

Adolopment: How three national perio societies have implemented the EFP clinical practice guideline for their countries

After the publication in July 2020 of the EFP’s clinical practice guideline for the treatment of periodontitis stages I-III, the next step was for the recommendations of this supranational document to be introduced at the national level. Three EFP-affiliated national societies of periodontology – the BSP (UK), DG PARO (Germany), and SEPA (Spain) – took the lead and carried out the official “adolopment” process to ensure that the guideline is appropriately implemented in each country. This has meant some changes from the original guideline to ensure a perfect fit with the national healthcare system or to comply with national regulations, working closely with the many stakeholders involved in the process. For example, in the UK, one of the 62 recommendations was dropped, while in Germany another one was downgraded and reworded to avoid potential legal problems. Members of the EFP’s Workshop committee who led the process explain how it was done and why the national implementation of the EFP guideline is so important for European periodontology.



Figure 1: The national versions of the guideline for Spain, the UK, and Germany

Moritz Kebuschull: ‘There is massive interest in the guideline’

Adolopment is a new word made up of three familiar words: adoption, adaptation, and development. It is used to describe an intricate process in which clinical practice guidelines that have been drawn up to the highest regulated standard – the S3 level – can be implemented in specific countries with the highest level of flexibility to ensure a perfect “fit”.

If you have a supranational guideline, like the EFP’s *Treatment of Stage I-III Periodontitis. The EFP Clinical Practice Guideline*, you need to have something that fits it to the national systems. In principle, there are three possibilities: First, probably the easiest approach is to not create a national version of the EFP guideline at all, but to just provide (if necessary) a

translation and a commentary pointing out the critical aspects of the guideline in the local situation. To facilitate this, the EFP has provided funds for translation and the guideline has been translated already into 16 languages. The problem with the translated version and commentary is that you do not really integrate the guideline into your system, and it remains an external source that you can

use if you feel like it. It does not have the character of a guideline that is endorsed by anybody in the country.

The second alternative – and this is being done in some countries – is adoption, which means that you take over the whole thing: it is voted by the national society and maybe some stakeholders. But you must adopt the entire package



Level	Description	Characteristics
S3	Evidence- and consensus-based guideline	Systematic review , selection and synthesis of available evidence, grading of evidence and Representative guideline group including stakeholders from other disciplines, structured/moderated consensus process
S2e	Evidence-based guideline	Systematic review , selection and synthesis of available evidence, grading of evidence
S2c	Consensus-based guideline	Representative guideline group including stakeholders from other disciplines, structured/moderated consensus process
S1	Recommendations of a panel of experts	Informal procedures to reach consensus

↑ Figure 2: The different levels of guidelines

and make the EFP guideline your national guideline, but you are not allowed to make any changes. In so doing, many countries may run into the difficulty that the adopted guideline may be in conflict with previous local guidelines or protocols, without the means to change this.

The third approach is adaptation via the GRADE Adolopment process (GRADE is a working group at McMaster University in Canada which has introduced frameworks for guidelines). The idea with adolopment is that you do not need to reinvent the wheel and you take a high-quality guideline like the EFP one and use it as a blueprint for your national one. But for every single recommendation of the 62 in the EFP guideline, you must choose whether to take it over unchanged or to modify it, and whether you also need to make additional recommendations. Of the three processes, adaptation is the most flexible – but also the most stressful.

The adolopment process

Under the adolopment process, in principle the entire process prescribed for the S3-level guideline development was repeated in the three countries, albeit in a condensed format. The S3-level guideline development is a combination of a systematic appraisal of the available evidence and the combined clinical “common sense” of a guideline group representative for the

addressees of the guideline. With an S3 guideline, the idea is that you have representatives of all the stakeholder groups that the guideline addresses. You always have the evidence, but the evidence can be biased in a certain direction, so you need to have the combined clinical common sense of everybody who is touching perio therapy. If you only have periodontists, it can be a little like groupthink and you end up with only what you like, what your organisations like, and what you have known before. This means that the more stakeholders that take part and the more involved they are, the better the quality of the guideline. And it is important to have an independent moderator who makes sure that the quietest voice is heard adequately. For the UK and German versions, we had Ina Kopp who had been the moderator at Perio Workshop 2019.

To ensure up-to-date evidence, the 15 systematic reviews considered by Perio Workshop 2019 which drew up the original guideline were updated by their original authors – a collaborative effort of the three national societies, the BSP, DG PARO, and SEPA. To ensure appropriate representation of the national addressees, large guideline groups were assembled, inviting a range of stakeholders into this process, and subdivided into working groups. While the EFP guideline involved four working groups, both the BSP and DG PARO combined groups 1 and 4 as they

both concerned oral hygiene and risk factors. In Germany we had 36 stakeholders, compared to the 11 European organisations involved in the drawing up of the EFP guideline, while the UK adolopment process involved 17 stakeholders, and 14 were involved in Spain. Importantly, the local adolopments in all three countries were also informed by patient representatives, giving us their unique perspectives on clinical recommendations directly affecting their care.

