy (PDT)

- NMT + PDT versus NMT
There was no hint of greater benefit or harm of adjunctive PDT.
- NMT + photoablation therapy (PAT) + PDT versus NMT
There was a hint of greater benefit of the adjunctive combination treatment with photodynamic and photoablative laser based on the outcome “attachment level.”

Research question 2c – Surgical measures

- Modified Widman Flap (MWF)
 - MWF versus NMT
There was no hint of greater benefit or harm of MWF used alone.
 - NMT + MWF versus NMT
There was no hint of greater benefit or harm of adjunctive MWF.
- Pocket elimination surgery (PES)
 - NMT + PES versus NMT
There was a hint of lesser benefit of adjunctive PES based on the outcome “attachment level.”
- Osteoplasty (osseous surgery)
 - Osteoplasty versus NMT
There was no hint of greater benefit or harm of osteoplasty used alone.
 - NMT + osteoplasty versus NMT
There was no hint of greater benefit or harm of adjunctive osteoplasty.
- Minimally invasive surgical technique
 - Minimally invasive surgical technique (MIST) versus minimally invasive non-surgical technique (MINST)
There was no hint of greater benefit or harm of MIST.

Research question 2d – Other measures

There was a hint of greater benefit of NMT plus ITOHEP (individually tailored oral health educational program) versus NMT plus standard oral health education based on the outcome category “symptomatic gingivitis.”

Compared to NMT, there were no hints of greater benefit or harm for adjunctive treatment with enamel matrix derivative, for adjunctive treatment with a combination of chlorhexidine (CHX) gel and CHX mouthwash, for adjunctive pocket irrigation with an antiseptic, for subgingival air polishing with CHX erythritol powder, or for adjunctive hyperbaric oxygen therapy.

Research question 3a – Antibiotic treatment

- Systemic antibiotic treatment versus NMT
There was no hint of greater benefit or harm of systemic antibiotic treatment used alone.
- NMT + systemic antibiotic treatment versus NMT
There was an indication of greater benefit of adjunctive systemic antibiotic treatment based on the outcome “attachment level.”
Due to potential publication bias from unreported results of a completed, but unpublished study, this indication is to be viewed with reservations.
- NMT + local antibiotic treatment versus NMT
There was no hint of greater benefit or harm of adjunctive local antibiotic treatment.

Research question 3b – Adjunctive systemic antibiotic treatment versus adjunctive local antibiotic treatment

No studies (RCTs) were available.

Research question 3c – Microbiological diagnostics

No studies (RCTs) were available.

Research question 4 – Structured follow-up care

No studies (RCTs) were available.

However, one potentially relevant large RCT was found with a follow-up period of three years (IQuAD). The study has already been completed; results were sent to the commissioning agency in early 2017, and the publication of these results is planned for early 2018.

Overarching aspects

Many RCTs were included in the benefit assessment, but a much larger number of further RCTs on the research questions were identified. Many of the RCTs identified overall did not meet all inclusion criteria; for example, in some cases, follow-up periods were too short, the investigational intervention failed to address the research questions, or the studies did not report any patient-relevant outcomes.

Registry entries of studies for which no publications were found – although results should be available by now – resulted in the indication regarding research question 3a (NMT + systemic antibiotic treatment versus closed mechanical treatment) as well as the hint regarding research question 2 (adjunctive laser treatment versus NMT) being viewed with reservations.

All benefit statements were based on the outcomes on “symptomatic gingivitis” and the outcome “attachment level.” For the outcomes “tooth loss”, “tooth loosening”, “(oral) health-related quality of life”, and “adverse events”, there were only very isolated reports of results. No results were available on the outcome “pain.”

The full report (German version) is published under
<https://www.iqwig.de/de/projekte-ergebnisse/projekte/nichtmedikamentose-verfahren/n-projekte/n15-01-bewertung-der-systematischen-behandlung-von-parodontopathien.6629.html>