GMCA GREATER MANCHESTER COMBINED AUTHORITY

NHS in Greater Manchester

Greater Manchester Local Dental Network

Healthy gums DO matter!

Periodontal Management In Primary Dental Care

Greater Manchester Local Dental Network

Practitioner's Toolkit

Second Edition | Spring 2019

Healthy gums DO matter!

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PREFACE

Healthy Gums DO Matter

Second Edition

The HGDM toolkit was developed in early 2014 and following feedback from the pilot practices involved in the project, the first edition of the toolkit was launched to Greater Manchester dental teams in November 2014.

Since the launch of the toolkit over five years ago, work has continued on the project. This has included piloting and improving implementation into practice with the development of a training programme to support dental teams. A service evaluation of the HGDM project has been completed with data collected from pilot practices over a two-year period to assess the impact of the project on patient outcomes and practitioner views on the feasibility and acceptability of the HGDM approach.

The evaluation showed encouraging results, with positive changes reported in patient self-care behaviour, improvements observed in clinical measures and an overall increase in periodontal health. The toolkit and care pathways were reported as valued by practitioners as an achievable way of implementing existing evidence-based best practice.

In addition to this, a diagnostic study to test and optimise the two new abbreviated plaque and bleeding scoring methods (The Modified Plaque and Bleeding scores) for assessing patient engagement has been completed following ethical approval. The results of the study showed support for the use of the new abbreviated scoring methods when assessing patient engagement. However, the thresholds for patient engagement and a slight variation in the Modified Bleeding scoring method have been revised following the results of the study.

Other significant changes since the launch of the toolkit have been the introduction of the new classification system for periodontal diseases and conditions following the international workshop in 2017. The British Society of Periodontology (BSP) have subsequently launched their implementation plan for the new classification system for clinical practice in early 2019. As well as this, there has been the revision of the basic periodontal examination guidelines by the BSP in 2016.

The second edition of the HGDM toolkit has now been updated to reflect all the advancements and changes that have taken place since the launch of the first edition. The periodontal pathways have been updated to align with the current guidance and new classification system. A number of sections have been rewritten completely, whist others revised and updated to make the toolkit easier to read and more accessible in an electronic format.

Healthy gums DO matter!

SECTION 1

Introduction to the Toolkit

Making periodontal care work in primary dental practice

The Greater Manchester Local Dental Network (GM LDN) has worked on periodontal management in primary dental care since 2014. A steering group to the GM LDN was established to plan, implement and embed this project into primary care; it included members representing general dental practitioners, commissioners, patients, specialists and dental public health.

Our aim is to produce a periodontal resource toolkit for primary dental care teams in Greater Manchester and wider. The intention is to compliment the evidence informed guidance on prevention that has been published in the 3rd edition of Delivering Better Oral Health (DBOH), with evidence informed periodontal care and treatment pathways to support primary dental care teams in GM to improve outcomes for patients. The group is determined to ensure that the toolkit will distil the evidence and specialist guidance available on prevention and treatment, into workable care pathways for NHS primary dental care practice in Greater Manchester.

The care pathways have been developed according to periodontal need and as such, this project will aim to describe the periodontal need and outcomes of care for patients attending NHS primary dental care in Greater Manchester. It is important that we use the funding in current contracts effectively by facilitating primary dental care teams to appropriately manage periodontal diseases in NHS practice. NHS England GM Area Team commissioners are integral to the work and have agreed to support delivering best practice.

The success of this work will depend on clinical teams engaging, having the knowledge and confidence to deliver evidence based best practice for periodontal disease with patients understanding their responsibility in self-care to demonstrate improved outcomes for everyone.

Rationale

The gap between how periodontal care is being delivered in NHS general dental practice and the recommended guidance is widening. The steering group recognise the disconnect and issues raised and want to start the move towards bridging the gap between how periodontal care is being delivered and how it should be delivered.

This move towards best practice may not be achieved at once and is an on going process and journey towards the aim set out on the previous page. The acceptance of the guidance by local dental practitioners is crucial for the success of this project to improve the quality and outcomes of periodontal care in NHS general practice. This staged approach towards best practice will allow larger acceptance by local general dental practitioners and will increase engagement as opposed to trying to achieve this in one step, which may be too overwhelming.

The task group has also recognised the importance of the patient's role in the management of periodontal diseases. The care pathways developed aim to deliver formal periodontal therapy when the best outcome for each individual patient can be achieved. As a part of this project the patient agreement has been developed to harness mutual understanding between the patient and dental team upon their respected responsibilities.

With the correct methodology and engagement, we are positive the work this task group has developed and the second edition of the toolkit will be accepted by local GDP's and implemented into general dental practice.

SECTION 2

The Potential Effectiveness of Different Stages of Periodontal Therapy

Making periodontal care work in primary dental practice

The periodontal pathway work has been produced following input from all representatives of the profession, ranging from general dental practitioners, specialists in periodontology, dental commissioners, dental care professionals, consultants in dental public health, the patient, legal representatives and academics.

The graph shown in figure 1 on the following page illustrates the potential effectiveness of different stages of periodontal therapy, based upon reported outcomes in the literature. This has been the philosophy and principle behind the pathways produced. Importantly, it can be demonstrated that the single largest impact on outcomes of periodontal therapy is the patient's oral hygiene. Controlled clinical trials repeatedly show that the largest decrease in the number of diseased sites is seen following oral hygiene instruction and initial therapy.

Simple initial therapy combined with oral hygiene instruction can stabilise approximately two-thirds of diseased sites; then formal non-surgical and surgical instrumentation stabilises the majority of remaining sites. During the course of periodontal therapy, management moves from a high level ("mouth level") analysis of risk factors, such as poor plaque control, calculus levels, to "tooth level" risk factor management, such as tooth anatomy and furcation involvement, and finally to "site level" risk factor management, such as bleeding on probing and local root grooves/concavities. The level of knowledge and understanding of an individual patient's risk and disease increases as we move from mouth-level to tooth- level to site-level risk factors.

Our challenge has been to try and recognise at what stage patients should move onto more extensive non-surgical and surgical periodontal therapy when they are still struggling with maintaining adequate oral hygiene and plaque control. The graph in figure 1 clearly shows that the single largest significant impact on the stabilisation of periodontal disease is adequate plaque control and home care. Hence the value of formal non-surgical and surgical therapy without adequate plaque control will result in a poorer outcome post-therapy compared with therapy performed with good plaque control. In fact, most of these diseased sites would have stabilised with adequate plaque control and initial simple therapy.

The pathways produced reflect this and therefore a patient will move to formal non-surgical therapy once adequate plaque control is achieved. As a result, the stage at which formal therapy is started is when management is at tooth and site level. This in turn reduces the amount of treatment the patient has to undergo, and allows better-targeted periodontal therapy for the most favourable outcomes.

The "adequate" level of oral hygiene to determine an 'engaging patient' has been set at 30% plaque score and 35% bleeding score, based on the new abbreviated plaque and bleeding scoring methods developed in this project. Initially these scores were set at 20% plaque and 30% bleeding. However, since the release of the toolkit, a diagnostic test study has been undertaken to test and optimise the two new abbreviated scoring methods for plaque and bleeding. The outcomes of the study showed the levels of 30% for the Modified Plaque Score (MPS) and 35% for the Modified Bleeding Score (MBS) gave the highest specificity and sensitivity for correctly identifying engaging and non-engaging patients. In light of the new evidence, the threshold for engaging patients has now been moved from 20% to 30% for the MPS and from 30% to 35% for the MBS

Whilst a full mouth plaque score of 20% and a full mouth bleeding score of 10% are the accepted standard with periodontal academics and specialists, these are mainly mentioned for patients post therapy in the maintenance phase following periodontal treatment. The abbreviated plaque and bleeding scores used in HGDM are being used to determine patient engagement and to advance onto formal periodontal treatment. Therefore, these scores have been kept higher than the accepted standard for two main reasons:

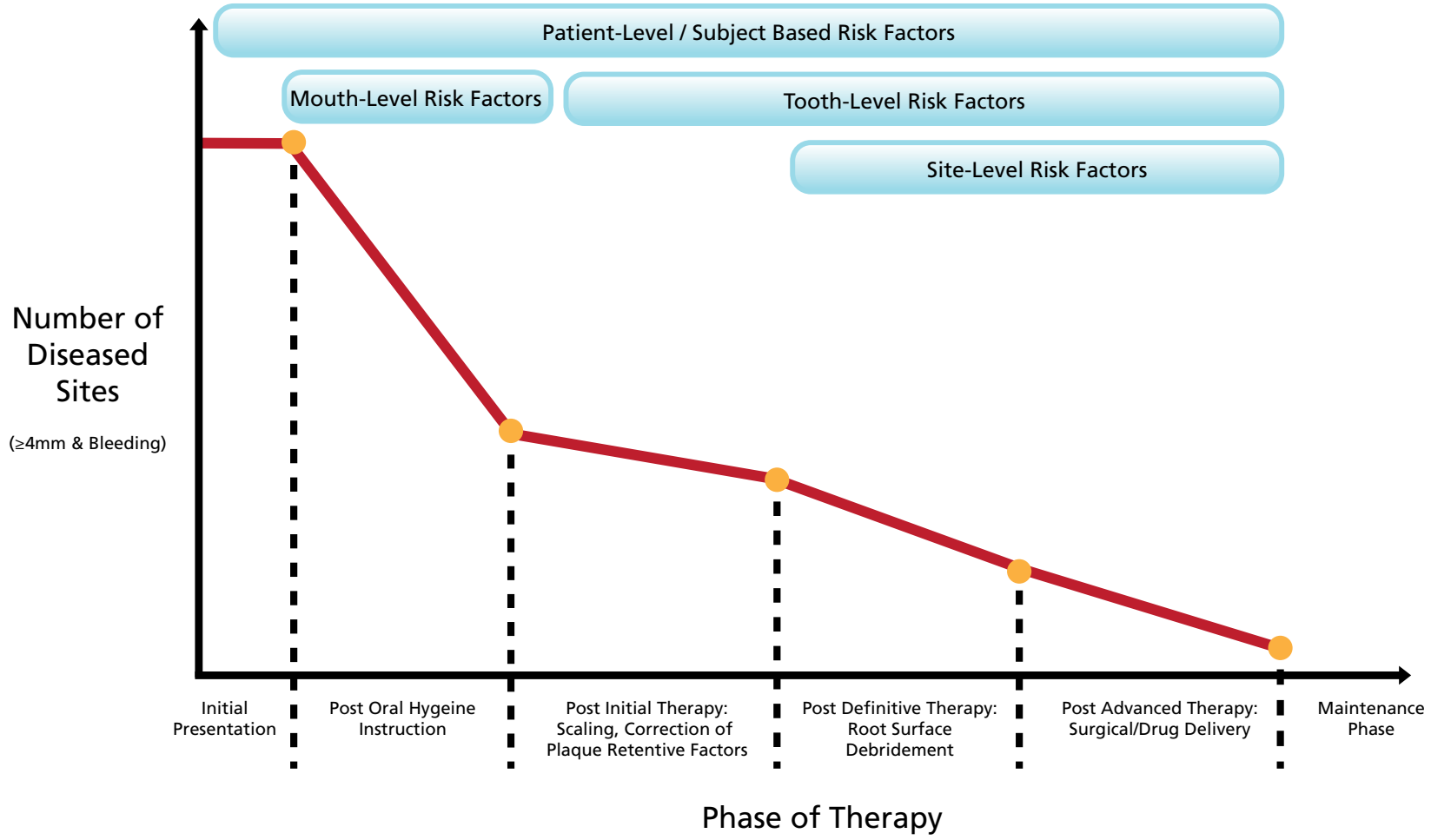
- Partial mouth recording systems tend to under-estimate disease.
- Formal periodontal therapy has not been carried out yet. The evidence base chosen (Fig 1) demonstrates that simple initial therapy combined with oral hygiene instruction can stabilise approximately two-thirds of diseased sites. Therefore, a bleeding score of 35% would be more appropriate as a threshold for entering into formal therapy.

Finally, it should be noted here that the Modified Bleeding Score is measuring marginal bleeding rather than bleeding on probing from the base of the pocket. Marginal bleeding reflects how well the patient is able to carry out effective plaque control daily, whilst bleeding on probing from the base of the pockets indicates active diseased sites.

It should be emphasised that the pathways produced allows for clinical discretion to be used. Some patients will not be able to achieve these levels of oral hygiene and plaque control due to factors such as manual dexterity, mental health problems etc. In these cases, formal periodontal therapy is started, as it is in the best interests of the patient and level two referral is an option. It should be noted that these patients may in fact be 'engaging' patients, who are engaging to the best of their ability, and they may not be able to achieve plaque and bleeding scores below 30% and 35% respectively.

The flexibility and clinical discretion within the pathways allows for these patients to be managed most appropriately, working in the best interests of the patient and level two referral is an option.

FIGURE 1 **The Potential Effectiveness of Different Stages of Periodonal Therapy**



Taken From "Understanding Periodontal Diseases: Assessment and Diagnostic Procedures in Practice" by Iain L Chapple and Angela D Gilbert, Quintessence Publishing Co. Ltd

SECTION 3

The Classification of Periodontal Diseases and Conditions

A new classification system has been developed in 2017 during the World Workshop Classification on Periodontal and Peri-implant Diseases and Conditions. This was formally launched in 2018, replacing the previous 1999 International Classification of Periodontal Diseases. The new system has been developed to update the 1999 classification system following advances in knowledge from clinical and biological research. Following the launch of the new classification system, the British Society of Periodontology (BSP) have worked to produce an implementation approach for clinical practice which was published in the British Dental Journal in January 2019,[1] and six subsequent case examples, and is advised reading for dental teams.

The new classification system has a number of significant changes, and for the first time periodontal health has been clearly defined. This is crucial for a number of reasons, one the of the most important being to determine a healthy or stable patient and the end-point of treatment and where periodontal maintenance takes over. The new classification system now differentiates between an intact periodontium and a reduced periodontium, recognising the importance that a patient with a previous history of periodontitis remains a periodontitis patient for life and therefore requires closer monitoring and surveillance in the future as they have a greater risk of moving from a state of periodontal stability into recurrent disease (unstable). Therefore, periodontal health and gingivitis have now been classified into three categories, which are:

1. Patients with an intact periodontium (no clinical attachment loss (CAL), no bone loss).
2. Patients with a reduced periodontium due to causes other than periodontitis (e.g. surgical crown lengthening, endodontic-periodontal lesions, recession due to toothbrushing etc.).
3. Patients with a reduced periodontium due to periodontitis (interproximal bone loss).

When defining periodontal health, the new classification system recognises that pristine health is rarely achieved by the majority of patients. Therefore, for general practice clinical over pristine health has been agreed and defined. For patients with an intact periodontium, or a reduced periodontium due to causes other that periodontitis, this has been agreed as patients with bleeding on probing (BoP) at <10% of sites, with probing pocket depths (PPD) ≤ 3mm. Gingivitis has been agreed as BoP >10% of sites, with PPD ≤ 3mm; localised gingivitis is between 10-30% of sites and generalised gingivitis >30% of sites.

However, for patients with a reduced periodontium due to a previous history of periodontitis, patients are now classified as periodontitis patients and diagnosed as either being stable (current health), in remission (gingival inflammation) or unstable (current disease).

This has made clearer the therapeutic end point for treatment and whilst periodontitis patients may not attain complete gingival health, they can achieve periodontal stability. This has been characterised by successful treatment through controlling local and systemic risk factors, with BoP <10% of sites, PPD ≤4 mm with NO 4mm pockets that bleed on probing and lack of progressive periodontal destruction. The probing depth of 4mm with bleeding has been determined to be the threshold between a stable and an unstable site as it is no longer seen as a closed pocket and therefore assumed to be unstable periodontitis. Thus, any patient with historic or current periodontitis is now classified as a periodontitis patient and then diagnosed as being either:

- **Stable** with whole mouth bleeding on probing less than 10%, probing pocket depths of 4mm or less with no 4mm sites bleeding on probing
- **In remission** with whole mouth bleeding on probing greater than 10%, probing pocket depths of 4mm or less with no 4mm sites bleeding on probing
- **Unstable** with probing pocket depths of 5mm or greater, or probing pocket depths of 4mm or greater with bleeding on probing

Figure 2[1] shows a summary diagnostic look up table from the BSP's implementation paper.

Figure 2[1]

Table 3 Diagnostic 'look up table' for gingival health or dental plaque-induced gingivitis in clinical practice. Modified after Chapple et al. 2018[2]

Intact periodontium	**Health**	**Gingivitis**
Probing attachment loss	No	No
Probing pocket depths (assuming no pseudo pockets)	≤3 mm	≤3 mm
Bleeding on probing	<10%	≥10%
Radiological bone loss	No	No
Reduced periodontium Non periodontitis patient	**Health**	**Gingivitis**
Probing attachment loss	Yes	Yes
Probing pocket depths (all sites & assuming no pseudo pockets)	≤3 mm	≤3 mm
Bleeding on probing	<10%	≥10%
Radiological bone loss	Possible	Possible
Successfully treated periodontitis patient	**Health (stable)**	**Gingival inflammation in a patient with a history of periodontitis (remission)**
Probing attachment loss	Yes	Yes
Probing pocket depths (all sites & assuming no pseudo pockets)	≤4 mm (no 4 mm site with BoP)*	≤4 mm no 4 mm site with BoP)*
Bleeding on probing	<10%	≥10%
Radiological bone loss	Yes	Yes

*A successfully treated periodontitis patient in whom sites of gingival bleeding appear, remains at high risk of disease recurrence at those sites and of progressive attachment loss. Therefore, gingival inflammation is defined as bleeding at a shallow site of ≤3 mm rather than ≤4 mm, as is the case in gingival health. Where the probing depth is 4 mm with bleeding, or higher, this is no longer a 'closed pocket' and is assumed to be unstable periodontitis
It is important to note that a higher probing depth of 5 mm or 6 mm in the absence of bleeding may not necessarily represent active disease, in particular soon after periodontal treatment

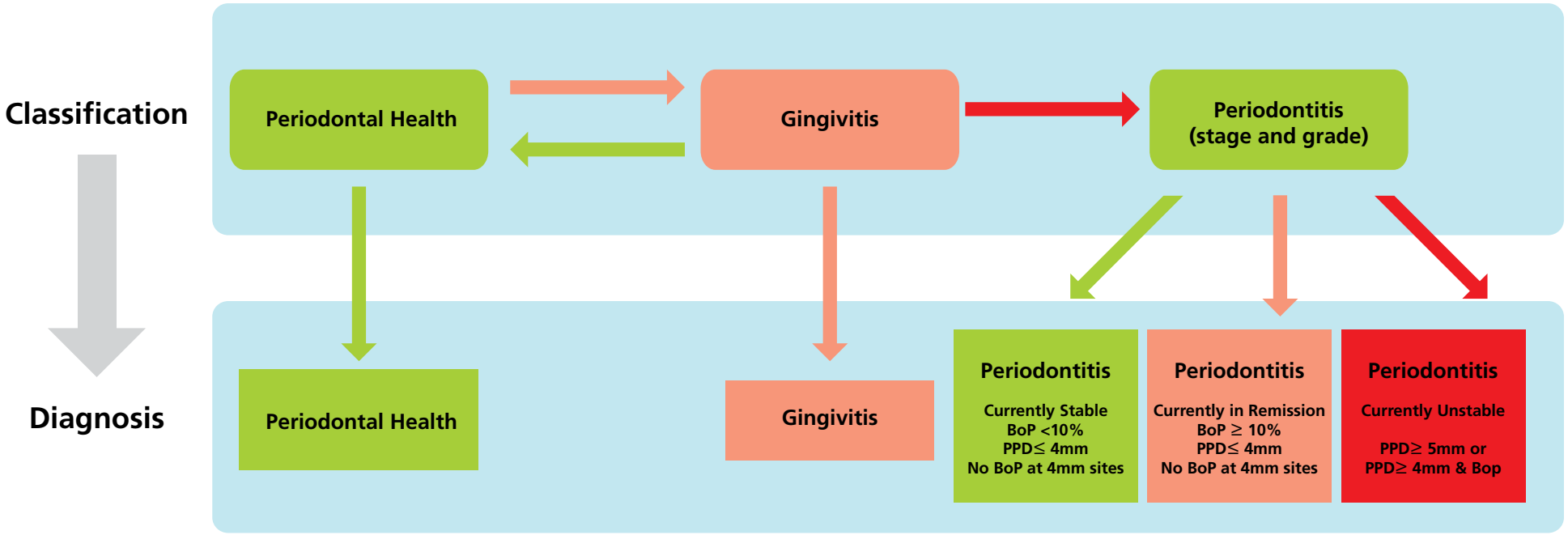
Another major change in the new classification system is removal of the distinction between chronic and aggressive periodontitis and now being simply grouped under a single category, "periodontitis". This is then further classified using a newly developed staging and grading system based on historical disease severity (amount of tissue loss) and susceptibility (historical rate of periodontitis progression) respectively. This is a move away from the traditional method of classification of mild, moderate or severe periodontitis, allowing for a more multidimensional classification which can be adapted over time as new evidence emerges. The extent of the disease is still classified as being localised or generalised, but an additional category of molar/incisor pattern has been added to reflect localised juvenile periodontitis, where a clearly defined phenotype exists.

Classification and Diagnosis

It is important to differentiate between classification and diagnosis. Whilst the new classification system for periodontitis gives us a reflection of historic disease experience (staging) and some insight into the rate of disease progression (grading), it does not give much information about the current disease status (BoP, PPD). Therefore, the basic periodontal exam (BPE) should continue to be used alongside the new classification system to aid clinicians to arrive at a provisional diagnosis of either periodontal health, gingivitis or periodontitis. The BPE will then guide the need for further diagnostic measures before establishing a definitive periodontal diagnosis and treatment plan[1]. The BSP have produced two flow diagrams (figures 5) to help dental teams use the new classification system with the BPE to reach a diagnosis in practice. The HGDM toolkit has embedded this into the updated pathways.

Figure 3[1] from the BSP's implementation paper summarises the differentiation between classification and diagnosis with the possible transitions between different plaque-induced periodontal diseases. It should be noted that whist a patient can transition between health and gingivitis, once a diagnosis of periodontitis has been made, the patient remains a periodontitis patient for life and can no longer transition back. They are now classified as a periodontitis patient and diagnosed as being either stable, in remission or unstable as outlined earlier.

Figure 3[1]


Classification
Diagnosis
Periodontal Health
Gingivitis
Periodontitis
(stage and grade)
Periodontal Health
Gingivitis
Periodontitis
Currently Stable
BoP <10%
PPD≤ 4mm
No BoP at 4mm sites
Periodontitis
Currently in Remission
BoP ≥ 10%
PPD≤ 4mm
No BoP at 4mm sites
Periodontitis
Currently Unstable
PPD≥ 5mm or
PPD≥ 4mm & Bop

Staging and Grading

The international workshop outcomes produced a complex staging and grading system. This staging process included components such as the amount of clinical attachment loss, radiographic bone loss, and complexity of management. The grading process included components such as direct evidence of bone loss measured radiographically over time or by clinical attachment loss, indirect evidence of progression using amount of biofilm in relation to levels of destruction as well as grade modifiers such as diabetes and smoking. The BSP has worked to produce a more pragmatic implementation of the new system, which is simpler to use and aimed for rapid use in general practice.

The BSP's implementation plan adopts a simplified matrix (figure 4[1]) for the staging and grading system as shown in figure 4 below from the paper by the BSP.

Figure 4[1]

Staging of periodontitis

	Stage I (early/mild)	Stage II (moderate)	Stage III (severe)	Stage IV (very severe)
Interproximal bone loss*	<15% or <2 mm**	Coronal third of root	Mid third of root	Apical third of root
Extent	**Describe as:** Localised (up to 30% of teeth), Generalised (more than 30% of teeth) Molar/incisor pattern			

*Maximum bone loss in percentage of root length.
**Measurement in mm from CEJ if only bitewing radiograph available (bone loss) or no radiographs clinically justified .

Notes:
1 If a patient has interproximal attachment loss but BPE codes of only 0, 1 & 2, (for example, a previously treated, stable periodontitis patient), and radiographs are not available/justifiable, staging & grading should be performed on the basis of measuring attachment loss in mm from the CEJ and estimation of concomitant bone loss.

2 If a patient is known to have lost teeth due to bone loss likely to have been within the apical third of the root, stage IV may be assigned

Grading of periodontitis

	Grade A (slow)	Grade B (moderate)	Grade C (rapid)
% bone loss / age	<0.5	0.5–1.0	>1.0

Staging

Staging reflects the severity of periodontitis at presentation measured by interproximal bone loss and is based on percentage bone loss in relation to root length. The worst value at any site in the mouth is used to stage a patient, where it is clear that bone loss has been due to periodontitis. This is ideally measured radiographically using periapical radiographs. However, if periapical radiographs are unavailable or not indicated for clinical reasons, bitewing radiographs can be used to determine bone loss. If no radiographs are available (or clinically indicated) then clinical attachment loss (CAL) can be measured from the cemento- enamel junction (CEJ).

Therefore, for stage 1 classification where this is most likely to occur, the following approach should be used:

Stage 1

- <15% bone loss (if periapical radiographs available)
- <2mm bone loss (bitewings only, measured from normal bone levels)
- <2mm CAL measured clinically from the CEJ (no radiographs available)

When assessing bone loss from radiographs it is important to note that normal bone levels can be up to 2mm below the level of the CEJ. When determining bone loss on radiographs this should be accounted for and measurement should be made from the normal bone level.

Stage 2 is interproximal bone loss in the coronal third of the root

Stage 3 is interproximal bone loss in the mid third of the root

Stage 4 is interproximal bone loss in the apical third of the root. A stage 4 can also be assigned to any patient who has lost teeth due to periodontal bone loss within the apical third of the root

Grading

Grading reflects the susceptibility of the patient to periodontitis in the absence of any intervention. This is done by using a ratio of percentage bone loss in relation to the age of the patient. The percentage bone loss is divided by the age of the patient and a ratio of less than 0.5 is slow progression Grade A, above 1.0 is rapid progression Grade C, and 0.5-1.0 is moderate (expected) progression Grade B. A simple approach to this is to take the patient's age and if the bone loss is less than half the patient's age, they are grade A. If it is more than the patient's age it is grade C and everything else is grade B.

Distribution

The extent or distribution of disease is now classified as either localised (upto 30% of teeth), generalised (more than 30% of teeth) or with a molar/incisor pattern. It should be noted that the extent or distribution is based on the number of teeth affected not the number of sites.

Risk Factors

Risk factors in the new classification system formed part of the grading process and were termed as grade modifiers and were diabetes and smoking. However, for the BSP implementation plan these have been kept as a separate component and therefore should be documented alongside the diagnosis following a comprehensive risk factor assessment.

Example

The final diagnostic statement should be in a format similar to:

Extent – Periodontitis – Stage – Grade – Stability – Risk Factors

An example of would be:

Generalised periodontitis, Stage 3, Grade B, currently unstable

Risk factors:

1. Current smoker over 15 cigarettes per day
2. Sub-optimally controlled diabetes (HbA1c over 7.0%)

Figure 5[3]

The BSP have produced a simple flow diagram implementing the 2017 classification of periodontal disease to reach a diagnosis in clinical practice. This can be seen below:

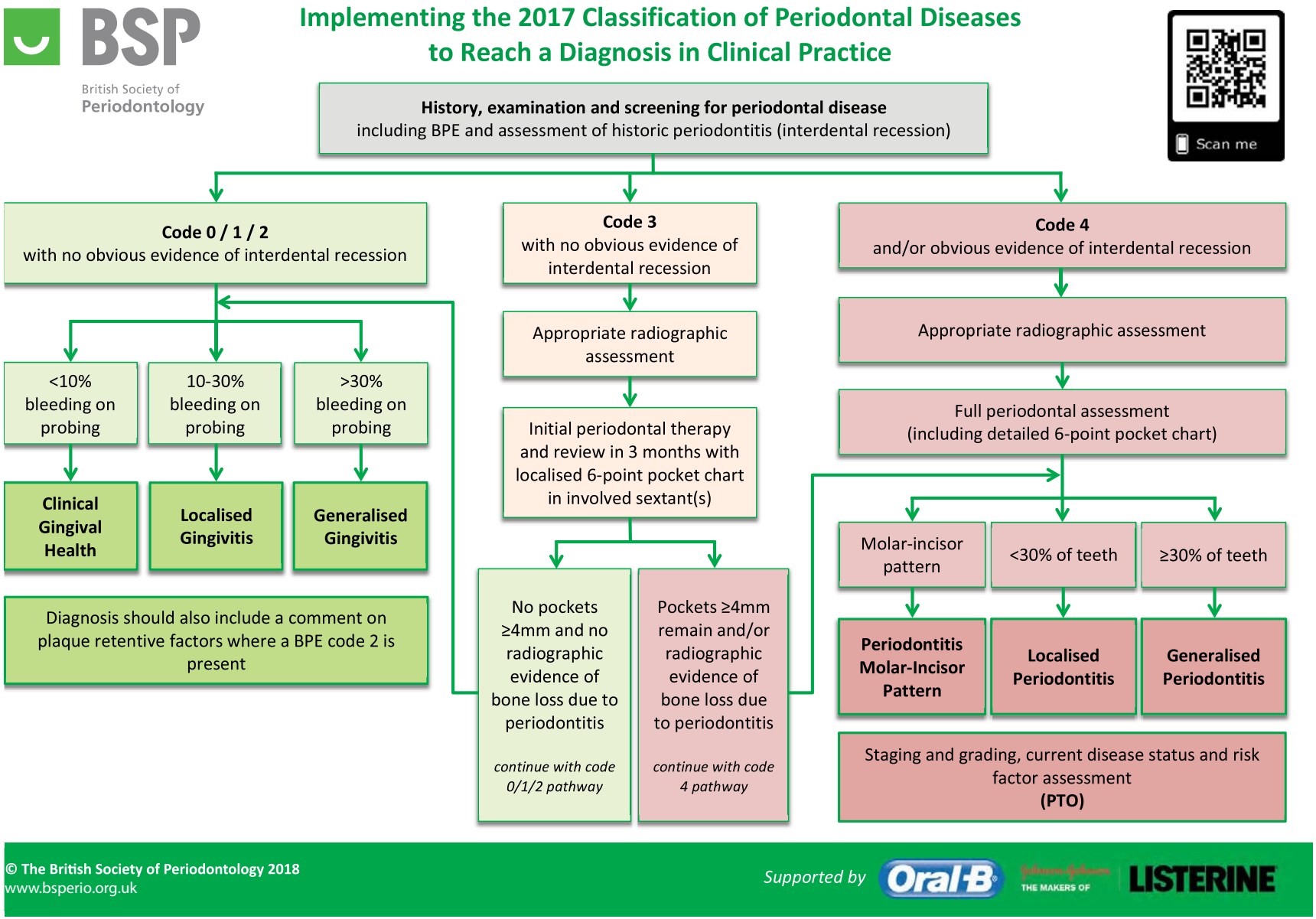


Figure 5[3]

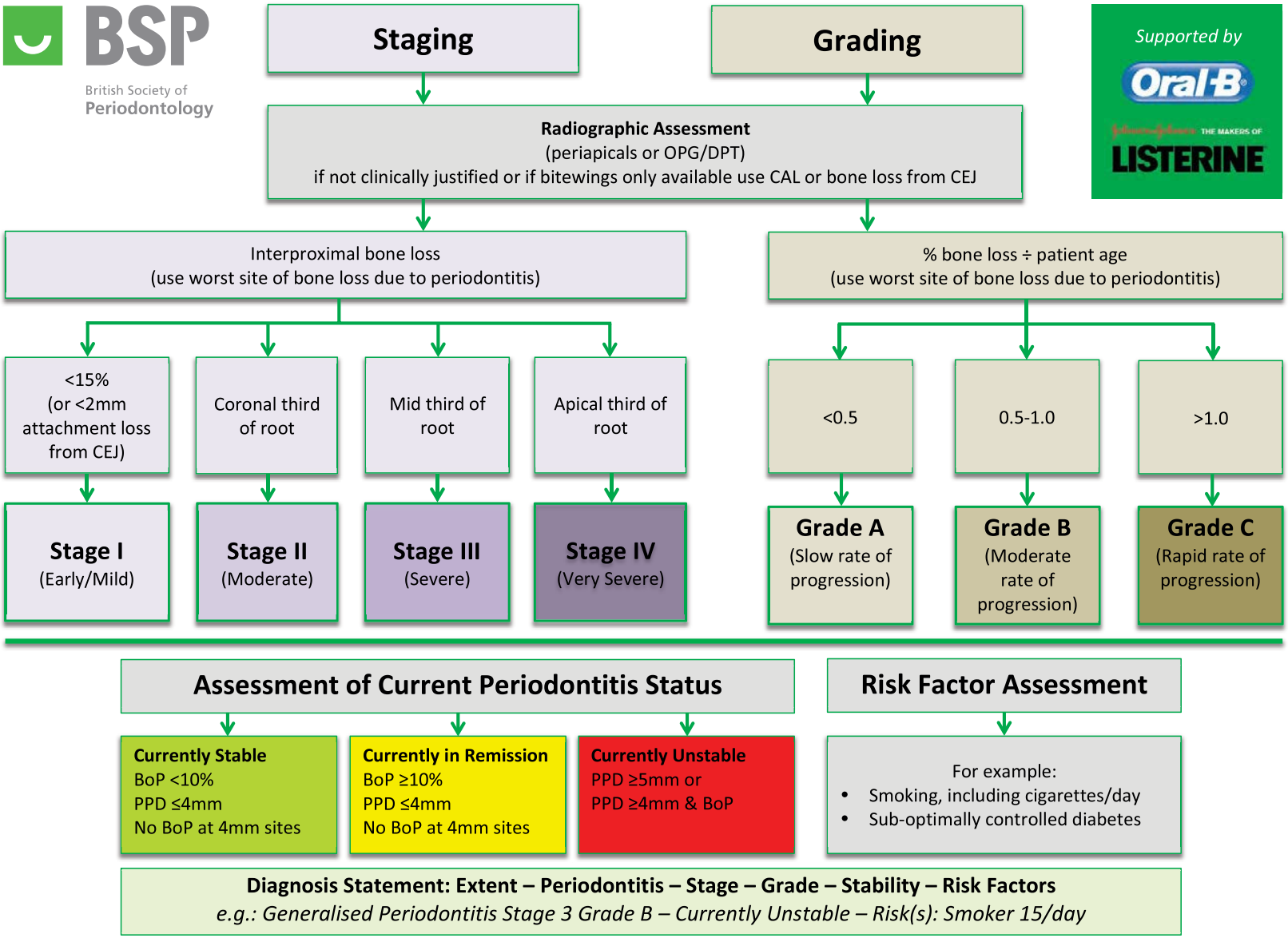

BSP
British Society of Periodontology
Staging
Grading
Supported by
Oral-B
THE MAKERS OF
LISTERINE
Radiographic Assessment
(periapicals or OPG/DPT)
if not clinically justified or if bitewings only available use CAL or bone loss from CEJ
Interproximal bone loss
(use worst site of bone loss due to periodontitis)
% bone loss ÷ patient age
(use worst site of bone loss due to periodontitis)
<15% (or <2mm attachment loss from CEJ)
Coronal third of root
Mid third of root
Apical third of root
<0.5
0.5-1.0
>1.0
Stage I (Early/Mild)
Stage II (Moderate)
Stage III (Severe)
Stage IV (Very Severe)
Grade A (Slow rate of progression)
Grade B (Moderate rate of progression)
Grade C (Rapid rate of progression)
Assessment of Current Periodontitis Status
Risk Factor Assessment
Currently Stable
BoP <10%
PPD ≤4mm
No BoP at 4mm sites
Currently in Remission
BoP ≥10%
PPD ≤4mm
No BoP at 4mm sites
Currently Unstable
PPD ≥5mm or
PPD ≥4mm & BoP
For example:
• Smoking, including cigarettes/day
• Sub-optimally controlled diabetes
Diagnosis Statement: Extent – Periodontitis – Stage – Grade – Stability – Risk Factors
e.g.: Generalised Periodontitis Stage 3 Grade B – Currently Unstable – Risk(s): Smoker 15/day

Figure 6 shows a summary table of the basic classification of periodontal diseases and conditions.

