

Single Complete Dentures

Maxillary Single Dentures



- More common
- Teeth usually lost before their mandibular antagonists

Construction of a maxillary complete denture opposing a natural mandibular dentition

- Life will not be so difficult as we have a much more stable base with a maxillary denture
- Again ensure that the opposing dentition can be made level

Single Dentures

- More difficult
- Tooth malpositions decrease stability (extrusion, tipping, rotation)
- Difficulty balancing



Preparing Plane of Occlusion



Individual Tooth Modifications

- **Sharp Unworn Cusps**
 - Reduce cuspal inclination
- **Heavily Abraded Teeth**
 - Reduce Bu-Li width

Construction of a mandibular complete denture opposing a natural maxillary dentition

- Life would be simpler if you are never confronted with this problem.
- Avoid creating this situation if possible
- If construction of this denture is unavoidable ensure that the opposing teeth are on a level plane

Mandibular Single Dentures

- **Avoid when possible**
- **Severe ridge resorption due to force**
- **Stress reduction should be used**
 - **Processed resilient denture liner**
 - **Overdenture**
 - **Implant retained denture**

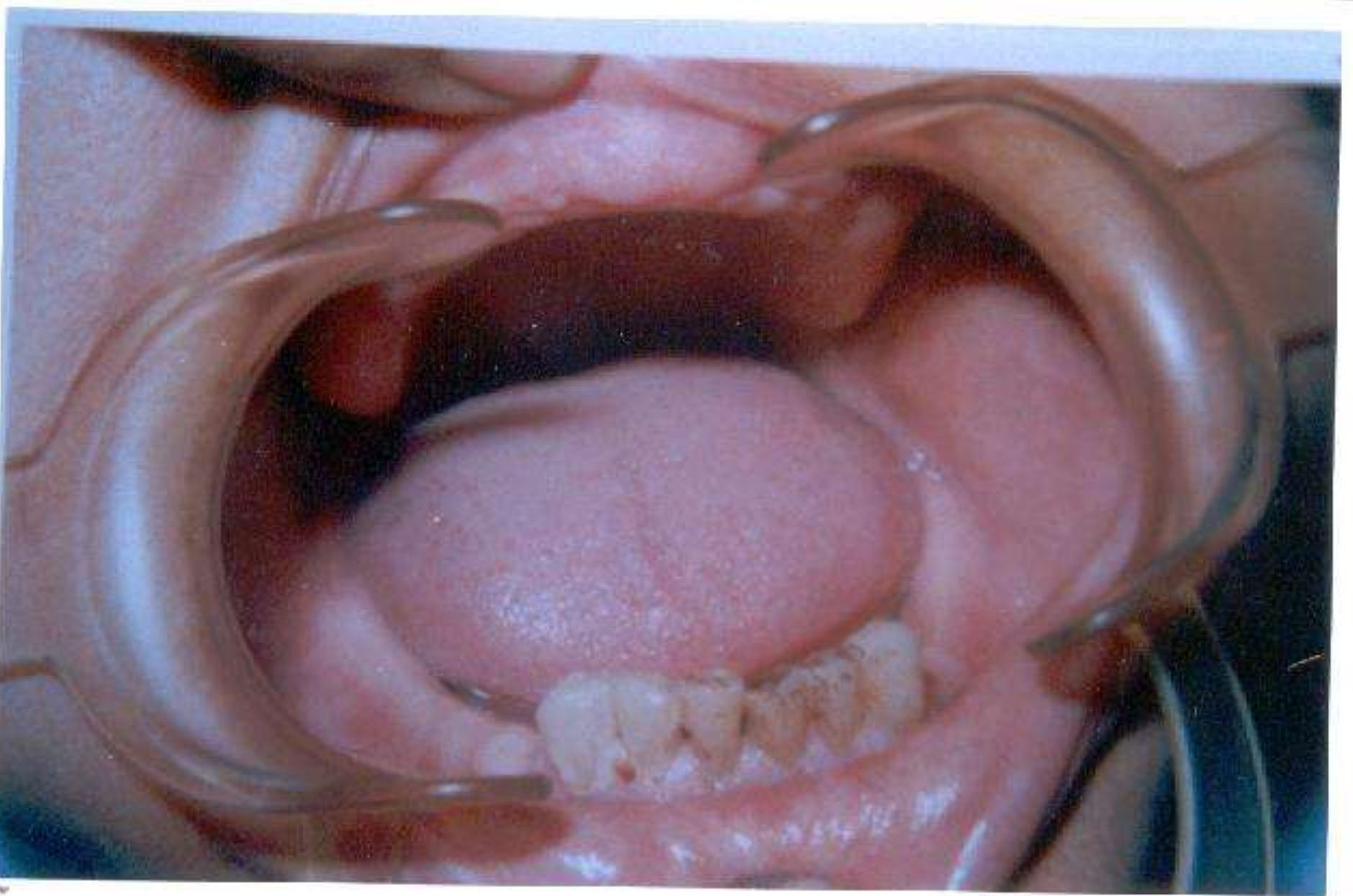
Other Strategies

- leave roots for over-denture support