Differences

There were not many fundamental differences because the material of the guideline is well grounded in evidence and there were quite a few Spanish, German, and British participants in Perio Workshop 2019 in La Granja de San Ildefonso (Spain) which drew up the guideline. It is about the small print, about how the individual recommendations are formulated. The German process was rather difficult, in part because of all the stakeholders. There were several societies that were very much into lasers, and the EFP guideline’s recommendations on lasers are largely negative. We were, in effect, asking the German Society of Laser Dentistry to vote down their own field. They did eventually support the recommendations, because the evidence in support simply could not be identified, but it was rather difficult to get there as they were questioning everything.

Another problem area concerned the discussions we had with the dental bodies responsible for remuneration. In Germany, public-health insurance will not cover regeneration, so there was a discussion about whether you can make such strong recommendations for regenerative therapy – even though there are lot of things in the small print about how you can only do it with patients with very good oral hygiene, fantastic local factors, and so on. We had a few minority opinions where people were not happy with some of the recommendations.

There were also some recommendations in the surgical area that were heavily discussed. There are a couple of recommendations based on expert opinion of the guideline group, saying that you can do certain things only if you have proper training and there was concern by some dentists – especially in the public-health sector – that this would unnecessarily constrain their work. In Germany, once you have your licence as a dentist you can do whatever you feel you can do as a dentist, although you accept liability. The original recommendation – Recommendation 3.4 on the level of care required for management of deep residual pockets after completion of steps 1 and 2 of periodontal therapy: “Surgical treatment is effective but frequently complex, and we recommend that it is provided by dentists with additional specific training or by specialists in referral centres” – would possibly have been against the law, so it has been downgraded from a strong recommendation to a nominal one and the word “specialist” has been replaced by “dentist who has undergone specific training”.

There were also some minority votes on recommendations. The German Society of Aesthetic Dentistry did not agree with Recommendation 3.6 that you should not

do periodontal surgery in patients who do not achieve or maintain adequate levels of self-performed oral hygiene. They said that, in some cases, you can do certain surgical interventions even if the oral hygiene is not perfect.

In the UK, the problem area was the recommendation about the use of antiseptics in toothpastes where we could not reach consensus, so we did not take on recommendation 4.12 about dentifrice and antiseptics.

This is a recommendation that suggests you use one of three different antiseptic agents in a toothpaste: (1) chlorhexidine, but this is not available in an actual toothpaste but rather as a gel, so it is not really applicable to our everyday practice; (2) triclosan-copolymer, which is in the old Colgate Total that was taken off the market because of the health and environmental concerns about this compound; (3) stannous fluoride-sodium hexametaphosphate, which would in effect recommend a specific product from one company based on very few studies.

Online meetings

Because of the Covid-19 situation, all the adoption sessions were done online, with distributed group sessions of several hours, often a few days apart to allow background discussions. The advantage of the more distributed process is that you still have time to find things out. If you are on site, you are under so much time pressure that you cannot go back and look something up. For example, DG PARO mandated a regulatory

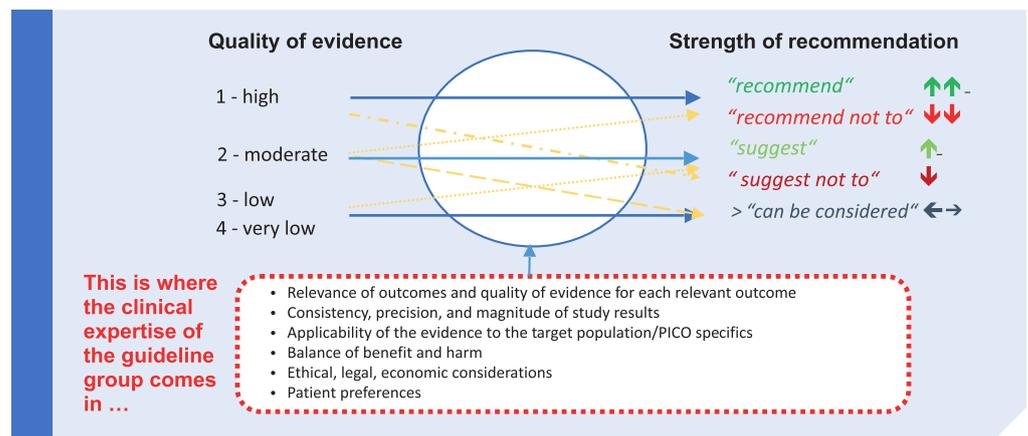


Figure 3: How recommendations are based on quality of evidence

search, and we employed a consultant to go into the federal regulator's database to look at how the different laser photosensitisers were licensed. We had time to do that, but you would never have time for that at La Granja.

And I think that we can learn from this as we prepare for the next workshop – Perio Workshop 2021 in La Granja in November, which will draw up the clinical practice guideline on periodontitis stage IV. We are starting in the summer and working in the groups with some distributed sessions to get going, and then we meet up in person in November for a final push together. I think this is the best of both worlds and the quality will be further improved.

Looking ahead to the German adoption of stage 4, which will take place once the EFP guideline has been published, we will co-run this with the German implant, orthodontic, and prosthodontic societies because they are very active and their input and buy-in will be crucial. It will mean that the

reach can be so much wider. It is one thing to have a perio guideline endorsed by the periodontists but if you have it endorsed by everybody in the field it is a lot stronger.