Figure 6[1]

Basic classification of periodontal diseases and conditions
Periodontal health, gingival diseases and conditions:
Periodontal health
intact periodontium
reduced periodontium*
Gingivitis: dental biofilm-induced
intact periodontium
reduced periodontium*
Gingival diseases and conditions: non-dental biofilm-induced
Periodontitis
Necrotising periodontal diseases
Periodontitis**
Periodontitis as a manifestation of systemic disease
Other conditions affecting the periodontium
Systemic diseases or conditions affecting the periodontal supporting tissues
Periodontal abscesses and endodontic-periodontal lesions
Mucogingival deformities and conditions
Traumatic occlusal forces
Tooth and prosthesis related factors

*Reduced periodontium due to causes other than periodontitis, eg, crown lengthening surgery. **All patients with evidence of historical or current periodontitis should be staged/graded at initial consultation

References

1 Dietrich T, Ower P, Tank M et al. Periodontal diagnosis in the context of the 2017 classification system of periodontal diseases and conditions – Implementation in Clinical Practice. *Br Dent J* 2019; **226:** 16–22.

2 Chapple I L C, Mealey B L, Van Dyke T E et al. Periodontal health and gingival diseases and conditions on an intact and a reduced periodontium: Consensus report of workgroup 1 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. *J Clin Periodontol* 2018; **45 Suppl 20**: S68–S77.

3 British Society of Periodontology. BSP Flowchart Implementing the 2017 Classification. 2019. Available at http://www.bsperio.org.uk/publications/downloads/111_153050_bsp-flowchart-implementing-the-2017-classification.pdf (accessed March 2019).

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SECTION 4

Patient Communication

Introduction to the patient agreement and patient periodontal leaflet and consent form

Oral health education and patient behaviour change are of the greatest importance when both treating periodontal diseases as well as during maintenance. If there is a lack of engagement and behaviour change from the patient, periodontal treatment will ultimately fail to achieve stability which will ultimately lead to further deterioration and destruction of periodontal tissues.

To support dental teams with delivering patient education and facilitating behaviour change, two documents have been developed as a part of the HGDM pathways and toolkit.

These are:

- **The Patient Agreement**
- **The Patient Periodontal Leaflet & Consent Form**

Both documents are designed to be completed and personalised to individual patients and should be fully explained to ensure the correct understanding as well as ensuring the patient remains aware of their disease throughout the pathways. The documents are then signed by both patient and clinician. The detailed pathway journey later in the toolkit will outline which pathways the two documents are used in, although the patient agreement can be used for all patients.

The Patient Agreement

The patient agreement has been produced to recognise the role of the patient in self-care responsibility for managing and stabilising their periodontal disease. It outlines a personalised self-care plan which should be tailored to each individual patient to support them to improve their oral hygiene and plaque control and help facilitate behaviour change. This will inevitably have the largest impact in achieving and maintaining periodontal stability.

The figures of 20% plaque score and 10% bleeding score are accepted values by periodontal academics for the optimal levels for the most favoured outcome following non-surgical periodontal therapy. Although these have not been used before as an entry criteria to non-surgical therapy, it is recognised that good oral hygiene and low plaque levels will produce the best outcome following treatment. As mentioned previously in the toolkit, the threshold set for an 'engaging patient' and the entry criterion for formal periodontal therapy is a Modified Plaque Score (MPS) of less than 30% and a Modified Bleeding Score (MBS) less than 35%. This has changed from 20% to 30% for the MPS and from 30% to 35% for the MBS in consideration of the new evidence base from the recent diagnostic study carried out to optimise and validate the two new abbreviated scoring methods. As mentioned earlier, formal therapy has not been carried out yet and the evidence shows that simple initial therapy combined with oral hygiene instruction can stabilise approximately two-thirds of diseased sites. Therefore, a bleeding score of 35% would be more appropriate to use.

The dental team will aim to work with the patient to achieve these levels, as the resource and time invested in oral health education and behaviour change will ultimately facilitate the best outcome for the patient later. **The aim of the agreement is not to pass over all responsibility to the patient and to deny treatment until they can achieve the desired levels. Rather, it is designed to be used to encourage the patient in their self-care responsibility, to focus the efforts on prevention and education, and to begin treatment at the ideal time, in order to achieve the best outcome for each individual patient. These are not rigid figures, but flexible guidance, and can be tailored to individual patients to attain the best outcome for them.**

The agreement is designed to be a collaborative agreement between the dental team and the patient. It not only outlines the patient's responsibilities, but also the responsibilities of the dental team to deliver appropriate tailored preventive advice for each patient. The self-care plan can be updated and changed at any time according to the best interests of the patient.

For example, a patient who brushes their teeth once a week, the first agreement may be to concentrate on brushing thoroughly twice a day. Interdental cleaning may be left until the patient can first achieve an effective regular brushing regime. The agreement must be realistic for the patient and it is a mutual agreement between the dental team and the patient. Formal periodontal therapy can begin when both parties agree the best outcome can be achieved.

The Patient Agreement includes:

- The gum health score. This is documented as the BPE score (without the * for furcation)
- The MPS and the MBS. These percentages were found to be valuable tools following feedback from the pilots when educating and informing patients of their current levels of oral hygiene and plaque control and by how much they need to improve
- Recommended interdental brush sizes
- Using a single tufted brush around the gingival margins and interproximally. This has been very useful in helping patients reach the meticulous levels of oral hygiene and plaque control needed to achieve periodontal stability
- Smoking and oral nicotine (E-cigarettes ,vaping etc) advice
- Diabetes screening test. Undiagnosed type 2 diabetic patients may present with periodontitis. A diabetic screening test is recommended for any patient who presents with moderate to severe periodontitis and has:
  - Obesity
  - A high sugar intake

  And/or
  - Recurrent periodontal abscesses – high likelihood of undiagnosed type 2 diabetes
- Other tailored information for example;
  - Recommending an electric toothbrush
  - Using interdental brushes in furcation areas, lingually or palatally etc.
  - Daily timetable and time needed for oral care regime
  - Single tufted brush technique (e.g. pen grip, push splay wiggle technique)
  - Using disclosing tablets etc
- Reassessment of gum health and assessment of patient engagement

The Patient Periodontal Information Leaflet & Consent Form

The patient information leaflet and consent form has been designed as a double sided leaflet which is completed on one side only, to allow double sided carbonated printing. This document has four main purposes:

1. An information leaflet about periodontitis; including the signs and symptoms of periodontitis, plaque as the main risk factor and other risk factors of smoking and diabetes
2. Information and reinforcement of the patient agreement and the importance of self-care with a daily oral health regime, to achieve high standards of plaque control
3. Risks and side effects of periodontal treatment and to gain informed consent or informed refusal for treatment
4. The current classification and diagnosis of the patient's periodontitis (using the 2017 classification system)

The patient information leaflet and consent form has been updated to be in line with the 2017 classification system and the BSP's implementation plan. The patient is now classified with periodontitis as either:

- Localised – less than 30% of teeth affected
- Generalised – greater than 30% of teeth affected
- Molar/incisor pattern

And is:

- Early/mild (Stage 1)
- Moderate (Stage 2)
- Severe (Stage 3)
- Very severe (Stage 4)

Which is progressing at a:

- Slow rate (Grade A)
- Moderate rate (Grade B)
- Rapid (aggressive) rate (Grade C)

And is diagnosed with periodontitis as either:

- Stable - health
- In remission – high risk of further tissue breakdown and bone loss
- Unstable – active disease still present

With risk factors:

- Smoking – increased risk
- Well controlled diabetes; HbA1c less than 7% – minimal risk
- Sub-optimal control of diabetes; HbA1c greater than 7% – increased risk
- Other risk factors as identified in the history and examination

It should be noted that whilst the distinction between chronic and aggressive periodontitis has been taken out of the 2017 classification system, the term aggressive has been left in as a descriptor for grade C for better patient understanding.

The patient agreement and patient leaflet & consent form are available as pdf documents for use by dental teams.

Oral Health Education & Behaviour change

The success of managing Periodontal Disease is dependent to a large extent on the patient's ability to maintain immaculate plaque control. Behaviour change lies at the heart of this. The dental team has to change their approach from the traditional delivery of oral hygiene instruction alone.

There has been large amounts of research undertaken into health behaviour change. As outlined in the third most recent edition of Delivering Better Oral Health, current research shows that brief behaviour change interventions can improve plaque control more than the traditional oral hygiene instruction alone. These approaches encourage the patient to understand how oral hygiene might be beneficial to them, to develop confidence in their oral hygiene abilities, to set targets for change that they feel able to achieve and to challenge their perceived barriers to performance and encourage them to find their own motivation for change. Some of these methods address common barriers to the development of an effective oral hygiene routine, which may not otherwise be addressed during traditional oral hygiene instruction. Further recommended reading around behaviour change includes section ten in the third edition of Delivering Better Oral Health (DBOH) as well as the resources listed below. A more detailed understanding can be reached with additional reading into motivational interviewing techniques, which can be loosely defined as a *"a collaborative conversation style for strengthening a person's own motivation and commitment to change.*[1]

The online version of Delivering Oral Better Health can be found here:

https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention

This section in the toolkit also contains two further leaflets about periodontal disease from the British Society of Periodontology and from the University of Birmingham Dental School. These have been included to support the dental team in oral health education and behaviour change and to help educate the wider dental team about periodontal diseases as well as being useful resources for patients. The BSP leaflet is available online here:

https://www.bsperio.org.uk/publications/downloads/95_105645_bsperio-patient-information.pdf

In addition to this, the Oral Hygiene TIPPS behaviour change strategy has been included to provide an effective behaviour change strategy that can be adapted easily by the dental team. This has been taken from the Scottish Dental Clinical Effectiveness Programme's guidance on "Prevention and Treatment of Periodontal Diseases in in Primary Care." The full document can be found online here:

http://www.sdcep.org.uk/published-guidance/periodontal-management/

Other useful resources on communication include the BSP's Good Practitioner Guide to Periodontology which also includes a section on patient behaviour change. The full guide can be found here:

https://www.bsperio.org.uk/publications/index.php

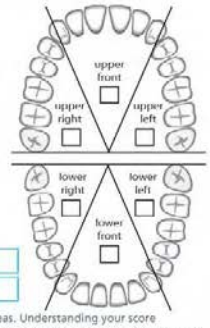
1. Rollnick S, Mason P, Butler C. Health Behaviour Change: A Guide for Practitioners 2nd Ed. Edinburgh: Churchill Livingstone; 2010.

Healthy gums DO matter!

The Patient Agreement

Gum Health Improvement Patient Agreement

Your gum health score is shown here



Mouth divided into 6 areas. Understanding your score
Score 0 = Health Score 1-2 = Gingivitis Score 3-4 = Periodontitis

Gum health is important to prevent gum disease. There are two main types of gum disease and you have been diagnosed with:

- ☐ **Gingivitis – which is reversible gum disease but can lead to:**
- ☐ **Periodontitis – which can cause tooth loss but can be controlled**

Periodontitis slowly destroys the bone that holds your teeth in the jaw and unless it is treated, the end result is that the teeth become loose and are eventually lost. The most important thing you can do is to learn how to thoroughly clean the Dental Plaque build up in between your teeth and along the gums.

Self-care plan:

Plaque score: ☐

Bleeding score: ☐

For better gum health we recommend:

- ☐ Cleaning thoroughly between the teeth or "interdental cleaning" using the right size interdental brush or floss as demonstrated to you.
- ☐ Recommended interdental brush sizes:
- ☐ Brushing your teeth and gums thoroughly twice a day using a fluoride toothpaste as demonstrated to you
- ☐ Stopping smoking. Smoking puts you at higher risk of developing Periodontitis and treatment will not work as well and you are more likely to loose your teeth
- ☐ Diabetes check. Diabetes is a risk factor for Periodontitis
- ☐ Stopping oral nicotine e.g. E-cigarettes, vaping, nicotine lozenges, sprays or gum.
- ☐ Using a single-tufted brush around the gum margins and between your teeth once / twice daily
- ☐ Other _____

Your gum health will be re-assessed in _____

Consent

The Dental team is here to help you keep your gums and teeth healthy. We will work with you to show you the best way to clean your gums and teeth thoroughly. This is set out in your care plan above. The biggest impact on Periodontitis is having a clean "plaque free" mouth. Any treatment that we do in the surgery will not work as well unless it is supported with thorough plaque removal at home. Your plaque score should ideally be below 20% and your gum bleeding score should be below 10%.

For this reason, we cannot begin advanced treatment for the gum disease until we can see you are able to achieve good levels of plaque control. We will do our best to help you achieve this, but the main responsibility lies with yourself. If you follow the self-care plan we will see an improvement in your gum health. To put it simply Periodontitis is beaten in the bathroom, not in the dental surgery.

Signed _____ **(Dentist/Dental Hygienist/Dental Therapist)**

Patient name: _____ **Signed:** _____

Date: _____ **Patient ID:** _____ **Patient DOB:** _____

Patient Periodontal Information Leaflet & Consent Form

Periodontal Information Leaflet & Consent Form

You have been diagnosed with a destructive form of gum disease called "Periodontitis". Periodontitis causes irreversible destruction of the bone and tissues that hold the teeth in the jaw. The disease is usually slowly progressing, but it can go through periods of rapid destruction and in rare cases it can be very aggressive.

Now you have this condition you will need to make changes to your lifestyle and daily routines if you wish to keep your teeth. You will also require continuing close care and support to prevent it from getting worse and to detect any relapse. This will mean regular dental examination appointments, most likely every 3 months in the initial phase until the disease is stabilised.

The end result of periodontitis can be tooth mobility and eventual tooth loss. In most cases periodontitis is a painless, silent disease causing problems in the late stages, usually due to pain associated with tooth mobility and recurrent gum abscesses. Periodontitis is treatable and we can stabilise the disease, but this can only be done if we have your daily cooperation.

Some of the signs of periodontitis are:

- Bleeding gums
  Healthy Gums DO NOT Bleed
- Swollen and tender gums
- Bad breath
- Recession of the gums
- Tooth loss
- Sensitivity of the teeth
- Lengthening of the teeth
- Loose teeth
- Gum abscesses

Periodontitis can be halted and kept stable to prevent further destruction of the bone and tissues supporting the teeth. There are many risk factors for periodontitis, but the main risk factor is dental plaque. In order for periodontal treatment to be successful, it must be supported by very high standards of daily oral hygiene and home self-care.

This will inevitably mean that cleaning your teeth will now take considerably longer than before. This can even be up to 20 minutes twice daily, in order to achieve the high standards of oral hygiene needed to halt the progression of periodontitis.

If the periodontal treatment provided by your dentist is not supported with adequate levels of oral hygiene at home, it will not be successful and the result will be continuing destruction of the bone supporting your teeth leading to increasing tooth mobility and eventual tooth loss.

The disease works in a very similar way to type 2 diabetes, and so just as a diabetes patient has to keep tight control of their diet and monitor their blood sugar levels, similarly you will have to keep tight control of your brushing and reduce the levels of plaque in your mouth.

Apart from plaque, the other main risk factors for periodontitis are smoking (including other tobacco and oral nicotine use), poorly or uncontrolled diabetes, genetic factors and a diet high in refined sugars and low in antioxidants (fruit and vegetables).

If you are a smoker it negatively impacts upon how you heal and so periodontal treatment is less effective, and there is an increased risk of tooth loss.

Therefore, it is important that you stop smoking and using other oral tobacco and nicotine replacements in order for treatment to work well. If you would like some support to stop smoking, please speak with your dental team.

Likewise, uncontrolled diabetes with high blood sugar levels causes increased destruction of the bone and tissues supporting the teeth and patients do not heal well after treatment. It is vital that diabetes is controlled with the help of your general medical practitioner.

Periodontal treatment

Periodontal treatment involves cleaning the teeth and root surfaces from calculus, plaque, toxins and diseased tissues. This is called "deep scaling" and "root surface debridement" and is best done under local anaesthetic to avoid discomfort and allow thorough cleaning to be done. The aim of the treatment is to thoroughly and systematically clean all affected root surfaces from the harmful material and toxins that can cause further destruction of bone and supporting dental tissues.

As a result of periodontal treatment and therapy, you may notice the following:

- Increased sensitivity of the exposed root surfaces to hot, cold or sweet food and drinks
- Increased susceptibility to root surface decay
- Temporary increases in tooth mobility
- Recession of the gums and exposure of the root surfaces
- Elongation of the teeth
- A black triangle appearance and shadowing between the teeth where the dental papilla has been lost. This is irreversible, but if treatment is successful it can be masked.

These side effects arise as the gums begin to heal and the deep pockets below the gum reduce. The aim of treatment is to reduce these deep pockets where all the bacteria and toxins live, which are inaccessible to daily home cleaning and therefore require deep scaling by the dental team.

The success of periodontal treatment is multifactorial, but your role is central and crucial in maintaining low plaque levels in the mouth, as well as managing the other risk factors. It is for this reason that periodontal treatment does not guarantee stabilising the condition. In most cases, when the main risk factors, such as smoking and uncontrolled diabetes are eliminated, and immaculate oral hygiene is maintained, periodontal disease will stabilise. This will work for the majority of people.

However, despite this, periodontal disease can sometimes be challenging to treat and in certain circumstances you may need a referral to a specialist in gum disease (Periodontist). The option of being referred to a gum specialist can also be done from the onset, and if you would like to be referred immediately, please discuss this with your dentist.

You have been diagnosed with periodontitis which is :

☐ Localised and affecting less than 30% of your teeth ☐ Generalised and affecting over 30% of your teeth ☐ A molar/incisor pattern affecting your molar and incisor teeth

Your periodontitis is:

☐ Mild/early (Stage 1) ☐ Moderate (Stage 2) ☐ Severe (Stage 3) ☐ Very severe (Stage 4)

And is progressing at a:

☐ Slow rate (Grade A) ☐ Moderate rate (Grade B) ☐ Rapid (aggressive) rate (Grade C)

Your periodontitis is currently :

☐ Stable (Healthy) ☐ In Remission (high risk of further bone loss) ☐ Unstable (active disease present)

Your risk factors for periodontitis are :

☐ Smoking ☐ Diabetes, optimal control lower risk ☐ Diabetes - sub-optimal control increased risk ☐ Other risk factors identified ☐ No risk factors identified

Additional Information _____

Declaration

I certify that I have read and understood this document relating to the treatment of my gum disease. I have had the opportunity to ask any questions. I can confirm that I consent to the treatment of my gum disease as planned by the dental team and will commit to self care as outlined to me.

Signed _____ Name _____ Date _____

I certify that I have read and understood this document relating to the treatment of my gum disease. I have had the opportunity to ask any questions. I can confirm that I DO NOT consent to the treatment of my gum disease as planned by the dental team. I have understood all the consequences of refusing treatment and understand that it will lead to earlier tooth mobility and tooth loss.

Signed _____ Name _____ Date _____

Dental team

Signed _____ Name _____ Date _____

Healthy gums DO matter!

Oral Hygiene TIPPS

Oral Hygiene TIPPS is an evidence-based patient behaviour change strategy, which has been shown to be effective at improving oral hygiene behaviour when carried out in primary care.

This intervention is based on behavioural theory and aims to make patients feel more confident in their ability to perform effective oral hygiene and help them plan how and when they will look after their teeth and gums. This may involve identifying a trigger which will remind patients to perform oral hygiene tasks e.g. to brush their teeth and to floss before going to bed. The intervention can be delivered by any suitably qualified member of the dental team and should be followed up and built upon at each return appointment.

The goal of the intervention is to:

- **Talk** with the patient about the causes of periodontal disease and discuss any barriers to effective plaque removal
- **Instruct** the patient on the best ways to perform effective plaque removal
- Ask the patient to **practise** cleaning his/her teeth and to use the interdental cleaning aids whilst in the dental surgery
- Put in place a **plan** which specifies how the patient will incorporate oral hygiene into daily life
- Provide **support** to the patient by following up at subsequent visits

Each session of advice will take several minutes to deliver, depending on the patient. It is important to gauge the level of understanding of the patient and adjust your communication style and method to suit him/her. The best way of delivering the advice is to include a 'hands-on' demonstration of oral hygiene techniques and for the patient to practice in front of the dental care professional. However, it is important to ensure that you have the patient's consent to proceed.

TIPPS

- Talk
- Instruct
- Practise
- Plan
- Support

TALK with the patient about the causes of periodontal disease and why good oral hygiene is important.	Use of a visual aid may help patients understand the disease process and the effects of plaque on the periodontal tissues.	
TALK with the patient about what he/she has to do to achieve good plaque removal.	Brush regularly using an effective technique. Use a fluoride-containing toothpaste and to spit not rinse during tooth cleaning. Brushing twice a day for at least 2 minutes will ensure that all tooth surfaces are adequately cleaned. Both manual and rechargeable powered toothbrushes are effective for plaque removal when used correctly. Evidence suggests that rechargeable powered toothbrushes are better than manual toothbrushes at reducing plaque and gingivitis indices but the clinical relevance of these reductions is unclear. Use dental floss and/or interdental brushes, at least once a day.	Manual and rechargeable powered toothbrush heads should be small and of a medium texture and should be changed when obvious signs of wear appear. There is some evidence that flossing in addition to toothbrushing reduces gingivitis compared to toothbrushing alone, although the effect of flossingon plaque levels is less clear. There is evidence that interdental brushes in addition to toothbrushing reduce levels of plaque compared to toothbrushing alone. To be effective, the brush should fit snugly into the interdental space without the wire rubbing against the tooth. More than one size of interdental brush may be required depending on the sizes of the interdental spaces present. To be effective, the brush should fit snugly into the interdental space without the wire rubbing against the tooth. More than one size of interdental brush may be required depending on the sizes of the interdental spaces present.
INSTRUCT the patient how to use the oral health care tools.	Demonstrate, in the patient's mouth while he/she holds a mirror, how to systematically clean each tooth using a tooth brush (manual or electric) as well as how to use floss and interdental brushes. Confirm that the patient knows what to do. If he/ she does not, show the patient again.	
Ask the patient to **PRACTICE** i.e. to clean his/her teeth in front of you.	This provides an opportunity to correct the patient if required and ensures that the patient has really understood what he/she needs to do. This will help the patient to remember when at home. Confirming that the patient is doing the task well will boost confidence and also help him/her to remember.	N.B. If you think that poor technique may be improved by changing the type of toothbrush the patient currently uses (manual or powered), ask him/her to try the alternative type in front of you to see if this helps.
Ask the patient for some feedback.	Ask how his/her teeth feel, as clean teeth should feel smooth tothe tongue. Address any concerns the patient has if there is bleeding after brushing or interdental cleaning.	Gums may bleed more than normal in the first few days of using the correct oral hygiene technique.
Help the patient make oral hygiene a habit with the right **PLAN**.	Ask the patient when would be the best time for him/her to brush and clean interdentally. Suggest that it would be best to use something he/she already does every day as a reminder – such as immediately before going to bed and after getting up.	
To act as an incentive for the patient, tell him/her that you will ask at the next visit:	• "Have you tried using interdental cleaning aids?" • "How did your action plan work?"	
Ensure you **SUPPORT** the patient to achieve effective oral hygiene by following-up on the advice at the next appointment.		

Healthy gums DO matter!

Patient Leaflet (Birmingham Dental Hospital)

What is Periodontitis?

Periodontitis is a deep seated form of gum disease that destroys the ligaments and bone that hold your teeth in the jaw.

It is a "quiet" disease that you may not know you have unless your dentist examines you very carefully. It presents with some or all of the following features:

- Bleeding gums (e.g. when you brush your teeth)
- Gum recession (shrinkage);
- "Pocketing" (this is the development of a deep space between your teeth and gums)
- Mobility of teeth (teeth move excessively)
- Drifting of teeth (spaces appear between teeth)
- Bone loss (this can only be seen on x-rays)

Does Periodontitis affect everyone?

Many studies show that severe periodontitis only affects about 10% of the adult population, but it can start in your teenage years. There is also a very aggressive form of the disease which affects between 0.1% (caucasians) and 2% (Afro-Caribbeans) of younger patients.

Why do I suffer from Periodontitis?

Historically, it was believed that the accumulation of plaque (due to poor oral hygiene) was sufficient to initiate periodontitis in all individuals. However, research shows that 10% of people are resistant to getting periodontitis even if their oral hygiene is poor. 10% are highly susceptible and will develop disease even with quite good oral hygiene and most of the remainder will develop the disease eventually (by 65 yrs-of-age) if they have average oral hygiene.

Susceptible patients develop the disease because their immune system over-reacts to the presence of plaque at the gum margin and especially between the teeth. These patients are "at risk" of early tooth loss because they possess, or have been exposed to "risk factors".

What are the risk factors?

Risk factors are circumstances that increase your chances of getting the disease; they do not necessarily cause the disease. The following are the main risk factors:

• Genetics • Stress • Smoking • Drugs • Diabetes • Pregnancy

Genetics

Studies of twins have taught us that about 50% of periodontitis is due to your genetic make up and you cannot change this. In these patients it is vital they have meticulous oral hygiene.

Smoking

Smoking is the largest "modifiable" risk factor for periodontitis. It reduces the blood supply to your gums, and therefore you do not heal properly after treatment. Treatment does not work as well in smokers and the disease is often impossible to control. Stopping smoking is the only sure way of improving treatment outcomes, even then it may take several years before you heal as well as a person who has never smoked.

Research has shown the following features in relation to smoking:

- Specific bacteria responsible for periodontitis are 2-3 times higher in smokers.
- Smokers accumulate more tooth stain and calculus (tartar), making cleaning harder.
- Smokers lose bone twice as much as non-smokers in periodontal disease.
- Smokers are prone to persistent treatment failure.
- Smokers receiving treatment for periodontitis are twice as likely to lose teeth as non-smokers.
- Implant failure rates are much higher in smokers.

It is essential you stop smoking to improve the outcome of periodontal disease.

Diabetes

Diabetes sufferers have an increased risk of having periodontitis. Periodontitis makes it harder for diabetes patients to control their blood sugar levels.

Poorly controlled diabetes has the following adverse effects on periodontitis:

- Reduced ability of the body's defence cells to fight properly against the bacterial plaque.
- Increased damage caused by certain types of immune defence cells in your body.
- Poor healing following periodontal treatment.

If periodontitis is treated, it improves the control of blood sugar and lipid (fat) levels in diabetics. Therefore it is important to treat and regularly maintain the health of your periodontal tissues.

Stress

If you are stressed, the body has reduced ability to fight against periodontal infection. It may also affect your ability to brush your teeth effectively.

It is important to speak to your doctor if you are stressed and they can find the right people to help you.

Drugs

Some drugs, taken for certain medical problems, are associated with overgrowth of the gums in a small number of patients, which can make oral hygiene more difficult.

Examples include: drugs used to control blood pressure like nifedipine, felodipine, amlodipine; the anti-epilepsy drug Phenytoin and the immunosuppressant Ciclosporin.

Pregnancy

If you are pregnant, you may experience bleeding and / or overgrowth of your gums. This is due to the hormonal changes in your body.

It is vital that you increase the time you spend brushing your teeth regularly to prevent plaque from accumulating under the gums. In most cases, the gums stop bleeding after child-birth and the overgrowth reduces. However, severe bone loss can occur during pregnancy. Extra attention to tooth brushing is recommended during pregnancy.

I am concerned, what can I do next?

Periodontitis cannot be cured, but it can be stopped and held at bay so that you keep your teeth for life. The most important thing you can do is to learn how to achieve the highest standard of oral hygiene possible.

Like diabetes, patients have to monitor their blood glucose levels and be careful with their diet, you have to monitor your plaque levels and be careful with your oral hygiene. No matter what we do for you, unless you are cleaning meticulously and conscientiously on a daily basis at home, our treatment will fail.

If you feel you need help with any of the above issues, please inform your dental surgeon or doctors in this department.