- temporary soft liners replaced on a regular basis
- permanent soft liners

Single Dentures

- More difficult
- Greater force causes
 - Displacement
 - Fracture due to flexure
 - Severe residual ridge resorption











1) The subsequent problems with single denture against natural teeth

2) How to overcome these problems.

3) Combination syndrome and associated changes (Kelly syndrome)

4) Recording intermaxillary relations for single denture.

5) Occlusion and articulation

A) Tooth modification and occlusal adjustment:

i) Swenson technique

ii) Bruce technique.

iii) Yurkstas technique.

iv) Boucher technique.

B) Common occlusal disharmonies.

6) Methods used to achieve balance articulation

I) Statically equilibrated occlusion using a programmed articulator to simulate the patient mandibular movement .

a) Articulator equilibrated technique

b) Articulator generated path technique

The subsequent problems with single denture against natural teeth

- 1) Firmness and rigidity in which the natural teeth retained in bone.**
- 2) the occlusal form of the remaining natural teeth.**
- 3) Esthetic problems due to the fixed position of the mandibular teeth.**
- 4) The abrasion of the acrylics or natural teeth**

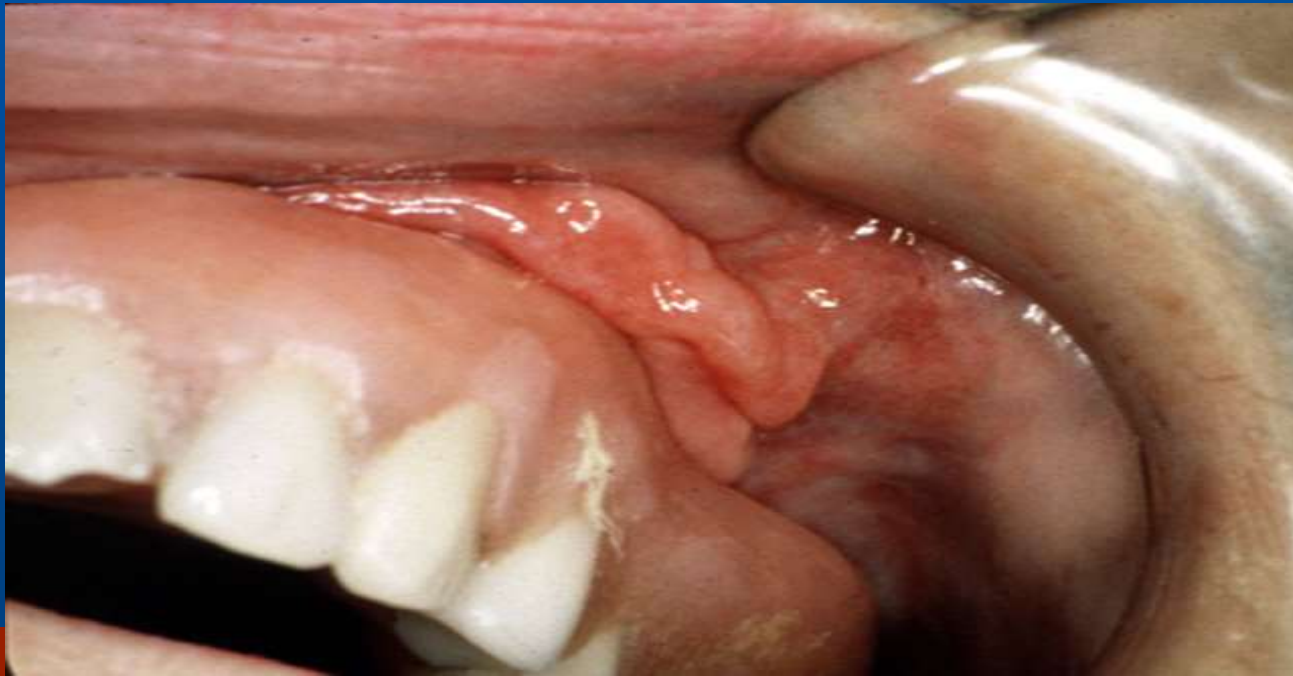
2)How to overcome these problems.

