Class I, II, III Ridge Relationships
for complete denture tooth selection and arrangement
Class I (normal): The maxillary alveolar ridge crest is directly above the mandibular ridge. This is usually the most favorable ridge relation for complete dentures. Class I patients have moderate mandibular horizontal range of movement.
Skeletal Class II Ridge Relationship

Class II (retrognathic): The mandibular ridge is narrower and shorter than the maxillary ridge. In some instances it may be as wide as the maxillae in the posterior.

Class II patients will have the most mandibular horizontal range of movement that makes balanced occlusion important.
Skeletal Class III Ridge Relationship

Class III (prognathic): The mandible is longer and wider than the maxillae. Such patients rarely show excessive jaw excursions but a straight opening and closing mandibular movement. Class III cases have no mandibular horizontal range of movement and posterior occlusal schemes tend to be in a cross-bite relationship.
Rules for Class I Tooth Arrangement

Maxillary Anteriors (Aesthetics)
Set to clinical reference (duplicate denture or wax occlusal rim record)
Teeth set 7-9mm labial to incisive papillae
Mesial surfaces of central should be set on midline as marked
Facial surface of teeth should be perpendicular to occlusal plane
Incisal edge set to papillameter measurement or reference
Rules for Class I Tooth Arrangement

**Mandibular Anteriors (Aesthetics)**
Set to clinical reference (duplicate denture or wax occlusal rim record)
Teeth should not be set further anterior than depth of labial sulcus
Mesial surfaces of central should be set on midline with opposing
Facial incisal surface of teeth should be set lingual to maxillary opposing anteriors with a 1-1.5mm HOL (horizontal overlap) and VOL (vertical overlap)
Rules for Class I Tooth Arrangement

**Maxillary Posteriors (Function)**

Teeth should be set in a straight line from distal of canine to tuberosity
Posterior teeth should not be extended to or set over tuberosities
Palatal cusps should be set over opposing mandibular ridge crest
Buccal surface of teeth should not be set over vestibule
Occlusal surface of teeth should be set on plane of occlusion
Preferred occlusal schemes are conventional bilaterally balanced occlusion (CBBO), lingualized bilaterally balanced occlusion (LBBO) with anatomical or semi-anatomical posterior teeth
Rules for Class I Tooth Arrangement

Mandibular Posteriors (Function)
Teeth should be set in a straight line from distal of canine to retromolar pads
Central fossae should be set over ridge crest (Pounds Line)
Lingual surface of posterior teeth should be in line with medial of retromolar pads
Occlusal surface of teeth should be set to maxillary (first molar key to occlusion)
Preferred occlusal schemes are conventional bilaterally balanced occlusion (CBBO),
lingualized bilaterally balanced occlusion (LBBO) with anatomical or semi-anatomical posterior teeth
Rules for Class II Tooth Arrangement

**Maxillary Anteriors (Aesthetics)**
Teeth set to clinical reference (duplicate denture or wax occlusal rim record)
Teeth 6-8mm labial to incisive papillae
Mesial surfaces of central should be set on midline as marked
Facial surface of teeth can be set with a retro-inclination or perpendicular to occlusal plane depending on severity of class II ridge relationship
Incisal edge set to papillameter measurement or reference
Rules for Class II Tooth Arrangement

Mandibular Anteriors (Aesthetics)
Set to clinical reference (duplicate denture or wax occlusal rim record)
Teeth should not be set further anterior than depth of labial sulcus
Mesial surfaces of central should be set on midline with opposing
Facial incisal surface of teeth should be set lingual to maxillary opposing anteriors
the HOL can be 2-6mm depending on severity of retrognathic mandible
Rules for Class II Tooth Arrangement

Maxillary Posteriors (Function)
Teeth should be set in a straight line from distal of canine to tuberosity
Posterior teeth should not be extended to or set over tuberosities
Palatal cusps should be set over opposing mandibular ridge crest
Buccal surface of teeth should not be set over vestibule
Occlusal surface of teeth should be set on plane of occlusion
Preferred occlusal scheme is lingualized, linear lingualized or monoplane
Acceptable occlusal arrangements are crossbite, balanced and non-balanced if monoplane teeth are used
Rules for Class II Tooth Arrangement