For advice on what your role is in managing your periodontitis, please ask for a separate leaflet.

Please attend your appointments regularly, as it is important we complete your treatment in as short a time frame as possible; cancelled or failed appointments delay this significantly.

Healthy gums DO matter!

Patient Leaflet (British Society of Periodontology)

About gum disease

Before we launch into the science of gum disease, it's important to know that, despite it being one of the most wide-spread diseases across the world, it is preventable and can be easily treated when it is found early enough. Periodontal disease, another name for gum disease is caused by bacteria that collects at the gum line as dental plaque. The plaque needs to be removed by brushing and cleaning between the teeth twice a day. If not properly cleaned, the gum starts to come away from the tooth, forming pockets and the plaque grows down below the gum line. Over time, the bone that supports the teeth is destroyed, the gums shrink and eventually the teeth become wobbly and fall out. That's the science!

Who can get gum disease?

Most people can get mild gum disease but some people are susceptible to more aggressive forms. Severe gum disease, especially if you have it at a young age, can run in families.

There are a few factors that put people at higher risk of getting severe gum disease. These include: • diabetes (especially if poorly controlled) • smoking (possibly including e-cigarettes) • stress • a poor diet lacking in vitamins and minerals • obesity • certain medications.

Do you have periodontal disease?

Periodontal disease is usually pain-free (sometimes called 'the silent disease') and so you may be unaware of it until your dentist or hygienist checks for it.

Here are some 'red flags' - symptoms you may notice that should raise concerns:

- Bleeding gums when brushing or even whilst eating
- Red, swollen gums
- Bad breath
- Spaces appearing between teeth
- Loose teeth or teeth moving position in the mouth
- Receding gums
- Sensitivity to cold or hot foods and drinks

Stages of gum disease

Healthy Early Moderate Severe

What does treatment involve?

Treatment aims to reduce bacteria around your teeth and prevent the disease from getting worse. Generally though, treatment cannot replace the support your teeth have already lost.

- You will be taught the best methods of cleaning your teeth and gums to remove dental plaque. Treatment will only work if you clean your teeth properly, twice a day, to a high standard
- You need to clean daily between your teeth with interdental brushes - or floss if the gaps between teeth are too tight for brushes
- You should use a small headed toothbrush or a good quality power brush - your dentist can advise you
- The tartar above the gum-line can be removed by your dentist/hygienist
- Any bacteria below the gum line can be removed by your dentist/hygienist deep cleaning your teeth. You can ask for an injection to make your gums and teeth numb if you prefer
- Mouthwashes may help with very mild gum disease but may mask more serious gum disease

What are the benefits of treatment?

Your gums will be healthier and you may notice such benefits as:

- Greater confidence of a fresher mouth
- Gums not being sore or bleeding when you brush
- Teeth becoming less wobbly
- Less discomfort when you eat
- And ultimately, you will keep your teeth for longer

Success depends on how well you clean your teeth and how your gums respond.
Cleaning thoroughly twice a day and regular dental visits are good habits to adopt for life.

What can you expect after treatment?

- Your gums are likely to bleed more to start with - don't worry and keep cleaning as this is normal and will improve
- As they become healthier your gums may shrink. Spaces may appear between the teeth and they may appear longer
- As gums shrink, your teeth may become more sensitive to hot, cold or sweet things. Usually this gets better in a few weeks, but you might need to use a special sensitivity toothpaste or have other treatment to help with this

What are the available alternatives?

Results of no treatment

- The gum disease is likely to get worse
- Your teeth could become wobbly with gaps appearing between your teeth
- Your breath will not improve
- Your gums and teeth could become painful
- You are highly likely to lose your teeth sooner

Extractions

Removal (extraction) of teeth may be an acceptable alternative treatment if your disease is severe.

- You may wish to have replacements for any lost teeth by means of a denture, bridge or an implant. Implants are only recommended if the gum disease is no longer present
- People find it easier and more enjoyable to eat with natural teeth rather than replacements
- Extractions would reduce the time spent treating your gums
- An extraction would remove a painful tooth quickly
- If your front teeth have a poor appearance, a denture or a bridge may look better

Additional information:

Smoking considerations:

If you smoke tobacco you should do your best to give up - there are plenty of organisations that can help. Smokers who continue to smoke:

- are more likely to get gum disease
- may find their gum disease gets worse quite quickly
- are less likely to get better after treatment
- are more likely to have a recurrence of gum disease following treatment

More information on gum health and periodontal disease can be found at: bsperio.org.uk/patients

Healthy gums DO matter!

SECTION 5

Clinical Guides

1. **Introduction to the Modified Plaque and Bleeding scores**
2. How to carry out a Modified Plaque Score
3. **How to carry out a Modified Bleeding Score**
4. Interpreting plaque and bleeding scores
5. **How to carry out a basic periodontal examination (BPE)**
6. How to carry out an advanced periodontal examination (APE)
7. **How to carry out a 6 point detailed periodontal chart (DPC)**
8. Non-surgical periodontal therapy

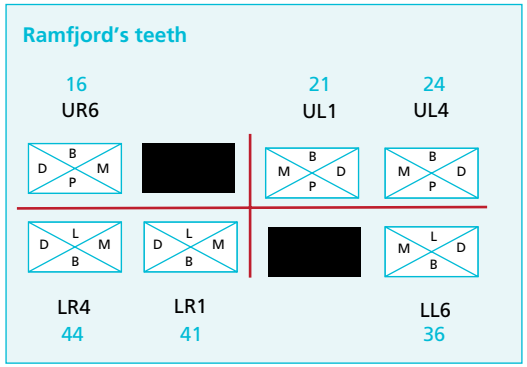
1. Introduction to the Modified Plaque and Bleeding scores

The pressures of NHS dental practice are increasing and methods of improving efficiency, whilst at the same time maintaining quality are always being sought. The periodontal task group recognises the challenges faced in primary dental care and has worked to develop a more efficient yet "fit for purpose" method of recording plaque and bleeding scores.

Full mouth plaque and bleeding scores are useful tools in assessing oral hygiene and patient compliance. However, they are time consuming and many patients dislike the use of disclosing tablets. This has restricted their use in primary care dental practice.

The task group has worked to devise a new way of recording both plaque and bleeding scores which is quick to perform, and avoids the use of disclosing tablets. The new method is based on a partial mouth recording system to reflect the actual full mouth status of the patient. The partial mouth recording method uses the well-documented "Ramfjords teeth".

Ramfjords teeth are six index teeth, distributed in order to best reflect the condition of the whole mouth. These six teeth are the UL4 UL1 UR6 LL6 LR1 LR4. The use of Ramfjords teeth has a well-established clinical base and a number of studies have used Ramfjords teeth in a partial mouth recording system when assessing the full mouth Periodontal Disease status of a patient.



Whilst we accept the limitations of a partial mouth recording system, (it underestimates disease) the Modified Plaque and Bleeding scores must be used in conjunction with the clinical examination in assessing a patient's oral hygiene and bleeding status. It is for this reason we advocate the use of the full mouth BPE approach, where the full mouth is assessed with the WHO probe (6 sites per tooth), instead of moving on once a code 4 is obtained, as per current BPE guidelines. This will allow a visual assessment of the full mouth bleeding. Combining the visual examination of bleeding and plaque with the Modified Plaque and Bleeding scores should give an accurate representation of the patient's oral hygiene status.

If a discrepancy is noted and following the full mouth BPE, only a few sites are bleeding, yet the bleeding score seems to be high, it should be taken into consideration that the actual full mouth bleeding score may be less than the Modified Bleeding Score. Likewise if a significant amount of bleeding is noted following a full mouth BPE, yet the bleeding score seems low, it should be taken into consideration that the actual full mouth bleeding score is greater than the Modified Bleeding Score; this latter scenario is the most likely.

In a similar manner, a visual examination of the visible plaque status of the patient should be used in conjunction with the Modified Plaque Score to give a true reflection of the plaque levels in a particular patient.

Finally, many patients find this scoring system useful to understand their current oral hygiene status and as motivation to improve further. These scores have therefore been included in the patient agreement.

2. The Modified Plaque Score (MPS)

Oral cleanliness: Assessment of plaque

Effective removal of plaque on a daily basis is the primary requirement for gingival and periodontal health. It is therefore essential for the clinician to monitor the levels of plaque present so that suitable treatment plans can be made. A coding system has been developed based on the Silness and Löe index (1964) using Ramfjord's teeth. The locally derived system involves assessing six teeth representative of the entire dentition, for the worst plaque score on each tooth surface from visual examination and, where necessary, the use of a probe to detect the presence of plaque.

Each surface; Interproximal, buccal and lingual or palatal of the six teeth should be viewed in turn and the highest level of visible plaque on each surface should be scored '2'. For each surface where no plaque is visible, a probe should be used to skim along each surface near the gingival margin and, if this reveals plaque as present, that surface should be scored as code '1'.

Where use of a probe reveals no plaque on the respective surface of the tooth then that surface should score '0'. Each surface is scored individually and then the total added together. This is then divided by 36 and multiplied by 100 to calculate the percentage plaque score. In general, a plaque score of less than 30% should be achieved before root formal periodontal therapy (pocket chart and RSD) can begin.

If one of the Ramfjord's teeth is absent, then a similar representative tooth should be examined instead. Therefore a central incisor can be substituted for the lateral incisor or the alterative central incisor. Likewise a second premolar can be substituted for a first premolar when absent and similarly a second molar can be substituted for a first molar when absent. If for some reason examination cannot be undertaken due to the inability to substitute an appropriate representative tooth, then Code N should be assigned.

The total plaque score is then divided by a value of 6 less for each tooth missing. So for example, if N is scored then the total plaque score of the surfaces added together would be divided by 30 instead of 36.

The scores are:

Code	Description
0	No plaque visible, even when a probe is used
1	Some plaque visible only when a probe was used to skim the tooth surface
2	Visible amount of plaque which can be seen without use of a probe
N	No measurement could be made for this surface/tooth

Comparison can be made in subsequent examinations and patients informed of scores as they change.

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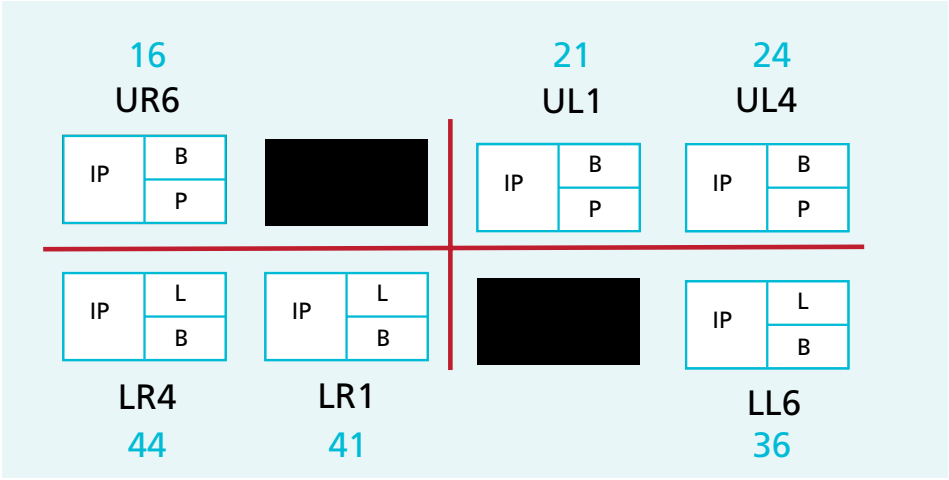
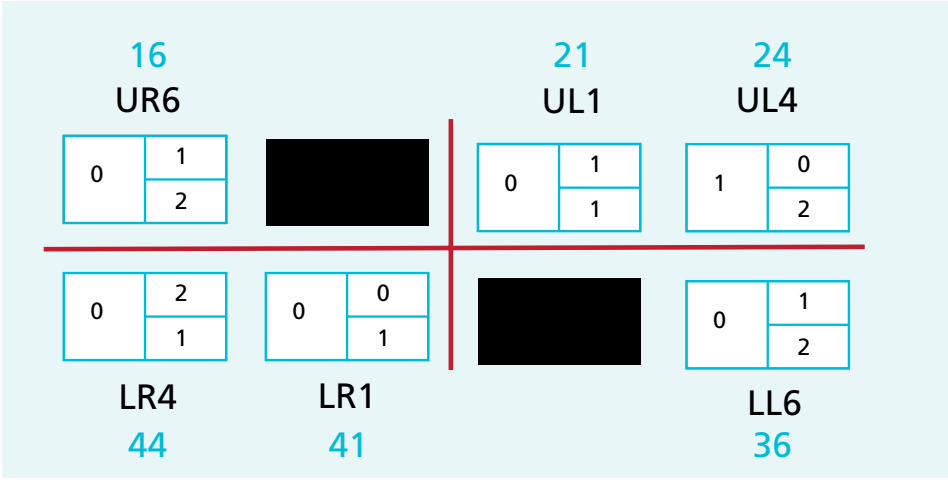
Modified Plaque Score

Ramfjord's Teeth



An Example of a Modified Plaque Score



Code	Description
0	No plaque visible, even when a probe is used
1	Some plaque visible only when a probe was used to skim the tooth surface
2	Visible amount of plaque which can be seen without use of a probe
N	No measurement could be made for this surface/tooth

Total Score = 15

Plaque Score:

$\frac{15}{36} \times 100 =$ **41.66 = 42%**

Modified Plaque Score = 42%

Modified Plaque Score Table

Total Score	Plaque Score
1	3%
2	5%
3	8%
4	11%
5	14%
6	17%
7	19%
8	22%
9	25%
10	28%
11	30%
12	33%
13	36%
14	39%
15	42%
16	44%
17	47%
18	50%

Total Score	Plaque Score
19	53%
20	56%
21	58%
22	61%
23	64%
24	67%
25	69%
26	72%
27	75%
28	78%
29	81%
30	83%
31	86%
32	89%
33	92%
34	94%
35	97%
36	100%

3. The Modified Bleeding Score (MBS)

Periodontal disease is a chronic inflammatory disease and consequently bleeding on probing (BoP) is a reliable predictor of periodontal health maintenance1 and bleeding from the base of the pocket is regarded as the best individual clinical indicator for disease activity and further periodontal breakdown.

A bleeding score has been developed using Ramfjord's teeth. The locally derived system involves assessing six teeth representative of the entire dentition, for the presence or absence of bleeding on probing. **It is important to note that the base of the pocket is NOT being tested here. What is being assessed here is marginal bleeding only.** The level of marginal bleeding is reflective of the daily oral hygiene of the patient and if they are carrying out complete and thorough plaque removal on a daily basis. Bleeding on probing from the base of the pocket is an indicator for disease activity and further periodontal breakdown. This is recorded in the 6 Point Detailed Periodontal examination.

To carry out the MBS, each of the six Ramfjord's teeth should have a periodontal probe run gently at 45 degrees around the gingival sulcus in a continuous sweep. Check for bleeding at the buccal, mesial, distal and lingual or palatal aspects, up to 30 seconds after probing for the presence or absence of bleeding. It is important to keep the probe tip moving as applying point pressure may result in false positive results due to localised soft tissue penetration.

For each site, mesial, distal, buccal and lingual/palatal, a code of '0' is marked for the absence of bleeding and a code of '1' is marked for the presence of marginal bleeding. Each surface is scored individually and then the total added together. This is then divided by 24 and multiplied by 100 to calculate the percentage bleeding score. In general, a bleeding score of less than 35% should be achieved before root surface debridement can begin.

If one of the Ramfjord's teeth is absent, then a similar representative tooth should be examined instead. Therefore, a central incisor can be substituted for the lateral incisor or the alterative central incisor. Likewise, a second premolar can be substituted for a first premolar when absent and similarly a second molar can be substituted for a first molar when absent. If for some reason examination cannot be undertaken due to the inability to substitute an appropriate representative tooth, then Code N should be assigned. The total score is then divided by a value of 4 less for each tooth missing. So, for example, if one tooth scores N then the total bleeding score added together would be divided by 20 instead of 24.

It should be noted here that the scoring method for the MBS is slightly different to the MPS. Previously, the MBS used a similar method to the MPS by treating the interproximal surfaces together for simplicity. However, the diagnostic study to optimise and validate the MPS and MBS demonstrated the highest sensitivity and specificity was achieved when the MBS scored the interproximal surfaces independently, rather than together.

As marginal bleeding is the most important factor when assessing patient engagement in non-smokers, it was more pertinent to enhance the sensitivity of the MBS by scoring the mesial and distal surfaces independently, having been informed by the evidence from the diagnostic study. This was a change from the earlier version of the toolkit.

The scores are:

Code	Description
0	Absence of bleeding on probing
1	Presence of bleeding on probing (marginal bleeding)

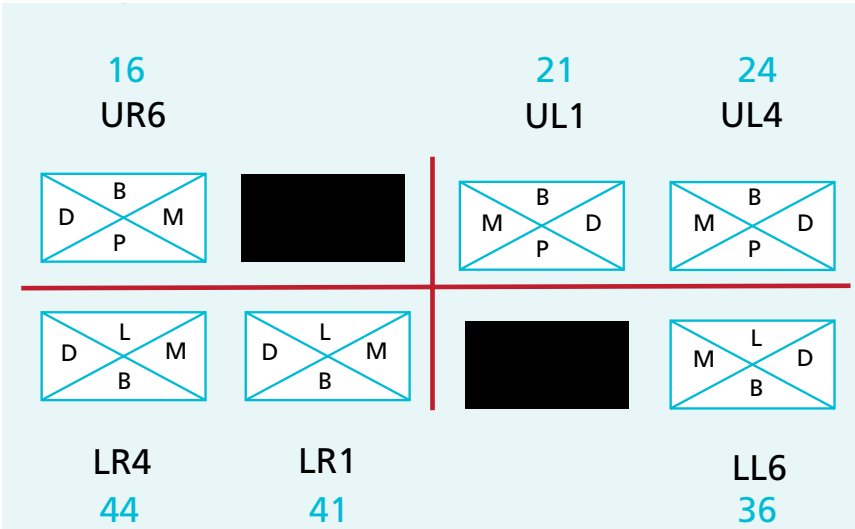
Comparison can be made in subsequent examinations and patients informed of scores as they change.

1 Lang NP, Adler R, Joss A, Nyman S. Absence of bleeding on probing. An indicator of periodontal stability. *J Clin Periodontal* 1990;**17:**714-721.

Healthy gums DO matter!

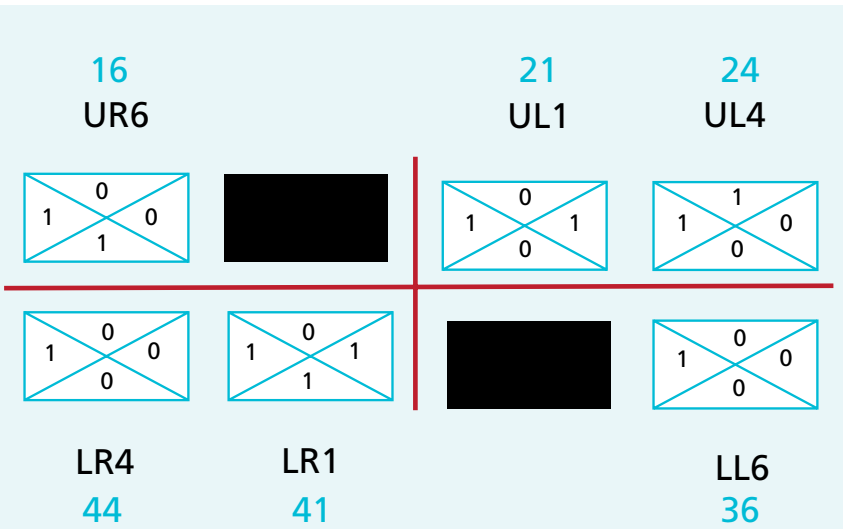
Modified Bleeding Score

Ramfjord's Teeth



Code	Description
0	Absence of bleeding on probing
1	Presence of bleeding on probing (marginal bleeding)

An Example of a Modified Bleeding Score



Total Score = 11

Bleeding Score:

$\frac{11}{24} \times 100 =$ **45.83 = 46%**

Modified Bleeding Score = 46%

Modified Bleeding Score Table

Total Score	Bleeding Score
1	4%
2	8%
3	13%
4	17%
5	21%
6	25%
7	29%
8	33%
9	38%
10	42%
11	46%
12	50%

Total Score	Bleeding Score
13	54%
14	58%
15	63%
16	67%
17	71%
18	75%
19	79%
20	83%
21	88%
22	92%
23	96%
24	100%

Interpreting plaque and bleeding scores

When interpreting plaque and bleeding scores, the question may be asked; which, if any, is more important? Is one score more significant in diagnostic value than the other for periodontal disease?

The answer to this question comes from the understanding of the inflammatory process of the gingiva, which leads to gingivitis and in turn could lead to the development of periodontitis and bone destruction. Bacterial plaque is the most important aetiological factor for periodontal disease.[1] Within 2-4 days of accumulation of bacterial plaque the signs of gingivitis start to appear with the initial lesion. This then leads to the early lesion after 4 to 10 days, which is the first signs of **clinical** gingivitis that is detectable (i.e. gingival bleeding and swelling). This is followed by the established lesion at 2 to 3 weeks, which is established chronic gingivitis. The final stage is the transition from reversible gingivitis to destructive periodontitis, which is known as the advanced lesion. This time frame is unquantified and the established lesion can remain for years to decades.[2]

Gingivitis and marginal bleeding do not happen as an immediate reaction to bacterial plaque, rather it requires time. If a patient is carrying out complete and thorough cleaning of their teeth daily, then even if plaque was detected on the teeth, inflammation and bleeding would be absent. Therefore, a plaque score will only give us a snap shot of the oral hygiene of the patient at that moment in time, whereas marginal bleeding will inform how well the patient is brushing on a daily basis.

This is crucial when interpreting plaque and bleeding scores, as it demonstrates that the bleeding score is more significant than the plaque score overall in non-smokers. Furthermore, the time since oral hygiene procedures were carried out and the amount of sucrose intake throughout the day will influence the plaque score. The plaque score will be higher when compared to a plaque score shortly after oral hygiene procedures have been carried out by the patient.[3] It can be argued that a patient who is always seen for their dental examination towards the end of the day, and is unable to brush their teeth beforehand, may consistently have an inadequate plaque score.

However, the bleeding score in this patient will inform how effectively the patient has been performing with their oral hygiene and plaque control over the past week. It should be noted here that this is in non-smokers, because the vasoconstrictive nature of nicotine can mask bleeding in smokers and patients using oral nicotine (E-cigarettes etc). In the case of smokers, the plaque score will play a more important a role and be given equal precedence.

Therefore, putting all of this together, a plaque score will only give us a snap shot of the oral hygiene of the patient at that moment in time, whereas bleeding will inform how well the patient is brushing on a daily basis. In summary, bleeding is the more important determining factor when assessing engagement in non smokers and both bleeding and plaque interpreted together for smokers.

1. Kornman, K.S. & Loe, H. The role of local factors i n the etiology of periodontal diseases. *Periodontology* 2000; **(2)**: 83–97.

2. Page, R.C. & Schroeder, H.E. Pathogenesis of inflammatory periodontal disease. A summary of current work. *Laboratory investigation; a journal of technical methods and pathology* 1976; **34(3)**: 235–249.

3. Lim, L.P. et al. A comparison of 4 techniques for clinical detection of early plaque formed during different dietary regimes. *J Clin Periodontol* 1986; **13(7)**: 658–665.

Assessing patient engagement

The disease and advanced disease pathways developed in HGDM differentiates between engaging and non-engaging patients. The initial focus of the HGDM approach is to deliver all the oral health education, personalised self-care plan, prevention and behaviour change techniques to facilitate patient engagement in order to begin formal periodontal therapy (pocket charting and root surface debridement) to achieve improved outcomes and stability following treatment. Successful periodontal outcomes are dependent upon the patient's ability to achieve and maintain high levels of plaque control and oral hygiene. Therefore, formal periodontal therapy is delayed until there is sufficient engagement and supra and subgingival scaling is carried out to facilitate this. The patient agreement and the patient information leaflet and consent form have been developed as a part of the HGDM pathways to aid dental teams with personalised self-care plans, behaviour change and oral health education. This has been discussed earlier in section 4.

The levels of patient engagement have been agreed by the task group as less than 35% Modified Bleeding Score, less than 30% Modified Plaque Score, or greater than 50% improvement in both. The Modified Bleeding Score is primarily used to determine patient engagement and is give precedence when assessing patients who do not smoke or use oral nicotine (E-cigarettes, vaping etc). Here, if the Modified Bleeding Score is less than 35%, patients will be assessed as engaging and continue onto formal periodontal therapy. However, in smokers or oral nicotine users, the Modified Plaque and Bleeding scores are given equal precedence and assessed as shown in the table below.

Non-engaging patient	Engaging patient
☐ Insufficient self-care and OH	☐ Sufficient self-care and OH
☐ Insufficient plaque and bleeding levels	☐ Sufficient plaque and bleeding levels
☐ Modified Plaque Score >30%	☐ Modified Plaque Score <30%
☐ Modified Bleeding Score >35%	☐ Modified Bleeding Score <35%
☐ <50% Improvement in both	☐ >50% Improvement in both

- **Bleeding is given precedence when assessing engagement using the Modified Plaque and Bleeding scores in non-smokers**
- **In smokers (and oral nicotine users) – the Modified Plaque and Bleeding scores are given equal precedence**

It is important to note that patient engagement is also determined according to the patient's ability to be able to achieve sufficient plaque control and oral hygiene. For example, patients with manual dexterity problems may only be able to achieve a certain level of plaque control which may be higher than the levels outlined above. Therefore, these patients are treated as 'engaging patients' for the reason that they are trying their best according to their ability. Appropriate clinical judgement should be exerted in these cases.

Finally, the pathways also allow for clinical discretion to be used when assessing patient engagement and are meant to be flexible rather than rigid. A non-engaging patient may be put through an engaging pathway if, for example, it is felt this may trigger behaviour change and lead to patient engagement. Similarly, appropriate clinical judgement should be used here.

Healthy gums DO matter!

Periodontal Examination

P Pick up a probe E Examine the gum tissues R Record what you see I Interpret your results O Organise treatment

4. Basic Periodontal Examination - BPE

Why are you doing a BPE?

To decide on the patient's periodontal health or disease level and to get an idea of what further examination and treatment is needed. It should be important to understand that the BPE does not provide a diagnosis, neither is it able to assess the response to treatment. It is a simple screening tool to help decide on what further examination is needed next.

How often should I do a BPE?

At each examination appointment but only as a screening tool. The BPE is NOT used for checking how effective a course of treatment has been.

Which probe do I use?

Use the correct probe. The WHO BPE probe has two black bands, at 3.5 to 5.5mm and 8.5 to 11.5mm. The end is a 0.5mm ball, to help find calculus and ledges and to prevent passing into the gum tissues.

What are the BPE scores?

Code '0'	Healthy gingival condition with no bleeding on probing.
Code '1'	Bleeding on probing.
Code '2'	Plaque retention factor present (e.g. calculus, overhanging restoration)
Code '3'	Black band extending 3.5mm to 5.5mm is partially obscured
Code '4'	Black band extending 3.5mm to 5.5mm is completely obscured
Code '*'	Indicates a furcation involvement

How do I do a BPE?

Divide the mouth into six sextants. The wisdom teeth are generally not included, unless the first and/or second molar is missing in that sextant. 'Walk' the probe along the gingival margin, so you examine numerous points around each tooth. Use about 15 - 25 g force, which is enough to cause your finger nail to blanch. The worst score found within that sextant is the figure that is recorded in the chart.

What further examinations might be needed?

BPE score 3. Horizontal bitewings (crestal bone levels should be visible otherwise vertical bitewing or periapical radiographs should be taken) and periapicals of the affected anterior teeth. Detailed periodontal examination (including 6-point pocket chart) of the affected sextants post initial therapy

BPE score 4 and *. Vertical bitewings (crestal bone levels should be visible) or periapicals of posterior teeth and periapicals of the affected anterior teeth. Detailed periodontal examination (including 6-point pocket chart) of the entire dentition pre and post therapy.

It should be noted that periapical radiographs will allow for 'staging and grading' in the new classification system to be carried out more accurately and assessment of bone loss as a percentage of root length.

For patients who have undergone therapy for periodontitis, and who are now in the maintenance phase of care, then full probing depths throughout the entire dentition should be recorded at least annually.

When a 6-point pocket chart is indicated, it is only necessary to record sites of 4mm and above (although 6 sites per tooth should be measured). Bleeding on probing should always be recorded in conjunction with a 6-point pocket chart.

What treatment should I be considering?

As the BPE scores increase, the amount of treatment required usually also increases.
As a general guide:

Code 0: Maintain current healthy condition

Code 1: Oral Hygiene Instruction

Code 2: Oral Hygiene Instruction and remove plaque retention factor, e.g. calculus.

Code 3: Oral Hygiene Instruction and remove plaque retention factors. Supra and sub gingival scaling and possibly root surface debridement may be required.

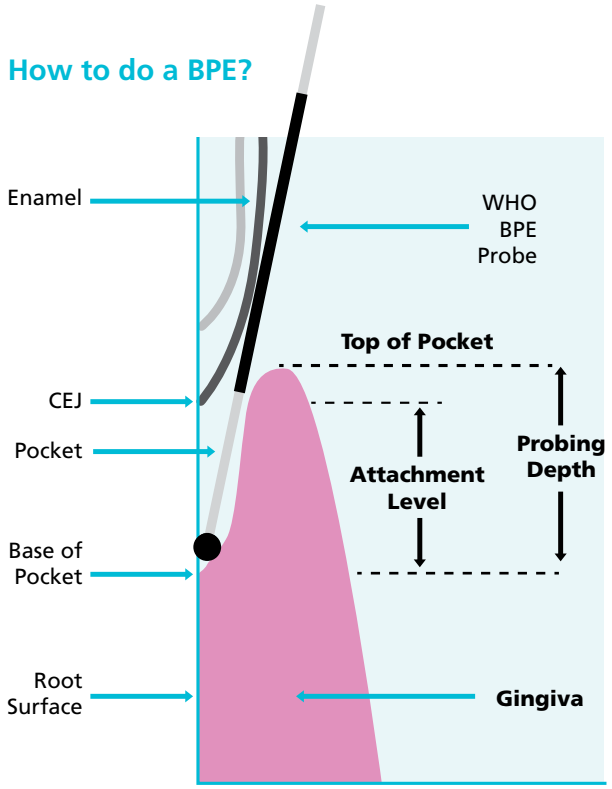
Code 4: Oral Hygiene Instruction and remove plaque retention factors. Supra and sub gingival scaling and root surface debridement required. Referral to a specialist may be required.

Code *: Oral Hygiene Instruction and remove plaque retention factors. Supra and sub gingival scaling and root surface debridement required. Referral to a specialist may be required.

Should I do a BPE for a child?

Young people often have false pocketing due to immature gum tissues. Therefore, from the age of 7 years and up to 18 years, probing is usually restricted to central incisors and first molar teeth. Between the ages of 7 to 11 years old, BPE codes of 0 - 2 are used. From 12 years old upwards the full range of BPE codes can be used. Once all permanent teeth are fully erupted it is recommended to carry out the full mouth BPE as in adult patients.

How to do a BPE?



Simplified longitudinal section through peridontal pocket

Healthy gums DO matter!

5. Advanced Periodontal Examination - APE

What is an Advanced Periodontal Examination?

The BPE is the simplest and quickest way to screen for periodontal disease but it does not show any detail of the condition and cannot be used to plan treatment and check how effective your treatment has been. The APE uses a similar method for examination as the detailed periodontal chart. The APE is a six-point pocket **examination** of all the teeth, but it only **records** the depth and position of any pocket with 4mm depth or greater with the presence or absence of bleeding around each tooth. Bleeding, tooth mobility, furcation involvement and gingival recession are also recorded. The result is a simplified chart capturing any areas of disease or potential disease activity. With a little practice, this provides a quick and easy way to measure the extent of periodontal disease and gives a written record that is easy to read and understand.