The national guidelines have all been published, the British one in the *Journal of Dentistry* and the German and Spanish and ones on the websites of DG PARO and SEPA and on the national health system's portals of clinical practice guidelines. We are now in the dissemination phase. I did a couple of webinars in several European countries, and I had a webinar with 2,000 people in Dubai. The webinar that DG PARO held – with Søren Jepsen (EFP president 2015-16, scientific chair of EuroPerio9 in 2018) and me – was the biggest number of attendees of any of the society's webinars. There is massive interest in this.

And the EFP is also being a trendsetter here. There are other societies that want to buy into the same process, so I am helping the European Society of Endodontology

(ESE) to do the same thing. One thing that is of interest and which has not been tackled yet on a European level, is to create a patient version of the guideline. This is something we are doing in the UK via the BSP's patient forum. The idea is to make it shorter and more accessible, but it is a difficult task adapting a 160-page document and a lot of the jargon we use every day is not that easy to translate into language easy for patients to understand.

In summary, the local adoption processes of the EFP clinical practice guideline, even though long and in part very difficult, have helped to push the important information in the guideline into the local clinics and practices. Thus, the EFP and its member societies are actively improving the quality of periodontal treatment in Europe.

This article is based on an interview with Moritz Kebschull conducted for Perio Insight by Paul Davies, EFP editorial co-ordinator.



Moritz Kebschull is professor and chair of restorative dentistry at the University of Birmingham in the UK. He also holds an adjunct professorship at Columbia University College of Dental Medicine in New York, USA. Before coming to Birmingham, Moritz was an associate professor at the University of Bonn in Germany. Moritz's research focuses on molecular patterns that help to differentiate and stratify patients with periodontal disease. His work has won 18 scientific awards, including the IADR Socransky and Gies awards, and the Miller Prize in Germany. Moritz has served on the executive board of DG PARO for six years and has chaired the development of five S3-level guidelines in Germany. He is co-leading the guideline processes of both the EFP and the European Society for Endodontology, as well as the national adoption of the EFP's supranational clinical practice guideline in both the UK and Germany. Moritz is a member of the EFP's executive committee and is scheduled to become the federation's president in 2024.

Implementing the EFP clinical practice guideline at the national level

By David Herrera, Moritz Kebschull, Ina Kopp, and Mariano Sanz (EFP Workshop committee)

The publication in July 2020 of *Treatment of stage I-III periodontitis – the EFP S3-level Clinical Practice Guideline* in the *Journal of Clinical Periodontology*¹, together with the background systematic reviews, was a very important step in the development of periodontal science in practice. The guideline's recommendations are the result of the consensus achieved during Perio Workshop 2019, held in La Granja de San Ildefonso (Spain) in November 2019. The document represents an evidence-based, step-wise approach to the treatment of periodontitis patients in stage I-III, according to the new (2018) classification scheme².

As this was a supranational guideline, not specifically developed to be implemented in a specific geographic context, there was a need for national and regional health authorities to then adapt and adopt the guideline within their own oral health services, taking into account local socioeconomic and health contexts. To this end, the chairs of the EFP's European Workshop Committee – David Herrera, Moritz Kebschull, Ina Kopp, and Mariano Sanz – prepared clear instructions in April 2020 which explained the different options available to national societies of periodontology for communicating, adopting, or adapting the guideline in their respective countries.

Three options

Three different options were proposed to implement the S3-level clinical practice guideline at the national level:

Option	Rights transfer	Update of evidence	Meeting of experts/ stakeholders	Timeline	Effort
Commentary	Yes	No	No	Flexible	Low
Adoption	Yes	Yes (on the basis of the SRs)	Yes – short	Tight – depending on the update of SR	Medium
Adaptation	Yes	Yes (on the basis of the SRs)	Yes – with WGs and plenaries	Tight – depending on the update of SR	High

SR, systematic review; WG, working group; GL, guideline.

Table 1: Options for implementing a clinical practice guideline

commentary, adoption, and adaptation. Depending on the option chosen, there were different requirements in terms of additional processes in coordination with national health authorities (see Table 1).

The EFP recommended that national perio societies choose either adoption or adaptation, as these are the two options under which the EFG guideline would be fully implemented and used for periodontal patient care. However, since these choices have clear consequences in terms of extra work, time, and costs, the option of commentary was also considered as relevant.

Commentary

- The clinical practice guideline text should be translated into the national language.
- It should include a commentary/introduction, written by a group of local periodontists supported by the national society.
- It should identify the specific barriers and opportunities to implement the recommendations of the guideline within the national

environment and existing healthcare systems.

- The guideline text should be published in printed and/or electronic format.
- This process does not necessarily indicate that the local society endorses the guideline in its entirety but ensures that the guideline is disseminated to all national oral-health providers.

Adoption

- The guideline text should be translated into the national language.
- The national society should set up a process for updating the underlying evidence on the basis of the published systematic reviews.
- The national society should set up a process for debating and approving by consensus (workshop format) the guideline and its recommendations. This workshop should include not only selected experts but also relevant stakeholders representing a wide group of users (oral-health personnel and patients), third parties, government

health authorities, etc. In this workshop, there should be a vote to adopt nationally the entire (unmodified) guideline.

- The guideline text should be published in printed and/or electronic format.
- This process implies that the national society, together with the stakeholders involved in the workshop, would endorse the guideline in its entirety.

