

Classification: Official

Publication reference: PR1640



Clinical standard for restorative dentistry

Version 2, 28 October 2022

Updates to the previous version of this document are highlighted in yellow.

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1. Executive summary

The aim of this guide is to offer a standardised framework for the local commissioning of specialist and specialised restorative dentistry services. It is intended to be used by commissioners to ensure that they are improving access to care, based on needs, with demonstrable high value health outcomes experienced by patients.

It is expected that local commissioners work closely with the local restorative dentistry Managed Clinical Networks (MCN), the UK Health Security, UKHSA and Local Dental Networks (LDN) or dental system leadership teams. Together they will be responsible for delivering the best place-based patient journey possible, supported by specialist advice and/or access to care, that meets the needs of diverse local patient population groups and works towards reducing inequalities in access to treatment and outcomes, whilst achieving the nationally expected standards of care provision.

2. What is restorative dentistry?

2.1 Definition

Specialist Restorative Dentistry is for patients who have complex oral and dental problems, requiring multidisciplinary, specialist dental care. It involves replacing missing teeth, repairing damaged teeth and extends to rehabilitation of the whole mouth. It is based on specialist skills and knowledge from appropriate mono-specialties: Specialist Restorative Dentistry services are predominantly NHS consultant-delivered, usually in a hospital setting.

These services will involve specialist dental care for patients requiring management of developmental conditions such as hypodontia, cleft lip and palate and amelogenesis imperfecta and other conditions such as head and neck cancer, complex dental trauma and Grade C periodontitis.

It is recognised that a broader range of specialist dental care can be delivered in a university teaching hospital and include management of patients requiring prosthodontic, periodontal and endodontic treatment.

Separately, in a general dental practice setting, the routine care provided by the oral healthcare team will also involve dental caries prevention/management, replacing missing teeth, repairing damaged teeth and treating dental conditions such as periodontal (gum) disease and endodontic (root canal) infections. These patients do not routinely need consultant-delivered specialist restorative dentistry.

Some patients seen in general dental practices may have dental conditions that are more challenging to manage. The diagnosis, planning and treatment of these conditions requires a consultant led, Managed Clinical Network (MCN). The patients would then receive appropriate preventive and operative treatment from clinicians with training and experience.

2.2 Levels of care

The Department of Health and Social Care Advanced Care Pathway Working Group defined procedures and modifying patient factors that describe the complexity of a case. Levels 1, 2 and 3 care descriptors outline the complexity of the clinical care required, including planning, technical/operative procedures and any modifying patient factors. They reflect the competence of clinician and setting

(equipment) required to deliver care of that level of complexity and may change depending upon one or more of the following patient factors:

- Medical
- Psychosocial
- Patient anxiety
- Other patient-associated modifiers

2.2.1 Level 1

Level 1 care complexity requires the skill set and competencies for performers on the NHS performer list and delivered within a primary care NHS mandatory contract.

2.2.2 Level 2

Level 2 care complexity is defined by procedural and/or patient complexity requiring a clinician with enhanced skills and experience who may or may not be on a specialist register. Providers of Level 2 care on referral will need a formal link to a consultant-led MCN to quality assure the outcome of pathway delivery.

2.2.3 Level 3

Procedures to be performed or conditions to be managed by a clinician recognised as a specialist and on a GDC specialist list OR by a suitably registered consultant.

This section assigns the wide range of procedures in Restorative Dentistry, divided up by mono-speciality, into levels of complexity to allow care to be assigned and commissioned within an MCN model.

Many practitioners in primary care who are not on the specialist list can legitimately deliver care of Level 2 complexity. Commissioners expect the same standards of quality and outcome regardless of the provider or setting. However, any practitioner delivering care on referral will be expected to:

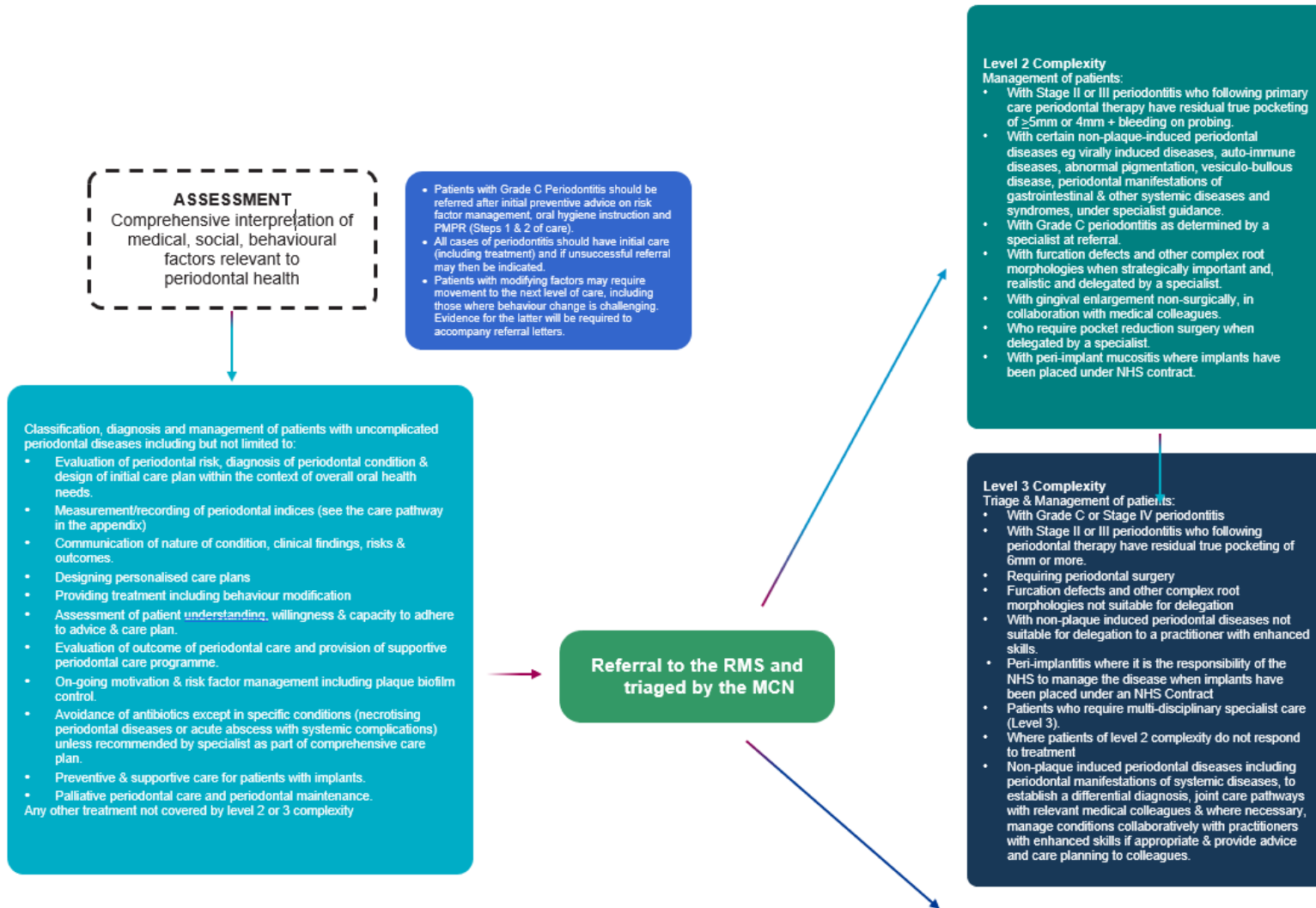
- Have a formal link with a consultant-led MCN
- Complete a defined number of cases per annum as a minimum requirement to maintain skills and competence.

In all cases, the levels of complexity are not determined simply by the procedural difficulty, but by a range of factors including:

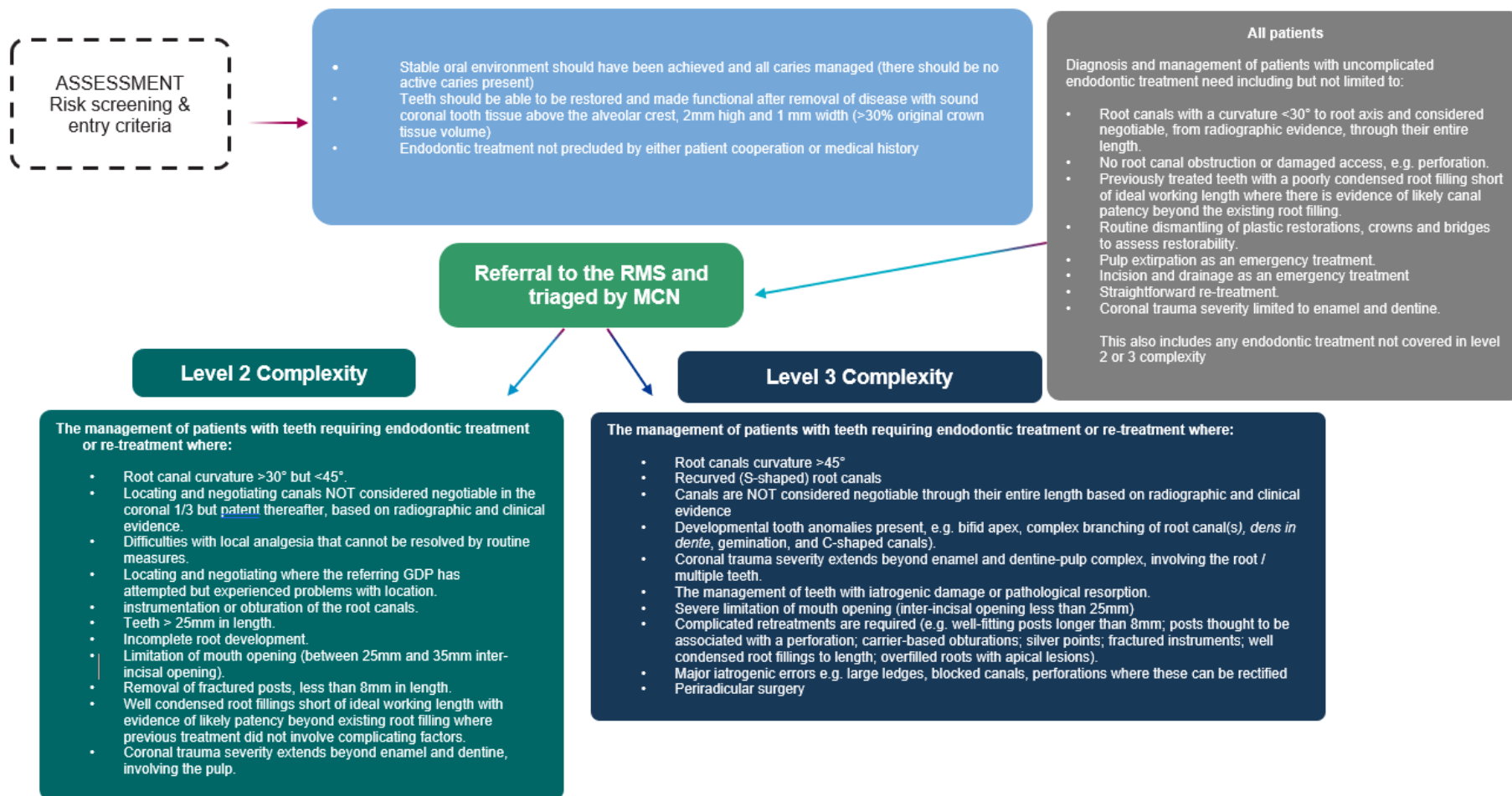
- Patient-related factors as described above
- Clinically-related factors that complicate provision of treatment (such as anatomical or technical challenges in the delivery)
- Integrated treatment needs (an example would be multidisciplinary teams (MDTs) providing care for oncology or cleft patients).

The following complexity assessments in sections 2.2.4, 2.2.5 and 2.2.6 give a clear indication of the case complexity at the three different levels and detailed data about the conditions and circumstances where this standards document should be used (for example the prior conditions that need to be met, the importance of tooth type in endodontics and so on). Clinicians and commissioners are urged to apply the appropriate information and philosophy described within these diagrams for guidance around individual cases.

