

## Professional Care

### Creating Conditions that Enhance Oral Hygiene

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Active professional treatment should begin even as oral hygiene instruction, patient motivation and monitoring of home care are ongoing.

The patient cannot be expected to improve his oral hygiene if the preconditions for **optimum home care** are not simultaneously created (creation of hygienic capability).

Professional prophylaxis is particularly important in this regard, as well as elimination of any plaque-retentive areas that represent harbors for bacterial accumulation .

### *1-Tooth cleaning*

#### **Tooth Cleaning - Power-Driven Instruments**

- The removal of all stains, deposits and concrements comprises **the first phase of initial therapy**. It is also an important *preventive* measure in the healthy periodontium and the most significant postoperative measure following completion of periodontitis therapy.
- Thorough (comprehensive) tooth cleaning is performed during each recall appointments
- Difficult to remove stains resulting from medicaments (e.g., chlorhexidine), tobacco, and foodstuffs as well as dental plaque itself can be removed using instruments that provide a water-powder spray (e.g., Prophy-Jet).
- The sodium bicarbonate that is used in the water spray is abrasive for dentin and restorative materials and should only be used on enamel, with constant movement of the tip .
- Such devices are seldom completely effective in interdental areas and gingiva may be superficially injured. The spray should never be directed into the gingival sulcus (pocket).
- Stains and plaque can also be removed with abrasive pastes and rubber cups or brushes.
- Polishing strips accomplish cleaning in interdental areas.
- After removal of soft deposits, calculus becomes visible. Calculus itself is *not a* pathogen, but it is an excellent substrate for plaque accumulation and must be completely removed .

## **Tooth Cleaning - Hand Instruments, Prophy Pastes**

### **Scalers and currettes**

The largest masses of subgingival accretions are usually located only a few mm apical to the gingival margin. These should be removed during gross debridement, using **scalars** and **currettes** as necessary.

Gingival bleeding may occur even during very careful scaling as the ulcerated pocket epithelium is injured.

Hand scalars and currettes remain the most important, indispensable instruments for periodontal therapy and prophylaxis.

For the removal of soft deposits and stains, hand instruments are enhanced by the use of brushes, rubber cups and polishing strips with cleaning and polishing pastes.

Instruments for supragingival debridement include the straight *chisel*, straight and angled *scalars* and the *lingual scalar*.

On difficult-to-reach sites, in grooves and irregularities on the crown and the root, *currettes* may also be necessary for removal of supragingival accretions .

If subgingival deposits are to be removed initially, in so far as this is possible without anesthesia.

The slender *Gracey currettes*, which are sharpened on only one edge, are used almost exclusively for subgingival scaling and root planing in periodontitis patients.

### **Standardized prophy pastes .**

- Pastes are available according to abrasiveness.
- All are fluoride-containing
- If supragingival calculus is covered with thick (soft) deposits, these should be removed with brushes and coarse prophy paste before mechanical debridement. Whenever calculus is removed, the teeth should be polished afterwards with a *rubber cup and polishing paste* .
- The interdental area is finished with fine *polishing strips*.
- The effect of professional tooth cleaning in gingivitis is a massive reduction of supragingival plaque flora and calculus, which results in healing of the marginal gingival inflammation.

## *2- Creation of Conditions that Enhance Oral Hygiene*

### **Removal of Iatrogenic Irritants**

Extreme inconsistencies of restoration margins (also depressible clasps etc.) can irritate the gingiva and periodontium directly (mechanically). More important than such direct irritation, however, is the fact that even minor imperfections of dental restorative work represent plaque-retentive areas. The result at such locations is gingival inflammation and, over the long term, possibly periodontal destruction.

The finishing and polishing of all restoration faces can be performed with fine diamonds (water cooling), round burs and finishing burs and disks.

All imperfect dental restorations are corrected with the **goal** of creating smooth supra- and subgingival tooth surfaces as well as impeccable transition areas between natural tooth structure and the margins of restorations and crowns.

Only when this is done will it be possible for the patient to achieve perfect interdental hygiene: "Creation of hygiene capability."