Adaptation

- The guideline text should be translated into the national language.
- The national society should set up a process for updating the underlying evidence on the basis of the published systematic reviews.
- The national society should set up a process (workshop format) for adapting and/or modifying by consensus the guideline and its recommendations. This workshop should entail a comprehensive process using the GRADE-ADOLPMENT approach³ to combine, where appropriate, the adoption,

1. Sanz M, Herrera D, Kebschull M, et al; on behalf of the EFP Workshop participants and methodological consultants. Treatment of stage I-III periodontitis – the EFP S3-level clinical practice guideline. *Journal of Clinical Periodontology* 2020;47: 4-60. DOI: 10.1111/jcpe.13290.

2. Papapanou PN, Sanz M, et al. Periodontitis: Consensus report of workgroup 2 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. *Journal of Clinical Periodontology* 2018;45 (Suppl. 20), S162-S170. DOI: 10.1111/jcpe.12946.

3. Schunemann HJ, Wiercioch W, et al. GRADE Evidence to Decision (EtD) frameworks for adoption, adaptation, and de novo development of trustworthy recommendations: GRADE-ADOLPMENT. *Journal of Clinical Epidemiology*, 2017;81, 101-110. DOI: 10.1016/j.jclinepi.2016.09.009.

adaptation, or development of *de novo* recommendations.

- This workshop should include not only selected experts, but also relevant stakeholders representing a wide group of users (oral-health personnel and patients), third parties, government health authorities, etc.
- Once the various working groups have debated the guideline recommendations in depth, they should vote on which ones can be adapted without modifications, and which ones should be modified.
- The guideline text should be published in printed and/or electronic format.
- The result should represent the endorsement of the nationally adapted clinical practice guideline.

Implementation plan

The EFP requested its affiliated national societies to define their willingness to participate in the project of taking up the clinical practice guideline, to identify a project leader, to identify whether there were currently available guidelines in periodontal therapy in their countries and national regulations for the adoption and adaptation of treatment guidelines. In addition, information of human and economic resources for the project was requested.

For the first step, translation of the guideline, the EFP provided economic support. The clinical practice guideline has now been translated into 16 languages: Chinese, Croatian, French, German, Greek, Hungarian, Hebrew, Italian, Lithuanian, Norwegian, Polish, Portuguese, Serbian, Spanish, Turkish, and Georgian.

Different countries have followed or are following different processes (commentary, adoption, or adaptation). The periodontal societies of Germany, Spain, and the UK followed the exigent process of adaptation and shared the effort of updating the systematic reviews. Recently, the Iberopanamerican Federation of Periodontology (FIPP) has adopted the clinical practice guideline via commentary – using the translation prepared by the Spanish Society of Periodontology and Osseointegration (SEPA) – as a preliminary step for adoption via commentary in various Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Dominican Republic, Ecuador, Panama, Peru, Uruguay, and Venezuela).

ESSENTIAL LINKS

- **EFP S3-level clinical practice guideline:**
<https://www.onlinelibrary.wiley.com/doi/epdf/10.1111/jcpe.13290>
- **BSP implementation of guideline:**
<https://www.sciencedirect.com/science/article/pii/S0300571220303109>
- **DG PARO implementation of guideline:**
<https://www.dgzmk.de/Die-Behandlung-von-Parodontitis-Stadium-i-bis-iii>
- **SEPA implementation of guideline:**
https://portal.guiasalud.es/wp-content/uploads/2021/03/gpc_608_periodontitis.pdf

