DENTURE CLEANSERS AND COMPLETE DENTURE COMPLAINTS (I)

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Denture Cleansers

- There is a wide range of denture cleansers available over the counter.
- Surveys showed that elderly patient face difficulty cleaning his denture and find it easier to continue wearing a dirty denture.
- Misuse or abuse of approved cleaning methods or the use of alternative regimens e.g. prolonged or frequent soaking in household bleach might deteriorate the denture mechanical properties.

Requirements of Denture Cleansers

1. Non-toxic, non-irritant.
2. Easy to apply and remove without residues.
3. Remove the organic portion of denture deposits.
4. Remove the inorganic portion of denture deposits (mainly calcium phosphate and calcium carbonate).

Types of Denture Cleansers

1. Mechanical action denture cleansers.

These include:

1. Abrasive pastes used with brushes (Dentucreme, Boots Denture Paste). Hard brushes + pressure → abrasion.
2. Ultrasonic cleaners: Suitable for handicapped patients or patients with impaired manual dexterity.

Types of Denture Cleansers

2. Chemical action denture cleansers.

These include:

1. Effervescent perioxides (Steradent).
2. Alkaline hypochlorite (Dentural, Milton).
3. Acids (Denclen, Deepclean).
4. Disinfectants (chlorhexidine).
5. Enzymes (Kobayashi, Polident).

Effervescent peroxides

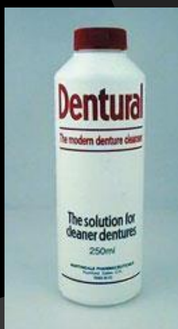
- Powder or tablet releases oxygen on mixing with water.
- Can be acidic, alkaline or neutral.
- Simple to handle and effective with low to medium stain and calculus accumulations.
- Use of very hot water and prolonged exposure may lead to bleaching of acrylic resin.
- Have possible mechanical effect through oxygen release.

Effervescent peroxides

- Limited antibacterial effect.
- Will not remove calculus.
- Some brands are mixed with proteolytic and yeastlytic enzymes that degrade the proteins in the plaque increasing its effectiveness.

Alkaline Hypochlorite

- Superior cleaning properties.
- Dissolves plaque and inhibits plaque formation.
- Superior stain removal properties.
- Some bactericidal and fungicidal properties.
- Disadvantage: excessive bleaching is possible and corrosion of metals, residual taste and odor.



Acids

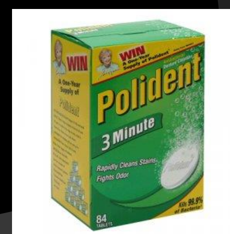
- Less popular.
- Useful for stubborn stains and calcified deposits.
- Disadvantage: cause corrosion to metals.

Disinfectants

- Chlorhexidine is recommended as an adjunct in denture induced stomatitis, denture should be soaked 15 minutes twice daily.
- Disadvantage: Brown staining.

Enzymes

- When incorporated with other cleansers the proteolytic and yeastlytic effect increase action.



Reducing the Incidence of Denture Stomatitis: Are Denture Cleansers Sufficient?

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Steradent Active Plus, Dentural, Medical ™ Interporous

Conclusions: This study showed that denture cleansers exhibit effective anti-*C. albicans* biofilm activity, both in terms of removal and disinfection; however, residual biofilm retention that could lead to regrowth and denture colonization was observed. Therefore, alternative mechanical disruptive methods are required to enhance biofilm removal.

Recommendations

- After each meal, denture should be rinsed and gently brushed with soap and water.

Recommendations

- For acrylic resin dentures:
  Alkaline hypochlorite solution should be used by soaking the denture for 20 minutes in the evening and then rinsed and soaked in cold water overnight.
  Occasional use of acid cleansers helps against stubborn stains and calculus.

Recommendations

- For metal based dentures:
  Alkaline peroxides are suitable for use (15 minutes soaking).
  Alkaline hypochlorites can be used for short periods (10 minutes) otherwise metals will get discolored and corroded.
  Acid cleaners are contraindicated.

Recommendations

- For Dentures with temporary soft liners (like Viscogel and CoeComfort):
  No brushing is allowed.
  Effervescent peroxides should not be used as these cause bubbling.
  Rinse denture and soak daily for 20 minutes in hypochlorite cleaner.
  Material should be replaced frequently.
  Hypochlorite use results in prolonged taste and odor.

Recommendations

- For Dentures with permanent resilient soft liners (like the silicon Molloplast B or KG or the acrylic Coe super soft):
  Brush lightly with soft brush and use same regime as for temporary soft liners.
  If a metal strengthener is incorporated, don't soak for more than 10 minutes.

Recommendations

- For Dentures with denture fixatives:
  Repeated use of the denture without the use of denture cleaners will produce mal odor and enhance plaque and calculus accumulations resulting in stomatitis.
  It is essential to remove fixatives and clean denture fresh material is used.

Advantages of denture cleanliness

- Prevent mal odor.
- Produce better esthetics.
- Prevent plaque and calculus accumulations and prevent damage to mucosa.