- **Proper diagnosis , proper denture construction procedures.**
- **Dissipation of occlusal forces along the denture base.**
- **Appropriate preparation of the remaining natural teeth.**

3) Combination syndrome and associated changes (Kelly syndrome)

It appears during construction of mandibular distal extension partial denture against a complete maxillary denture and includes:

- 1) Loss of bone from the maxillary anterior edentulous ridge**
- 2) Down growth of maxillary tubersity.**
- 3) Papillary hyperplasia of the tissues in the hard palate.**
- 4) Extrusion of the lower anterior teeth**
- 5) loss of bone beneath the removable partial denture bases,**



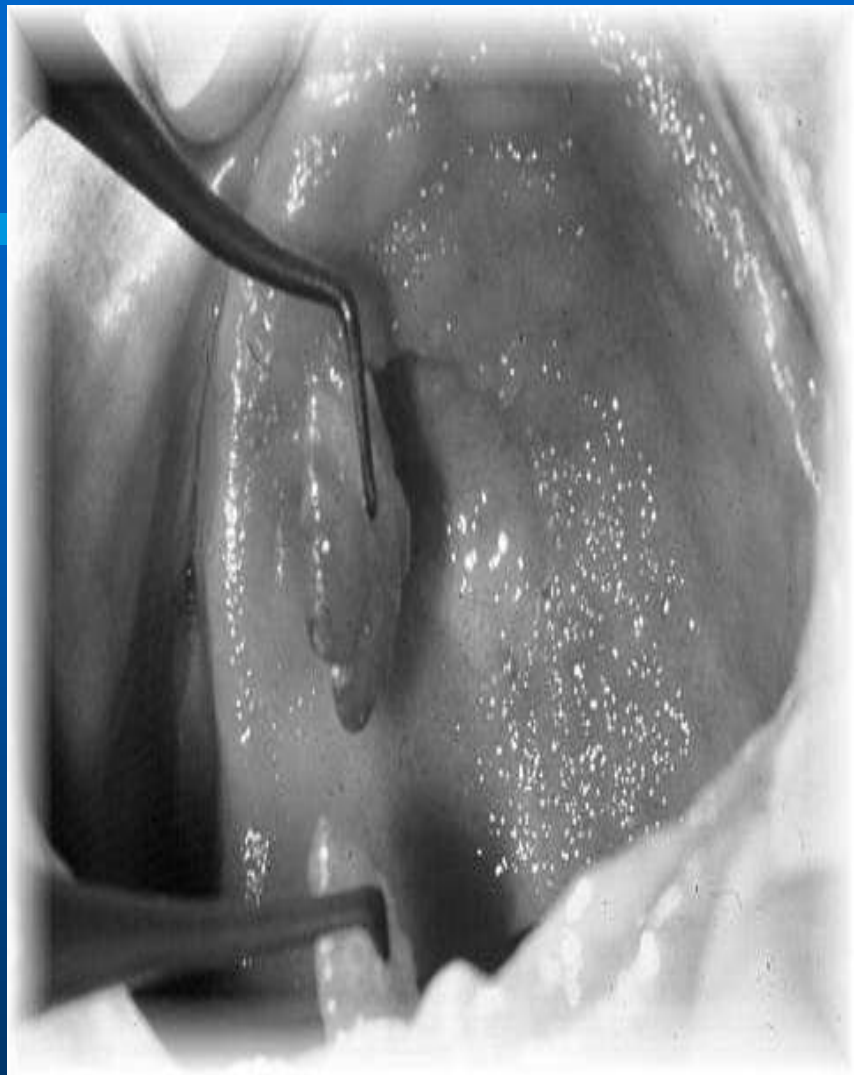


Fig. 22

Combination syndrome has six associated changes:

- 1) loss of vertical dimension of occlusion.**
- 2) Occlusal plane discrepancy.**
- 3) Anterior spatial resumption of the mandible .**
- 4) Development of epulis fissuratum.**
- 5) Poor adaptation of the prosthesis.**
- 6) Periodontal changes.**

This syndrome is a result of great magnitude of force, the unsuitability of the denture foundation to resist them, and the unfavorable occlusal relationship.