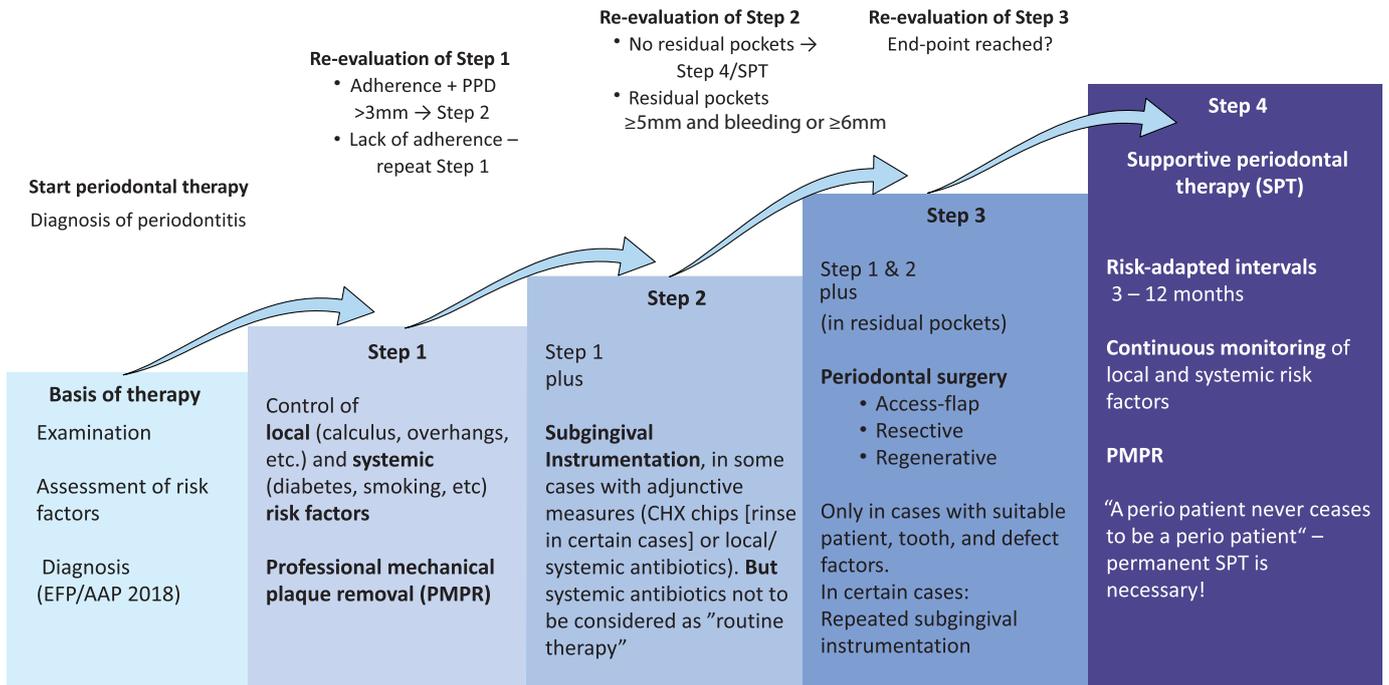


Table 2: The four steps of periodontal therapy

8 July 2021 at 19:00 CET



Speaker
Moritz Kepschull
Moderator
Spyros Vassilopoulos

Guidelines: periodontal treatment Step IV (supportive periodontal care)

The BSP, DG PARO, and SEPA implementations of the EFP S3-level clinical practice guideline

EFP	BSP	DG PARO	SEPA
2.3: "We suggest that subgingival periodontal instrumentation can be performed with either traditional quadrant-wise or full mouth delivery within 24 hours."		Adapted. Take into account the individual risk profile when making decision.	
2.5: "We suggest not to use adjunctive antimicrobial photodynamic therapy (aPDT) at wavelength ranges of either 660-670nm or 800-900-nm in patients with periodontitis."	Adapted. "We suggest that adjunctive aPDT is not used in patients with periodontitis."	Adapted. "We suggest not to use aPDT of all three wavelengths" (rather than just 660-670nm and 800-900nm).	
2.8: "We suggest not to use systemic sub-antimicrobial dose doxycycline (SDD) as an adjunct to subgingival instrumentation."		Adapted. Grade of recommendation increased. "We recommend not to use systemic sub-antimicrobial dose doxycycline (SDD) as an adjunct to subgingival instrumentation."	Adapted: Grade of recommendation increased. "We recommend not to use systemic sub-antimicrobial dose doxycycline (SDD) as an adjunct to subgingival instrumentation." Rationale for adaptation: In Spain, sub-microbial systemic doxycycline is not approved for the evaluated indication.
2.13: "Adjunctive antiseptics may be considered, specifically chlorhexidine mouth rinses for a limited period of time, in periodontitis therapy, as adjuncts to mechanical debridement, in specific cases."		Adapted: "Adjunctive antiseptics may be considered ... in cases where mechanical plaque control is impaired or impossible."	
2.16: A: Due to concerns about patient's health and the impact of systemic antibiotic use to public health, its routine use as adjunct to subgingival debridement in patients with periodontitis is not recommended. B: The adjunctive use of specific systemic antibiotics may be considered for specific patient categories (e.g. generalised periodontitis Stage III in young adults).	Part B adapted: "The adjunctive use of specific systemic antibiotics may be considered for specific patient categories (e.g. periodontitis Grade C in younger adults where a high rate of progression is documented)."	Part B adapted: "The adjunctive use of specific systemic antibiotics may be considered for patients with demonstrated fast progression, e.g., young adults with generalised stage III/IV periodontitis."	
R3.4: "Surgical treatment is effective but frequently complex, and we recommend that it is provided by dentists with additional specific training or by specialists in referral centres. We recommend efforts to improve access to this level of care for these patients."		Adapted. Grade of recommendation downgraded. "We suggest that these interventions should be performed by dentists after specific training (postgraduate or CPD)"	
3.6: "We recommend not to perform periodontal (including implant) surgery in patients not achieving and maintaining adequate levels of self-performed oral hygiene."		Adapted: Reference to "maintaining" removed.	
4.1: "We recommend that supportive periodontal care visits should be scheduled at intervals of 3 to a maximum of 12 months and ought to be tailored according to patient's risk profile and periodontal conditions after active therapy."		Adapted. Grade of recommendation downgraded. "We suggest that ..."	
4.6: "If anatomically possible, we recommend that tooth brushing should be supplemented by the use of interdental brushes."	Adapted. "We recommend that tooth brushing should be supplemented by the use of interdental brushes (where anatomically possible) for patients in supportive periodontal care. Expert consensus states the patient's ability and manual dexterity should be considered."		
4.8: "In interdental areas not reachable by toothbrushes, we suggest supplementing tooth brushing with the use of other interdental cleaning devices in periodontal maintenance patients."	Adapted. "We suggest the use of other interdental cleaning devices in interdental areas, not reachable by interdental brushes, for patients in supportive periodontal care."	Adapted. "Interdental spaces not reachable by interdental brushes" instead of "reachable by toothbrushes"	Adapted. "Interdental spaces not reachable by interdental brushes" instead of "reachable by toothbrushes"
4.12: "If an antiseptic dentifrice formulation is going to be adjunctively used, we suggest products containing chlorhexidine, triclosan-copolymer, and stannous fluoride-sodium hexametaphosphate for the control of gingival inflammation, in periodontitis patients in supportive periodontal care."	Not adopted. "A specific recommendation was unable to be made and further research is appropriate."	Adapted. Chlohexidine and triclosan removed	Adapted. Reference to triclosan-copolymer removed. Rationale for adaptation: In Spain, some of the products evaluated in the systematic review might not be available commercially. Specifically, dentifrice with triclosan-copolymer has been withdrawn from the Spanish market.
4.16: "We suggest not to use adjunctive methods (sub-antimicrobial dose doxycycline, photodynamic therapy) to professional mechanical plaque removal (PMPR) in supportive periodontal care."		Adapted. "We suggest not to use any adjunctive methods."	Adapted. Grade of recommendation increased. "We recommend not to use adjunctive methods (sub-antimicrobial dose doxycycline) to professional mechanical plaque removal (PMPR) in supportive periodontal care." Rationale for adaptation: In Spain, sub-microbial systemic doxycycline is not approved for the evaluated indication.

