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ALGORITHMS OF PERFORMING OF PRACTICAL SKILLS IN PROSTHETIC DENTISTRY

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Textbook of Prosthetic Dentistry for 5-th year`s dental students.

«ALGORITHMS OF PERFORMING OF PRACTICAL SKILLS IN PROSTHETIC DENTISTRY».

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INTRODUCTION

The textbook is compiled under the authority of branch educational standards "Education-qualificational characteristic of the specialist" in specialty 7.110106 – dentistry, and includes a list of practical skills designed for testing of students during the State professionally-oriented exam

Manipulations represented in text expect cognizance and skills of graduates in major orthopedic manipulations at polyclinic clinical practice of prosthodontist.

Possibilities of imitation of various clinical situations in maxilla-facial system were included in the guide during it`s creation.

Each practical task is accompanied by a list of necessary equipment, method of performance, requirements helping to get positive final result.

The present guide summarizes clinical experience of many members of the Department and will be useful in preparing of graduates for practical part of the professional-oriented exam.

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PREPARATION OF THE TEETH

Preparation of I class cavity by Black for metal inlay in tooth 1.6

Supply of materials

Phantom or model of tooth 1.6 with I class carious cavity by Black (IDOST – 0.55 – 0.6); angle mechanical or air
handpiece; set of burs.

Method of performing

1. Using fissure bur open the carious cavity, remove hanging brims of enamel, aiming congruence of enter and bottom of the carious cavity.

2. Expand carious cavity: plane edges of enamel, remove affected fissures, round sharp angles.

3. Remove necrotic dentine from walls and bottom of the carious cavity with round bur. Visual (absence of pigmentation, glance of dentine`s surface) and instrumental (solid while probing) control of necroectomy.

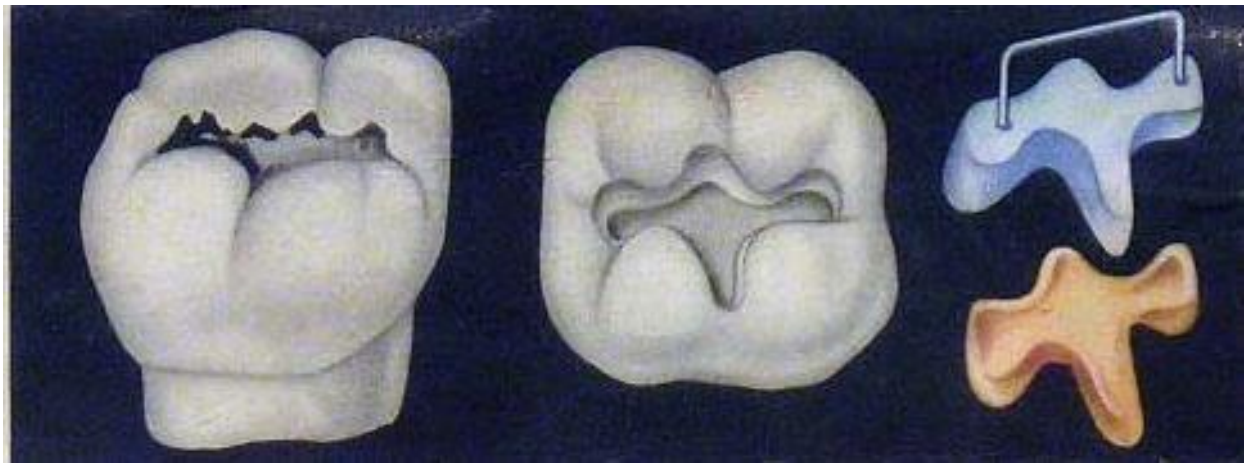
4. Level bottom of the cavity.

5. Form lateral planes of the cavity parallel each other with little divergence (4 – 6°) to occlusal surface, smooth sharp edges.

6. Smooth edges of enamel according to the path of enamel prisms.

Requirements to the prepared cavity

1. Form of the cavity has to be box-like without undercuts.
2. Don`t leave any remnants of necrotic dentine in cavity.



Form of the cavity for inlay

Preparation of II class cavity by Black for metal inlay in tooth 2.4

Supply of materials

Phantom or model of tooth 2.4 with II class carious cavity by Black (IDOST – 0.55 – 0.6); angle mechanical or air
handpiece; set of burs.

Method of performing

1. Using fissure bur relocate carious cavity on the chewing surface, achieving compliance of the inlet and the bottom of the cavity.
2. Expand carious cavity: level enamel edges, round sharp corners.