- **Care of:**

DenturesPlastic dentures

Dentures should always be cleaned over a basin of water to minimise to risk of breakage should they be dropped.

- Rinse denture after every meal and remove debris by brushing with a soft brush, soap and cold water.
- Soak denture in an alkaline hypochlorite soaking solution e.g. baby bottle sterilizing solution, "Milton" or "Dentural" for 20 minutes in the evening.
- Rinse thoroughly with cold water and soak in cold water overnight.

Metal and plastic

Rinse denture after every meal and remove debris by brushing with a soft brush, soap and cold water.

- Soak denture in an alkaline peroxide solution (e.g. "Steradent") for 15 minutes or an alkaline hypochlorite solution ("Dentural" or "Milton") for 10 minutes in the evening. Rinse denture thoroughly with cold water and soak in cold water overnight. Do not use acid cleansers.

Temporary soft linings

Rinse denture after every meal with cold water.

- Soak denture in an alkaline hypochlorite solution ("Dentural" or "Milton") for 20 minutes.
- Rinse thoroughly with cold water.
- Do not use alkaline peroxide cleansers.

Permanent soft linings

Rinse denture after every meal and remove debris by brushing with a soft brush, soap and cold water.

- Soak denture in an alkaline hypochlorite solution ("Dentural" or "Milton") for 20 minutes in the evening.
- Rinse denture thoroughly with cold water and soak in cold water overnight.
- Advice provided by the Britsh Dental Association

POST-INSERTION COMPLAINTS

The review appointment

- The patient's comments on the performance of the dentures, coupled with a thorough clinical examination, will usually indicate the nature, location, and probable cause of any problems which they might be experiencing.

Denture Complaints in relation to time of delivery

- Immediate complaints.
- Delayed complaints.
- Problems with no complaints !!!

Presentation of patient with complaints

- Informed patient of possible problems.
- Un-informed patient:
  - Sense of pain.
  - Sense of loss (waste of time and money).
  - Sense of deceit.

Categories of Complete Denture Complaints

- Pain and discomfort.
- Appearance.
- Inability to eat.
- Lack of retention and instability.
- Clicking of teeth.
- Nausea.
- Inability to tolerate dentures.
- Altered speech.
- Biting the cheek and tongue.
- Food under the denture.
- Inability to keep denture clean.

Pain and Discomfort

Causes:

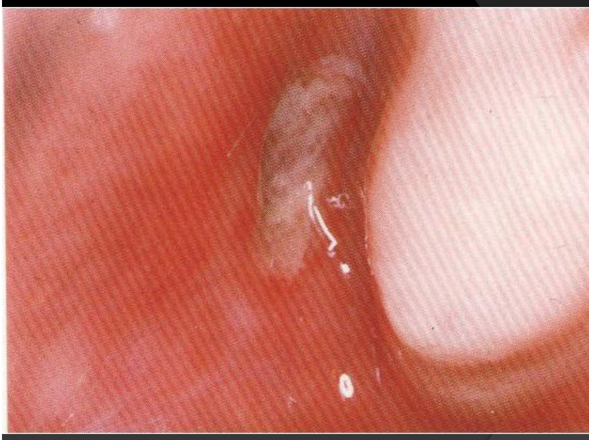
- Over-extension of the periphery.
- Poor fit.
- Insufficient relief.
- Occlusal faults:
  - Wrong antero-posterior relationship.
  - Uneven pressure.
  - Excessive vertical dimension.
  - Insufficient vertical dimension.
  - Cuspal interference.
- Teeth off the ridge.
- Retained root or unerupted tooth.
- Narrow resorbed ridge.
- Mental foramen.
- Irregular resorption.
- Rough contact or fitting surface.
- Swallowing and sore throat.
- Undercuts.

Over-extension of the periphery

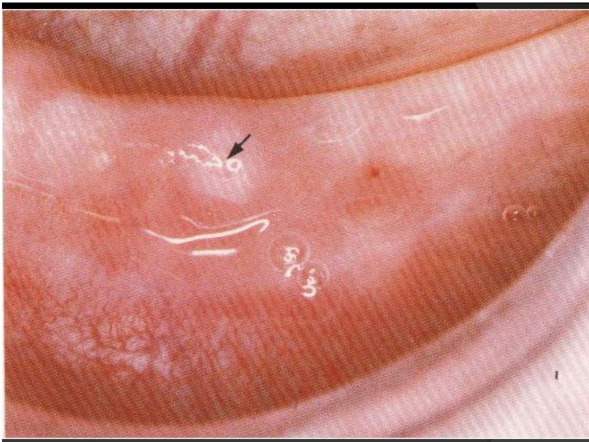
- The most common cause of pain.
- Impression errors.
- Corresponds to hyperaemic area or ulcer.