Note: There are three grades of recommendation in the clinical practice guideline: **A** (strong recommendation, "we recommend"), **B** (recommendation, "we suggest"), and **O** (open recommendation, "may be considered").

Adapting the guideline for Spain

By **David Herrera**



In parallel with DG-PARO for Germany and the BSP for the United Kingdom, the Spanish Society of Periodontology and Osseointegration (SEPA) decided in April 2020 to follow the process of adaptation, for Spain, of the *EFP S3-level Clinical Practice Guideline (CPG) - Treatment of Stage I-III Periodontitis*.

This comprehensive process, using the GRADE-ADOLOPMENT¹ approach, included the following steps:

1. Identification of the chairs of the project for SEPA: David Herrera as chair, and Mariano Sanz as co-chair.
2. Identification of the working-group chairs and co-chairs: Paula Matesanz, Ignacio Sanz-Sánchez, José Nart, Juan Blanco, Elena Figuero and Antonio Bujaldón.
3. Identification of the methodological expert/supervisor: Pablo Alonso Coello, Instituto para Excelencia Clínica y Sanitaria (INPECS), Barcelona, Spain.
4. Translation of the clinical practice guideline, supervised by the chairs.
5. Update of the systematic reviews, working together with DG-PARO and BSP, in contact with the authors of these reviews.
6. Identification of participants in the adaptation process: 12 experts in periodontology and 14 stakeholders, representing different societies and institutions:
 - The Spanish scientific societies of cardiology, diabetes, oral surgery, oral epidemiology and public health, conservative dentistry, prosthetics, and aesthetics.
 - Institutions: Minister of health of the Madrid regional government, National Dentistry Official Association, National Dental Hygienist Official Association, University of Seville, University of Valencia.
7. All participants complete and signed conflict-of-interest forms.
8. Three working groups were designed to work with each of the guideline's 62 individual recommendations. A document evaluating different aspects of the process (impact on equality, applicability, feasibility...) was produced for each recommendation by the working chairs of each group, supervised by the chairs and the methodological consultants. This information was shared with all participants in advance of the meetings.
9. Working groups met online in separate sessions, of up to 4 hours, on May 29-30, to evaluate if each recommendation could be adopted (and stay the same as in the original guideline) or if it needed to be adapted to the Spanish context and, if so, what changes needed to be made to the text.
10. The amended versions were shared with all participants, who met in a plenary session on June 13, at which all recommendations were presented and voted on.
11. The final version of the adapted CPG was prepared and shared with the institutions represented in the process for their approval.
12. The CPG was finally published in November 2020, and it is now included in the Spanish government's catalogue of clinical practice guidelines. (<https://portal.guiasalud.es/>).

¹Schunemann HJ, Wiercioch W, Brozek J, Etzandia-Ikobaltzeta I, Mustafa RA, Manja V, Akl, EA. GRADE Evidence to Decision (EtD) frameworks for adoption, adaptation, and de novo development of trustworthy recommendations: GRADE-ADOLOPMENT. *Journal of Clinical Epidemiology* 2017;81:101-110. Doi:10.1016/j.jclinepi.2016.09.009

Adopting and adapting: the key changes

The result of the process was that most of the recommendations of the original guideline remained the same and were simply adopted.



For **Step 1 of therapy (behavioural change, oral hygiene, plaque control, and risk-factor management)**, all 10 recommendations were adopted, although for the one dealing with interventions for smoking cessation (R1.6), a special emphasis was made because of the high prevalence of smoking in Spain. With the one on interventions for diabetes control (R1.7), the importance of the management of oral and periodontal health in patients with diabetes was highlighted, according to the consensus of the joint workshop between the EFP and the International Diabetes Federation (Perio-Diabetes Workshop, 2017).

Fifteen of the 16 recommendations for Step 2 of therapy (basic subgingival instrumentation and possible use of adjunctive therapies) were adopted, while recommendation R2.8 on the adjunctive use of sub-antimicrobial dose doxycycline was adapted because this medication cannot be used in Spain as it has not been approved by the local health authorities. In addition, some specific considerations were made for certain adopted recommendations: adjunctive statins (R2.6), bisphosphonate (R2.9), and metformin (R2.12) gels are not commercially available in Spain for the evaluated indications. Furthermore, some probiotics (R2.7), mouth-rinse formulations (R2.13), and locally delivered antimicrobials (R2.14 and R2.15) may not be commercially

available in Spain. In addition, the relevance of the recommendation on the use of systemic antimicrobials (R2.16) was stressed, given the high level of antimicrobial resistance in Spain.