### **The most important iatrogenic irritants are**

- rough, poorly contoured restorations
- overhangs of restoration margins
- open crown margins located subgingivally
- improperly contoured bridge pontics
- depressible clasps, prosthesis saddles etc., which can injure the periodontium directly.

### **Recontouring and polishing old amalgam restorations - Instruments**

Special polishing diamonds Amalgashape system, finishing burs and rubber polishing wheels etc. are used in the handpiece for recontouring and re-polishing old amalgam restorations.

### **Mechanical files**

Power-driven filing with water cooling is available with the EVA system. Using the thin, flexible, one sided diamond-coated Proxoshape files, it is possible to remove overhangs and polish tooth/restoration surfaces in narrow interdental spaces.

### **Overhanging Crown Margins**

The open margins of full cast crowns that extend below the gingival margin represent particularly massive iatrogenic irritants that can lead to destruction of periodontal tissues.

It is commonly accepted that subgingival margins represent potential plaque-retentive areas that can foster caries and periodontal involvement but there is no proof that a subgingival margin is caries-prophylactic.

Compromises should only be tolerated for esthetic reasons in the anterior area.

### **Bridge Pontics**

Pontics in the *anterior area* should lightly contact the attached gingiva at a point or along a line .

A pontic should never extend onto the mobile oral mucosa. There must be no pressure exerted upon the marginal gingiva of the adjacent abutment teeth.

In *posterior areas*, where esthetics is not

a consideration, it is often beneficial to leave 2 mm of space beneath Pontics to facilitate use of hygiene aids in the removal of plaque *under* the pontic.

### **Metal Pigmentation**

The cervical extent of fixed restorations, from a simple amalgam to extensive bridgework should be located **supragingivally** whenever possible, and should exhibit optimum closure at the margins.

Correction of inadequate fixed restorations can be difficult, and does not always lead to the desired result.

In addition, attempting to correct subgingival inadequacies in fixed restorations is almost always accompanied by gingival trauma. Metal dust or fine particles of metal may become sequestered within the soft tissue, usually without any clinical sequelae.

Silver amalgam lodged in soft tissue often presents as a clinical "**tattoo**" that is esthetically undesirable. A foreign body reaction can be observed histologically. Amalgam particles may be phagocytosed by connective tissue cells, decomposed and transported within the tissue, leading to expansion of the clinical tattoo .

### ***3-Removal of natural Plaque-Retentive Areas .***

The deep and usually active periodontal pockets surrounding hopeless teeth represent enormous bacterial reservoirs. These endanger the interdental septa of adjacent teeth and therefore the periodontal support of these teeth may continue to be compromised.

Before extraction of a hopeless tooth, any restorations in the adjacent teeth should be polished .

Immediately after extraction, the interproximal crown and root surfaces of the adjacent teeth can be cleaned and polished.

## **Removal of Natural Plaque-Retentive Areas Odontoplasty of Grooves, Ridges, Irregularities**

- natural morphology of a tooth manifests grooves, irregularities, depressions etc. on both the crown and the root.
- In a healthy dentition, these can usually be cleaned adequately with the toothbrush and interdental hygiene aids. However, morphologic anomalies that represent plaque-retentive areas may be found at the cervical aspect of some roots.
- Frequently encountered are *narrow grooves* that extend apically from the lingual pit of an incisor far down the root surface.

## **Reduction of Plaque-Retentive Areas Caused by Crowding - Odontoplasty**

Crowding of teeth is one of the few tooth positional anomalies that can be of significance indirectly in the etiology of gingivitis and periodontitis. This has less to do with functional Occlusal factors than with the accumulation of plaque that occurs around crowded teeth, coupled with the fact that the patient has difficulty keeping the area clean.

Extensive orthodontic treatment including selective extractions is often refused by adults due to the cost in time, effort and money.

Careful *odontoplasty* of crowded teeth is an alternative to orthodontic treatment, albeit a limited alternative. Such recontouring also may enhance the esthetic situation. The corrections are performed *only in enamel* fine diamonds.