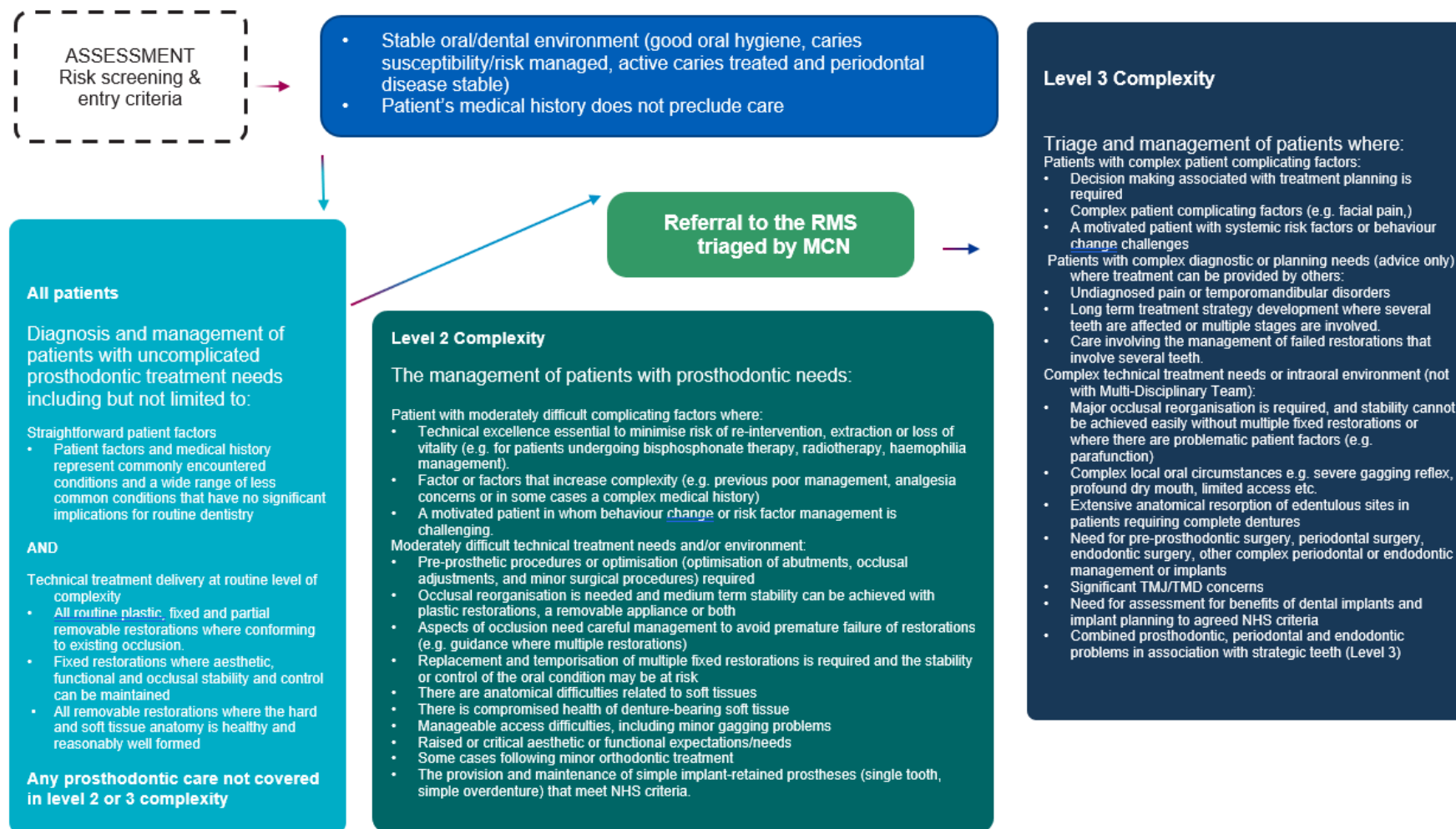
2.2.4 Complexity assessment: levels of periodontal care



2.2.5 Complexity assessment: levels of endodontic care



2.2.6 Complexity assessment: levels of prosthodontic care



3. Assessing need

3.1 Population

The need for restorative dentistry arises predominantly from diseases of the teeth and soft tissues and, to a lesser extent, from trauma and congenital conditions. Assessing clinical need for an individual patient is a basic part of a clinician's role but assessing the overall need for a population of patients is a challenge for commissioners. The need for complex treatments may occur many years after the damage caused by these diseases.