Why are you doing an APE?

To measure and record details of the periodontal condition throughout the mouth and particularly in any sextants with a BPE score of 3 or 4.

How often should I do an APE?

Ideally at each examination appointment but certainly if a BPE score of 3 or 4 has been recorded, as you need more detail to diagnose and plan treatment correctly. For patients who still have active disease following treatment, the APE should be carried out at every recall examination until the patient achieves periodontal stability and enters into the maintenance phase of care. Once in the maintenance phase, the APE should be carried out annually as per the current BPE guidelines.

Which probe do I use?

Use the correct probe; The recommended probe is the **UNC-15 probe**, as it is easier and clearer to use.
The UNC-15 probe has millimetre intervals from 1mm to 15mm with black bands at 4-5mm, 9-10mm, 14-15mm.
The Williams probe has lines at millimetre intervals (123, 5, 789).

How do I do an APE?

Start with the most posterior tooth in one arch. 'Walk' the probe around the tooth at several points along the gingival margin, so you can explore the attachment level at the base of any pockets. Use about 15-25g force, which is enough to cause your finger nail to blanch. For each tooth with a pocket of 4mm or more, record the depth and position of the pocket. Complete the arch and then repeat the process on the other arch. At least six points on each tooth should be examined, three buccally and three lingually or palatally, as is done in the detailed periodontal examination.

Record whether bleeding is seen from around any tooth.

Record the mobility of each tooth with Miller's Grade I, II, II, assessed by the millimetres of movement seen when the tooth is pushed by two opposing instruments.

Record any furcation involvement and severity using Hamp et al's grade I, II, III classification.

Record the deepest recession affecting the tooth buccally and lingually or palatally (single measurement per surface).

What further examinations might be needed?

Pocket depths of 4 and 5mm. Horizontal bitewings and periapicals of the affected anterior teeth (crestal bone levels should be visible).

Pocket depths of 6mm and over. Vertical bitewings and consider periapicals of the affected teeth (crestal bone levels should be visible).

Should I do an APE for a child?

Young people often have false pocketing due to immature gum tissues. Therefore, from the age of 12 years and up to 18 years, probing is usually restricted to central incisors and first molar teeth. Once all permanent teeth are fully erupted it is recommended to carry out the full mouth APE as in adult patients.

Healthy gums DO matter!

Advanced Periodontal Examination - example 1

Mrs Perio - 17th December 2013

Patient's Right Side

Bleeding	√	√	√	√	√	√	√	√
Mobility	I		II					
Recession								
Pocket	8m	6df	8df	4m	5d	6d	4d	4d
UPPER	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**

LOWER	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
Pocket	5m	6d	8m					5L
Recession								
Mobility			I					
Bleeding	√	√	√	√	√	√	√	√

Patient's Left Side

√	√	√	√	√	√	√	—
I		II					—
							—
8p	5m	6d	6d	4d	8df	5m+dF	—
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
			—	5d	8m	4d	—
4			—				—
			—				—
√	√	√	—	√	√	√	—

Pocket depths of 4mm or more are recorded, with the initial of the site at which the pocket was deepest.

m mesial **d** distal **b** buccal **L** lingual **p** palatal

The mobility of each tooth is recorded, as grade I, II or III, depending on the millimetres noted.

Generalised mild gingival recession was noted.

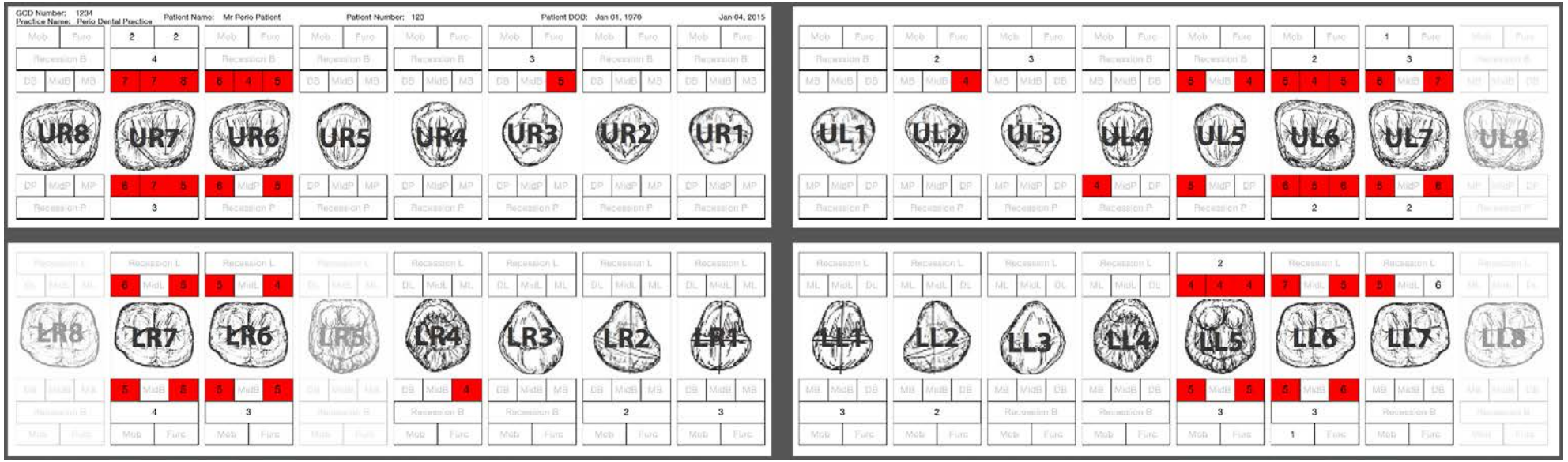
The presence of bleeding from either the gum line or the pocket after examination is recorded.

— denotes a missing tooth

F denotes the pocket extending into the furcation area, between the roots of a molar tooth.

Advanced Periodontal Examination - example 2

Mr Perio Patient - 4th January 2015



6. 6 Point Detailed Periodontal Chart (DPC)

Why are you doing a 6 Point Detailed Periodontal Chart?

It is still widely seen as the most thorough way to examine and record the extent of the periodontal disease. This allows a more complete understanding of the periodontal tissues and therefore fully supports the clinicians during treatment. However, we recognise that this is also the most time-consuming examination and recording method and the chart is often challenging to read and interpret. Therefore, clinicians may not use the 6 Point Detailed Periodontal Chart method as widely as is currently recommended.

How often should I do a 6 Point Detailed Periodontal Chart?

Ideally at each examination appointment but certainly if a BPE score of 3 or 4 has been recorded, as you need more detail to diagnose and plan treatment correctly. For patients who still have active disease following treatment, the DPC should be carried out at every recall examination until the patient achieves periodontal stability and enters into the maintenance phase of care. Once in the maintenance phase, the DPC should be carried out annually as per the current BPE guidelines.

Which probe do I use?

Use the correct probe; The recommended probe is the **UNC-15 probe**, as it is easier and clearer to use.
The UNC-15 probe has millimetre intervals from 1mm to 15mm with black bands at 4-5mm, 9-10mm, 14-15mm.
The Williams probe has lines at millimetre intervals (123, 5, 789).

What further examinations might be needed?

Pocket depths of 4 and 5mm. Horizontal bitewings and periapicals of the affected anterior teeth (crestal bone levels should be visible).

Pocket depths of 6mm and over. Vertical bitewings and consider periapicals of the affected teeth (crestal bone levels should be visible).

Should I do a 6 Point Detailed Periodontal Chart for a child?

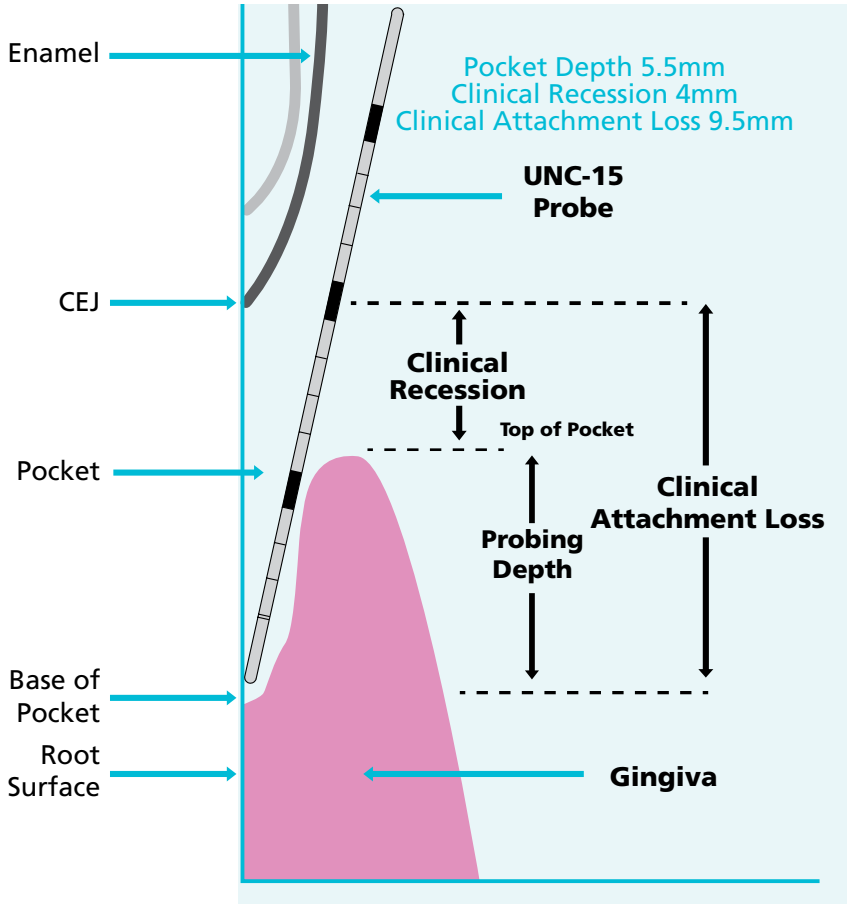
Young people often have false pocketing due to immature gum tissues. Therefore, from the age of 12 years and up to 18 years, probing is usually restricted to central incisors and first molar teeth. Once all permanent teeth are fully erupted it is recommended to carry out the full mouth DPC as in adult patients.

How do I do a 6 Point Detailed Periodontal Chart (DPC)?

1. Start with the most posterior tooth in one arch. 'Walk' the probe around the tooth along the gingival margin, so you can explore the attachment level at the base of any pockets. You examine 6 points around each tooth, three buccal and three mesial. Use about 15-25g force, which is enough to cause your finger nail to blanch. For each tooth, record the depth of aspect of the healthy sulcus and each pocket.
2. Record whether bleeding is seen from any aspect of any tooth.
3. Record whether suppuration is seen from any aspect of any tooth
4. Record the mobility of each tooth with Miller's Grade I, II, II, assessed by the millimetres of movement seen when the tooth is pushed by two opposing instruments.
5. Record the depth of recession at 6 points around each tooth, three buccal and three mesial.
6. Record any furcation involvement and severity using Hamp et al's grade I, II, III classification.
7. Calculate the percentage of sites with pockets less than 4mm, greater than 4 mm and greater than 6mm.
8. Add the Full Mouth Plaque Scores FMPS and Full Mouth Bleeding Scores FMBS.

Healthy gums DO matter!

How to do a 6 Point Detailed Periodontal Chart with a **UNC-15 Probe**



Simplified longitudinal section through peridontal pocket

UNC-15 is the recommended probe for DPC and APE

6 Point Detailed Periodontal Chart - example

Mrs Perio - 17th December 2013

Baseline periodontal probing depths (PPD), recession (RC), furcation involvement (FI), mobility (Mob), bleeding on probing (BoP), full mouth plaque score (FMPS), full mouth bleeding score (FMBS).

		18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
Buccal	PD		3 3 3	4 7 4	4 1 6		3 1 2		2 2 2	3 2 3	4 2 4	3 2 4		3 2 3	3 2 5	4 2 2	
	RC		0 0 0	2 2 1	0 1 0		0 3 2		2 0 0	1 1 0	2 0 1	0 2 1		0 0 0	0 1 1	1 0 0	
	BOP			X	X		X										
	FI			II													
	Mob																
Palatal	PD		2 3 7	5 3 5	4 3 5		4 2 3		3 3 3	3 4 3	3 3 3	2 2 4		3 4 3	6 3 3	5 3 3	
	RC		0 2 1	2 3 0	0 1 0		1 2 2		2 0 0	0 1 0	1 1 1	0 1 1		0 0 0	0 1 1	1 1 0	
	BOP		X	X	X		X					X			X	X	
	FI			I													
	Mob				I		I				I	I		I			

		48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
Lingual	PD		8 4 4	3 4 4		2 3 3	3 4 5	3 3 2		2 2 2	3 2 3	2 2 3	3 3 4		3 4 3	3 3 3	
	RC		0 0 1	1 0 0		0 0 1	0 1 2	3 3 3		3 3 1	1 2 0	0 0 0	0 0 0		0 0 0	0 0 0	
	BOP		X X				X										
	FI		I	I											I		
	Mob																
Buccal	PD		8 4 4	3 2 4		2 2 2	2 2 3	3 1 2		2 1 2	3 2 3	2 2 2	2 3 2		3 4 2	3 2 3	
	RC		0 0 1	1 2 1		1 2 1	0 1 1	2 3 4		4 3 2	2 1 1	1 0 0	0 1 1		0 1 0	0 0 0	
	BOP		X												X	X	
	FI			I											II		
	Mob																

		18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
	FMPS						X		X X	X							
	FMPS											X					
	FMPS			X			X X	X X					X		X X	X X	
	FMPS		X	X		X				X	X	X					

		48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38

Number of Teeth
22

FMPS%	FMPS%	Sites<4mm	Sites≥4mm	Sites≥6mm
		98	34	6
17%	13%	74%	26%	5%

7. Non-Surgical Periodontal Therapy

What is non-surgical periodontal therapy?

There have been many terms used to describe the process of non-surgical therapy, from sub-gingival scaling, root planing, root surface therapy (RST) and root surface debridement (RSD) amongst a few. As a result there is a considerable amount of confusion around what classifies as non-surgical treatment. This section will clarify the most up to date approach to non-surgical treatment and define and describe the appropriate terms.

Before the approach used in this toolkit can be discussed, it is important to first identify the cause of periodontal disease and the ultimate aim of therapy.

The aim of non-surgical periodontal treatment is the following

- Disrupting and removing the biofilm from the root surface
- Removing the bulk of sub-gingival calculus from the root surface
- Decontamination by removing the lipopolysaccharide/ endotoxin from the root surface

It is important to understand that calculus is not the cause of periodontal disease. Plaque is the initiating factor, specifically sub-gingival plaque, but the majority of tissue damage in periodontitis is caused by the host immune response to the plaque. Whilst calculus is not the cause of periodontitis, it can be regarded as a contributory factor for the following reasons:

- All calculus has a coating layer of dental plaque
- Supra-gingival calculus impedes tooth brushing and interdental cleaning
- Sub-gingival calculus may act as both a barrier to sub-gingival cleaning and a focus for the colonization of bacteria during the first stage in the formation of the biofilm
- Sub-gingival calculus may adsorb bacterial endotoxins
- Supra and sub-gingival calculus may impede the passage of periodontal probes thereby falsifying probing depth measures

For these reasons it is important to remove as much calculus as possible, but this is not the overall aim of non-surgical treatment. It is accepted that to remove all the calculus is not possible and that residual amounts of deposits will remain. However if root surface debridement removes sub-gingival plaque, these residual deposits will not affect the stabilisation and healing of periodontal disease.

What is supra-gingival and sub-gingival scaling?

Supra-gingival scaling is the removal of calculus from above the gingival margin.

Sub-gingival scaling is the removal of sub-gingival calculus from the crown and root surface.

What is root surface debridement?

Root surface debridement is the process of lightly but meticulously cleaning the root surface with the aim of decontaminating the root surface from endotoxin and sub-gingival plaque. Kieser et al[1] demonstrated that endotoxin could be washed easily from the root surface to effect adequate decontamination. This means that there is no longer a need for aggressive over-instrumentation and the removal of cementum from the root surface, as is the case in root planing. Research has shown that the most effective use of ultrasonic instruments involves multiple light passes of the instrument over the root surface with the ultrasonic scaler used on a low power setting. However the presence of tenacious sub-gingival calculus will necessitate the use of greater pressure and a step up to a medium power setting. Studies have shown that a high power setting is no more effective than a medium setting, and furthermore the high setting may increase the risk of root surface damage and trauma. Thus the idea that the root surface has to be planed until it is hard and smooth is now an out-dated concept. The approach to root surface debridement for any pocket can be achieved in 2 steps:

- Sub-gingival scaling with the ultrasonic on a medium power setting to remove as much sub-gingival calculus as possible
- Root surface debridement with the ultrasonic on a low power setting, and the systematic light instrumentation of the entire root surface. This will involve multiple passes of the instrument over the entire root surface to remove as much endotoxin and sub-gingival plaque as possible. Gracey area-specific curettes can also be used to debride the root surface (see below)

What is root planing and when should it be done?

Root planing is the removal of plaque, calculus and infected and necrotic cementum from the root surface, so as to render that surface hard and smooth and reduce the level of surface endotoxin. This is no longer the approach used when initially treating periodontal disease. However if pocketing still remains following the preferred method of root surface debridement as described above, then root planing can be carried out to leave a hard, smooth root surface.

[1] Moore J, Wilson M, Kieser JB. The distribution of lipopolysaccharide (endotoxin) in relation to periodontally involved root surfaces. *J Clin Periodontol* 1986; **13:** 748-751

Non-engaging patients

The approach used in the care pathways developed in this toolkit is to delay the time-consuming root surface debridement until the oral hygiene of the patient will support the most favourable outcome following periodontal therapy. However, although root surface debridement is not carried out, non-engaging patients should have as much supra and sub-gingival calculus removed as possible to facilitate the high levels of plaque control needed. This often requires the use of local anaesthetic. Furthermore, with this approach, up to two-thirds of affected sites should show reduction in pocket depths and even stabilisation of periodontal disease, allowing the root surface debridement to be more targeted and less time consuming. Thus the approach to non-engaging patients is as follows:

- Educate the patient about periodontal disease, the aetiology and end result of the disease
- Educate the patient on how to take ownership and self-care responsibility to achieve and maintain a plaque free mouth
- Remove as much supra and sub-gingival calculus to facilitate adequate plaque control

Which instruments do I use?

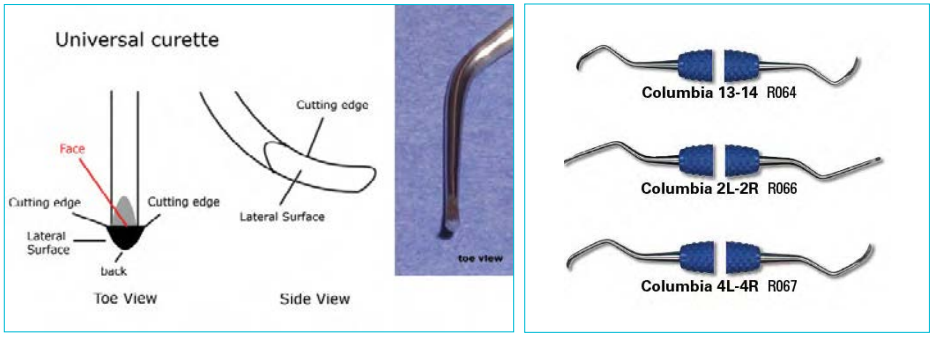
Powered instruments are either sonic or ultrasonic scalers with universal tips.

Hand instruments are mainly scalers and curettes.

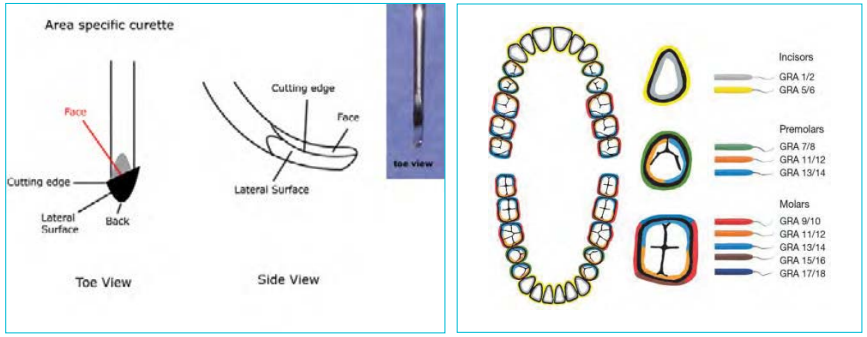
Sickle scalers are very popular and are used only for supra gingival cleaning. They have a sharp tip and two cutting sides.

Curettes are available in two forms:

- Universal Curettes (e.g. Columbia) which cut on both sides and should only be used for supra-gingival scaling as they will traumatise the gingivae if used sub-gingivally.
- Gracey area-specific curettes, which have only 1 cutting edge and are for use sub-gingivally as the non-cutting surface faces the gingival lining and causes no trauma.



Universal Curettes



Gracey Curettes

Do I need to use local anaesthetic?

You would rarely drill into a tooth without using LA and scaling calculus from a root surface is usually uncomfortable for the patient. Therefore, LA is required as it allows you to complete the cleaning and makes the patient and therefore you, more relaxed. The use of LA for periodontal cleaning is often used as an indicator of how thoroughly you performed the treatment.

How do I use the hand instruments?

This takes practice and good instruction. Firstly the instruments must be sharp. Then, in simple terms, usually only the tip one third of the instrument touches the tooth surface. The instrument is held so that the face makes an angle between 45 and 90 degrees to the tooth surface.

Numerous, short, firm strokes are used, in all directions. The crown of the tooth is checked for smoothness and then polished. The root surface cannot be polished as it is inaccessible.

How do I use the powered instruments?

Choose one of the tips that adapts neatly to the root surface. With adjustments to the power and water setting (usually fairly low), the calculus is removed and the entire pocket and tooth surface cleaned.

Why do I clean the root surfaces?

- To remove sub gingival plaque, calculus and other plaque retention factors.
- To decontaminate the superficial cementum, by removing the endotoxin.
- To produce a root surface that is biologically acceptable and therefore allows epithelial attachment and the formation of a long junctional epithelium (LJE).
- To enable a certain degree of gum shrinkage, thereby directly reducing pocket depth and facilitating easier patient cleansing.
- To facilitate resolution of gingival inflammation.

NB: Root surface debridement (RSD) leaves viable cementum behind and cementum is rough, therefore the end-point of RSD cannot be determined on the day and is determined by assessing the pocket depth reduction at the 3-month review.

How do I clean the root surfaces?

Use either site-specific Gracey curettes or fine tipped ultra-sonic instruments. Root surface debridement is less aggressive than root planing and the end-point is not based around cementum removal; it aims to preserve cementum as much as possible.

What is periodontal healing following treatment?

The healing of Periodontal Disease takes place over a number of stages. Ultimately the healing pocket is the reduction in probing depth and the absence of bleeding on probing following treatment. The reduction is largely a result of the resolution on gingival inflammation leading to shrinkage of the gingival tissues and the formation of new, long junctional epithelium.

The healing can be described in 2 stages:

- The resolution of inflammation, with the reduction in gingival swelling, redness and gingival bleeding. This occurs after supra-gingival scaling and then removal of dental plaque and as a consequence of improved plaque control by the patient. This results in a reduced bacterial challenge to the host and as a result, the resolution of the inflammatory lesion in the gingival tissues. These changes occur within 1-2 weeks.

- The formation of a long junctional epithelium; root surface debridement and disruption of the sub-gingival biofilm will create a root surface that is compatible with the formation of long junctional epithelium. The attachment of epithelium begins within a few days of the root surface debridement. This starts at the most apical extremity of the pocket and then progresses coronally over 2-3 weeks.

Maturation of the gingival and periodontal collagen fibres then follows and takes 3 months. This results in a tightening of the gingival cuff, reduced mobility and further pocket elimination. This is why it is important that once root surface debridement has been carried out, no periodontal probing or re-instrumentation is performed within 3 months, otherwise this may disrupt the healing process.

Should antimicrobials be used in periodontal treatment?

There is no place for the use of systemic antibiotics in the management of chronic periodontitis in general dental practice. Periodontitis is initiated by the accumulation of a pathogenic biofilm, but the majority of tissue damage is caused by the host's immune response. No single organism has ever been shown to cause chronic periodontitis and importantly, if the biofilm is disrupted and removed mechanically, the condition resolves and a "health promoting" biofilm re-establishes. If patients fail to maintain good oral hygiene then the biofilm becomes "dysbiotic" again i.e. disease forming rather than health associated. The use of systemic antibiotics will not correct a patient's poor oral hygiene, and will only serve to help generate resistant species.

Any short term benefit gained from the use of systemic antibiotics will be lost in someone with poor oral hygiene and their repeated use would be necessary; this would be irresponsible and unnecessary, and some would say even negligent, since behaviour change is required to attain and retain periodontal health. The consensus view from the 6th European Workshop on Periodontal diseases in relation to antimicrobial therapy was:

"Due to the problems related with the indiscriminate use of antimicrobials (especially systemic side effects, microbiological adverse effects and the increase in bacterial resistances), the use of systemic antimicrobials in periodontitis should be restricted to certain patients and certain periodontal conditions:

- Specific patient groups (such as in aggressive periodontitis).
- Periodontal conditions (such as in severe and progressing forms of periodontitis)"[1].

Aggressive periodontitis should be managed in level 3 or 4 environments and severe progressing chronic periodontitis should be referred to level 2 or 3 practitioners, where decisions about the appropriateness of systemic antibiotics can be made.

There are two exceptions to these guidelines:

- Patients with necrotising ulcerative gingivitis (NUG) where adjunctive metronizadole is indicated.
- Patients who have a cellulitis or pyrexia due to infection spread from a periodontal abscess. These scenarios are discussed by Blair & Chapple (2014)[2].

[1] Sanz M, Teughels W. Innovations in non-surgical periodontal therapy: Consensus Report of the Sixth European Workshop on Periodontology. *J Clin Periodontol* 2008: **35(8)**; 3-7.

[2] Blair FM, Chapple ILC. Prescribing for periodontal disease. *Prim Dent J*. 2014: **3(4)**; 38-43.

SECTION 6

Periodontal Care Pathway Management in Primary Dental Care

Introduction to Periodontal Pathways

Periodontal diseases represent a wide spectrum of disease conditions that can develop in a healthy periodontium. The care pathways developed for primary dental practice will concentrate on the two main periodontal conditions, which are plaque induced inflammatory conditions ending with the suffix "itis" to designate their aetiology: gingivitis and periodontitis (including Grade C rapidly progressing periodontitis, previously classified as aggressive periodontitis).

The task group has developed five periodontal care pathways for the management of periodontal diseases in primary dental practice. Setting the boundaries for the categorisation of patients into one of the five pathways has been a challenging process. Periodontitis is a complex disease process with multiple risk factors.

The basic periodontal examination is a widely accepted screening tool and we have used its various scores to set the parameters for each pathway. Due to the wide variation of presentation in the BPE scores, it is important that the clinician understands the reasoning behind each of the five pathways.

The categorisation of the five pathways is not meant to represent rigid criteria, but rather flexible guidance which should be clinician led according to the understanding behind each pathway. For example, a patient presenting with BPE scores of all 1's, could fall into the health **or** risk pathway. If there is minimal localised inflammation present in a few areas in an overall healthy mouth with very little plaque, the patient would go into the health pathway. In contrast, if the patient presents with poor oral hygiene, large amounts of plaque with generalised inflammation, then this patient would go into the risk pathway. Clinical understanding of the principles behind each pathway is vital in order to correctly manage patient's periodontal risk and treatment need. The principle behind each of the five pathways is as follows:

Periodontal Health Pathway

This pathway is for patients who were previously classified as having aggressive forms of periodontitis. The main clinical finding is tissue destruction inconsistent with levels of plaque in systemically healthy patients (no systemic risk factors). This pathway is for all patients who have an overall healthy mouth on an intact or reduced periodontium, but maybe missing a few small areas, with some mild localised inflammation with minimal bleeding and low levels of plaque. These are the patients who are doing well, but just need some targeted prevention to improve an otherwise healthy mouth and a good oral hygiene regime. These patients will have bleeding and probing of less than 10% as per the new classification system for defining clinical health.

Periodontal Risk Pathway

This pathway is intended for all patients who have an increased risk of developing destructive periodontal disease. They do not have any destructive disease at present, but are at risk of developing periodontitis. These can be patients with poor oral hygiene and high bleeding and plaque levels on an intact or reduced periodontium, or patients with a history of periodontitis with increased risk factors, predisposing them to develop further disease and tissue breakdown.These patients will have bleeding and probing of greater than 10% as per the new classification system for defining gingivitis or gingival inflamation on a periodontitis patient (in remission).

Periodontal Disease Pathway

This pathway is for patients with active periodontitis. This ranges from localised mild periodontitis to generalised moderate periodontitis.

Advanced Periodontal Disease Pathway

This pathway is for patients with advanced periodontitis. This ranges from localised severe periodontitis to generalised very severe periodontitis.

Grade C Rapidly Progressing Periodontal Disease Pathway

This pathway is for patients who were previously classified as having aggressive forms of periodontitis. The main clinical finding is tissue destruction inconsistent with levels of plaque in **systemically healthy patients (no systemic risk factors).** These patients can have rapid tissue breakdown and bone loss over short period of time. In the 1999 classification system, these patients were classified with either localised aggressive periodontitis or generalised aggressive periodontitis. Localised aggressive periodontitis was described as having circumpubertal onset, whilst generalised aggressive periodontitis affected patients under 30 years old.

However, the new classification system does not deal with patient management or treatment need, therefore a patient presenting under the old system may have a different "classification" in the new system, yet the patient and the disease are the same and the patient should therefore be managed in the same way.

In light of the above, aggressive disease has been replaced with "**Grade C**" disease progression. The critical factor remains the observation that the disease severity and progression is inconsistent with (more than would be expected) levels of plaque control and **local risk factors**. The care pathways therefore remain unchanged, and a patient with Grade C disease should therefore be referred as a **level 2 case**.

Changes to the HGDM pathways

The HGDM pathways that have been developed have now been updated to reflect the new classification system. The changes to the pathways are based upon the BSP's implementation strategy, which is more simplified and practical for general dental practice.

The use of the basic periodontal examination (BPE) still remains entirely consistent with the new classification system and should still continue to be used as a rapid screening tool in general practice to inform diagnostic measures needed before arriving at a definitive diagnosis and treatment plan.

Therefore, the overall structure of the pathways remains the same and the BPE can still be used to differentiate between the pathways. However, the pathways have been updated and changed to reflect the new classification system.

This has led to changes in the all of the pathways to reflect the three types of periodontium outlined in the new classification system; those with an intact periodontium, those with a reduced periodontium not related to periodontitis and those with a reduced periodontium due to periodontitis.

In the health and risk pathways, the increased risk of recurrent disease on a patient with a reduced periodontium due to periodontitis has been reflected by reducing the recall interval for these patients and developing a separate pathway for them. It should be noted that once a patient has been classified as having a reduced periodontium due to periodontitis, even though they may be in the health or risk pathways, they will always remain a periodontitis patient **(for life)** who is diagnosed as either stable, in remission or unstable. Staging and grading should be carried out on these patients and they should have detailed pocket charting (6-point pocket chart) carried out annually whilst they are in the maintenance phase of care and there are no pockets 4mm or greater with bleeding.

In the disease and advanced disease pathways, the therapeutic end points for therapy and entry into maintenance phase of care have been changed to reflect the agreement that pockets 4mm or greater WITH bleeding on probing are unstable sites and pockets that are 4mm or less and do NOT bleed on probing are seen as stable.

In addition to this entry points into the pathway for recall patients has been suggested to begin at the 3 month recall level. However, all prevention, education and investigations including the patient agreement, the patient leaflet and consent form and radiographs should be carried out here if they have not already been done.

The other significant change to the pathways is with aggressive periodontitis. The new classification system no longer differentiates between aggressive and chronic periodontitis. However there remains the understanding that progression of disease does vary between patients.