4) Recording intermaxillary relations for single denture.

- 1) Freeing the anterior occlusion rim.**
- 2) Using gothic arch tracer for centric relation, or using zinc oxide paste or wax for recording centric relation.**

Avoid a Single Denture Against Anterior Teeth Alone

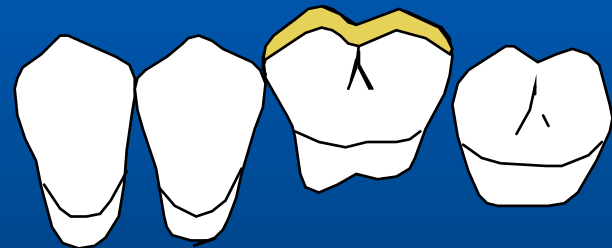
- Resorption
- Loosening
- Fracture
- Combination Syndrome



Single Complete Dentures

- Reduce cusps in shaded area, to level plane of occlusion

Severe Curve of Spee



Supereruption

Mock adjustment can be performed on a diagnostic cast



Single Complete Denture

- **Occlusal adjustment of natural teeth**
 - **Reduce severe curve of Spee level**
 - **supraeruptions**
 - **Recontour rotated teeth**
 - **to permit contacts on flat surfaces**



Avoid a Single Denture Against Anterior Teeth Alone

- Fabricate a RPD for Stress Distribution
- Make CD & RPD at the same time
 - Ensures optimal occlusion



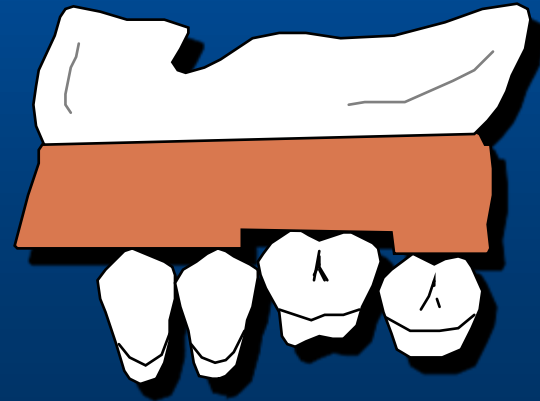
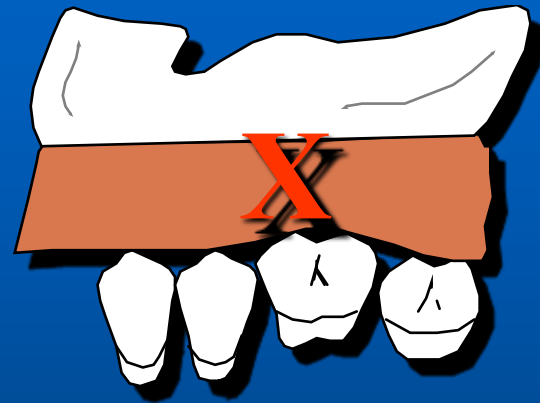
Occlusion Rims

- Use to establish OVD, NOT Incisal Display
- Overbite will be incorporated when anterior teeth are set, lengthening incisal edges



Occlusion Rims

- Flat Surface for Opposing Teeth
 - No inclines
 - If steps in occlusal plane, provide flat areas for opposing natural teeth



Maxillo-Mandibular Relations

- Occlusion Rims on RPD framework
- Opposes CD Rims
- Centric and eccentric records with Alluwax
- Optimizes occlusion



Maxillo-Mandibular Relations

- Crowns or bridges should be waxed up against the CD tooth setup
- Optimizes occlusion
- Ensures, changes can be made



Maxillo - Mandibular Relations

- **Centric Registration**
 - **Extraoral hand position if opposing natural dentition (less obtrusive)**



Setting Anterior Teeth

- **More difficult**
 - **Setting for esthetics may produce excessive overbite with natural teeth**
 - **Decreases stability**
 - **Compromised position, used to balance need for esthetics & function**



) Occlusion and articulation

A) Tooth modification and occlusal adjustment:

- i) Swenson technique: Repeated diagnostic casts with modifications to the natural teeth.**
- ii) Bruce technique: using clear acrylic resin with pressure indicating paste in the fitting surface.**

iii) Yurkstas technique: Using a metal U shaped occlusal template that is slightly convex on the lower surface.

iv) Boucher technique:

Using porcelain teeth to grind the stone teeth .

Common occlusal disharmonies.