The main diseases are as follows:

- Dental caries (tooth decay) either as a new cavity in a tooth or as a recurring cavity beyond an existing restoration (according to the WHO-commissioned [Global Burden of Disease Study](#)", one of the most prevalent non-communicable diseases affecting humankind)
- Tooth surface loss (Abrasion/Attrition/Erosion)
- Periodontal disease (gum disease)
- Dental trauma
- Oral malignancy (cancer)

4. Local office approach of commissioning intentions

4.1 Performance indicators

Below are those performance indicators that should be collected as standard so benchmarking can be carried out across service providers:

- PREMs/PROMs as described in the [introductory guide to commissioning dental specialties](#)
- Waiting list information
- Waiting times for initial appointment
- Waiting times from assessment to treatment
- Numbers of failed attendances (FTA/DNA)

- Written care plans in place
- Details of treatment provided
- Serious Untoward Incidents (SUI) reported
- Planned and unplanned follow up appointments
- Plaudits and complaints
- Results of user and service audits and improvements

5. Clinical team

There are eight categories of clinical practitioners who provide NHS restorative dentistry:

- Primary care dentists working under GDS contracts/PDS agreements will provide the majority of routine restorative care.
- Primary care dentists with validated, enhanced skills will provide some specific services, often around specific procedures as part of a single item or course of treatment. This is currently a very small proportion of provision.
- Dental Care Professionals (DCPs – hygienists, hygiene/therapists and clinical dental technicians) make a major contribution to primary care, including in more advanced and specialist services.
- NHS consultants in various settings.
- Specialists working under NHS contracts.
- Trained specialist dentists working under NHS consultant supervision.
- Trainees who are already qualified dentists at various points in their careers, including those training to be specialists and consultants. Trainees make a significant contribution to the workforce treating level 3 (and level 2). Specialty trainees in restorative dentistry or mono-specialties funded by HEE or by universities who make a significant contribution to the specialty service.
- Undergraduate and postgraduate students are an important part of the workforce in areas where there is a teaching hospital. They work under

close supervision, often by specialists or consultants. Even at undergraduate level, exposure to cases that are beyond level 1 care complexity is an important part of training.

For some services, delivery of aspects of care at all levels is provided by hygienists, therapists and others. The scope for skill mix to make a cost-effective contribution across restorative dentistry services is considerable, important and currently underutilised.

6. Appendix 1

6.1 Periodontal care

Periodontal therapy is concerned with the management of disease that affects the tooth-supporting structures and is about managing gum disease. There are general health conditions that affect the periodontal ('gum') tissues, some of which require specialist care.

A white paper by the Economist Intelligence Unit (2021) demonstrated the largest return on investment resulted from effective home care to eliminate incident cases of gingivitis, but that diagnosis and treatment of 90% of periodontitis, whilst costly, also produced a positive return on investment.¹

Motivated patients who change behaviour (eg improved oral hygiene and/or stop smoking) can benefit from treatment, experiencing a low risk of progression and improved quality of life. Following treatment, continued daily effort by the patient and supportive periodontal care is a lifelong requirement due to the chronic nature of the condition.