Therefore, the aggressive disease pathway has been replaced by patients who present under the new classification system with stages 3 or 4 and a grade C, rapid rate of progression, who have oral hygiene inconsistent with the level of destruction seen an no associated systemic risk factors.

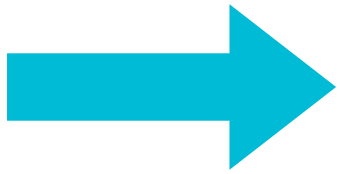
The molar/incisor distribution remains in the new classification to reflect what used to be called localised juvenile periodontitis.

Healthy gums DO matter!

Periodontal Health Pathway

BPE

0	0	0
0	0	0



1	1	1
1	2	1

Localised minimal bleeding and inflammation.
Bleeding on probing less than 10%.

Periodontal Health Pathway

BPE

0	0	0
0	0	0

→

1	1	1
1	2	1

CLINICAL EXAMINATION AND PERIODONTAL RISK ASSESSMENT

MEDICAL HISTORY
Diabetes, immuno-compromised
Any disease or condition affecting dexterity (e.g. Rheumatoid Arthritis)
Xerostomia (e.g. drug-induced)
Factors affecting self care (e.g. mental illness, stress)
Other relevant medical factors

SOCIAL HISTORY
Brushing regime
Interdental cleaning regime
Tobacco use – Smoking or chewing
Nicotine replacement/use - E cigarettes, Nicotine gum
Single tufted brush

CLINICAL FINDINGS
BPE, Plaque and Calculus Levels
Bleeding – localised (<10-30%) or generalised (> 30%)
History of periodontal disease – Clinical attachment loss
Yes - Stage, Grade, Risk Factors
Distribution - localised, generalised, molar/incisor

Evidence of Clinical Recession

NO → PATHWAY A

YES → **Interdental Recession/ Clinical Attachment Loss**
(Evidence of radiograhic interdental bone loss - historic periodontitis)

NO → PATHWAY B

YES → PATHWAY C

PATHWAY A

INTERVENTION
Praise and Advice. Reinforce areas of risk
Scale as needed / remove calculus
retentive factors – overhangs etc.
One Visit

Health on an intact periodontium
RECALL 12-24 MONTHS

PATHWAY B

INTERVENTION
Praise and Advice. Reinforce areas of risk
Scale as needed / remove calculus
retentive factors – overhangs etc.
One Visit

Health on a reduced periodontium non-periodontitis
RECALL 12-24 MONTHS

PATHWAY C

INTERVENTION
Stage, grade, risk assess. Reinfoce OHI, importance of daily ID cleaning & high levels of plaque control. Warn of risk of further periodontal destruction Pocket chart annually in maintenace phase
Pockets ≤4mm and no BoP at 4mm sites.
Remove plaque retentive factors and scale. One Visit

Health on a reduced periodontium
Stable periodontitis
RECALL 9-12 MONTHS

Healthy gums DO matter!

Periodontal Health Pathway

Examination – Periodontal Assessment

MH
- Diabetes – type 1, type 2, HbA1c levels
- Any disease or condition affecting dexterity (e.g. Rheumatoid Arthritis)
- Xerostomia (e.g. drug-induced)
- Factors affecting self care (e.g. mental illness, stress)
- Other relevant medical factors

SH
- Brushing regime
- Interdental (ID) cleaning regime
- Single Tufted brush use
- Tobacco use – Smoking or chewing
- Oral nicotine use – E-cigarettes, vaping, nicotine gum/spray etc.
- Mouthwash use

Clinical
- BPE
- History of periodontal disease – record clinical attachment loss (CAL)
- Record plaque levels – High (H) / Moderate (M) / Low (L)
- Record calculus levels – H/M/L
- Record bleeding levels – localised (10-30% BoP sites) or generalised (>30% BoP sites)

Patient Agreement
- Optional

Record Keeping
- Oral hygiene level, areas missed
- Record plaque and calculus levels
- Record bleeding levels – should be less than 10% and localised
- Oral hygiene regime – brushing and interdental cleaning frequency and method

Classification and diagnosis

- **Pathway A**
  - **Health on an intact periodontium**
  - No clinical attachment loss (CAL)
  - No evidence of (radiographic) bone loss

- **Pathway B**
  - **Health on a reduced periodontium non-periodontitis related**
  - CAL not related to periodontitis (e.g. surgical crown lengthening, toothbrushing related buccal recession etc.)
  - No evidence of **interproximal** CAL or recession
  - No evidence of (radiographic) **interproximal** bone loss

- **Pathway C**
  - **Health on a reduced periodontium periodontitis related, stable periodontitis**
  - CAL due to previous periodontitis
  - Evidence of **interproximal** CAL or recession
  - Evidence of (radiographic) interproximal bone loss

Pathways A & B

No CAL or CAL on a reduced periodontium non-periodontitis related, no evidence of interproximal CAL/recession or bone loss.

Intervention

- Praise and advice.
- Risk assessment and advise on areas of risk as indicated - smoking / diabetes
- Reinforce oral hygiene and the importance of daily interdental cleaning
- Supra gingival scale as needed. Remove calculus
- Remove plaque retentive factors – overhangs etc.
- Smoking cessation as indicated
- Oral nicotine advice as indicated (E-cigarettes etc.)
- Diabetes and periodontal disease advice as indicated

- **Diagnosis - health on an intact periodontium or health on a reduced periodontium non-periodontitis related**

Recall

- **12- 24 months**

Pathway C

CAL periodontitis related, evidence of interproximal CAL/recession or bone loss.

Intervention

- Classification - stage, grade and risk assess
- Advise on areas of risk as indicated - smoking / diabetes
- Reinforce oral hygiene and the importance of daily interdental cleaning
- Reinforce the importance of maintaining high levels of plaque control to prevent further disease and periodontal destruction
- Warn of increased risk of further periodontal destruction
- Praise and advice
- Supra gingival scale as needed. calculus
- Remove plaque retentive factors – overhangs etc.
- Smoking cessation as indicated
- Oral nicotine advice as indicated (E-cigs etc.)
- Diabetes and periodontal disease advice as indicated
- 6-point pocket chart annually in the maintenance phase
- Pockets ≤4mm and no BoP at 4mm sites

- **Diagnosis - stable periodontitis**

Recall

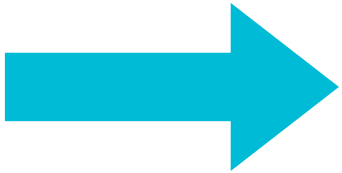
- **9-12 months**

Healthy gums DO matter!

Periodontal Risk Pathway

BPE

1	1	1
1	2	1



2	2	2
2	2	2

Generalised bleeding and inflammation
Bleeding on probing greater than 10%

Periodontal Risk Pathway

BPE

1	1	1
1	2	1

→

2	2	2
2	2	2

CLINICAL EXAMINATION AND PERIODONTAL RISK ASSESSMENT

MEDICAL HISTORY
Diabetes, immuno-compromised
Any disease or condition afffecting dexterity (e.g. Rheumatoid Arthritis)
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Other relevant medical factors

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Single tufted brush

CLINICAL FINDINGS
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History of periodontal disease – Clinical attachment loss
Yes - Stage, Grade, Risk Factors
Distribution - localised, generalised, molar/incisor

Evidence of Clinical Recession

NO → PATHWAY A

YES → **Interdental Recession/ Clinical Attachment Loss**
(Evidence of radiograhic interdental bone loss - historic periodontitis)

NO → PATHWAY B

YES → PATHWAY C

PATHWAY A

INTERVENTION
Personalised preventive advice
Supervised brushing, Demonstrate appropriate ID cleaning
Smoking cessation as indicated
Explain nature of Periodontal disease and the main risk factor is plaque. Warn of risk of periodontal destruction
Remove plaque retentive factors - scaling to facilitate OH
3 month recall

3 Month Recall - VISIT 2
Re-examination and reassement
Reinforce messages and evaluate any improvement in OH
Reinforce OHI, importance of daily ID cleaning & high levels of plaque control.
Thorough supra and subgingival scale.

- Non-responsive patient BOP>10% Gingivitis on an intact periodontium **RECALL - 6/12**
- Responsive patient BOP<10% Health on an intact periodontium **RECALL - 9/12**

PATHWAY B

INTERVENTION
Personalised preventive advice
Supervised brushing, Demonstrate appropriate ID cleaning
Smoking cessation as indicated
Explain nature of Periodontal disease and the main risk factor is plaque. Warn of risk of periodontal destruction
Remove plaque retentive factors - scaling to facilitate OH
3 month recall

3 Month Recall - VISIT 2
Re-examination and reassement
Reinforce messages and evaluate any improvement in OH
Reinforce OHI, importance of daily ID cleaning & high levels of plaque control.
Thorough supra and subgingival scale.

- Non-responsive patient BOP>10%. Gingivitis on a reduced periodontium Non-periodontitis **RECALL - 6/12**
- Responsive patient BOP<10%. Health on a reduced periodontium Non-periodontitis **RECALL - 9/12**

PATHWAY C

INTERVENTION
Stage, grade, risk assess. Personalised preventive advice
Supervised brushing, Demonstrate appropriate ID cleaning
Smoking cessation as indicated
Explain nature of Periodontal disease & main risk factor is plaque
Warn of significant risk of further periodontal destruction
Remove plaque retentive factors - scaling to facilitate OH
Pockets ≤4mm and no BoP at 4mm sites. No pockets ≥ 4mm with BoP
3 month recall

3 Month Recall - VISIT 2
Re-examination and reassement. Reinforce OHI, importance of daily ID cleaning & high levels of plaque control.
Re-warn of significant risk of further periodontal destruction
Pocket chart. Pockets ≤4mm and no BoP at 4mm sites.
No pockets ≥ 4mm with BoP
Thorough supra and subgingival scale.

- Non-responsive patient BOP>10%. Gingival inflamation on a reduced periodontium **Periodontitis in remission** **RECALL - 3/12 and then 6/12 if no unstable sites**
- Responsive patient BOP<10%. Health on a reduced periodontium **Stable periodontitis** **RECALL - 6/12**

Healthy gums DO matter!

Periodontal Risk Pathway

Examination – Periodontal Assessment

MH
- Diabetes – type 1, type 2, HbA1c levels
- Any disease or condition affecting dexterity (e.g. Rheumatoid Arthritis)
- Xerostomia (e.g. drug-induced)
- Factors affecting self care (e.g. mental illness, stress)
- Other relevant medical factors

SH
- Brushing regime
- Interdental (ID) cleaning regime
- Single tufted brush use
- Tobacco use – Smoking or chewing Nicotine gum
- Oral nicotine use – E-cigarettes, nicotine gum etc.
- Mouthwash

Clinical
- BPE
- History of periodontal disease – record clinical attachment loss (CAL)
- Record plaque levels –H/M/L
- Record calculus levels – H/M/L
- Record bleeding levels – localised (10-30% BoP sites) or generalised (>30% BoP sites)

Patient Agreement
- For patients with periodontitis in remission

Record Keeping
- Oral hygiene level, areas missed
- Record plaque, calculus and bleeding levels
- Record bleeding levels
- Oral hygiene regime – brushing and interdental cleaning frequency and method, single tufted brush use
- Advise the patient they are at risk of developing destructive periodontal disease
- Explain to the patient that periodontal disease in its advanced stages can lead to tooth mobility and eventually tooth loss.

Diagnosis / Classification

- **Pathway A**
  - **Gingivitis on an intact periodontium**
  - No clinical attachment loss (CAL)
  - No evidence of (radiographic) bone loss

- **Pathway B**
  - **Gingivitis on a reduced periodontium non-periodontitis related**
  - CAL not related to periodontitis (e.g. surgical crown lengthening, toothbrushing related buccal recession etc.)
  - No evidence of **interproximal** CAL or recession
  - No evidence of (radiographic) **interproximal** bone loss

- **Pathway C**
  - **Gingival inflammation on a reduced periodontium periodontitis related, periodontitis in remission**
  - CAL due to previous periodontitis
  - Evidence of **interproximal** CAL or recession
  - Evidence of (radiographic) interproximal bone loss
  - PPD ≤4mm and no BoP at 4mm sites

Pathways A & B

No CAL or CAL on a reduced periodontium non-periodontitis related, no evidence of interproximal CAL/recession or bone loss

Intervention

- Focus on education and prevention this visit
- Risk assessment and advise on areas of risk as indicated - smoking / diabetes
- Personalised preventive advice
- Supervised brushing
- Demonstrate appropriate interdental cleaning
- Smoking cessation as indicated
- Oral nicotine advice as indicated (E-cigarettes etc.)
- Diabetes and periodontal disease advice as indicated
- Explain the nature of periodontal disease and that the main risk factor is plaque
- Warn patient of the risk of periodontal destruction
- Remove plaque retentive factors – overhangs etc.
- Possible supra and subgingival scaling – remove sufficient calculus to facilitate oral hygiene

- **Diagnosis - Gingivitis on an intact periodontium or gingivitis on a reduced periodontium non-periodontitis related**

- **Initial 3 month recall**

3 Month Recall – Re-examination

- Re-examination and reassessment. Evaluate any improvement in oral hygiene
- Reinforce oral hygiene and the importance of daily interdental cleaning and high levels of plaque control to prevent future periodontal destruction
- Thorough surpa and subgingival scaling
- Reinforce smoking cessation as indicated

Recall

- **Non-responsive to oral health care advice - 6 months.** BoP >10%, Gingivitis on an intact periodontium or gingivitis on a reduced periodontium non-periodontitis related

- **Responsive to oral health care advice - 9 months.** BoP <10%. Health on an intact periodontium or health on a reduced periodontium non-periodontitis related

Pathway C

CAL periodontitis related, evidence of interproximal CAL/recession or bone loss

Intervention

- Classification - stage, grade and risk assess
- Advise on areas of risk as indicated - smoking / diabetes
- Personalised preventive advice
- Supervised brushing
- Demonstrate appropriate interdental cleaning and single tufted brush
- Smoking cessation as indicated
- Oral nicotine advice as indicated (E-cigarettes etc.)
- Diabetes and periodontal disease advice as indicated
- Explain the nature of periodontal disease and that the main risk factor is plaque
- Warn patient of the **significant** risk of further periodontal destruction
- Remove plaque retentive factors – overhangs etc.
- Possible supra and subgingival scaling – remove sufficient calculus to facilitate oral hygiene
- Pockets ≤4mm and no BoP at 4mm sites
- **Diagnosis – periodontitis in remission**
- Initial 3 month recall

3 Month Recall – Re-examination

- Re-examination and reassessment. Evaluate any improvement in oral hygiene
- Reinforce oral hygiene and the importance of daily interdental cleaning and high levels of plaque control to prevent further periodontal destruction
- Re-warn patient of the significant risk of further periodontal destruction if plaque control does not improve
- Reinforce smoking cessation and diabetes advice as indicated
- 6-point pocket chart DPC/APE
- Thorough surpa and subgingival scaling
- Pockets ≤4mm and no BoP at 4mm sites DPC/APC

Recall

- **Non-responsive to oral health care advice – Periodontitis in remission.** BoP >10%, pockets ≤4mm and no BoP at 4mm sites Pocket chart DPC/APE every exam recall until stable. Initial recall of **3 months** and if no unstable sites then subsequent recall of **6 months**

- **Responsive to oral health care advice – Stable periodontitis** BoP <10%, pockets ≤4mm and no BoP at 4mm sites Pocket chart DPC/APE annually. **6 month recall**

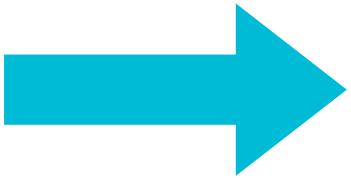
Healthy gums DO matter!

Periodontal Disease Pathway

Mild localised to moderate generalised periodontitis

BPE

1	1	3
1	1	1



3	3	3
3	3	3

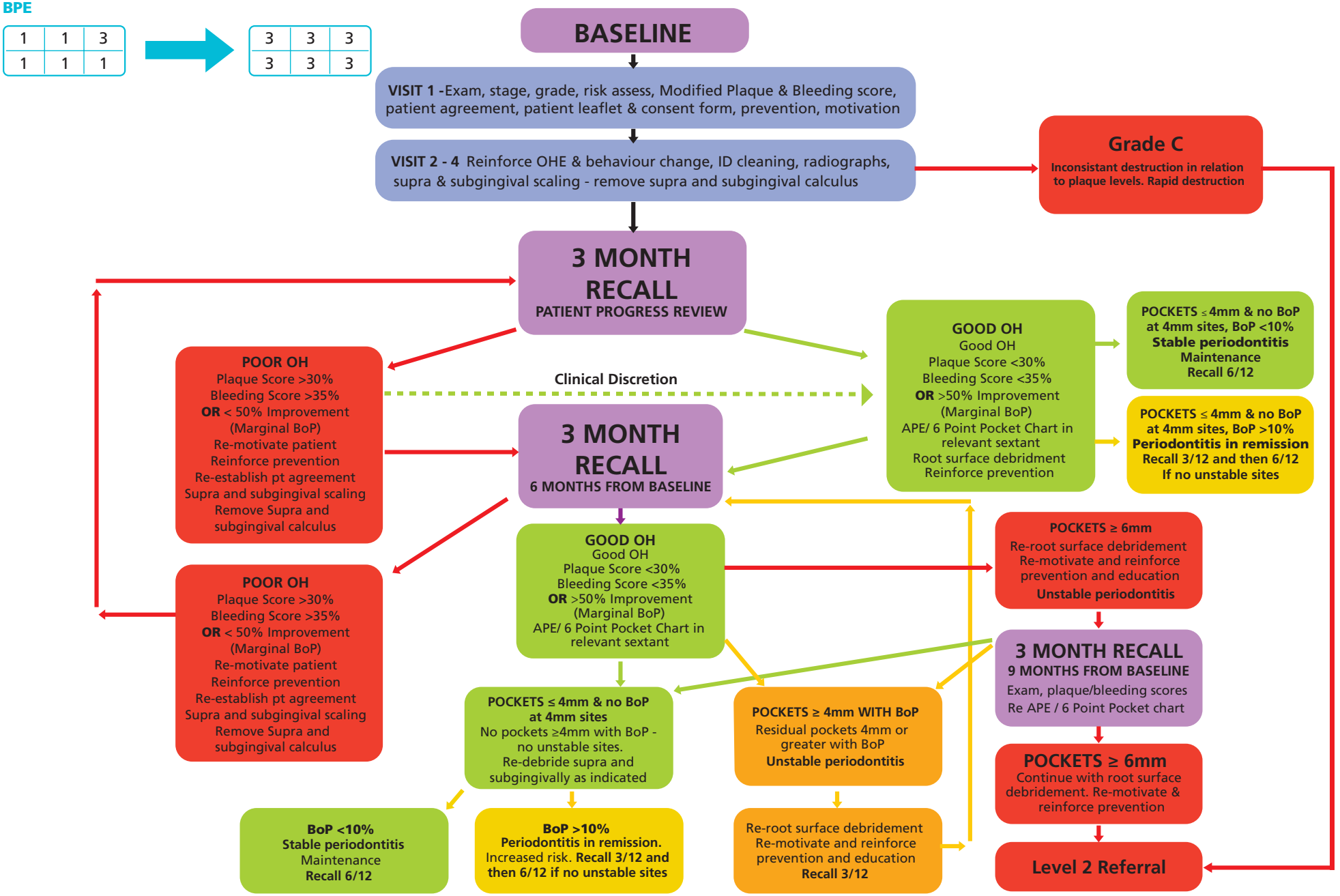
Periodontal Disease Pathway

BPE

1	1	3
1	1	1

→

3	3	3
3	3	3



Healthy gums DO matter!

Periodontal Disease Pathway

Examination – Periodontal Assessment

MH

- Diabetes – type 1, type 2. HbA1c levels
- Any disease or condition affecting dexterity (e.g. Rheumatoid Arthritis)
- Xerostomia (e.g. drug-induced)
- Factors affecting self care (e.g. mental illness, stress)
- Other relevant medical factors

SH

- Brushing regime
- Interdental (ID) cleaning regime
- Single Tufted brush use
- Tobacco use – Smoking or chewing
- Oral nicotine use – E-cigarettes, vaping nicotine gum/spray etc.
- Mouthwash

Clinical

- BPE
- Calculate the Modified Plaque Score
- Calculate the Modified Bleeding Score
- Assess and record clinical attachment loss (CAL) - history of periodontal disease
- Assess plaque levels –H/M/L
- Assess calculus levels – H/M/L
- Assess bleeding levels – localised (10-30% BoP sites) or generalised (>30% BoP sites)

Classification and diagnosis

- **Stage - interproximal bone loss at worst site** (periodontitis related)
  - Stage 1 – <15% or <2mm attachment loss from CEJ – early, mild
  - Stage 2 – coronal third of root - moderate
  - Stage 3 – mid third of root - severe
  - Stage 4 – apical third of root – very severe
- **Grade - bone loss to age ratio**
  - Grade A - <0.5, slow rate of progression
  - Grade B - 0.5 – 1.0, moderate rate progression
  - Grade C - >1.0 rapid rate of progression
- **Extent - bone loss distribution**
  - Localised (<30% of teeth)
  - Generalised (>30% of teeth)
  - Molar/incisor pattern
- **Stability**
  - Stable – Pockets ≤ 4mm, BoP <10%, No BoP at 4mm sites
  - In remission - Pockets ≤ 4mm, BoP >10%, No BoP at 4mm sites
  - Unstable - pockets ≥ 4mm with BoP, BoP present at 4mm sites or greater
- **Risk factors**
  - Smoking (cigarettes/day)
  - Diabetes (optimal or suboptimal control, HbA1c levels)

Diagnosis – Extent – Periodontitis – Stage – Grade – Stability – Risk factors

Patient Agreement
- Yes

Patient leaflet and consent form
- Yes

Record Keeping
- Record oral hygiene levels, areas missed
- Record plaque, calculus and bleeding levels
- Record Modified Plaque and Bleeding scores
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush

  Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas

  Single tufted brush frequency - brush type and method, subgingival mopping
- Record and advise the patient they have periodontal disease – mild, moderate, severe or very severe form
- Record and warn the patient they are at risk of developing further destructive periodontal disease
- Record and warn the patient that periodontal disease in its advanced stages can lead to tooth mobility and eventually tooth loss
- Record and advise the patient that plaque is the main risk factor for periodontal disease and that stabilising the disease will be dependent on their ability to perform and maintain high levels of daily plaque control
- Record and advise the patient of smoking related to periodontal disease as indicated – increased risk factor for Periodontal Disease and poorer response to periodontal therapy
- Record and advise the patient of diabetes related to periodontal disease as indicated – increased risk factor when diabetes is sub-optimally controlled
- Record and advise the patient that formal periodontal therapy (pocket chart and RSD) will be delayed until supported by self-care and adequate plaque levels
- Complete and sign the patient agreement
- Complete and sign patient leaflet and consent form
- Document and record all prevention, education, oral hygiene instruction demonstrated, and the approximate daily time needed to achieve adequate plaque control
- Record mobile teeth and advise the patient of teeth with a poor prognosis and mobility
- Offer and record the option of a referral to specialist

Baseline - First Examination & Assessment

VISIT 1

Examination, and risk assessment
Modified Plaque & Bleeding Scores
Patient agreement & patient leaflet & consent form
Oral health education and behaviour change
Prevention and motivation

VISIT 2-4

Radiographs and report - stage and grade
Diagnosis & finalise treatment plan
Supra and Subgingival scaling to remove supra & subgingival calculus to facilitate oral hygiene
Reinforce OHE, behaviour change and motivation

RECALL
3 MONTHS

Year 1, Month 1

Baseline – Course 1

Visit 1

Prevention

- Personalised preventive advice (including daily time needed) - oral hygiene TIPPS
- Supervised brushing technique – manual or electric
- Demonstrate appropriate interdental cleaning – size, location, technique
- Demonstrate single tufted brush – technique and frequency
- Explain the nature of periodontal disease and the main risk factor is plaque
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Record Modified Plaque Score and plaque levels – H/M/L
- Record Modified Bleeding Score and bleeding levels
  – localised (10 - 30% of sites) or generalised (>30%)
- Record calculus levels – H/M/L
- Record mobile teeth
- Complete and sign the patient agreement
- Go through the patient leaflet and consent form and give to the patient to read and sign

Intervention

- Appropriate radiographs as indicated
  - Horizontal bitewings – posterior sextants
  - Vertical bitewings/periapical radiographs if significant recession and historic bone loss
  - Anterior periapical radiographs as indicated (anterior code 3 sextants)
  - Crestal bone level should be visible
  - Periapical radiographs allow for more accurate staging and grading
- Stage, grade, risk assess, bone loss distribution, stability
- Risk factors
  - Smoking related to periodontal disease and smoking cessation as indicated
  - Diabetes – optimal or suboptimal control and links to periodontal disease, HbA1c levels
  - Other risk factors
- Diagnosis and classification

Visit 2-4

Prevention

- Reinforce preventive advice - tooth brushing, interdental cleaning and single tufted brush use
- Check responsiveness to self-care advice – record OH, tooth brushing, ID cleaning and single tufted brush regime and frequency
- Record any improvement in OH
- Reinforce OHE, behavior change and motivation
- Sign patient leaflet and consent form

Intervention

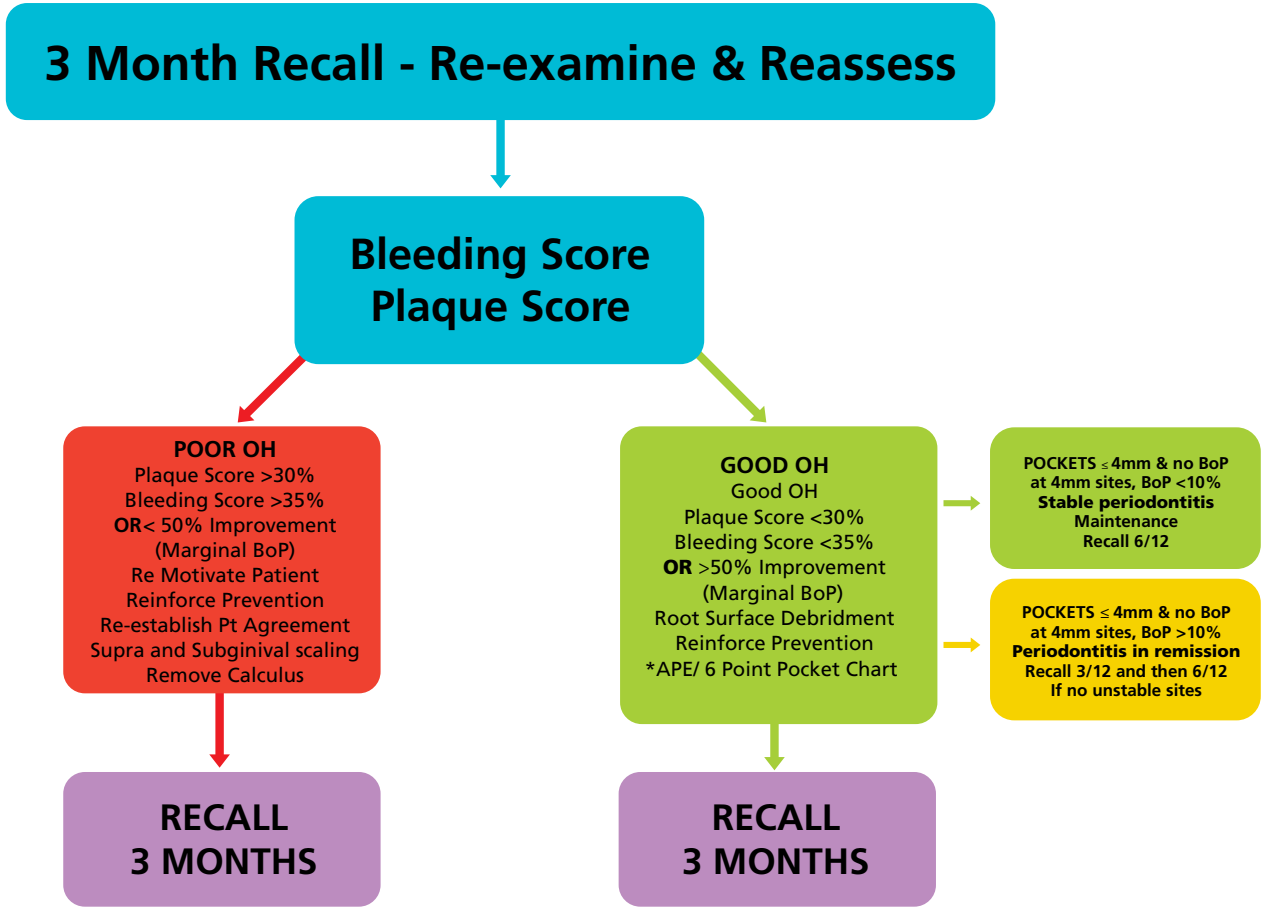
- Supra and Subgingival scaling +/- LA - remove supra and subgingival calculus to facilitate oral hygiene
- Remove plaque retentive factors – overhangs etc.

Recall

- **3/12 Re-examination and reassessment**

Year 1, Month 3

3/12 Re-examination and reassessment



* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, pre-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post initial therapy pocket chart

Year 1, Month 3

3/12 Re-examination and reassessment

First patient progress assessment – Course 2 (3 months from the baseline)

Re-examination

- Re-examination and reassessment
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised (10-30%), generalised (>30%)
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Record BPE
- Assess response and compliance to OHE – Engaging or non-engaging patient

Then 2 pathway options:

Engaging Patient Pathway

Acceptable responsiveness to self-care advice and sufficient improvement in OH. Modified Bleeding score <35%, Modified Plaque Score <30% or more than 50% improvement in both. Patient moves to engaging patient pathway.

(Page 93)

Non-Engaging Patient Pathway

Insufficient responsiveness to self-care advice and insufficient improvement in OH. Modified Bleeding score >35%, Modified Plaque Score >30% or less than 50% improvement in both. Patient enters non-engaging pathway.