Treatment:

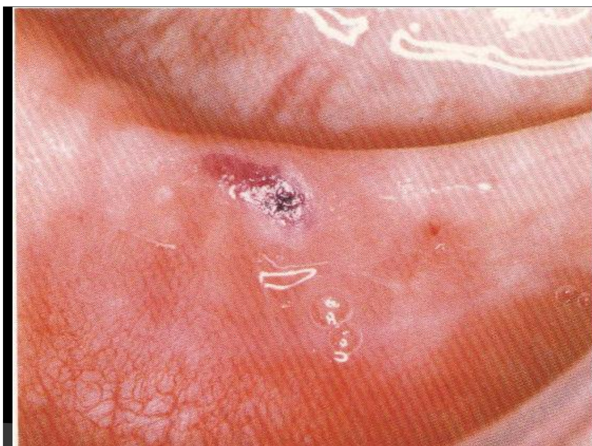
- Pressure indicating paste to periphery of denture or:
- Methylene blue or indelible pencil to injured mucosa.
- Ease periphery with a bur, and polish it.
- The complaint might be delayed: here it is due to ridge resorption and often it is accompanied by hyperplasia. In this case the cut back denture should be lined with tissue conditioner. When the hyperplastic region has been reduced a new denture should be constructed.



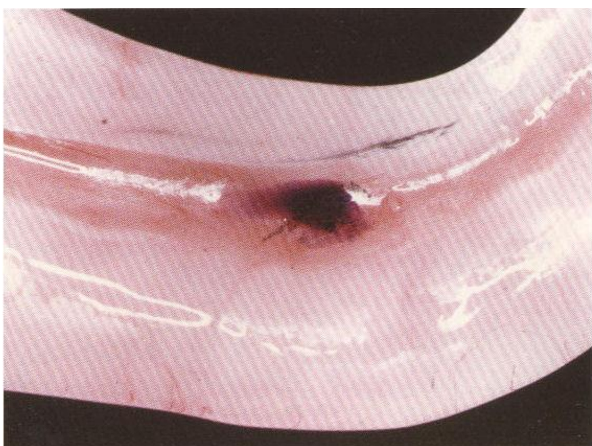
- The relationship between a small ulcer, and the fitting surface of the denture may be more difficult to establish.



- An alternative technique is to mark the ulcer with an indelible pencil.



- The ink can then be transferred to the fitting surface of the prosthesis, greatly facilitating correction



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Poor fit

- Poor denture retention, rocking unseating in any position.
- Denture movement over the mucosa will cause pain and areas of inflammation might be present.

Treatment:

- Tissue conditioner to existing denture.
- Construct a new denture.

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Insufficient relief

- Areas to be relieved of the denture:
  - Prominent bony areas (buccal canine region).
  - Bony tori (maxillary or mandibular).

Treatment:

- Apply pressure indicating paste to demarcate the area and ease the fitting surface of the denture.

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Wrong anteroposterior relationship

- Mismatch of ICP and RCP.
- Interdigitation of teeth locks the dentures together, while the patient will not feel comfortable in that situation. Trials to retrude the mandible will rub the denture against the mucosa. This will cause pain and looseness .

Treatment:

- Slight error: check record, remounting, and grinding of teeth.
- Gross: place occlusal pivots to reposition lower dentures. Remake lower denture.

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Uneven pressure

- Error in setting artificial teeth, resulting in the tilting of trial dentures.
- Pain is confined to the crest of the ridge on one side, and may be related to buccal aspect of the ridge on one side and lingual aspect of the ridge on the other side as the problem causes tilting of the denture (it is mainly the lower).
- Diagnosis: by trying to insert a mylar strip or thin articulating paper on either side with the patient closing just to hold it without reaching the tilting point of the denture bases.

Uneven pressure

Treatment:

- Slight error: chair side occlusal grinding.
- Moderate errors: clinical remount.
- Severe errors: add tooth colored self-cured acrylic resin over posterior teeth in area of light occlusion, then either remake denture or replace posterior teeth.

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Excessive vertical dimension

- Error during registration stage or incomplete closure of the denture flasks.
- Pain on crest of lower ridge.
- Easing gives immediate temporary relief of pain that will come back few days later at a different site.
- Complaint: teeth jar, clatter, too high or in the way.

Treatment:
- If occlusal plane of upper denture is acceptable, replace teeth on lower denture or make a new lower denture.
- Otherwise: new upper and lower denture.

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Insufficient vertical dimension

- This condition is often a delayed one not immediate.
- Results from the alveolar ridge resorption and/or acrylic teeth attrition.
- Indefinite location of pain.
- May be associated with temporomandibular joint dysfunction.

Treatment:
- Use of occlusal pivots to stabilize the occlusion, followed by new dentures.

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Cuspal interference

- Dragging action will be exerted on both dentures during lateral and protrusive movements with teeth in contact if cusped posterior teeth are used or if excessive incisal guidance angle has been used.
- Dragging will cause pain on retentive dentures or instability with loose ones.
- Pain is widely distributed, and only experienced on eating.
- Sore areas on buccal or lingual surfaces of ridges.

Treatment
- Slight: chair side grinding or clinical remount.
- Gross: new dentures with balanced occlusion.

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Teeth off the ridge

- Pain in upper buccal sulci and tuberosities.
- Upper teeth are often too far buccally (to meet occlusion in cases of skeletal class III).
- During function, upper denture will tilt, digging the periphery into the mucosa on the working side, and pulling it down the tuberosity on the opposite side.