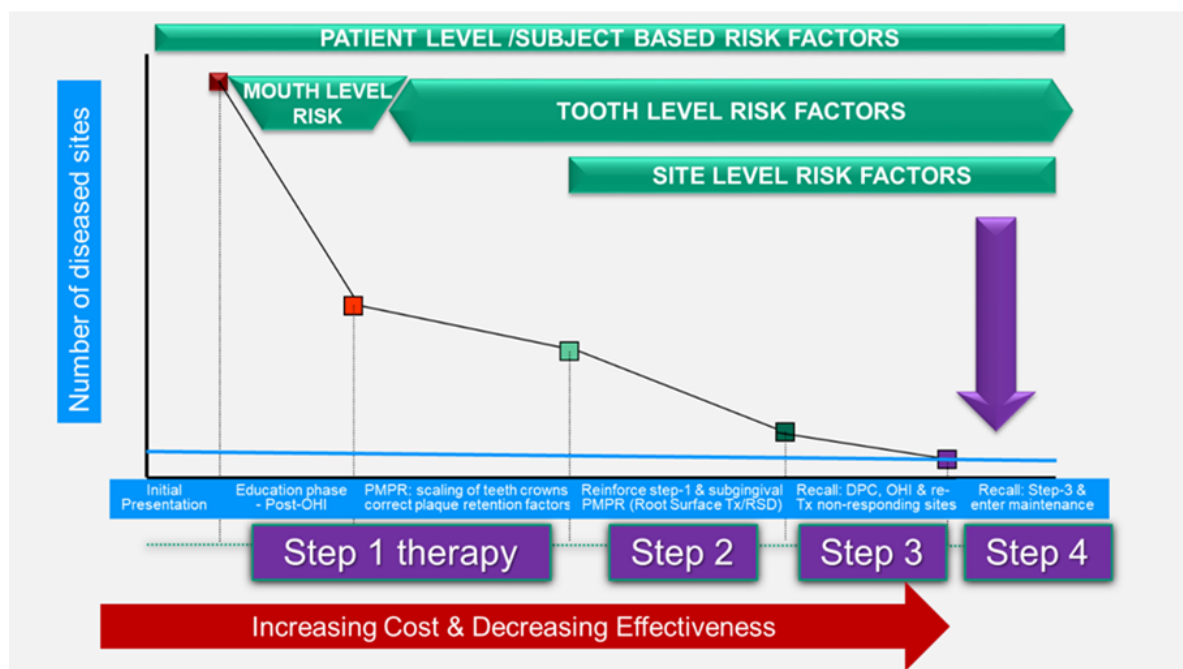
Successful management leads to tooth retention. Periodontitis also has systemic consequences and is an independent risk factor for several chronic systemic diseases, most notably type 2 diabetes.²

Efficient use of specialist periodontal resources will require effective responsive primary dental care. Figure 1 below is a schematic representation of the relative importance of the stages of periodontal care, illustrating the importance of self-performed oral hygiene following professional instruction.

¹ <https://eiperspectives.economist.com/healthcare/time-take-gum-disease-seriously-societal-and-economic-impact-periodontitis>.

² Sanz M, Ceriello A, Buysschaert M, Chapple I, Demmer RT, Graziani F et al. Scientific evidence on the links between periodontal diseases and diabetes: Consensus report and guidelines of the joint workshop on periodontal diseases and diabetes by the International Diabetes Federation and the European Federation of Periodontology. *Diabetes Res Clin Pract.* 2018 Mar;137:231-241. doi: 10.1016/j.diabres.2017.12.001.

Figure 1: Efficacy of different steps of therapy and associated multi-level risk assessment



Patients with significant disease who have good self-care but are not responding to therapy or who have complicating factors (eg uncontrolled diabetes) are best managed by dentists with enhanced training, skills and competency but only after initial management in primary care. Many primary dental care practitioners already provide periodontal care for patients with more complex needs.

Complex integrated care requiring cross-specialty planning, should be seen by consultants in Restorative Dentistry. Similarly, there are a range of medical conditions (eg autoimmune conditions, (various syndromes) with associated periodontal problems where joint medical and dental management is required

There is a need to recognise that some patients are best served by 'periodontal palliative care' programs where patient engagement is incompatible with achieving optimal periodontal health. Defining patient engagement and palliative care are challenging decisions and the current view in this area is defined in 6.1.1 and 6.1.2.

6.1.1 Defining patient engagement

The key to defining patient engagement in the primary care setting should reflect the change in plaque and bleeding scores rather than a specific threshold.

Therefore, the thresholds below are 'indicative', and the focus should be the change

achieved by the stage of referral. The figure of a 50% improvement may need to be modified in the light of experience gained from the implementation of such a system, to ensure level 2/3 care will be a valuable investment for all stakeholders engaged in the patient's care.

The plaque score can be performed on 'Ramfjord's teeth' (16, 12, 24, 36, 32, 44) at six sites per tooth (mesio-buccal, mid-buccal, mesio-buccal, mesio-lingual, mid-lingual, disto-lingual) using a periodontal probe. A +ve score is recorded where a continuous line of plaque is evident on a surface as detected by probing, or ideally following disclosing of those teeth.