Non-Engaging Patient Pathway

Year 1 // Month 3 – Non-engaging patient pathway

3/12 Re-examination and reassessment

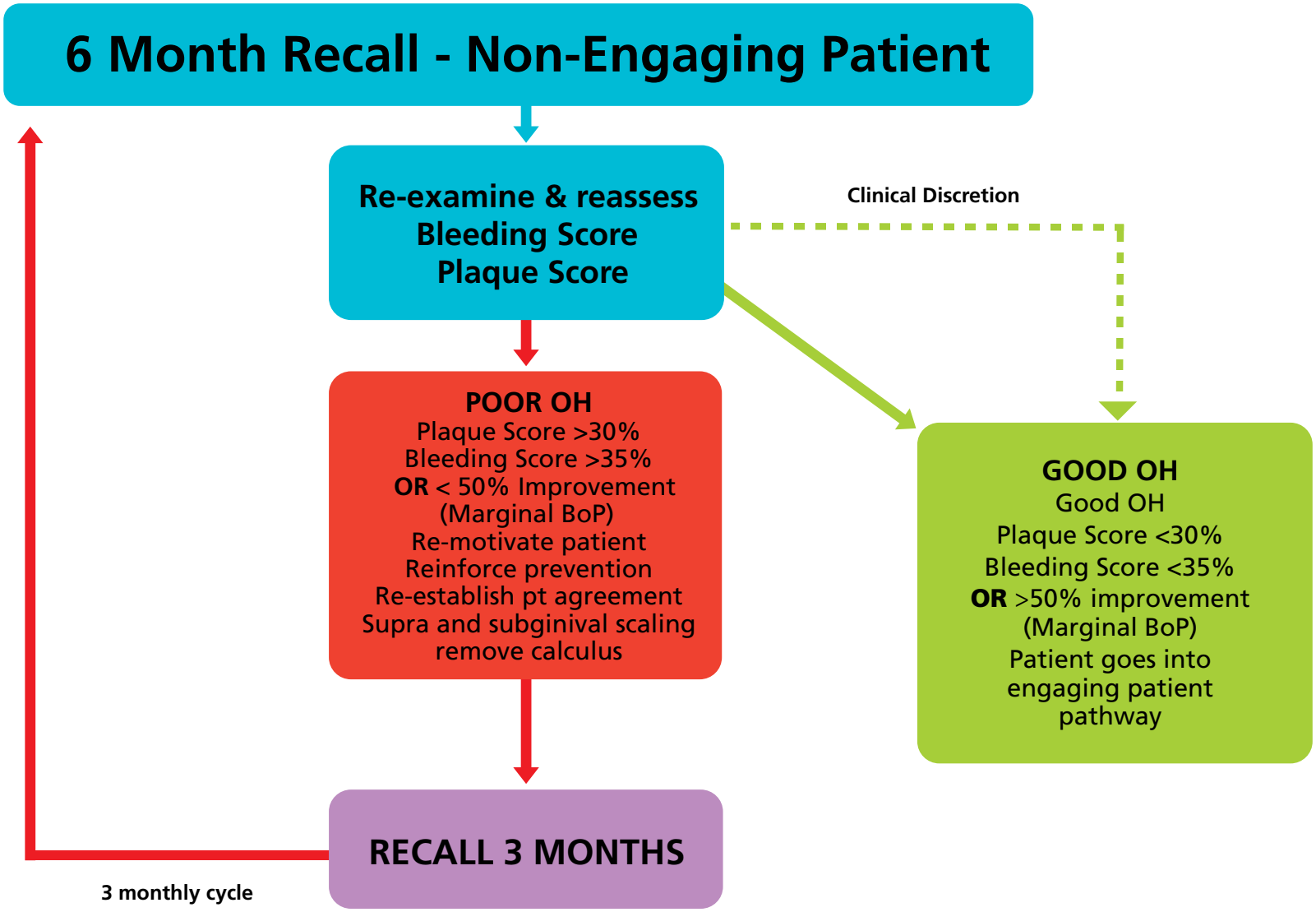
First patient progress assessment – Course 2 (3 months from the baseline)

Prevention and intervention

- Due to inadequate improvement in plaque control and oral hygiene, APE / 6-point pocket chart will be delayed until oral hygiene and plaque control is satisfactory for formal periodontal therapy to begin
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use
- Re-establish patient agreement and the patient's responsibilities of self-care - oral hygiene TIPPS
- Encourage the transfer of responsibility of self-care. Utilise behaviour change techniques
- Advise formal periodontal therapy cannot begin until supported by self-care and adequate plaque levels as treatment will not be successful
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Supra and Subgingival scaling +/- LA - remove remove supra and subgingival calculus to facilitate oral hygiene

Recall

- **3/12 Re-examination and reassessment**


6 Month Recall - Non-Engaging Patient
Re-examine & reassess
Bleeding Score
Plaque Score
Clinical Discretion
POOR OH
Plaque Score >30%
Bleeding Score >35%
OR < 50% Improvement
(Marginal BoP)
Re-motivate patient
Reinforce prevention
Re-establish pt agreement
Supra and subginival scaling
remove calculus
GOOD OH
Good OH
Plaque Score <30%
Bleeding Score <35%
OR >50% improvement
(Marginal BoP)
Patient goes into
engaging patient
pathway
RECALL 3 MONTHS
3 monthly cycle

Year 1 // Month 6 – Non-engaging patient pathway way

6/12 Re-examination and reassessment

Second patient progress assessment – Course 3 (6 months from the baseline)

Re-examination

- Re-examination and reassessment
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised (10-30%), generalised (>30%)
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Record BPE
- Assess response and compliance to OHE – Engaging or non-engaging patient
  - If plaque Levels <30% and bleeding Levels <35%, or 50% improvement in both, then patient moves into engaging patient pathway
  - If plaque Levels >30% and bleeding Levels >35%, or less than 50% improvement in both, then the patient remains in the non-engaging patient pathway. **Then:**

Prevention and intervention

- Due to inadequate improvement in plaque control and oral hygiene, APE / 6-point pocket chart will be delayed until oral hygiene and plaque control is satisfactory for formal periodontal therapy to begin
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use.
- Re-establish patient agreement and the patient's responsibilities of self-care - oral hygiene TIPPS
- Re-encourage the transfer of responsibility of self-care. Further utilisation of behaviour change techniques
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Re-advise formal periodontal therapy cannot begin until supported by self-care and adequate plaque levels as treatment will not be successful
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Supra and Subgingival scaling +/- LA - remove remove supra and subgingival calculus to facilitate oral hygiene

Recall

- **3/12 Re-examination and reassessment**

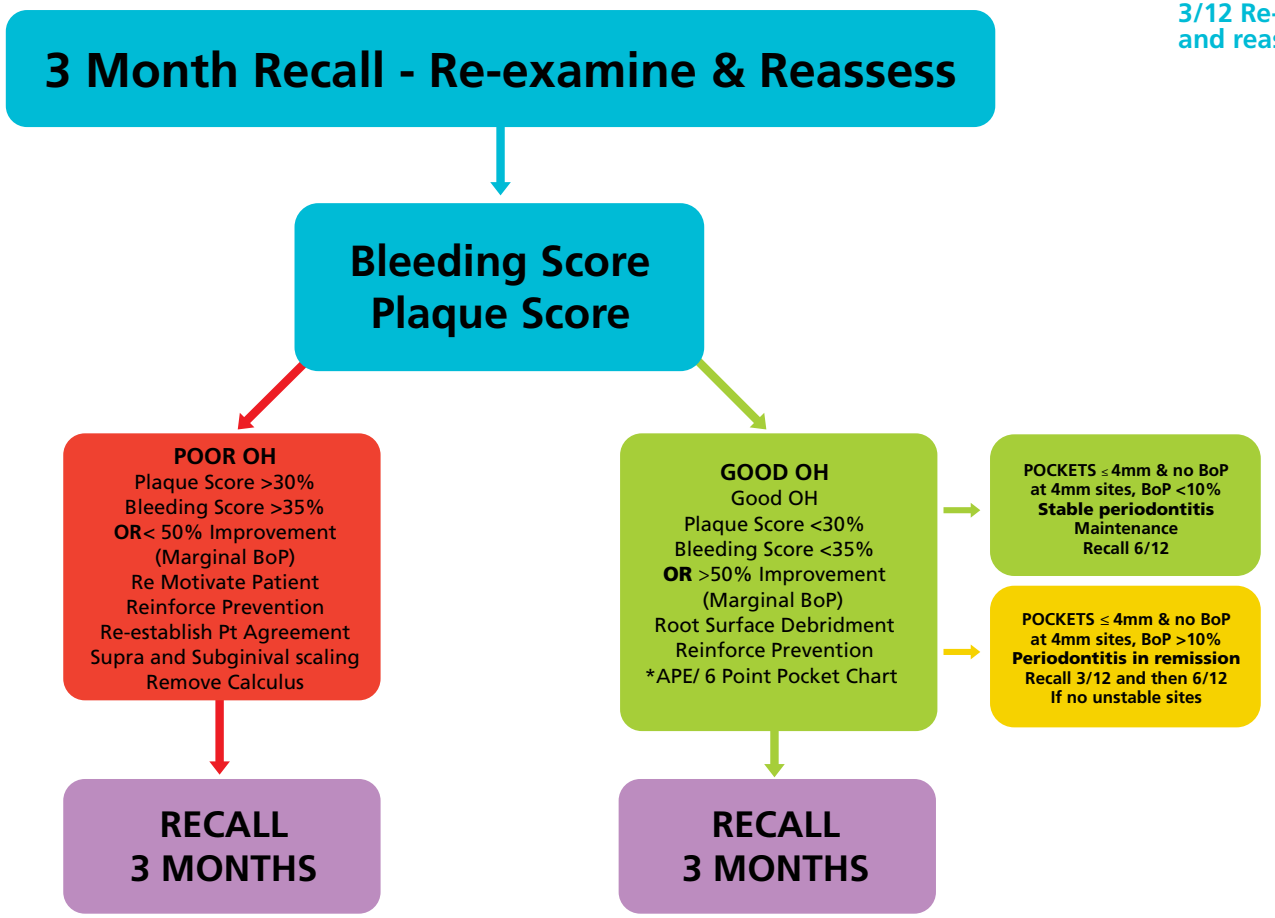
Year 1 // Month 9– Non-engaging patient pathway

9/12 Re-examination and reassessment

Third patient progress assessment – Course 4 (9 months from the baseline)

Repeat cycle with re-examination and reassessment for patient progress examination appointments every 3 months until the patient is engaging.

If the patient remains non-engaging but is trying, then consider putting into the engaging patient pathway. If the patient remains completely non-engaging, then continue with this 3-month cycle and **palliative periodontal care.**



* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, pre-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post initial therapy pocket chart

Engaging Patient Pathway

Year 1 // Month 3 – Engaging patient pathway

3/12 Re-examination and reassessment

First patient progress assessment – Course 2

(3 months from the baseline)

Prevention and intervention (1-3 visits as needed)

- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use.
- Encourage and congratulate the patient
- Record BPE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- **Record full probing depths (6 sites per tooth) in the sextant(s) where the code 3 recorded – APE / 6-point pocket chart (DPC) (post initial therapy)**
- Supra and subgingival scaling and root surface debridement of all unstable sites ≥ 4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas – oral hygiene TIPPS (eg. lingual and palatal ID cleaning)
- **If post initial therapy the patient has pockets ≤4mm and no BoP at 4mm sites with BoP <10%, then the patient enters into the maintenance phase of care (stable periodontitis)**
- **If post initial therapy the patient has pockets ≤4mm and no BoP at 4mm sites BUT BoP >10%, then initial 3 month recall and then subsequent 6 month recall if there remain no unstable sites (periodontitis in remission)**

Recall

- **3/12 Re-examination and reassessment**

6 Month Recall - Engaging Patient

Re-examine & reassess
Bleeding Score
Plaque Score

GOOD OH
Plaque Score <30%
Bleeding Score <35%
OR >50% improvement
(Marginal BoP)
*APE/ 6 Point Pocket Chart
Post therapy

POCKETS ≤ 4mm & no BoP at 4mm sites
No pockets ≥4mm with BoP - no unstable sites.
Re-debride supra and subgingivally as indicated

BoP <10%
Stable periodontitis
Maintenance **Recall 6/12**

RECALL 6 MONTHS

BoP >10%
Periodontitis in remission.
Increased risk. **Recall 3/12 and then 6/12 if no unstable sites**

RECALL 3 MONTHS and then 6/12 if no unstable sites

POCKETS ≥ 4mm WITH BoP
Residual pockets 4mm or greater with BoP
Unstable periodontitis

Re-root surface debridement
Re motivate and Reinforce prevention and education

RECALL 3 MONTHS

POCKETS ≥ 6mm
Re-root surface debridement
Re-motivate and reinforce prevention and education
Unstable periodontitis

RECALL 3 MONTHS

* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, post-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post-treatment pocket chart

Year 1 // Month 6 – Engaging patient pathway

3/12 Re-examination and reassessment – post treatment

Course 3 (6 months from the baseline)

- Re-examination and reassessment – check compliance
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised, generalised
- Record oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use
- Encourage and congratulate the patient
- Record BPE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- **Record full probing depths (6 sites per tooth) in the sextant(s) where the code 3 recorded – APE / 6-point pocket chart (DPC) (post treatment chart)**

Assess pocket chart and patient moves into one of 4 pathway options: Green , Yellow, Amber or Red:

(If plaque Levels >30% and bleeding Levels >35%, or less that 50% improvement in both, then the patient goes into the non-engaging patient pathway).

Green Pathway

Pockets ≤ 4mm

BoP <10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Re-debride supra and subgingivally as indicated
- **Stable periodontitis**

Recall

- 6/12 – Re-examination and pocket chart annually in maintenance phase of care
- Any deterioration then the patient enters back into the amber or red pathway

Yellow Pathway
Periodontitis in remission

Pockets ≤ 4mm

BoP >10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-debride supra and subgingivally as indicated
- **Periodontitis in remission**

Recall

- Initial 3/12 re-examination and recall
- If no unstable sites at 3/12 then patient moves to 6/12 recall
- Patient enters maintenance program when BoP <10%
- Pocket chart every exam until patient achieves stable periodontitis and then annually in the maintenance phase of care

Amber Pathway
Unstable periodontitis

Pockets ≥ 4mm with BoP

No pockets ≥ 6mm

- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **3/12 re-examination and reassessment and pocket chart**

Red Pathway
Unstable periodontitis

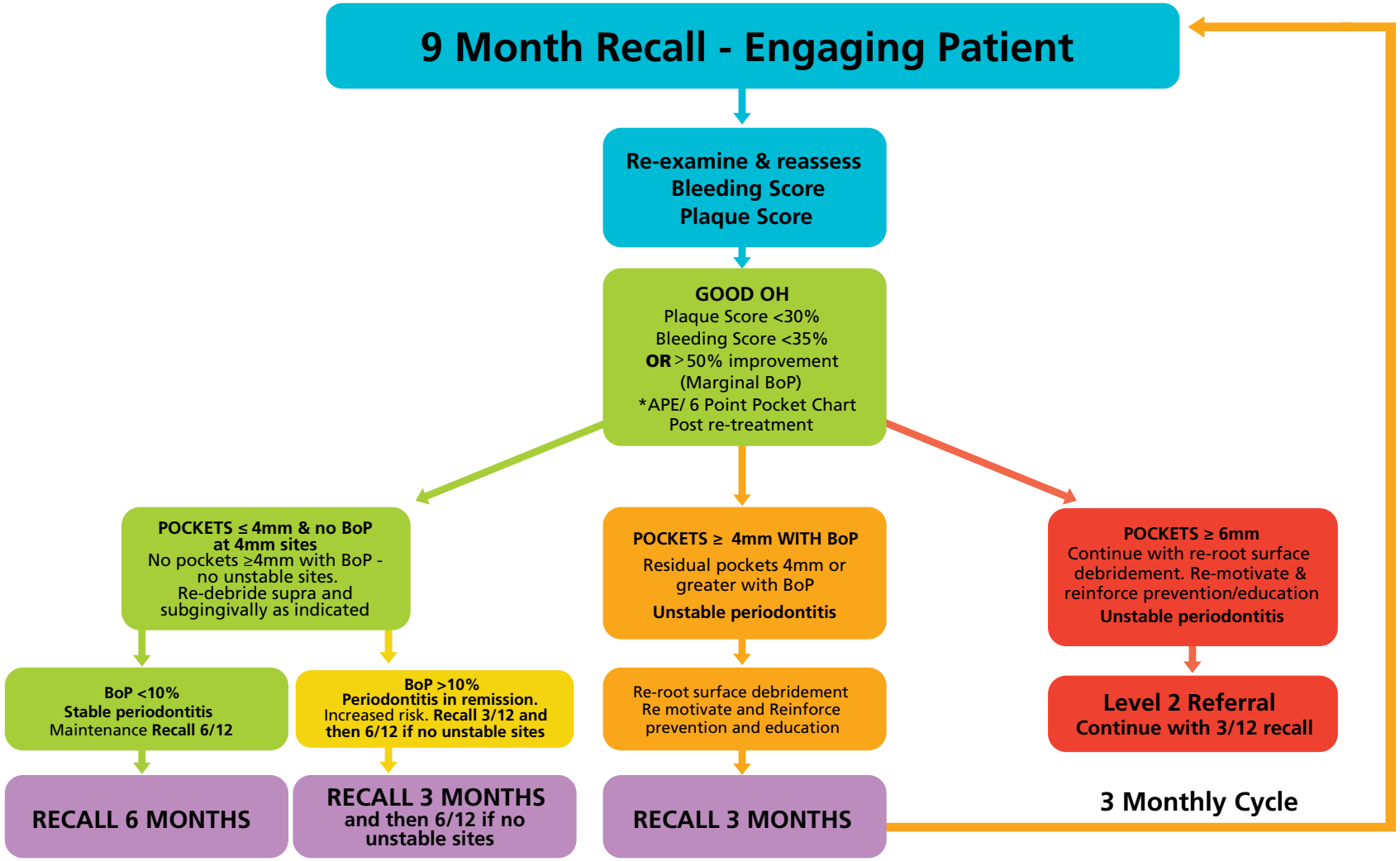
Pockets ≥ 6mm

- Re-motivate and reinforce prevention
- Full mouth pocket chart DPC/APE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **3/12 re-examination and reassessment and pocket chart**

3/12 Re-examination and reassessment – post re-treatment
Course 4 (9 months from the baseline)



* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, post re-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post re-treatment pocket chart

Year 1 // Month 9 – Engaging patient pathway

3/12 Re-examination and reassessment – post re-treatment

Course 4 (9 months from the baseline)

- Re-examination and reassessment – check compliance
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised, generalised
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use
- Encourage and congratulate the patient
- Record BPE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- **Record full probing depths (6 sites per tooth) in the sextant(s) where the code 3 recorded – APE / 6-point pocket chart (DPC) (post re-treatment pocket chart)**

Assess pocket chart and patient moves into one of 4 pathway options: Green , Yellow, Amber or Red:

(If plaque Levels >30% and bleeding Levels >35%, or less that 50% improvement in both, then the patient goes into the non-engaging patient pathway).

Green Pathway

Pockets ≤ 4mm

BoP <10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Re-debride supra and subgingivally as indicated
- **Stable periodontitis**

Recall

- 6/12 – Re-examination and pocket chart annually in maintenance phase of care
- Any deterioration then the patient enters back into the amber or red pathway

Yellow Pathway
Periodontitis in remission

Pockets ≤ 4mm

BoP >10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-debride supra and subgingivally as indicated
- **Periodontitis in remission**

Recall

- Initial 3/12 re-examination and recall
- If no unstable sites at 3/12 then patient moves to 6/12 recall
- Patient enters maintenance program when BoP <10%
- Pocket chart every exam until patient achieves stable periodontitis and then annually in the maintenance phase of care

Amber Pathway
Unstable periodontitis

Pockets ≥ 4mm with BoP

No pockets ≥ 6mm

- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **3/12 re-examination and reassessment**
- **Patient continues with 3/12 recall and re-pocket chart and re-treatment until they enter the green (stable periodontitis) or yellow (periodontitis in remission) pathway**
- If the patient develops pockets ≥ 6mm, they move to the red pathway

Red Pathway
Unstable periodontitis

Remaining pockets ≥ 6mm

- **Refer to SECONDARY CARE - level 2/3 referral**
- Re-motivate and reinforce prevention
- Full mouth pocket chart APE/DPC
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **Continue with 3/12 re-examination, pocket chart and re-treatment until taken over by secondary care**
- **If pockets are < 6mm the patient continues with 3/12 re-examination, pocket chart and re-treatment in the amber pathway until they enter the green (stable periodontitis) or yellow (periodontitis in remission) pathway**

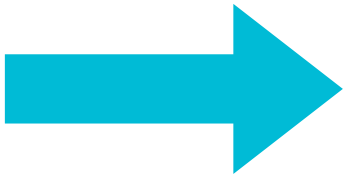
Healthy gums DO matter!

Advanced Periodontal Disease Pathway

Severe localised to very severe generalised periodontitis

BPE

1	1	4/4*
1	1	1



4/4*	4	4/4*
4/4*	4	4/4*

Advanced Periodontal Disease Pathway

BPE

1	1	4/4*
1	1	1

→

4/4*	4	4/4*
4/4*	4	4/4*

BASELINE

VISIT 1 -Exam, stage, grade, risk assess, Modified Plaque & Bleeding score, patient agreement, patient leaflet & consent form, prevention, motivation

VISIT 2 - 4 Reinforce OHE & behaviour change, ID cleaning, radiographs, supra & subgingival scaling - remove supra and subgingival calculus

Grade C
Inconsistant destruction in relation to plaque levels. Rapid destruction

3 MONTH RECALL
PATIENT PROGRESS REVIEW

GOOD OH
Good OH
Plaque Score <30%
Bleeding Score <35%
OR >50% Improvement (Marginal BoP)
Full mouth APE/ 6 Point Pocket Chart
Root surface debridment
Reinforce prevention

POOR OH
Plaque Score >30%
Bleeding Score >35%
OR < 50% Improvement (Marginal BoP)
Re-motivate patient
Reinforce prevention
Re-establish pt agreement
Supra and subgingival scaling
Remove Supra and subgingival calculus

Clinical Discretion

3 MONTH RECALL
6 MONTHS FROM BASELINE

GOOD OH
Good OH
Plaque Score <30%
Bleeding Score <35%
OR >50% Improvement (Marginal BoP)
Full mouth APE/ 6 Point Pocket Chart

POOR OH
Plaque Score >30%
Bleeding Score >35%
OR < 50% Improvement (Marginal BoP)
Re-motivate patient
Reinforce prevention
Re-establish pt agreement
Supra and subgingival scaling
Remove Supra and subgingival calculus

POCKETS ≤ 4mm & no BoP at 4mm sites
No pockets ≥4mm with BoP - no unstable sites.
Re-debride supra and subgingivally as indicated

POCKETS ≥ 4mm WITH BOP
Residual pockets 4mm or greater with BoP
Unstable periodontitis

POCKETS ≥ 6mm
Re-root surface debridement
Re-motivate and reinforce prevention and education
Unstable periodontitis

3 MONTH RECALL
9 MONTHS FROM BASELINE
Exam, plaque/bleeding scores
Re APE / 6 Point Pocket chart

POCKETS ≥ 6mm
Continue with root surface debridement. Re-motivate & reinforce prevention

Level 2 Referral

BoP <10%
Stable periodontitis
Maintenance
Recall 6/12

BoP >10%
Periodontitis in remission.
Increased risk. **Recall 3/12 and then 6/12 if no unstable sites**

Re-root surface debridement
Re-motivate and reinforce prevention and education
Recall 3/12

Healthy gums DO matter!

Examination – Periodontal Assessment

MH

- Diabetes – type 1, type 2. HbA1c levels
- Any disease or condition affecting dexterity (e.g. Rheumatoid Arthritis)
- Xerostomia (e.g. drug-induced)
- Factors affecting self care (e.g. mental illness, stress)
- Other relevant medical factors

SH

- Brushing regime
- Interdental (ID) cleaning regime
- Single Tufted brush use
- Tobacco use – Smoking or chewing
- Oral nicotine use – E-cigarettes, vaping nicotine gum/spray etc.
- Mouthwash

Clinical

- BPE
- Calculate the Modified Plaque Score
- Calculate the Modified Bleeding Score
- Assess and record clinical attachment loss (CAL) - history of periodontal disease
- Assess plaque levels –H/M/L
- Assess calculus levels – H/M/L
- Assess bleeding levels – localised (10-30% BoP sites) or generalised (>30% BoP sites)

Diagnosis / Classification

- Stage - interproximal bone loss at worst site (periodontitis related)
- Stage 1 – <15% or <2mm attachment loss from CEJ – early, mild
- Stage 2 – coronal third of root - moderate
- Stage 3 – mid third of root - severe
- Stage 4 – apical third of root – very severe

- Grade - bone loss to age ratio
- Grade A - <0.5, slow rate of progression
- Grade B - 0.5 – 1.0, moderate rate progression
- Grade C - >1.0 rapid rate of progression

- Extent - bone loss distribution
- Localised (<30% of teeth)
- Generalised (>30% of teeth)
- Molar/incisor pattern

- Stability
- Stable – Pockets ≤ 4mm, BoP <10%, No BoP at 4mm sites
- In remission - Pockets ≤ 4mm, BoP >10%, No BoP at 4mm sites
- Unstable - pockets ≥ 4mm with BoP, BoP present at 4mm sites or greater

- Risk factors - Smoking (cigarettes/day)
  Diabetes (optimal or suboptimal control, HbA1c levels)

Diagnosis – Extent – Periodontitis – Stage – Grade – Stability – Risk factors

Diagnosis – Extent – Periodontitis – Stage – Grade – Stability – Risk factors

Patient Agreement

- Yes

Patient leaflet and consent form

- Yes

Record Keeping

- Record oral hygiene levels, areas missed
- Record plaque, calculus and bleeding levels
- Record Modified Plaque and Bleeding scores
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Record and advise the patient they have periodontal disease – mild, moderate, severe or very severe form
- Record and warn the patient they are at risk of developing further destructive periodontal disease
- Record and warn the patient that periodontal disease in its advanced stages can lead to tooth mobility and eventually tooth loss
- Record and advise the patient that plaque is the main risk factor for periodontal disease and that stabilising the disease will be dependent on their ability to perform and maintain high levels of daily plaque control
- Record and advise the patient of smoking related to periodontal disease as indicated – increased risk factor for periodontal disease and poorer response to periodontal therapy
- Record and advise the patient of diabetes related to periodontal disease as indicated – increased risk factor when diabetes is sub-optimally controlled
- Record and advise the patient that formal periodontal therapy (pocket chart and RSD) will be delayed until supported by self-care and adequate plaque levels
- Complete and sign the patient agreement
- Complete and sign patient leaflet and consent form
- Document and record all prevention, education, oral hygiene instruction demonstrated, and the approximate daily time needed to achieve adequate plaque control
- Record mobile teeth and advise the patient of teeth with a poor prognosis and mobility
- Offer and record the option of a referral to specialist

Baseline - First Examination & Assessment

VISIT 1	Examination, and risk assessment Modified Plaque & Bleeding Scores Patient agreement & patient leaflet & consent form Oral health education and behaviour change Prevention and motivation
VISIT 2-4	Radiographs and report - stage and grade Diagnosis & finalise treatment plan Supra and Subgingival scaling to remove supra & subgingival calculus to facilitate oral hygiene Reinforce OHE, behaviour change and motivation

RECALL
3 MONTHS

Year 1, Month 1

Baseline – Course 1

Visit 1

Prevention

- Personalised preventive advice (including daily time needed) - oral hygiene TIPPS
- Supervised brushing technique – manual or electric
- Demonstrate appropriate interdental cleaning – size, location, technique
- Demonstrate single tufted brush – technique and frequency
- Explain the nature of periodontal disease and the main risk factor is plaque
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Record Modified Plaque Score and plaque levels – H/M/L
- Record Modified Bleeding Score and bleeding levels
  – localised (10 - 30% of sites) or generalised (>30%)
- Record calculus levels – H/M/L
- Record mobile teeth
- Complete and sign the patient agreement
- Go through the patient leaflet and consent form and give to the patient to read and sign

Intervention

- Appropriate radiographs as indicated
  - Periapical radiographs or vertical bitewings – posterior sextants
  - Anterior periapical radiographs as indicated (anterior code 4 sextants)
  - Crestal bone level should be visible
  - Periapical radiographs allow for more accurate staging and grading
- Stage, grade, risk assess, bone loss distribution, stability
- Risk factors
  - Smoking related to periodontal disease and smoking cessation as indicated
  - Diabetes – optimal or suboptimal control and links to periodontal disease, HbA1c levels
  - Other risk factors
- Diagnosis and classification

Visit 2-4

Prevention

- Reinforce preventive advice - tooth brushing, interdental cleaning and single tufted brush use
- Check responsiveness to self-care advice – record OH, tooth brushing, ID cleaning and single tufted brush regime and frequency
- Record any improvement in OH
- Reinforce OHE, behavior change and motivation
- Sign patient leaflet and consent form

Intervention

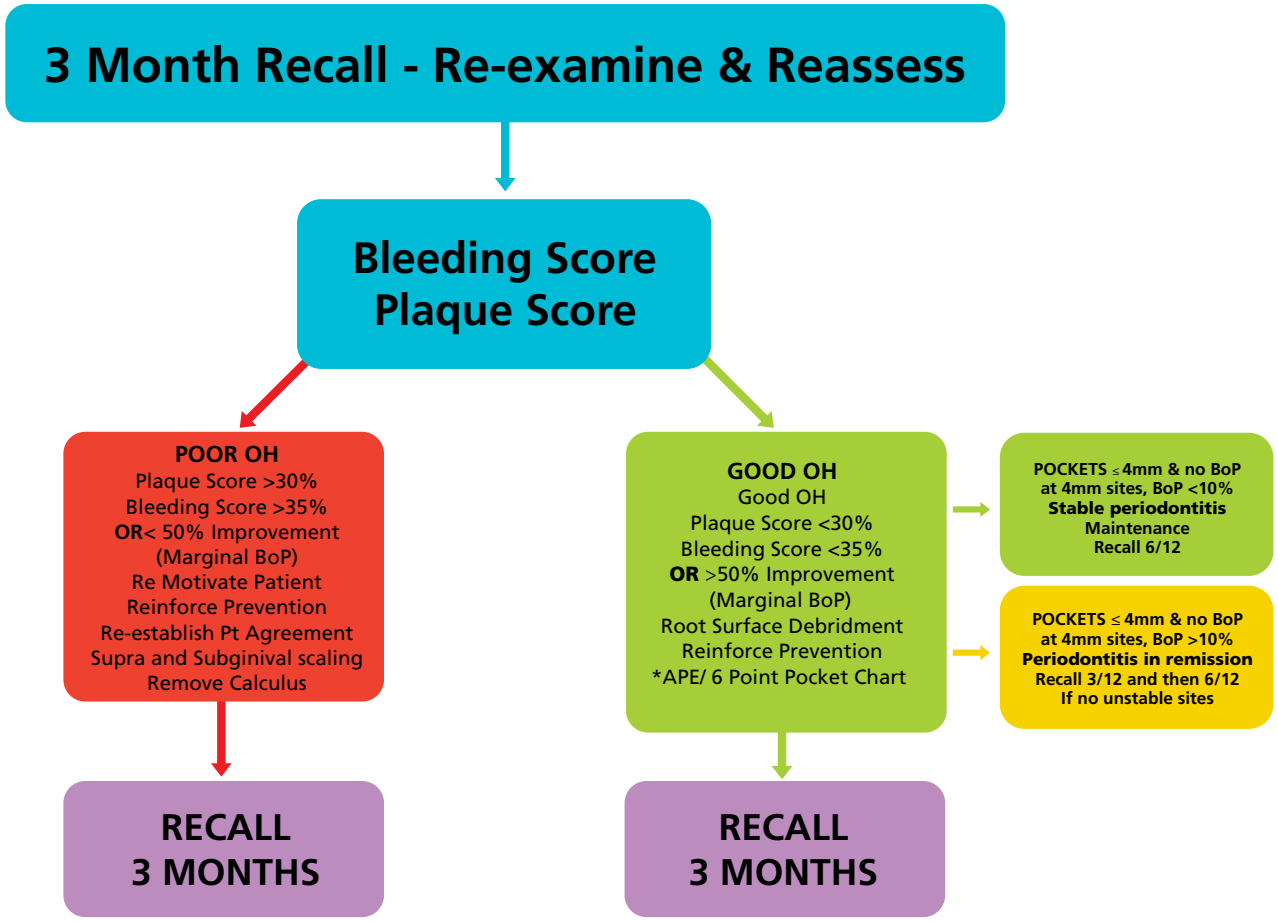
- Supra and Subgingival scaling +/- LA - remove supra and subgingival calculus to facilitate oral hygiene
- Remove plaque retentive factors – overhangs etc.

Recall

- **3/12 Re-examination and reassessment**

Year 1, Month 3

3/12 Re-examination and reassessment



* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, pre-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post initial therapy pocket chart

Year 1, Month 3

3/12 Re-examination and reassessment

First patient progress assessment – Course 2 (3 months from the baseline)

Re-examination

- Re-examination and reassessment
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised (10-30%), generalised (>30%)
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Record BPE
- Assess response and compliance to OHE – Engaging or non-engaging patient

Then 2 pathway options:

Engaging Patient Pathway

Acceptable responsiveness to self-care advice and sufficient improvement in OH. Modified Bleeding score <35%, Modified Plaque Score <30% or more than 50% improvement in both. Patient moves to engaging patient pathway.

(Page 109)

Non-Engaging Patient Pathway

Insufficient responsiveness to self-care advice and insufficient improvement in OH. Modified Bleeding score >35%, Modified Plaque Score >30% or less than 50% improvement in both. Patient enters non-engaging pathway.