The 16 recommendations for **Step 3 of therapy (periodontal surgery)** were adopted, with some additional comments. In the recommendation (R3.6) on the need for a good self-performed oral-hygiene level by the patient before surgical therapy, the Spanish guideline highlights that this information should be effectively transmitted to patients. In the recommendations dealing with furcation treatment (R3.14, R3.15, R3.16), it was stressed that the economic cost and the complexity of the procedures should be also considered when selecting the most adequate approach.

Seventeen of the 20 recommendations for **Step 4 of therapy (supportive periodontal care)** were adopted. Three needed to be adapted:

- The recommendation on the use of alternative methods for interdental cleaning (R4.8) was adapted to clarify that it referred to alternatives to interdental brushes, which was not clear in the English version.
- The recommendation on active agents in dentifrices (R4.12) was adapted to clarify that one of the formulations was no longer available in the Spanish market.
- The recommendation on the adjunctive use of interventions alongside professional mechanical plaque removal (R4.16) was adapted, because one of the interventions (sub-antimicrobial dose doxycycline) cannot be used in Spain as it has not been approved by the local health authorities.

Two additional recommendations were adopted, but with some additional comments: the one dealing with interventions for smoking cessation (R4.18) and on interventions for diabetes control (R4.19), with the same comments as made for the parallel recommendations in Step 1.

Extending the guideline's reach

The Spanish translation of the EFP clinical practice guideline that was prepared by SEPA will be the basis for the uptake process in Latin American countries, as the Iberopanamerican Federation of Periodontology (FIPP) has adopted the guideline via commentary (a supranational document), as a preliminary step for adoption via commentary in different Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, the Dominican Republic, Ecuador, Panama, Peru, Uruguay, and Venezuela).



David Herrera is professor of periodontology at the Complutense University of Madrid in Spain, associate dean of dental clinics, co-director of the ETEP (Aetiology and Therapy of Periodontal and Peri-implant Diseases) research group, and co-director of the EFP-accredited postgraduate programme in periodontology at the Complutense University. He is chair of the EFP's Workshop committee, scientific chair of EuroPerio10, SEPA's EFP delegate, and was SEPA president from 2013-2016.

SEPA implementation of the guideline:
https://portal.guiasalud.es/wp-content/uploads/2021/03/gpc_608_periodontitis.pdf

The financial and human cost of gum disease is made clear in EFP-commissioned report published by The Economist's research division

A report commissioned by the EFP and published by the Economist Intelligence Unit (EIU), the research and analysis division of the Economist Group, provides a comprehensive analysis of the financial and human cost of gum disease in six Western European countries.

The report, *Time to take gum disease seriously: The societal and economic impact of periodontitis*, was published on June 14 and explains how more effective prevention of gum disease could save billions in healthcare costs and lead to healthier lives. The six countries included in the study are France, Germany, Italy, the Netherlands, Spain, and the UK.

As the report makes clear, periodontitis is largely preventable with good oral hygiene and regular dental check-ups. However, it shows how in Western Europe little progress has been made in the prevention and management of periodontitis, with prevalence remaining largely unchanged over the last 25 years. One key factor highlighted by the report is that many people visit a dentist only when they have a problem and avoid regular appointments because of the cost.

It notes that in Spain and Italy, most if not all periodontitis treatment is paid for by patients or private insurance, so "periodontitis treatment for a low-income family is therefore rendered almost unaffordable". Furthermore, while dental care appears to be "free on paper" in the UK and France, "only

part of the dental procedures for treating periodontitis are covered and the remainder is paid for out-of-pocket."

After providing evidence that professional management of periodontitis is cost-effective, the study argues that "publically covered dental care for periodontitis deserves a review from policy makers and commissioners Europe-wide".

The report therefore seeks to "capture the attention of policy makers" in the six countries studied, emphasising the economic and societal benefits of action in the early treatment of periodontitis, and arguing that "given the prevalence and preventable nature of periodontitis, new ways of thinking about gum health are needed to increase awareness and action at national level."

Four recommendations

The EIU report makes four key recommendations:

1. The prevention, diagnosis, and management of periodontitis is cost-effective:

- The role of home care by patients is of paramount importance to prevent gingivitis and periodontitis.
- Making efforts to eliminate gingivitis, thus preventing progression to periodontitis, would save considerable costs over 10 years compared with "business as usual" – ranging from €7.8bn in the Netherlands to €36bn in Italy.
- Neglecting to manage gingivitis can significantly

increase costs and reduce healthy life years, so "an emphasis on self-care and prevention is critical from both an individual and a societal perspective."

2. Better integration of dental and general healthcare is required:

- Sharing information across disciplines may both improve patient care (because of the common risk factors shared by some dental and physical health conditions) and contribute significantly to dental and general-health research.
- Integration may also encourage shared responsibility across healthcare disciplines to address unmet oral-health needs in vulnerable and marginalised communities.