Non-Engaging Patient:

Unfavourable response to self-care advice & insufficient improvement in oral hygiene as indicated by less than a 50% improvement in plaque and marginal bleeding scores, OR:

- Indicative Plaque Levels >20%,
- Indicative Bleeding Levels >30% (10% in a Level 2/3 setting)
- OR a stated preference to palliative approach (below):

Engaging Patient:

Favourable response to self-care advice and sufficient improvement in oral hygiene as indicated a 50% or greater improvement in plaque and marginal bleeding scores, OR:

- Indicative Plaque Levels <20%,
- Indicative Bleeding Levels <30% (10% in a Level 2/3 setting)
- AND a stated preference to achieving periodontal health

Non-engaging patients should be reviewed in accordance with national guidelines for simple supportive periodontal care, including re-motivation towards local and systemic risk factor correction and for calculus removal (step-1 of care). If they start to engage, but clinical outcomes do not improve following step-2 of care, then referral may then become indicated.

For patients with medical or physical complications to achieving optimal risk factor control, referral may be indicated earlier (see Levels of care flow chart)

6.1.2 Palliative periodontal care

Palliative periodontal care (PPC) refers to a simple and cost-effective maintenance protocol that involves regular removal of stain, and calculus and re-motivation of patients. Such brief intervention protocols may be performed by DCPs and have been shown to improve the length of tooth retention; however, they are far less effective than a full treatment protocol involving subgingival PMPR (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 diagram below shows the complexity levels by stage & grade of periodontitis using British Society of Periodontology and Implant Dentistry Implementation of the 2017 Classification of Periodontal Diseases & Conditions.³

These stages and grades have been mapped to demonstrate the complexity level at which treatment should be managed, following initial care provision within Level-1. The below table assumes that appropriate primary care has been undertaken using steps 1 and 2 of the BSPs S3-Level treatment guidelines.

For patients with stage III (severe) or stage IV (very severe) periodontitis, the remit of practitioners commissioned for Level-1, 2 and 3 complexity care, and how the patient pathway flows between levels is summarised in a simple flow chart under Appendix 2 of the BSP guidance [here](#), which must be read in conjunction with the table below.

³ Dietrich, Ower P, Tank M, West N, Walter C, Needleman I, Hughes FJ, Wadia R, Milward MR, Hodge P, Chapple ILC. "Periodontal diagnosis in the context of the 2017 classification system of periodontal diseases and conditions—implementation in clinical practice". *British dental journal*, 2019, 226 (1): 16-22.

		Stage			
		I	II	III	IV
Grade	A	Level 1	Level 1	Level 2	Level 3
	B	Level 1	Level 2	Level 3	Level 3
	C	Level 2	Level 3	Level 3	Level 3

*It is recognised the Stage I grade C is an unlikely scenario but Level-2 care would be indicated.

6.2 Endodontic care

Endodontic treatment is 'root canal treatment'. Endodontic procedures are designed to maintain the root and remaining tooth tissue. This is usually carried out by root canal treatment, occasionally in combination with surgical endodontics.

Specialist endodontic care is required for the most complex of tooth anatomy and complicated retreatments as well as some surgery. Specialists and consultants also have an important role in assessing the suitability of a tooth for complex intervention and managing scarce resources to best clinical effect.

6.3 Prosthodontic care

The majority of prosthodontic procedures are provided by primary dental care practitioners whilst some aspects of this care can also be provided by other appropriately trained and skilled dental care professionals (clinical dental technicians and therapists).

The clinical 'mono-specialty' of Prosthodontics includes diagnosis, care planning and provision of clinical treatment across a broad range of care (crowns, bridges, dentures and occlusal splints) as well as providing and maintaining restorations retained by implants.

More complex prosthodontics relates to cases where the technical delivery requires specific additional skills and experience. Failed restorations are costly and damaging so delivering such treatment to a high technical standard is best provided by dental practitioners with enhanced experience, competency and additional skills

Particularly complex prosthodontics requires the full suite of skills and experience usually provided or overseen by a specialist Prosthodontist or consultant in

Restorative Dentistry. Maxillo-Facial Prosthodontics (reconstruction after surgery) is usually provided by consultants in Restorative Dentistry (or specialists working under their supervision) who work within multi-disciplinary / professional teams. Such care is generally delivered within a hospital setting.

In addition to treatment provision, specialists and consultants in Prosthodontics (and the wider specialty of Restorative Dentistry, are often required to provide advice, personalised care plans and second opinions regarding treatment for patients who can then be treated in primary care. This occurs where the delivery is relatively straightforward, but the planning is more complex.

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