Non-Engaging Patient Pathway

Year 1 // Month 3 – Non-engaging patient pathway

3/12 Re-examination and reassessment

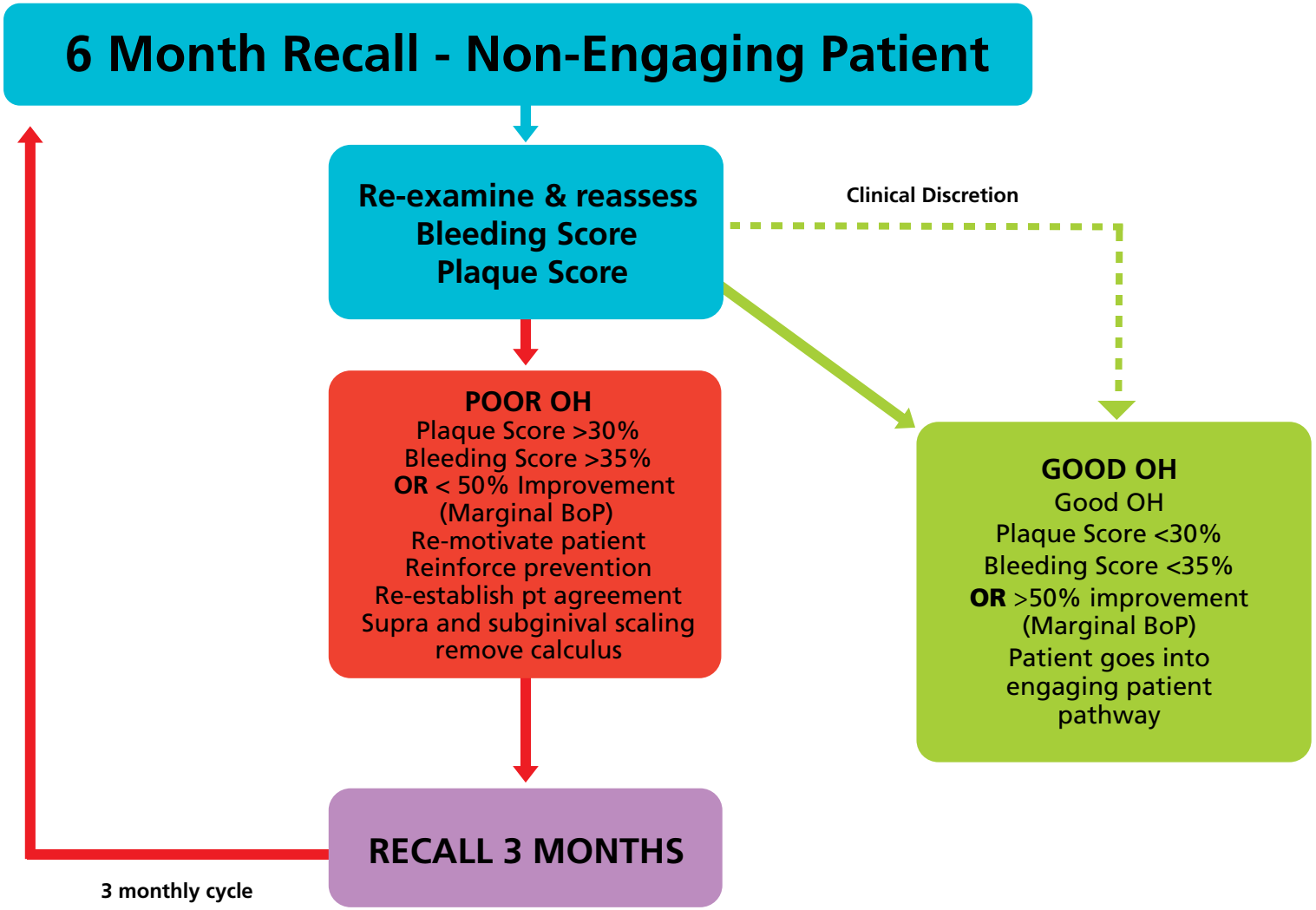
First patient progress assessment – Course 2 (3 months from the baseline)

Prevention and intervention

- Due to inadequate improvement in plaque control and oral hygiene, APE / 6-point pocket chart will be delayed until oral hygiene and plaque control is satisfactory for formal periodontal therapy to begin
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use
- Re-establish patient agreement and the patient's responsibilities of self-care - oral hygiene TIPPS
- Encourage the transfer of responsibility of self-care. Utilise behaviour change techniques
- Advise formal periodontal therapy cannot begin until supported by self-care and adequate plaque levels as treatment will not be successful
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Supra and Subgingival scaling +/- LA - remove remove supra and subgingival calculus to facilitate oral hygiene

Recall

- **3/12 Re-examination and reassessment**


6 Month Recall - Non-Engaging Patient
Re-examine & reassess
Bleeding Score
Plaque Score
Clinical Discretion
POOR OH
Plaque Score >30%
Bleeding Score >35%
OR < 50% Improvement
(Marginal BoP)
Re-motivate patient
Reinforce prevention
Re-establish pt agreement
Supra and subginival scaling
remove calculus
GOOD OH
Good OH
Plaque Score <30%
Bleeding Score <35%
OR >50% improvement
(Marginal BoP)
Patient goes into
engaging patient
pathway
RECALL 3 MONTHS
3 monthly cycle

Year 1 // Month 6 – Non-engaging patient pathway way

6/12 Re-examination and reassessment

Second patient progress assessment – Course 3 (6 months from the baseline)

Re-examination

- Re-examination and reassessment
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised (10-30%), generalised (>30%)
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Record BPE
- Assess response and compliance to OHE – Engaging or non-engaging patient
  - If plaque Levels <30% and bleeding Levels <35%, or 50% improvement in both, then patient moves into engaging patient pathway
  - If plaque Levels >30% and bleeding Levels >35%, or less than 50% improvement in both, then the patient remains in the non-engaging patient pathway. **Then:**

Prevention and intervention

- Due to inadequate improvement in plaque control and oral hygiene, APE / 6-point pocket chart will be delayed until oral hygiene and plaque control is satisfactory for formal periodontal therapy to begin
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use.
- Re-establish patient agreement and the patient's responsibilities of self-care - oral hygiene TIPPS
- Re-encourage the transfer of responsibility of self-care. Further utilisation of behaviour change techniques
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Re-advise formal periodontal therapy cannot begin until supported by self-care and adequate plaque levels as treatment will not be successful
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Supra and Subgingival scaling +/- LA - remove remove supra and subgingival calculus to facilitate oral hygiene

Recall

- **3/12 Re-examination and reassessment**

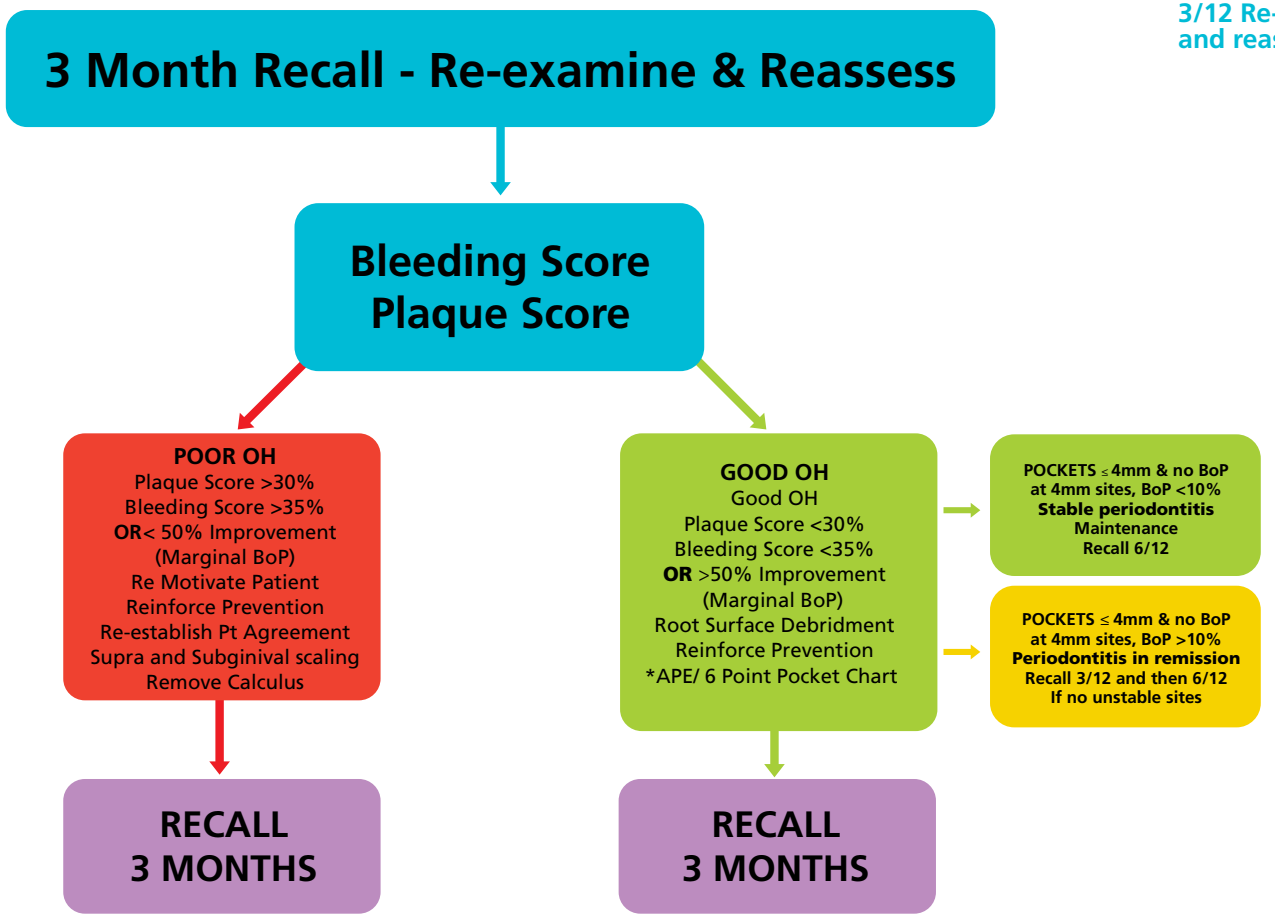
Year 1 // Month 9– Non-engaging patient pathway

9/12 Re-examination and reassessment

Third patient progress assessment – Course 4 (9 months from the baseline)

Repeat cycle with re-examination and reassessment for patient progress examination appointments every 3 months until the patient is engaging.

If the patient remains non-engaging but is trying, then consider putting into the engaging patient pathway. If the patient remains completely non-engaging, then continue with this 3-month cycle and **palliative periodontal care.**



* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, pre-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post initial therapy pocket chart

Engaging Patient Pathway

Year 1 // Month 3 – Engaging patient pathway

3/12 Re-examination and reassessment

First patient progress assessment – Course 2 (3 months from the baseline)

Prevention and intervention

(1-3 visits as needed)

- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use.
- Encourage and congratulate the patient
- Record BPE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- **Full mouth periodontal assessment - record full mouth probing depths (6 sites per tooth) – APE or detailed full mouth 6-point pocket chart (pre – treatment pocket chart)**
- Supra and subgingival scaling and root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas – oral hygiene TIPPS (eg. lingual and palatal ID cleaning)

Recall

- **3/12 Re-examination and reassessment**

6 Month Recall - Engaging Patient

Re-examine & reassess
Bleeding Score
Plaque Score

GOOD OH
Plaque Score <30%
Bleeding Score <35%
OR >50% improvement
(Marginal BoP)
*APE/ 6 Point Pocket Chart
Post therapy

POCKETS ≤ 4mm & no BoP at 4mm sites
No pockets ≥4mm with BoP - no unstable sites.
Re-debride supra and subgingivally as indicated

BoP <10%
Stable periodontitis
Maintenance **Recall 6/12**

RECALL 6 MONTHS

BoP >10%
Periodontitis in remission.
Increased risk. **Recall 3/12 and then 6/12 if no unstable sites**

RECALL 3 MONTHS
and then 6/12 if no unstable sites

POCKETS ≥ 4mm WITH BoP
Residual pockets 4mm or greater with BoP
Unstable periodontitis

Re-root surface debridement
Re motivate and Reinforce prevention and education

RECALL 3 MONTHS

POCKETS ≥ 6mm
Re-root surface debridement
Re-motivate and reinforce prevention and education
Unstable periodontitis

RECALL 3 MONTHS

* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, post-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post-treatment pocket chart

Year 1 // Month 6 – Engaging patient pathway

3/12 Re-examination and reassessment – post treatment

Course 3 (6 months from the baseline)

- Re-examination and reassessment – check compliance
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised, generalised
- Record oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use
- Encourage and congratulate the patient
- Record BPE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- **Full mouth periodontal assessment - record full mouth probing depths (6 sites per tooth) – APE or detailed full mouth 6-point pocket chart (post – treatment pocket chart)**

Assess pocket chart and patient moves into one of 4 pathway options: Green , Yellow, Amber or Red:

(If plaque Levels >30% and bleeding Levels >35%, or less that 50% improvement in both, then the patient goes into the non-engaging patient pathway).

Green Pathway

Pockets ≤ 4mm

BoP <10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Re-debride supra and subgingivally as indicated
- **Stable periodontitis**

Recall

- 6/12 – Re-examination and pocket chart annually in maintenance phase of care
- Any deterioration then the patient enters back into the amber or red pathway

Yellow Pathway
Periodontitis in remission

Pockets ≤ 4mm

BoP >10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-debride supra and subgingivally as indicated
- **Periodontitis in remission**

Recall

- Initial 3/12 re-examination and recall
- If no unstable sites at 3/12 then patient moves to 6/12 recall
- Patient enters maintenance program when BoP <10%
- Pocket chart every exam until patient achieves stable periodontitis and then annually in the maintenance phase of care

Amber Pathway
Unstable periodontitis

Pockets ≥ 4mm with BoP

No pockets ≥ 6mm

- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **3/12 re-examination and reassessment and pocket chart**

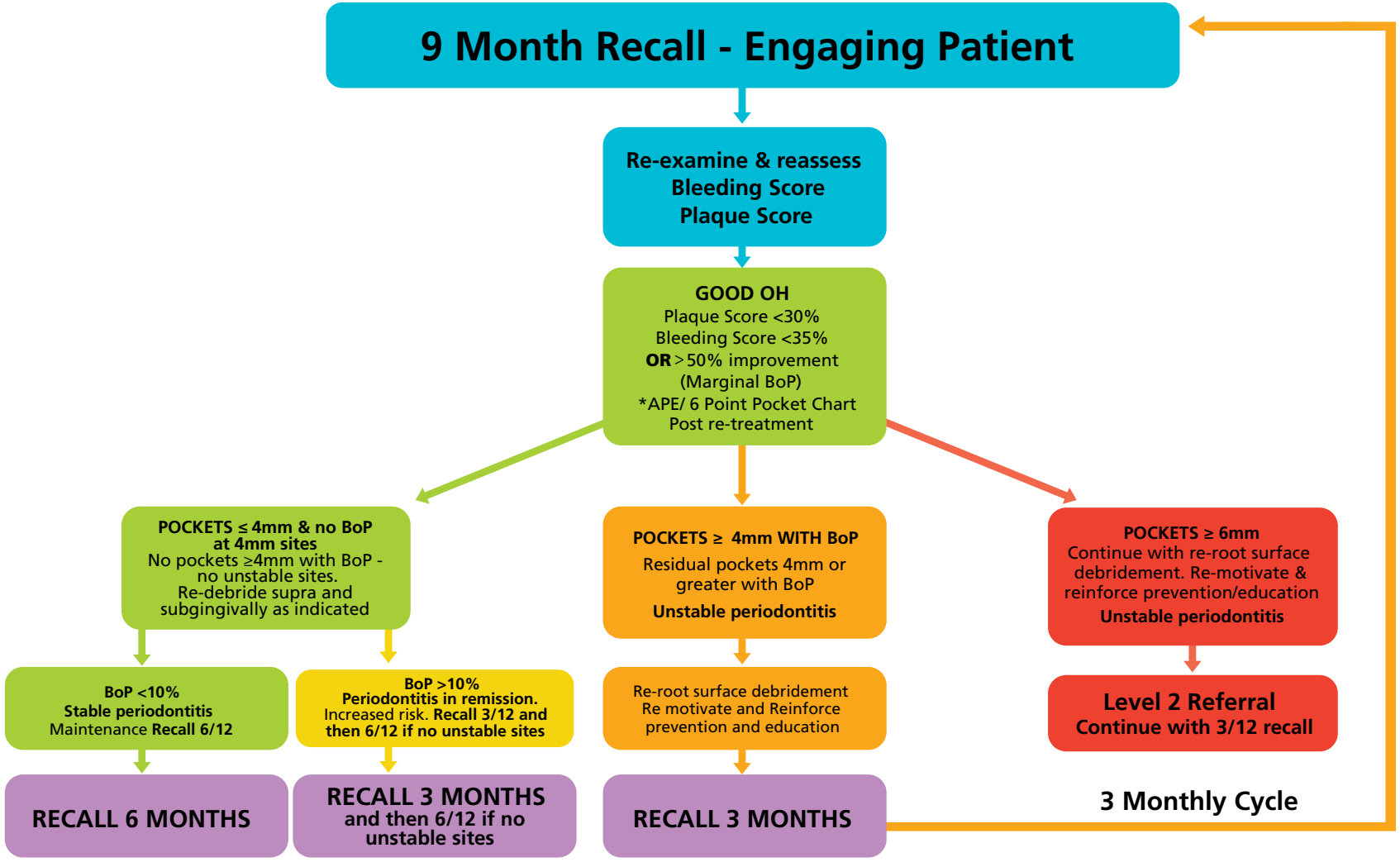
Red Pathway
Unstable periodontitis

Pockets ≥ 6mm

- Re-motivate and reinforce prevention
- Full mouth pocket chart DPC/APE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **3/12 re-examination and reassessment and pocket chart**



* Advanced Disease Pathway (BPE code 4) full mouth APE/DPC, post re-treatment pocket chart
Disease Pathway (BPE code 3) APE/DPC in the relevant sextant post re-treatment pocket chart

Year 1 // Month 9 – Engaging patient pathway

3/12 Re-examination and reassessment – post re-treatment

Course 4 (9 months from the baseline)

- Re-examination and reassessment – check compliance
- Calculate and record Modified Plaque Score and plaque levels – H/M/L
- Calculate and record Modified Bleeding Score and bleeding levels – localised, generalised
- Record Oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Re-motivate and reinforce preventive advice and OH instruction - Tooth brushing, interdental cleaning and technique, single tufted brush use
- Encourage and congratulate the patient
- Record BPE
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Full mouth periodontal assessment - record full mouth probing depths (6 sites per tooth) – APE or detailed full mouth 6-point pocket chart (post re-treatment pocket chart)

Assess pocket chart and patient moves into one of 4 pathway options: Green , Yellow, Amber or Red:

(If plaque Levels >30% and bleeding Levels >35%, or less that 50% improvement in both, then the patient goes into the non-engaging patient pathway).

Green Pathway

Pockets ≤ 4mm

BoP <10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Re-debride supra and subgingivally as indicated
- **Stable periodontitis**

Recall

- 6/12 – Re-examination and pocket chart annually in maintenance phase of care
- Any deterioration then the patient enters back into the amber or red pathway

Yellow Pathway
Periodontitis in remission

Pockets ≤ 4mm

BoP >10%

No BoP at 4mm sites

- No 4mm sites or greater with BoP
- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-debride supra and subgingivally as indicated
- **Periodontitis in remission**

Recall

- Initial 3/12 re-examination and recall
- If no unstable sites at 3/12 then patient moves to 6/12 recall
- Patient enters maintenance program when BoP <10%
- Pocket chart every exam until patient achieves stable periodontitis and then annually in the maintenance phase of care

Amber Pathway
Unstable periodontitis

Pockets ≥ 4mm with BoP

No pockets ≥ 6mm

- Re-motivate and reinforce prevention
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **3/12 re-examination and reassessment**
- **Patient continues with 3/12 recall and re pocket chart and re-treatment until they enter the green (stable periodontitis) or yellow (periodontitis in remission) pathway**
- If the patient develops pockets ≥ 6mm, they move to the red pathway

Red Pathway
Unstable periodontitis

Remaining pockets ≥ 6mm

- **Refer to SECONDARY CARE - level 2/3 referral**
- Re-motivate and reinforce prevention
- Full mouth pocket chart APE/DPC
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Advise patient of significant risk of further periodontal destruction due to remaining high levels of inflammation
- Re-supra and subgingival scaling and re-root surface debridement of all unstable sites ≥4mm with BoP (+/- LA - LA offered)
- Re-demonstrate ID cleaning in difficult areas and unstable sites– oral hygiene TIPPS (consider using interdental brushes lingually and/or palatally in these difficult area)

Recall

- **Continue with 3/12 re-examination, pocket chart and re-treatment until taken over by secondary care**
- **If pockets are < 6mm the patient continues with 3/12 re-examination, pocket chart and re-treatment in the amber pathway until they enter the green (stable periodontitis) or yellow (periodontitis in remission) pathway**

Rapidly Progressing Periodontal Disease Pathway – Grade C

The new classification system has now removed the distinction between chronic and aggressive periodontitis on the basis that there was little evidence from biological studies to suggest they were separate entities, rather than variations along a spectrum of the same disease process. However, it is still acknowledged that variability in the rate of periodontal destruction does occur between individuals, with some showing far more rapid rates of periodontal breakdown. The new grading system recognizes this by using a bone loss to age ratio to determine the rate of progression, with grade C (>1.0) being a rapid rate of progression.

The previous pathway for aggressive disease referred patients immediately into secondary care (level 2/3 care) following examination, diagnosis and initial therapy. To recognise the complexity of management of cases that exhibit rapid rates of periodontal breakdown (with the possible need for adjunctive antimicrobial therapy) the old classification of aggressive disease in the pathways has been replaced by the new classification of a grade C but with inconsistent periodontal destruction in relation to plaque levels in the absence of any systemic diseases that can affect periodontal breakdown.

However, the new classification system does not deal with patient management or treatment need, therefore a patient presenting under the old system may have a different "classification" in the new system, yet the patient and the disease are the same and the patient should therefore be managed in the same way.

In light of the above, aggressive disease has been replaced with "**Grade C**" disease progression. The critical factor in determining whether adjunctive antibiotics should be employed in management or not, remains the observation that the disease severity and progression is inconsistent with (more than would be expected) levels of plaque control and **local risk factors**.

The care pathways therefore remain unchanged, and a patient with Grade C disease should therefore be referred as a level 2 case, unless the general dental practitioner **has the additional knowledge and skills** to manage themselves. In all such cases, the basic care (behaviour change, oral hygiene instruction, indices) should have been provided prior to referral.

The molar/incisor pattern of bone loss has been included in the new classification system to recognise the classically named localised juvenile (aggressive) periodontitis, where a clearly defined phenotype exists. These patients should likewise be referred to secondary care for management when a Grade C is assigned.

These patients should be referred to secondary care as soon as possible after initial risk assessment, diagnosis, preventive advice and supra and sub gingival scaling only.

Examination – Periodontal Assessment

MH

- Diabetes – type 1, type 2. HbA1c levels
- Any disease or condition affecting dexterity (e.g. Rheumatoid Arthritis)
- Xerostomia (e.g. drug-induced)
- Factors affecting self-care (e.g. mental illness, stress)
- Other relevant medical factors

SH

- Brushing regime
- Interdental (ID) cleaning regime
- Single tufted brush use
- Tobacco use – Smoking or chewing
- Oral nicotine use – E-cigarettes, vaping nicotine gum/spray etc.
- Mouthwash

Clinical

- BPE
- Calculate the Modified Plaque Score
- Calculate the Modified Bleeding Score
- Assess and record clinical attachment loss (CAL) - history of periodontal disease
- Assess plaque levels –H/M/L
- Assess calculus levels – H/M/L
- Assess bleeding levels – localised (10-30% BoP sites) or generalised (>30% BoP sites)

Classification and diagnosis – Grade C – rapid periodontal destruction inconsistent with plaque levels

- Stage - interproximal bone loss at worst site (periodontitis related)
  - Stage 1 – <15% or <2mm attachment loss from CEJ – early, mild
  - Stage 2 – coronal third of root - moderate
  - Stage 3 – mid third of root - severe
  - Stage 4 – apical third of root – very severe
- Grade - bone loss to age ratio
  - Grade C - >1.0 rapid rate of progression
- Extent - bone loss distribution
  - Localised (<30% of teeth)
  - Generalised (>30% of teeth)
  - Molar/incisor pattern
- Stability
  - Stable – Pockets ≤ 4mm, BoP <10%, No BoP at 4mm sites
  - In remission - Pockets ≤ 4mm, BoP >10%, No BoP at 4mm sites
  - Unstable - pockets ≥ 4mm with BoP, BoP present at 4mm sites or greater
- Risk factors - Smoking (cigarettes/day)
  - Diabetes (optimal or suboptimal control, HbA1c levels)

Diagnosis – Extent – Periodontitis – Stage – Grade – Stability – Risk factors

Patient Agreement

- Yes

Patient leaflet and consent form

- Yes

Record Keeping

- Record oral hygiene levels, areas missed
- Record plaque, calculus and bleeding levels
- Record Modified Plaque and Bleeding scores
- Record oral hygiene regime
  - Daily brushing frequency - manual or electric brush
  - Interdental cleaning frequency - brush sizes, buccal, palatal, lingual, furcation areas
  - Single tufted brush frequency - brush type and method, subgingival mopping
- Record and advise the patient they have rapidly progressing periodontal disease – mild, moderate, severe or very severe form
- Advise the patient they have rapidly progressing periodontal disease and are at high risk of developing further destructive periodontal disease leading to tooth mobility and eventual tooth loss
- Explain to the patient that periodontal disease in its advanced stages can lead to tooth mobility and eventually tooth loss.

- Record and advise the patient that plaque is the main risk factor for periodontal disease and that stabilising the disease will be dependent on their ability to perform and maintain high levels of daily plaque control
- Record and advise the patient of smoking related to periodontal disease as indicated – increased risk factor for Periodontal Disease and poorer response to periodontal therapy. Advise the patient of further increased risk due to rapidly progressing periodontal disease
- Record and advise the patient of diabetes related to periodontal disease as indicated – increased risk factor when diabetes is sub-optimally controlled
- Record and advise the patient that formal periodontal therapy (pocket chart and RSD) will not be successful unless supported by self-care and adequate plaque levels
- Complete and sign the patient agreement
- Complete and sign patient leaflet and consent form
- Document and record all prevention, education, oral hygiene instruction demonstrated, and the approximate daily time needed to achieve adequate plaque control
- Record mobile teeth and advise the patient of teeth with a poor prognosis and mobility
- Advise the patient that referral to secondary care is needed

Record Keeping

- Oral hygiene level, areas missed
- Record plaque, calculus and bleeding levels
- Record Modified Plaque and Bleeding scores
- Oral hygiene regime – brushing and interdental cleaning frequency and method, single tufted brush use
- Advise the patient they have rapidly progressing periodontal disease and are at high risk of developing further destructive periodontal disease leading to tooth mobility and eventual tooth loss
- Explain to the patient that periodontal disease in its advanced stages can lead to tooth mobility and eventually tooth loss.
- Advise the patient that referral to secondary care is needed

Examination – Periodontal Assessment

Year 1, Month 1
Baseline – Course 1
Visit 1

Prevention

- Personalised preventive advice (including daily time needed) - oral hygiene TIPPS
- Supervised brushing technique – manual or electric
- Demonstrate appropriate interdental cleaning – size, location, technique
- Demonstrate single tufted brush – technique and frequency
- Explain the nature of periodontal disease and the main risk factor is plaque
- Reinforce risk factors – diabetes and smoking cessation as indicated
- Record Modified Plaque Score and plaque levels – H/M/L
- Record Modified Bleeding Score and bleeding levels – localised (10-30%) or generalised (>30%)
- Record calculus levels – H/M/L
- Record mobile teeth
- Complete and sign the patient agreement
- Go through the patient leaflet and consent form and give to the patient to read and sign

Intervention

- Appropriate radiographs as indicated
  - Periapical radiographs or vertical bitewings – posterior sextants
  - Anterior periapical radiographs as indicated (anterior code 4 sextants)
  - Crestal bone level should be visible
  - Periapical radiographs allow for more accurate staging and grading
- Stage, grade, risk assess, bone loss distribution, stability – Grade C
- Risk factors
  - Smoking related to periodontal disease and smoking cessation as indicated
  - Diabetes – optimal or suboptimal control and links to periodontal disease, HbA1c levels
  - Other risk factors
- **Diagnosis and classification**

Visit 2-4

Prevention

- Reinforce preventive advice - tooth brushing, interdental cleaning and single tufted brush use
- Check responsiveness to self-care advice – record OH, tooth brushing, ID cleaning and single tufted brush regime and frequency
- Record any improvement in OH
- Reinforce OHE, behavior change and motivation
- Sign patient leaflet and consent form

Intervention

- Supra and Subgingival scaling +/- LA - remove supra and subgingival calculus to facilitate oral hygiene
- Remove plaque retentive factors – overhangs etc.

Then refer to secondary care for level 2 or 3 care provision.

Recall

- 3/12 Re-examination and reassessment and continue until patient's management is taken over by secondary care.
- If the patient has not accessed level 2/3 care at the 3 month recall, the referral should be followed up and consideration given to start formal periodontal therapy with full mouth pocket chart and RSD as per the engaging patient in the advanced disease pathway.

Periodontal maintenance

Maintenance phase

Patients with stable periodontal disease and no unstable sites (pockets ≤4mm with no BoP at 4mm sites and BoP <10%) should have their risk assessed at each recall examination appointment and an appropriate recall interval set accordingly.

This will usually range from 3 months to 9 months. Patients who are stable and in maintenance should have a detailed periodontal charting carried out annually. The reasons for this are to ensure a thorough 6-point pocket examination is carried out and no potential unstable sites and deep pockets are missed when probing. In addition to this a recession chart will be able to detect any further clinical attachment loss, which a pocket chart alone will not capture.

It is important to note that higher probing depths of 5 mm or 6 mm in the absence of bleeding may not necessarily represent active disease, in particular soon after periodontal treatment. In non-smokers, pockets that are 5mm or greater with no bleeding on probing should be monitored and recorded carefully at each recall examination and re-treatment is indicated if bleeding on probing recurs.

Non-engaging patients and palliative periodontal care

The Healthy Gums DO Matter periodontal pathways have been developed with the evidence base outlined in section 2 of the toolkit. The initial focus for therapy is to motivate patients to take ownership of the self-care responsibility for achieving and maintaining their oral health and plaque control, which in turn will lead to stability of their periodontal disease. Whilst the aim and hopes are that most patients will engage with the education, motivation and behaviour change, there is a recognition that there are some patients who will remain as non-engaging patients and are happy to accept the outcome of delayed tooth loss rather than preventing tooth loss long-term. In these cases, plaque control may remain inadequate and incompatible with achieving periodontal stability.

It is essential that patients are fully informed of this and understand the long-term consequences of a failure to engage. In some instances, this conversation may be a driver for behaviour change and engagement. The patient leaflet and consent form has been designed to support the dental team with this process. The non-engaging pathway has been developed to allow more time and focus on education, motivation and behaviour change initially. However, if the patient remains in the non-engaging pathway, with a lack of adequate improvement, the non-engaging pathway will ultimately become palliative periodontal care.

Palliative periodontal care

Palliative periodontal care refers to a simple and cost-effective maintenance protocol that involves regular removal of calculus (supra and subgingival) and re-motivation of patients. Such brief interventions have been shown to improve the length of tooth retention but are far less effective than a full treatment protocol involving root surface debridement with adjunctive pharmacological or surgical care as necessary.

This is a pragmatic approach but one that involves long-term re-evaluation and support thereby allowing patients to change from a non-engaging to an engaging patient at some point in the future. Advanced restorative care is normally inappropriate in a non-engaging patient.