3. A synergy of societal and individual public-health campaigns is needed:

- One without the other would exacerbate oral-health inequalities both within and across countries.
- Societal-level prevention is of crucial concern to the prevention of periodontitis, as it is a disease that is highly prevalent in deprived areas.
- Individual public-health campaigns need to pay special attention to less affluent communities and embed prevention and early intervention in community settings such as schools (for the prevention of caries)

and health centres (for the prevention of gum disease).

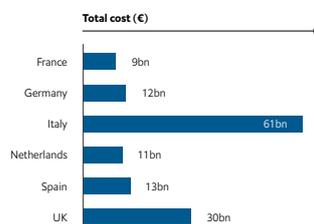
4. The affordability of dental care needs to be improved:

- For many people, the cost of accessing a dentist is a barrier to receiving early treatment and, as a result, they are more likely to access the dentist only when they are aware that something is wrong rather than for check-ups or preventative treatment that is essential for avoiding periodontitis.
- In the UK and France, not all procedures for treating periodontitis are covered by the public-health system and the remainder is paid for by the patient. In Spain and Italy, most (if not all) periodontal treatment is paid for by the patient or via private insurance.
- As a result, periodontitis treatment for a low-income family is rendered almost unaffordable.
- Professionally managed periodontitis is cost-effective and policy makers and commissioners Europe-wide should review publicly covered dental care for periodontitis.

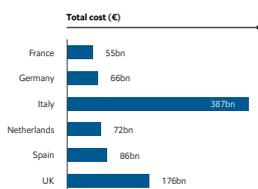
Few studies have modelled the economic burden of periodontitis and the return on investment (ROI) of treatment and the report's authors developed a model to examine the ROI of preventing and managing periodontitis, with separate modelling performed for France, Germany, Italy, the Netherlands, Spain, and the UK.



Elimination of gingivitis using home care is cost saving and has a strong return on investment



Managed periodontitis using the professional oral healthcare team is more costly than business as usual but still delivers a positive return on investment



The model used in the study was based on EFP treatment guidelines that outline four intervention points in the progression from (1) health to (2) gingivitis, (3) undiagnosed periodontitis, and (4) diagnosed periodontitis. The estimates for the current national situation in each of the six countries determined the number of individuals starting at each stage of the model.

Five scenarios

The authors modelled the transition between the stages over a 10-year period according to five scenarios:

1. Baseline: current prevention and treatment situation continues.
2. Rate of gingivitis management falls from 95% to 10%.
3. Incident gingivitis is eliminated through improved oral homecare (periodontitis is thereby prevented).
4. No periodontitis is managed.
5. 90% of periodontitis is diagnosed and managed.

The model calculated the impact of each scenario on total costs, ROI, and the change in healthy life years compared to the baseline. The cost of continuing with the baseline scenario ranged from €18.7 billion in the Netherlands to €96.8 billion in Italy over 10 years. In all countries, reducing gingivitis management lowered healthy life years and had a negative ROI. Eliminating gingivitis led to rises in healthy life years, reduced costs, and a strong ROI in all countries. No management of periodontitis

resulted in reductions in healthy life years and a negative ROI for all countries. Diagnosing and managing 90% of periodontitis increased healthy life years in all countries and despite cost increases there was a positive ROI.

The authors noted that both eliminating gingivitis and increasing the rate of diagnosing and treating periodontitis to 90% had a positive ROI for all countries and gains in healthy life years compared to business as usual. Neglecting to manage gingivitis had the opposite effects. They called for greater emphasis on self-care and prevention at the individual and societal level, including nursery-based dental care and tooth-brushing workshops in schools. While the latter would primarily target caries prevention in children, instilling good oral-hygiene regimens into the daily routine from a young age should also benefit periodontitis prevention in adult years.

The EFP's current and former secretaries general, Nicola West and Iain Chapple, contributed to the report and the EIU also carried out interviews with 17 other leading periodontists. The economic modelling was performed by health economists David Tordrup and Tim Jesudason of Triangulate Health. "It is hugely challenging to determine the economic and societal costs of a complex disease like periodontitis, which is why we needed an independent expert group like the EIU to undertake this

modelling," said Iain Chapple, professor of periodontology at the University of Birmingham, former EFP treasurer and secretary general, and member of the EFP Workshop Committee. "Their data clearly demonstrates that by far the biggest ROI comes from the prevention of periodontitis – i.e., by treating gingivitis – something traditionally regarded as trivial and ignored – rather than with treatment being directed at periodontitis, which is of course too late for prevention."

Nicola West, professor of periodontology at Bristol University and EFP secretary general, said: "I am delighted with the analysis presented by the EIU, highlighting the benefit to healthcare providers of treating gum disease early to realise gains in healthy life years, advancing the European Federation of Periodontology's purpose of promoting periodontal health for a better life."

The EIU report was sponsored by Oral-B, part of the Procter & Gamble Company. "Dental diseases, including periodontitis, are a burden both on an individual and societal level; fortunately, they can be prevented through oral health maintenance," said Leslie Winston, vice president of global oral care professional and scientific relations at Procter & Gamble. "Key factors are mechanical and chemical plaque control, e.g., using an electric toothbrush with an antibacterial fluoride toothpaste and interdental cleaning. Another important element is to visit dental healthcare providers regularly to ensure that any emerging issues are addressed while they still can be reversed."

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The Economist Intelligence Unit: *Time to take gum disease seriously: The societal and economic impact of periodontitis*. Published June 14, 2021.

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