Supportive Periodontal Treatment and Patient Compliance- A Review

Vijayendra Pandey¹, A.K. Sinha², Smriti Pandey³

Departments of ¹Periodontology, ²Community Medicine, Vananchal Dental College and Hospital, ³Private Practitioner, Jharkhand.

ABSTRACT:
Supportive periodontal treatment is defined as procedures that are performed at selected intervals to assist the periodontal patient in maintaining oral health. The diagnostic process should be based on a continuous monitoring of the multilevel risk profile. The time intervals between diagnostic assessments should be chosen based on the overall risk profile and the expected benefit for the patient. This article provides an overview about the role of patient compliance in the success of periodic supportive periodontal therapy (SPT) for the maintenance of periodontal health after active periodontal treatment.

Keywords: Supportive periodontal therapy; Patient compliance

Corresponding Author: Dr. Vijayendra Pandey, Reader Department Of Periodontology Vananchal Dental College And Hospital, Jharkhand, Email: vijayendrapandey2010@gmail.com

Received: 12-07-2014 Revised: 22-08-2014 Accepted: 12-09-2014


Introduction
Periodontitis is a multifactorial disease that encompasses the hard and soft tissue, microbial colonization (with or without invasion), inflammatory responses and adaptive immune responses.¹ Chronic periodontitis can be treated effectively using nonsurgical and surgical periodontal therapy.² It is generally agreed that periodic supportive periodontal therapy (SPT) is important for the maintenance of periodontal health after active periodontal treatment. SPT is defined as procedures that are performed at selected intervals to assist the periodontal patient in maintaining oral health. SPT programs typically include an update of the patient information, a clinical evaluation of the dentition and periodontium, removal of the dental biofilm, and a reinforcement of oral hygiene instruction.³⁴ Clinical diagnosis during supportive periodontal therapy (SPT) has to be based on the health status obtained following successful active periodontal treatment. This, in turn, means that new baseline parameters will have to be established once the treatment goals of active periodontal therapy are reached and periodontal health is restored.⁵ Under optimal circumstances, SPT would be able to maintain stable clinical attachment levels for many years. Hence, it is apt to determine the clinical parameters which may serve as early indicators for a new onset or recurrence of the periodontal disease process, i.e. reinfection and progression of periodontal breakdown of a previously treated periodontal site.⁶

Steps of Supportive Therapy
From a clinical point of view the stability of periodontal conditions reflects a dynamic equilibrium between bacterial challenge and an effective host response. Whenever changes occur in either of these aspects,
homeostasis is disturbed. Hence, it is evident that the diagnostic process must be based on a continuous monitoring of the multilevel risk profile. The time intervals between diagnostic assessments should be chosen based on the overall risk profile and the expected benefit for the patient. It should be understood that, so far, the use of individual risk profiles to determine the content and frequency of preventive services has been demonstrated to be very cost-effective.\textsuperscript{6,7,8} Steps of supportive therapy include review and update of medical and dental history, clinical examination, radiographic examination, assessment of disease status, assessment of oral hygiene status, treatment, communication and planning of next visit.\textsuperscript{9}

**Supportive periodontal therapy and patient compliance:** Compliance is defined as the extent to which the behavior of the patient (in terms of taking medications, following a recommended diet, or executing other lifestyle changes) adheres to the clinical prescription.\textsuperscript{10} Compliance with SPT can be evaluated on the basis of the rate of attendance at the recommended schedule of visits.\textsuperscript{4} Several investigations have indicated that only a minority of periodontal patients comply with the prescribed supportive periodontal care.\textsuperscript{11} Checchi et al.\textsuperscript{12} demonstrated that patients who engaged in poor compliance with SPT following active periodontal therapy were 5.6 times more likely to lose teeth than were regularly compliant patients. Wilson et al.\textsuperscript{13} indicated that a complete complier group retained more teeth than did erratic compliers. Miyamoto et al.\textsuperscript{14} suggested that the progress and recurrence of periodontal disease can be prevented in complete compliers by using SPT where as Ramfjord et al.\textsuperscript{15} suggested that periodic SPT can prevent the recurrence of periodontal disease even in patients with poor oral hygiene. Periodontal follow-up care varies greatly from therapist to therapist and from patient to patient; however, the typical maintenance appointment for patients with periodontal disease includes the following items:

- Chart review and update of medical and dental history
- Extra-oral clinical examination
- Oral examination, including
- Mucosal examination
- Dental examination
  - Dental caries, restorative and prosthetic evaluation, tooth mobility, fremitus
- Periodontal examination
  - Probing depths
  - Gingival recession
  - Furcation involvement
  - Gingivitis, bleeding upon probing
  - Gingival exudation
  - Levels of plaque and calculus
  - Occlusal examination
- Radiographic evaluation
- Personal oral hygiene review
- Possibly microbiological monitoring
- Removal of supragingival deposits
- Removal of subgingival accretions
- Behavior modification
- Oral hygiene instruction
- Control of risk factors; e.g., cessation of smoking
- Communication and planning of future patient appointments or referral

The typical maintenance appointment is 1 hour, and no more than 30-40 minutes is normally allocated to scaling and root planing. Presence of deep periodontal pockets and open furcations can require considerably longer treatment time.\textsuperscript{16}

**Patient risk assessment**

The patient's risk assessment for recurrence of periodontitis may be evaluated on the basis of a number of clinical conditions whereby no single parameter displays a more paramount role. The entire spectrum of risk factors and risk indicators ought to be evaluated simultaneously which include the following aspects:

1. Percentage of bleeding on probing,
2. Prevalence of residual pockets greater than 4 mm (5 mm),
3. Loss of teeth from a total of 28 teeth,
4. Loss of periodontal support in relation to the patient's age,
5. Systemic and genetic conditions, and
6. Environmental factors, such as cigarette smoking.

Each parameter has its own scale for minor, moderate and high-risk profiles.6

**Genetic Influences:** Not every individual is susceptible in the same way to the same amount of biofilm and/or bacteria. Experimental gingivitis studies from the 1970s found that even in the absence of oral hygiene for 21 days, some individuals did not develop gingivitis, while others had substantial inflammation within two weeks. The differences in gingivitis susceptibility were independent of both a quantitative difference in plaque accumulation and a qualitative difference in plaque content.17

**Smoking and Diabetes:** An environmental influence is an externally acquired aspect of health or behavior that increases the risk of disease. In periodontal disease, smoking and the presence of diabetes are two of the strongest and most well-established risk factors to date. The American Diabetes Association lists periodontal disease as one of the complications of diabetes, noting that one-third of people with diabetes have severe attachment loss of 5 millimeters (mm) or more. A current cigarette smoker is four times more likely to have periodontal disease than an individual who has never smoked. Studies indicate that smokers are more likely to have deeper probing depths, greater attachment loss, more bone loss, and fewer teeth. There is often more calculus but less inflammation. A dose-response relationship between smoking and periodontal disease has been observed, with the heaviest smokers having increased disease severity.17 People who have diabetes are about three times more likely to have periodontal disease than people without diabetes. Glycemic control plays a large role, with adults who have the poorest control exhibiting a greater prevalence and severity of inflammation and attachment loss. The way that diabetes impacts the periodontium is similar to the way it induces other diabetic complications. Diabetes has been shown to alter the immune response by impairing neutrophil adherence, chemotaxis, and phagocytosis. At the same time, there is evidence of a hyper-responsive monocyte/macrophage phenotype leading to increased production of pro-inflammatory mediators in the GCF. The level of cytokines in the GCF have been shown to correspond to glycemic control. Patients with poor control have been found to have GCF levels of IL-1β twice the level of people with good glycemic control. It is believed this increased amount of IL-1β may play a role in the increased inflammation, attachment, and bone loss observed in people with diabetes.17,18

Furthermore, it has been established that treated periodontal patients who comply with regular periodontal maintenance appointments have a better prognosis than patients who do not comply.16 Non- or poorly compliant patients should be considered to be at higher risk for periodontal disease progression.6

**Conclusion**

Patient compliance is the indicator for disease recurrence. Various studies show that the patients who were poorly compliant with SPT were more likely to lose teeth than regularly compliant patients. Thus this article concludes that patient compliance plays the major role in the success of periodic supportive periodontal therapy (SPT) for the maintenance of periodontal health after active periodontal treatment.

**References**


Source of Support: Nil
Conflict of Interest: None declared