The decision to adopt a PPC approach should be made by practitioners after demonstrable and documented attempts to achieve behaviour change, following which it is clear that no progress is being made. Non-engaging patients should not be referred until they demonstrate "engagement", unless it can be demonstrated that behaviour change represents a genuine modifying factor.

It is vitally important that a non-judgemental approach is adopted for non-engaging patients during this process. The nature of the counselling should be factual and accepting that the challenge faced by some patients is substantial, indeed greater than the effort required by the dentist or hygienist themselves in order to maintain their own periodontal health. It is therefore acceptable if some patients cannot achieve the necessary standards of oral hygiene that equate to periodontal stability in their mouths, however they still require a supportive management approach, and they need to understand that advanced restorative care may be inappropriate.

Secondary Care

Some patients will need to be considered for referral to specialist periodontal care, such as available at a Dental Hospital or specialist practice. These patients should be engaging and have had their routine dental and periodontal care completed.

The nationally recognised referral criteria are:

"Patients with a specific problem with the periodontal tissues, which is beyond the scope of general dental practice."

For example:

- A strong family history of early tooth loss due to periodontitis in a patient with periodontal disease
- Severe periodontitis in a young patient
- Where residual chronic periodontitis persists after periodontal treatment
- A concurrent medical factor that is affecting the periodontal tissues
- Patients requiring complex restorative treatment planning
- Patients with combined periodontal and endodontic lesions
- Patients requiring combined periodontal and orthodontic treatment
- Planning of fixed prosthodontics and implants for periodontitis cases
- Patients requiring muco-gingival surgery, such as crown-lengthening procedures, and for the treatment of gingival recession

The British Society of Periodontology has now created guidance for when to refer patients based on a simple assessment of case complexity based on the basic periodontal examination.

This has been outlined in BSP's The Good Practitioners Guide to Periodontology published in 2016 and will also form part of the forthcoming NHS restorative commissioning guide.

Level 1 care is the level of competence as a minimum standard for general dental practitioners (dentists on an the NHS performer list) in primary care.

Level 2 care refers to clinicians with enhanced skills and experience, but not necessarily on a specialist register.

Level 3 care is a clinician recognised as a specialist and is on the GDC specialist list or by a consultant.

In addition to the complexity levels, modifying factors, such as complex medical history or special needs can increase the complexity of care. The levels of care are listed on the following pages as well as potential modifying factors.

Level 1 – General Dental Practitioners

Diagnosis and management of patients with uncomplicated periodontal diseases including but not limited to:

- Evaluation of periodontal risk, diagnosis of periodontal condition & design of initial care plan within the context of overall oral health needs
- Measurement & accurate recording of periodontal indices (see the care pathway in the appendix)
- Communication of nature of condition, clinical findings, risks & outcomes
- Designing care plan and providing treatment
- Assessment of patient understanding, willingness & capacity to adhere to advice & care plan
- Evaluation of outcome of periodontal care provision of supportive periodonta care programme
- On-going motivation & risk factor management including plaque biofilm control
- Avoidance of antibiotic use except in specific conditions (necrotising periodontal diseases or acute abscess with systemic complications) unless ecommended by specialist as part of comprehensive care plan
- Preventive & supportive care for patients with implants
- Palliative periodontal care and periodontal maintenance

Any other treatment not covered by level 2 or 3 complexity

Level 2 - Clinicians with enhanced skills

Management of patients:

- Who, following primary care periodontal therapy, have residual moderate (30-50% horizontal bone loss) periodontitis and residual true pocketing of 6mm and above
- With certain non-plaque-induced periodontal diseases e.g. virally induced diseases, auto-immune diseases, abnormal pigmentation, vesiculo-bullous disease, periodontal manifestations of gastrointestinal & other systemic diseases and syndromes, under specialist guidance
- With Grade C (aggressive) periodontitis as determined by a specialist at referral
- With furcation defects and other complex root morphologies when strategically important and, realistic and delegated by a specialist
- With gingival enlargement non-surgically, in collaboration with medical colleagues
- Who require pocket reduction surgery when delegated by a specialist
- With peri-implant mucositis where implants have been placed under NHS contract

Level 3 – Specialist or consultant

Triage & Management of patients:

- With severe (> 50% horizontal bone loss) periodontitis, Grade C (aggressive) periodontitis and true pocketing of 6mm or more
- Requiring periodontal surgery
- Furcation defects and other complex root morphologies not suitable for delegation
- With non-plaque induced periodontal diseases not suitable for delegation to a practitioner with enhanced skills.
- Peri-implantitis where it is the responsibility of the NHS to manage the disease when implants have been placed under an NHS Contract
- Patients who require multi-disciplinary specialist care (Level 3).
- Where patients of level 2 complexity do not respond to treatment
- Non-plaque induced periodontal diseases including periodontal manifestations of systemic diseases, in order to establish a differential diagnosis, joint care pathways with relevant medical colleagues & where necessary, manage conditions collaboratively with practitioners with enhanced skills if appropriate & provide advice and treatment planning to colleagues

The presence of a relevant modifying factor increases the complexity by 1 increment, and is not cumulative:

Modifying factors

Modifying factors that are relevant to periodontal treatment

- Co-ordinated medical or dental multi-disciplinary care
- Medical history that significantly affects clinical management (see right)
- Special needs for the acceptance or provision of dental treatment
- Concurrent mucogingival disease (e.g. erosive lichen planus)

Medical history that significantly affects clinical management

- Patients with a history of head / neck radiotherapy or intravenous bisphosphonate therapy
- Patients who are significantly immuno-compromised or immunosuppressed
- Patients with a significant bleeding dyscrasia / disorder
- Patients with a potential drug interaction

Healthy gums DO matter!

SECTION 7

Clinical Record Templates & Guidance

Clinical Examination template

Date | Dentist and DCP Initials

Complaining Of

History of complaint | Last visit

Medical History

Medicines | Medical alerts
Allergies | Medical risk factors for PD

Social History

Smokes | Chewing tobacco
Alcohol | Occupation
Oral nicotine

Oral hygiene regime

Brushing | Interdental cleaning
Mouthwash | Single tufted brush

Dental History

Anxiety | Past Dental Experience
Regular/ irregular attender

Diet

Sugar intake | Sugar in drinks
Frequency/amount | Diet sheet

Extra Oral Examination

TMJ
Cervical or Submandibular Lymphadenopathy
Muscles of mastication

Intra Oral Examination

Hard / Soft palate | Floor of Mouth
Buccal/ Labial Mucosa | Tongue
Vestibules | Retro molar areas
Fauces

Occlusion

Left Lateral Excursion | Right Lateral Excursion
Occlusal disharmony – interferences
OVD

Oral Hygiene

Plaque levels | Calculus levels
Bleeding - health (<10%) localised (10-30%), generalised (>30%)

Appliances

BPE

History of periodontal disease / clinical attachment loss
Mobile teeth
Recession

Dentition

level of restorations – mild moderate heavily restored
Bridges
Implants

Caries

Teeth Tender to Percussion

Pathology / abscesses/ sinus

Radiographs

Justification - To assess bone levels, caries and pathology
Patient consented | Quality
Report

Classification & diagnosis

Diagnosis statement
Extent - Periodontitis - Stage - Grade - Stability - Risk factors

Clinical Notes Template for Periodontal Disease

- Patient advised of mild/moderate/severe/ very severe / rapidly progressing (aggressive) periodontal disease (periodontitis) which is localised affecting less than 30% of teeth / generalised affecting more than 30% of teeth and progressing at a slow/moderate/rapid rate and is currently stable/ in remission/ unstable
- Patient warned of tooth mobility and tooth loss related to periodontal disease
- Patient advised that they are at risk of developing destructive periodontal disease – periodontitis
- Patient advised the main risk factor for periodontal disease is plaque and to prevent further bone destruction and advancement of periodontal disease leading to tooth mobility and tooth loss, they must maintain high standards of oral hygiene and low plaque levels
- Patient advised of diabetes related to periodontal disease and increased risk of developing periodontal disease with poorly controlled blood sugar levels and poorer response to periodontal therapy. Patient advised well controlled diabetics have similar risk to non-diabetic patients. Patient advised stabilising periodontal disease will be influenced by how well controlled their glycaemic levels are
- Patient advised of smoking related to periodontal disease – increased risk factor (3-7 times) for periodontitis and poorer response to periodontal therapy and increased risk of treatment failure and tooth loss. Patient advised smokers receiving treatment for periodontitis are twice as likely to lose teeth compared with non-smokers. Patient advised stopping smoking will help to improve the outcome of periodontal disease
- Discussed with patient about Electronic Cigarettes / vaping and oral nicotine – still a risk factor for periodontal disease as nicotine is a vasoconstrictor – encouraged patient to try and reduce and stop and to use it as part of a plan to stop smoking and using nicotine
- Patient advised that oral hygiene is not adequate to support formal periodontal therapy. Patient advised needs to improve oral hygiene and plaque levels to support periodontal therapy. Patient advised that formal periodontal therapy with pocket charting and root surface debridement to be delayed until oral hygiene supportive. Patient advised that we will carry out gross supra and sub-gingival scaling and debridement to help facilitate improvement in oral hygiene and plaque levels.
- Patient advised the best outcome after treatment will be when they have low plaque levels, excellent oral hygiene, stop smoking and blood sugar related to diabetes is under good control
- Reinforced patient agreement and self-care plan and their responsibilities to maintain good plaque control
- Patient warned of post operative sensitivity, gingival recession, tooth mobility and black triangle appearance due to loss of interdental papillae after periodontal therapy
- Patient shown in mirror all the areas they are missing and the plaque build up on the teeth and interdentally.
- Patient advised of the importance of interdental cleaning to remove interdental plaque and prevent periodontal disease
- Patient shown how to use Interdental brushes properly and advised sizes. Patient advised to make sure sung fit for ID brushes so they are effective
- Advised patient of importance of daily ID cleaning to stabilise PD
- Patient advised to make sure sung fit for ID brushes so are effective
- Patient shown correct technique for ID cleaning and how to work ID brush to ensure effective cleaning
- Demo given in the mouth with ID brush and patient shown how to insert at correct angle and avoid trauma to the gingivae and clean effectively against both teeth and interdentally
- Patient shown in the mouth how to use interdental brushes and shown how to access upper post quadrants form palatal aspect and lower posterior quadrants from the lingual aspect. Patient advised to do this daily as well
- Patient advised to use single tufted brush as well and to concentrate marginally and interproximally. Demonstrated to the patient how to use the single-tufted brush using a pen grip of finger grip for better control.
- Patient's brushing technique examined and patient shown the areas being missed
- Tooth brushing demo given to patient – patient shown Bass technique and modified Stillman technique
- Patient advised if periodontal disease progresses it will eventually result in tooth mobility leading to tooth loss
- Discussed with patient referral to periodontal specialist for periodontal therapy and treatment
- Patient advised of self-care responsibilities to prevent further destructive periodontal disease leading to tooth loss and tooth mobility. These include brushing effectively twice daily as shown and once daily interdental cleaning with appropriate interdental cleaning aids as has been demonstrated.
- APE done - Full mouth 6-point pocket chart carried out and all pockets 4mm and over with and without bleeding recorded on pockets chart and maximum attachment loss per tooth. Mobility and furcation involvement recorded.
- Supra and subgingival scaling and root surface debridement carried out on all pockets identified on pocket chart (under LA – type, dose, amount, location given, batch number, expiry date) with ultrasonic/cavitron machine and/or hand instruments
- Full mouth ultrasonic disinfection carried out with/without LA (type, dose, amount, location given, batch number, expiry date)
- Patient does not want periodontal treatment or scaling. Patient warned of further progression of periodontal disease and further tissue and bone destruction leading to tooth mobility and eventual tooth loss. Advised that periodontal treatment will delay this process and if it is supported by high standards of plaque control and oral hygiene then it will stabilise the periodontal disease. Patient still decided not to have periodontal treatment and refuses treatment and accepts the risks. Patient information gone through and patient signed informed refusal for periodontal treatment
- Patient advised periodontal treatment will not be successful and stabilise unless supported with high levels of plaque control and oral hygiene
- Patient agreement re—established and re-outlined patient's responsibilities for self-care as in the patient agreement

SECTION 8

Periodontal Pathways - A Dentist's Voice

Making prevention work in practice

- Periodontal Disease is a long-term chronic condition caused, in the main, by plaque bacteria.
- For too long dentists have felt responsible for treating or even causing this disease.
- Maintaining healthy gums is fully the responsibility of the patient, in good daily oral hygiene measures.
- Without the patient maintaining good oral hygiene, most periodontal therapy will be a waste of time.
- Our responsibility lies with providing our patients with the best, personalised oral hygiene advice.
- This is a far better use of our clinical time than scaling a little calculus from the back of lower incisors.
- We dentists need to re-educate ourselves to stop automatically picking up a scaler to make the mouth "clean and healthy".
- Let's encourage patients to take responsibility for their own oral health.

Periodontal health pathway

- Step back from feeling you need to "treat" these patients.
- Don't pick up your scaler.
- Focus instead on patient education and engagement. Ensure they realise it's their responsibility to keep their mouth healthy, not the dentists. "Dentists should be Dentists".

Praise

These patients are looking after their mouths themselves very well - they are to be praised "You're making my job easy doing all the cleaning yourself thanks for that!

"My aim is to get all my patients brushing as well as you do!"

Some may object to the extended recall interval - "I've always come every six months that's why my teeth are good."

We should explain that it's not their attendance at the practice once every six months, but the good care that they provide every day at home that is ensuring a healthy mouth.

For goodwill purposes, flicking off lingual calculus lower incisors is reasonable, but not really a good use of clinical time; however it probably is useful in some circumstances for improving patient co-operation.

Advice

Discuss interdental brushing and demo.

This may not all be needed in one visit as it can sometimes be information overload.

Build up advice over next few visits, one strong message at a time. Keep note of what you have discussed. Mention and ask at the patients recall visit.

Checking and discussing home regime at every recall will enhance the good practices, and make sure your patients realise the importance that you as a dentist place on it.

Evidence shows that the best tool for behavioural change comes from one to one communication with a health care professional, giving personalised advice.

Review appointment

Chatting to your patient gives clear indication whether they are taking your advice and engaging in their personalised OH improvements.

Responses to questions such as "How are you managing with the interdental brushes?" and "What colour are you using?" are very telling. Do record which colours you have advised.

Even body language and eye contact can give clues as to whether they are interested or not.

If a patient is clearly not interested, then talk to them, discuss the risks, and agree to leave it up to them to ask if they want further advice.

If body language is disinterested, i.e. restless, looking out of the window, no eye contact, talking over your advice or saying "I already do all that.", then you need to consider this patient is not engaged at that time.

Periodontal Risk Pathway

Good note keeping is essential on clinical findings. This is a robust way of checking if the patient is engaging with your advice, and bringing about any improvement.

Periodontal Disease/ Advanced Periodontal Disease Pathway

This is the time we would begin to consider whether this patient could progress on to full perio therapy.

It is at this level of disease where the pathway for a patient engaging with your advice, and achieving effective plaque removal diverges from the patient who has not improved their own OH.

3/12 Review

Which of the 2 pathway options the patient will follow is be decided at this visit.

Previous record keeping is critical to assess compliance with advice at this stage, and to decide if the therapy stage begins now or "not yet."

It's also time for a frank conversation with the patient exactly what they will be undertaking. Some people may not want to undergo the therapy of the "engaging patient ", which is entirely their choice. They may want to continue attending for gross scaling and debridement only.

People who chose the therapy option can leave the treatment pathway at any time if they feel it is appropriate, or if they have had as much treatment as they wish to have at that time.

Perhaps look at the patient agreement together and revise.

Good communication with the patient throughout the course of the pathway is paramount.

It's a team effort; we'll get the best results with both the clinician and patient working together in collaboration to overcome this chronic long-term disease.

Non-engaging patient

It's a good idea to explain what the risks to their dental health are if they don't clean effectively. They could lose teeth.

The best way to keep gums healthy for life is the OH regime the dentist has recommended.

It's beaten in the bathroom.

Engaging patient

"Congratulations – it's what you do at home that counts!"
"Great to know that you have taken our advice and acted upon it!"

SECTION 9 Healthy Gums DO Matter - A Legal and Ethical Perspective

The Basic Periodontal Examination, as a screening tool for General Dental Practice, has been 'accepted practice' since 1991 following publication of the SAMS Manual. Thereafter the British Society of Periodontology published Guidelines which in legal terms describes the expected standards of practice of a reasonably competent GDP in the diagnosis, treatment and management of periodontal disease. For that aspect of a patient's care the BSP Guidelines are currently the only ones available and departure from them will expose a dentist to the unwanted risk of litigation should a patient suffer continued deterioration in his/her periodontal health during the currency of that dentist's care.

However, those guidelines are written for general practitioners by specialist practitioners and there is evidence of a widening gap between how periodontal care is actually delivered by those working within the parameters of NHS dentistry and the current guidelines. Probably to the detriment of patient care.

Clinical practice guidelines can be defined as *"systematically developed statements to assist practitioners and patient decisions about appropriate health care for specific circumstances."* [1] They exist in abundance; there are over 1,200 NICE clinical practice guidelines. However, it is important to recognise that guidelines are just that; they are not tramlines to be rigidly followed. They are guidelines within which to operate with clinical discretion, although it would be fair to say that any departure must be justifiable.

The evolving nature of guidelines is readily apparent from revisions made to the BSP Guidelines in 2016 (likely influenced by the first edition of Healthy Gums do Matter) and by the revisions to this second edition. Clear recognition of the status of HGdM within primary NHS dental care.

Within the first edition the significant departure from BSP Guidelines was the deferment of six-point pocket charting and root surface debridement until such time as the patient was able to demonstrate adequate oral hygiene and plaque control, described as plaque scores of less than 20% and a bleeding index of less than 30%. The non-engaging patient!

The 2016 BSP Guidelines now include this statement "The clinician should use their skill, knowledge and judgment when interpreting BPE scores, taking into account factors that may be unique to each patient, Deviation from these guidelines may be appropriate in individual cases, for example where there is a lack of patient engagement".[2]

For its part HGdM has revised its threshold for patient engagement. The scores referenced above are now 30% for the plaque score and 35% for the bleeding index.

When the patient is able to demonstrate such a level of home care he/she qualifies as an 'engaging patient' and enters the relevant pathway for treatment and monitoring in accordance with a high standard of care. The same will be achieved within 3 months or 6 months of the initial consultation.

If the patient is unable to achieve that relatively low threshold of oral hygiene he/she becomes known as a 'non-engaging patient' and will not receive root surface debridement nor will he/she undergo six-point pocket charting in the relevant sextant. This 'non-engaging' patient's periodontal condition will likely deteriorate, probably to the point of tooth loss.

Should those following HGdM be concerned that they have not carried out a six point pocket charting and, perhaps more importantly, carried out root surface debridement in accordance with the long established BSP Guidelines? Would a dentist expose him/herself to the risk of successful litigation or will following HGdM provide him/her with a sufficiently robust practice to nip any such litigation in the bud?

In 'periodontal negligence' claims the two clear issues (smoking and other risk factors aside) are,

- the adequacy of professional care
- the adequacy of home care.

'Claimant's' often present with poor oral hygiene, primarily because of the failings in professional care. They are often unaware that their oral hygiene was poor even though the records contain entries such as 'OH fair/poor - reinforce OH'. Perhaps because in a busy practice, where time is limited and a patient nervous, the message is not given at all or given in a way or at a time (for example, during the scale and polish itself) that its importance is lost.

It is clear that patient compliance is a necessary ingredient for good periodontal health, and many 'Defendant's' seek to justify their minimal non-surgical intervention (eg routine 6/12ly scaling in the face of pockets > 5.5mm) because of the patient's poor oral hygiene. The difficulty that those dentists face is that almost invariably their decision is not documented, there is no record of the patient being told this and very often, but not always, when the patient attends another dentist their oral hygiene improves to an acceptable level. Sadly, too late to avoid tooth loss.

The non-engaging patient is likely to be in the minority and what is important is how dentists following HGdM Guidelines inform, and document, the patient that will not receive more advanced periodontal care unless and until their oral hygiene improves to an adequate level.

The 'Gum Health Improvement Patient Agreement' and the 'Periodontal Leaflet and Consent Form' certainly make it clear that adequate home care is essential and that advanced treatment will not be provided unless a minimum standard is obtained. The patient's and dentist's signatures to those forms would be sufficient evidence that the patient was aware of his/her role in the management of their disease. The signing of those forms is, however, only evidence of the passing of information. There will be a need to demonstrate that a patient remains aware, as the pathway progresses, that their oral hygiene is inadequate and of the consequences, and that the patient has been provided with oral hygiene tuition and instruction in an appropriate setting.

Simply obtaining a signature on the above forms will not necessarily protect a dentist following HGdM Guidelines from litigation. But following the pathway, engaging with the patient in the manner suggested and keeping good records will.

The legal status of guidelines is of concern to many healthcare workers, and they are fearful of departing from them. In light of the BSP Guidelines what might be the 'legal status' of the HGdM Guidelines, and the fate of dentists following them.

The Bolam[3] test provides the answer. It is well established law that a dentist is expected to practice *"in accordance with a practice accepted as proper by a **responsible body** of medical men skilled in that particular art.... Putting it the other way round, a man is not negligent, if he is acting in accordance with such a practice, merely because there is a body of opinion who would take a contrary view" and that a dentist should employ "a standard of practice recognised as proper by a **competent reasonable body** of opinion"*

The key words being responsible and reasonable, such words being highlighted in Bolitho[4] as demonstrating that such an opinion has a logical basis.

HGdM has been developed, and **continues to be developed**, by an eclectic group of **professionals** involved in the provision of NHS Dentistry, and Specialists in Periodontology. It is intended to improve patient care. In the circumstances, given that it is a Guideline designed to improve the quality and consistency of periodontal care within NHS dental practice then those practising in accordance with it would seem to be practising both ethically and in accordance with a practice accepted as proper by a responsible body of general dental practitioners.

Mr Andrew Bridgman BDS LLB (Hons) MA
Barrister

1 Field and Lohr [1990]
2 British Society of Periodontology. BPE Guidelines. 2019. Available at http://www.bsperio.org.uk/publications downloads/115_090048_bsp-bpe-guidelines-2019.pdf (accessed March 2019).
3 Bolam v Friern Hospital Management Committee [1957] 1 WLR
4 Bolitho v City and Hackney HA [1998] AC

Effective Periodontics - Keeping Out of Trouble

Healthy Gums do Matter is a major contribution to dental health in the UK. The principles set out and explained in these documents, if followed by the General Dental Practice team, will lead to a dramatic improvement in periodontal health in the target population and could have wider benefits if distributed and followed throughout the General Dental Services of the NHS.

I see many cases each year of clinical negligence by dentists who neglect their patients' periodontal health, often through lack of understanding of current principles, but also, in many cases, due to poor record keeping, failure to fully inform the patient about their condition, and failure to follow guidelines provided by responsible and expert bodies such as the British Society of Periodontology, The Royal College of Surgeons, and the Scottish Dental Education Clinical Effectiveness Programme. The HDGM programme uses extracts from publications from these bodies, and also provides flowcharts to help the GDP and Hygienist-Therapist to plan effective periodontal therapy for individual patients according to their individual needs.

A dental professional's duty of care exists irrespective of the source of funding. If a DP follows these principles, the likelihood of litigation against them will be very small indeed. If any such claim did arise it could be firmly defended.

I would add that guidelines are important and should be followed most of the time. However a practitioner should not be afraid to depart from guidelines if he considers it to be in the best interests of an individual patient. Guidelines are not the law. As always record your decisions and reasons and ensure that the patient understands what is happening and why. If you are not sure that the patient has understood, write them a letter explaining the situation in plain English.

Put it in writing. That's the way to stay out of trouble!

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SECTION 10 Resources

Executive Summary - Guidelines for Periodontal Screening and Management of Children and Adolescents Under 18 years of Age

Professor Valerie Clerehugh (BSP) and Dr Susan Kindelan (BSPD)

Dental practitioners have a key role to play in the early recognition and diagnosis of gingival and periodontal diseases.

Following the British Society of Periodontology (BSP) Policy Statement in 2001 relating to the screening and management of periodontal problems in adults seen in primary dental care and the update to the Basic Periodontal Examination (BPE) in 2011 (www.bsperio.org.uk), the need for a document pertaining to the child and adolescent population has been recognized (Clerehugh 2008). These Guidelines have been formulated to set out the recommendations of the BSP and the British Society of Paediatric Dentistry (BSPD) for the periodontal screening and management of children and adolescents under 18 years of age in the primary dental care setting.

The aims of these Guidelines are: 1) To outline a method of screening children and adolescents for periodontal diseases during the routine clinical dental examination. 2) To provide guidance on when it is appropriate to treat in practice or refer to specialist services.

Periodontal screening for children and adolescents assesses six index teeth (UR6, UR1, UL6, LL6, LL1 and LR6) using a simplified BPE to avoid the problem of false pockets (Ainamo et al 1984). The WHO 621 style probe with a 0.5 mm ball end, black band at 3.5 to 5.5 mm, and additional markings at 8.5 mm and 11.5 mm is used.

BPE codes 0-2 are used in the 7- to 11-year-olds while the full range of codes 0, 1, 2, 3, 4 and * can be used in the 12- to17- year-olds (Figures 1 and 2).

Cases that may warrant referral for specialist care are shown in Table 1.

Figure 1. Simplified BPE codes for under 18 years

0	Healthy
1	Bleeding after gentle probing
2	Calculus or plaque retention factor
3	Shallow pocket 4mm or 5mm
4	Deep pocket 6mm or more
*	Furcation

- Simplified BPE
  - Index teeth (WHO partial recording for adolescents) UR6, UR1, UL6 LR6, LL1, LL6
- BPE codes 0,1,2 ages 7-11 years (mixed dentition stage)
- Full range BPE codes 0,1,2,3,4,* ages 12 -17 years (permanent teeth erupted)

Figure 2. Examination of index teeth

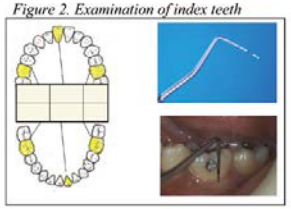

Table 1. When to refer to a specialist

Diagnosis of aggressive periodontitis
Incipient chronic periodontitis not responding to treatment
Systemic medical condition associated with periodontal destruction
Medical history that significantly affects periodontal treatment or requiring multi-disciplinary care
Genetic conditions predisposing to periodontal destruction
Root morphology adversely affecting prognosis
Non-plaque-induced conditions requiring complex or specialist care
Cases requiring diagnosis/management of rare/complex clinical pathology
Drug-induced gingival overgrowth
Cases requiring evaluation for periodontal surgery

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British Society of PERIODONTOLOGY

The British Academy of Paediatric Dentistry

BSP

British Society of Periodontology

Basic Periodontal Examination (BPE)

Careful assessment of the periodontal tissues is an essential component of patient management. The BPE is a simple and rapid screening tool that is used to indicate the level of further examination needed and provide basic guidance on treatment needed. These BPE guidelines are not prescriptive but represent a minimum standard of care for initial periodontal assessment. BPE should be used for screening only and should not be used for diagnosis.

The clinician should use their skill, knowledge and judgment when interpreting BPE scores, taking into account factors that may be unique to each patient. Deviation from these guidelines may be appropriate in individual cases, for example where there is a lack of patient engagement. General guidance on the implications of BPE scores is indicated in the table below. The BPE scores should be considered together with other factors when making decisions about referral (as outlined in the companion BSP document *"Referral Policy and Parameters of Care"*).

Guidelines for the use of BPE in younger patients can be found in the BSP document "Guidelines for periodontal screening and management of children and adolescents under 18 years of age."

The UK Implementation guidance of the 2017 Classification for periodontal and peri-implant diseases and conditions maps to the BPE guidelines and is documented in *Periodontal diagnosis in the context of the 2017 classification system of periodontal diseases and conditions – Implementation in Clinical Practice*. T. Dietrich, P. Ower, M. Tank, N. X. West, C. Walter, I. Needleman, F. J. Hughes, R. Wadia, M. R. Milward, P. J. Hodge, I. L. C. Chapple & on behalf of the British Society of Periodontology. BDJ volume 226, pages 16–22 (11 January 2019) https://www.nature.com/articles/sj.bdj.2019.3

How to record the BPE

1. The dentition is divided into 6 sextants and the **highest** score for each sextant is recorded.

   Upper right (17 to 14)
   Lower right (47 to 44)

   Upper anterior (12 to 22)
   Lower anterior (43 to 33)

   Upper left (24 to 27)
   Lower left (34 to 37)

2. All teeth in each sextant are examined (with the exception of 3rd molars unless 1st and/or 2nd molars are missing).
3. For a sextant to qualify for recording, it must contain at least 2 teeth.
4. A World Health Organisation (WHO) **BPE** probe is used. This has a 'ball end' 0.5mm in diameter and a black band from 3.5mm to 5.5mm. Light probing force should be used (20–25 grams).
5. The probe should be 'walked around' the teeth in each sextant. All sites should be examined to ensure that the highest score in the sextant is recorded before moving on to the next sextant. If a code 4 is identified in a sextant, continue to examine all sites in the sextant. This will help to gain a fuller understanding of the periodontal condition and will make sure that furcation involvements are not missed.

Scoring Codes

0 — Pockets <3.5mm
No calculus/overhangs, no bleeding on probing (black band entirely visible)

1 — Pockets <3.5mm
No calculus/overhangs, bleeding on probing (black band entirely visible)

2 — Pockets <3.5mm
Supra or subgingival calculus/overhangs (black band entirely visible)

3 — Probing depth 3.5-5.5mm
(Black band partially visible, indicating pocket of 4-5mm)

4 — Probing depth >5.5mm
(Black band disappears, indicating a pocket of 6mm or more)

*** — Furcation involvement**

An example BPE score grid might look like this:

4	3	3*
-	2	4*

Both the number and the * should be recorded if a furcation is detected. E.g. the score for a sextant could be 3* (indicating a probing depth 3.5-5.5mm plus a furcation involvement in the sextant).

How to Use BPE

- All new patients should have the **BPE** recorded
- For patients with codes 0, 1 or 2, the **BPE** should be recorded at every routine examination
- For patients with **BPE** codes of 3 or 4, more detailed periodontal charting is required
- **Code 3**: Initial therapy including self-care advice (oral hygiene instruction and risk factor control) then, post-initial therapy, record a 6 point pocket chart in that sextant only
- **Code 4**: If there is a Code 4 in any sextant then record a 6-point pocket chart throughout the entire dentition
- **BPE** cannot be used to monitor the response to periodontal therapy because it does not provide information about how sites within a sextant change after treatment. To assess the response to treatment, a 6-point pocket chart should be recorded pre and post- treatment
- For patients who have undergone initial therapy for periodontitis, and who are now in the maintenance phase of care, then full probing depths throughout the entire dentition should be recorded at least annually

In addition it is recommended that:

- **BPE** should not be used around implants (4 or 6-point pocket charting should be used)
- Radiographs should be available for all Code 3 and Code 4 sextants. The type of radiograph used is a matter of clinical judgement but crestal bone levels should be visible. Many clinicians would regard periapical views as essential for Code 4 sextants to allow assessment of bone loss as a percentage of root length and visualisation of the periapical tissues
- When a 6-point pocket chart is indicated it is only necessary to record sites of 4mm and above (although 6 sites per tooth should be measured)
- Bleeding on probing should always be recorded in conjunction with a 6-point pocket chart

Guidance on Interpretation of BPE Scores

0 — No need for periodontal treatment

1 — Oral hygiene instruction (OHI)

2 — As for Code 1, plus removal of plaque retentive factors, including all supra and subgingival calculus

3 — As for Code 2 and RSD if required

4 — OHI, RSD. Assess the need for more complex treatment: referral to a specialist may be indicated

***** — Treat according to BPE Code (0- 4). Assess the need for more complex treatment; referral to a specialist may be indicated

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www.bsperio.org.uk

BSP British Society of Periodontology

Healthy gums DO matter!

GMCA GREATER MANCHESTER COMBINED AUTHORITY

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