Mandibular Posteriors (Function)
Teeth should be set in a straight line from distal of canine to retromolar pads
Central fossae should be set over ridge crest (Pounds Line)
Lingual surface of posterior teeth should be in line with medial of retromolar pads
Occlusal surface of teeth should be set to maxillary (first molar key to occlusion)
Preferred occlusal schemes are conventional bilaterally balanced occlusion (CBBO), lingualized bilaterally balanced occlusion (LBBO) with anatomical or semi-anatomical posterior teeth
Acceptable occlusal arrangements are crossbite, balanced and non-balanced if monoplane teeth are used
Rules for Class III Tooth Arrangement

Maxillary Anteriors (Aesthetics)
Teeth set to clinical reference (duplicate denture or wax occlusal rim record)
Teeth 7-10mm labial to incisive papillae
Mesial surfaces of central should be set on midline as marked
Facial surface of teeth can have a labial inclination to occlusal plane
Incisal edge set to papillameter measurement or reference
Incisal surface of teeth must be set with a mandibular end to end relationship
Rules for Class III Tooth Arrangement

**Mandibular Anteriors (Aesthetics)**
Set to clinical reference (duplicate denture or wax occlusal rim record)
Teeth should not be set further anterior than depth of labial sulcus
Incisal edges should not have a retro-inclination lingual to anterior ridge
Mesial surfaces of central should be set on midline with opposing
Incisal surface of teeth must be set with a maxillary end to end relationship
With severe class III anterior arrangements the maxillary anterior incisal edges will contact the lingual surface of mandibular anteriors
Rules for Class III Tooth Arrangement

Maxillary Posteriors (Function)
Teeth should be set in a straight line from distal of canine to tuberosity
Posterior teeth should not be extended to or set over tuberosties
Palatal cusps should be set over opposing mandibular ridge crest
With cross-bite relationship the buccal cusps will be set over mandibular ridge crest
Buccal surface of teeth should not be set over vestibule
Occlusal surface of teeth should be set on plane of occlusion
Preferred occlusal scheme is lingualized, linear lingualized or monoplane
Acceptable occlusal arrangements are crossbite, balanced and non-balanced with monoplane teeth
**Rules for Class III Tooth Arrangement**

**Mandibular Posteriors (Function)**

Teeth should be set in a straight line from distal of canine to retromolar pads

Central fossae should be set over ridge crest (Pounds Line)

Lingual surface of posterior teeth should be in line with medial of retromolar pads

Occlusal surface of teeth should be set to maxillary (first molar key to occlusion)

With cross-bite relationship the central fossa will be in contact with opposing buccal cusps

Preferred occlusal schemes are conventional bilaterally balanced occlusion (CBBO), lingualized bilaterally balanced occlusion (LBBO) with anatomical or semi-anatomical posterior teeth

Acceptable occlusal arrangements are crossbite, balanced and non-balanced if monoplane teeth are used
Rules for Single Arch Complete Denture

**Maxillary denture opposing natural dentition**

Denture teeth must follow edentulous arch form
Placement is dictated by opposing mandibular teeth
Anterior teeth should be set according to ridge relationship (class I, II or III)
Posterior teeth should not be set over vestibule
Posterior teeth should not be extended to or set over tuberosities
Posterior occlusion or cuspal inclination should match opposing dentition
Occlusal contacts should have a good cusp to fossa relationship with an even distribution of forces
Posterior teeth can be set in non-balanced occlusion or balanced if possible
With a Class II or III ridge relationship a cross-bite occlusion might be necessary
Rules for Single Arch Complete Denture

**Mandibular denture opposing natural dentition**
Denture teeth should follow edentulous arch form
Placement is dictated by opposing maxillary dentition
Anterior teeth should not be set further labial than muco-buccal fold
Anterior teeth should be set according to ridge relationship (class I, II or III)
Posterior teeth should be set with central fossa over ridge crest (pounds line)
Posterior teeth should not be set over retromolar pads
Posterior occlusion or cuspal inclination should match opposing dentition
Occlusal contacts should have a good cusp to fossa relationship with an even distribution of forces
Posterior teeth can be set in non-balanced occlusion or balanced if possible
With a Class II or III ridge relationship a cross-bite occlusion might be necessary
Mounted Class I

- Classification
- Ridge Relationship
- Inter-arch space
- Prosthetic space
Mounted Class II

- Classification
- Ridge Relationship
- Inter-arch space
- Prosthetic space
Mounted Class III

- Classification
- Ridge Relationship
- Inter-arch space
- Prosthetic space
Range of Mandibular Movement

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Anterior Relationship
Anterior Teeth Relationship to Ridge
Thank You