Posterior Denture Teeth

- Requires more adjustment to obtain stable centric contacts
 - Denture teeth will not normally articulate well with natural dentition
 - Pinpoint contacts/inclines, etc.

Cast Metal Denture Base

- Use if denture fractures repeatedly
- Usual causes:
 - Heavy forces from natural teeth
 - Occlusal contacts on inclines
 - Impingement on a bony midline
 - flexing of the denture



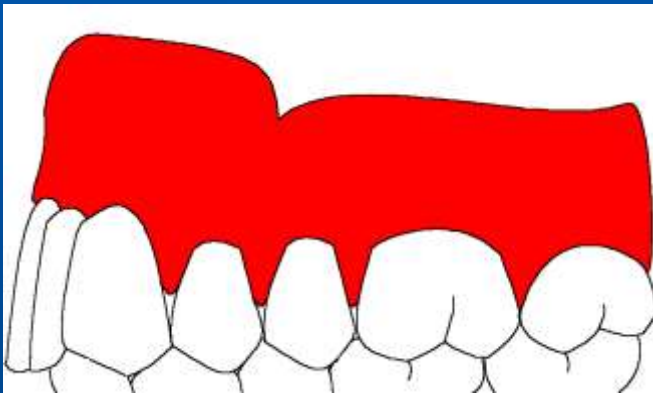
Denture Teeth Wear

- More rapid against natural teeth
- More frequent recalls
- Adjust occlusion to prevent changes in stress distribution

Denture Teeth Wear More Rapidly

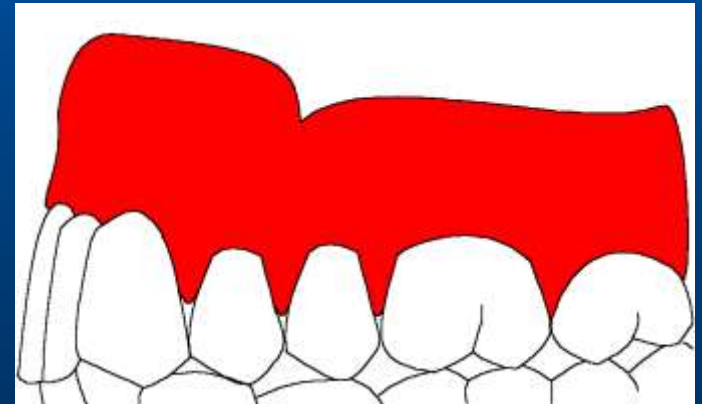
- **Never use porcelain denture teeth**
 - Severe attrition of natural teeth
 - Prefer denture teeth to wear

When the occlusal plane has been levelled , what type of occlusion will we have?



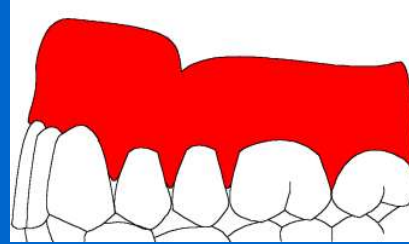
this

or



this

The second choice is more likely because:



- natural tooth guidance would have a tendency to dislodge the denture
- the natural teeth are seldom situated in positions that allow the cusp to fossae, cusp to embrassure relationship

The Golden Rule

for this type of case

Equal contacts in centric occlusion and
no interferences in excursive
movements

(commonly referred to as
functional occlusion)

- *“An occlusal scheme that employs a multiplicity of point contacts, rather than one that utilizes broad-surfaced contacts on inclined planes is advocated.”*

John J. Shary

Centric Occlusion



Working



Protrusive



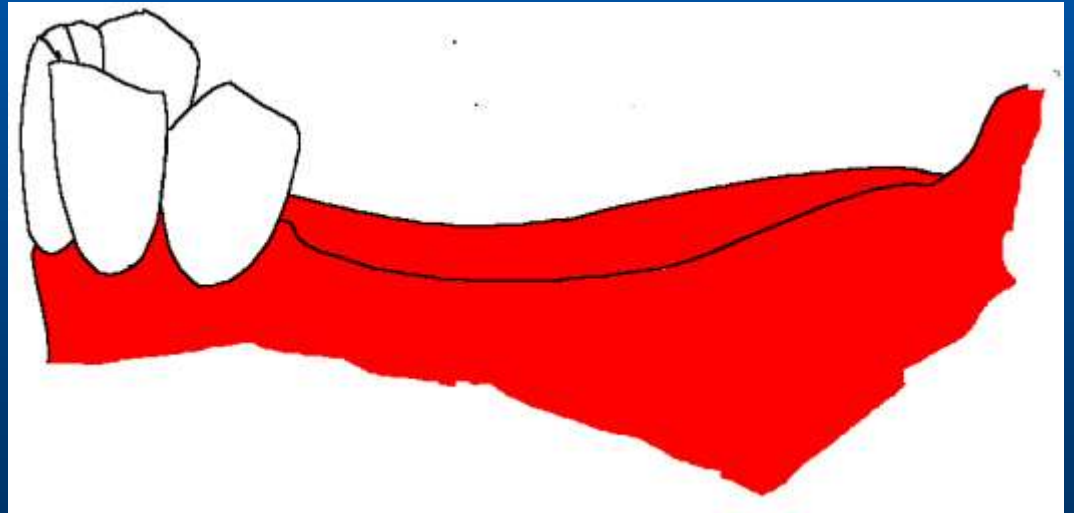
Premolar Occlusion





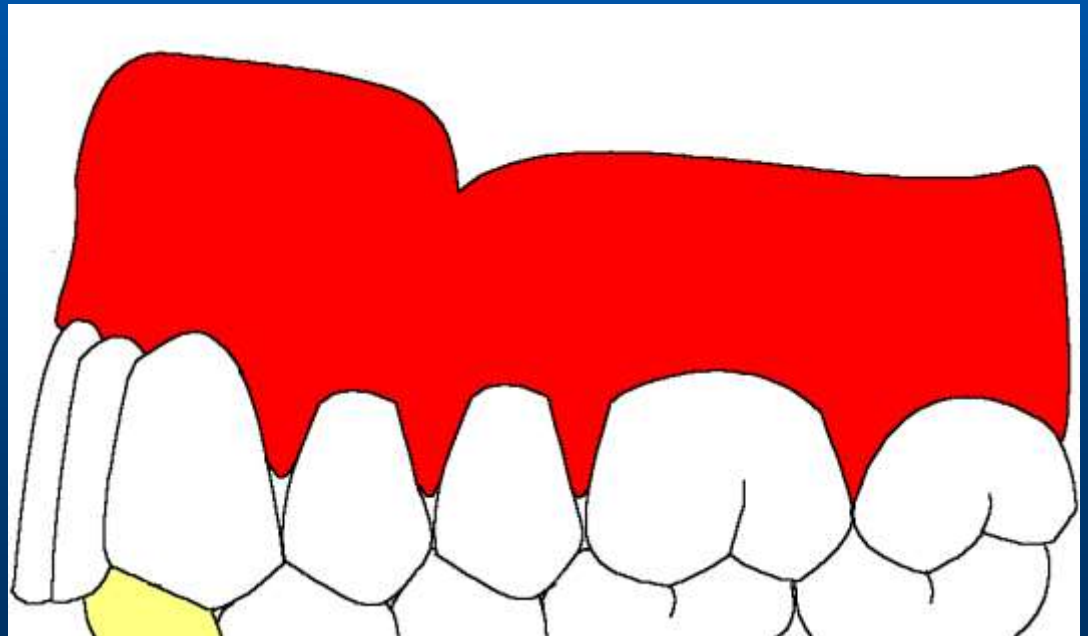
We know now how to deal with this

What about this arch opposing a single denture?



With some careful grinding of the canines we can produce a bilateral balanced occlusion

As a general rule, the closer the situation resembles a complete upper and lower denture set-up, the better the chance for bilateral balanced occlusion





If for economic reasons, periodontal concerns, sensitive teeth, etc. the patient wishes to have no mandibular tooth replacement, what then?

- patient education
- metal palate in the maxillary denture



Typical examination questions

- in an organized summary, discuss the problems of the single denture wearer and possible solutions to specific problems
- discuss the problems faced by the patient wearing a specific type of single denture and propose strategies to cope with the problems

2) How to overcome these problems.

- Proper diagnosis , proper denture construction procedures.
- Dissipation of occlusal forces along the denture base.
- Appropriate preparation of the remaining natural teeth.

iii) Yurkstas technique: Using a metal U shaped occlusal template that is slightly convex on the lower surface.

**iv) Boucher technique:
Using porcelain teeth to grind the stone teeth .**

Common occlusal disharmonies.

A level plane may be established by extraction, grinding of cusps, crowns or occlusal build-ups



**Thank
You**