3. Remove necrotic dentine from walls and bottom of carious cavity with round bur. Visual (absence of pigmentation, glance of dentine`s surface) and instrumental (solid while probing) control of necroectomy.

4. Form horizontal step in perigingival region of contact surface.

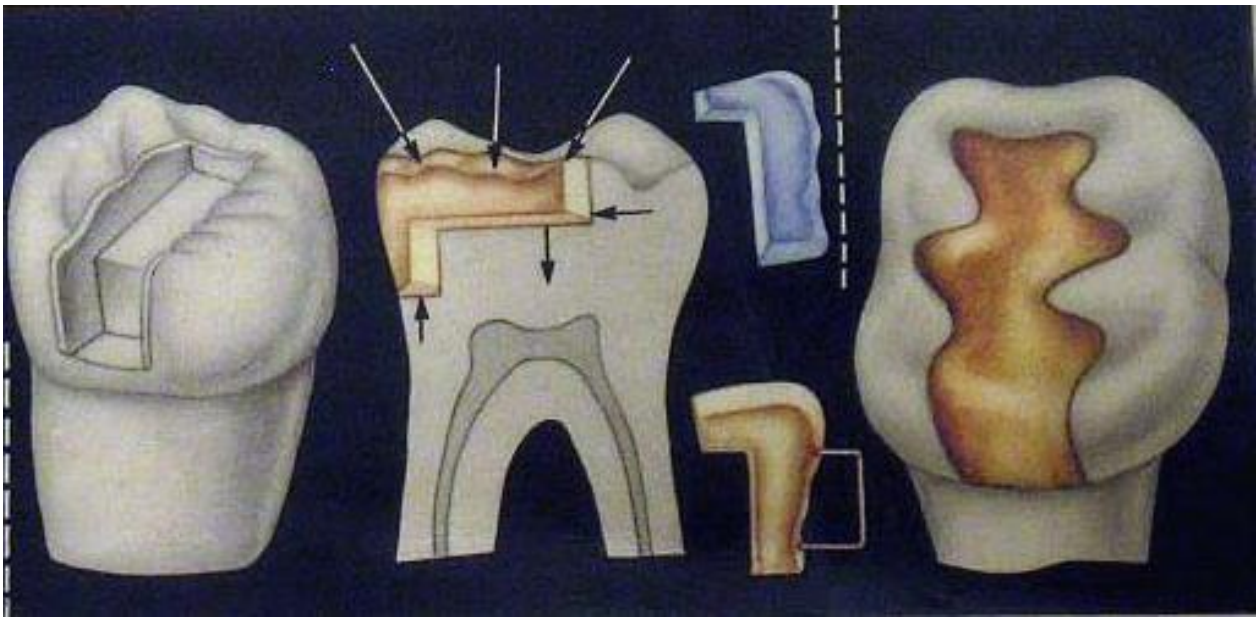
5. Form lateral planes of the cavity parallel each other.

6. Form additional support area on chewing surface of the tooth (it is allowed to expand area till 2\3 of chewing surface), smooth sharp sides.

7. Smooth edges of enamel according to the path of enamel prisms.

Requirements to the prepared cavity

1. Form of the cavity has to be box-like without undercuts.
2. Angle formed by perigingival wall and floor of the cavity has to 90^0.
3. Don`t leave any remnants of necrotic dentine in cavity.



Form of the cavity for inlay in case of II class by Black

Preparation of V class cavity by Black for metal inlay in tooth 3.4

Supply of materials

Phantom or model of tooth 3.4 with V class carious cavity by Black; angle mechanical or air handpiece; set of burs.

Method of performing

1. Using fissure bur open the carious cavity, remove hanging brims of enamel, aiming congruence of enter and bottom of the carious cavity.
2. Expand carious cavity: level enamel edges, round sharp corners.
3. Remove necrotic dentine from walls and bottom of carious cavity with round bur. Visual (absence of pigmentation, glance of dentine`s surface) and instrumental (solid while probing) control of necroectomy.
4. Using fissure bur prepare oval-like or kidney-like form of the cavity. Form lateral planes of the cavity perpendicularly to the bottom of the cavity.
5. Level bottom of the cavity, making it convex according to topography of pulpal chamber.
6. Smooth edges of enamel according to the path of enamel prisms.

Requirements to the prepared cavity

1. Form of the cavity have to be oval-like or kidney-like without undercuts.
2. Don`t leave any remnants of necrotic dentine in cavity.

Form of the cavity for inlay in case V class cavity by Black

Preparation of tooth 1.3 for crown with lining

Supply of materials

Phantom, model with intact or filled teeth; straight mechanical or air handpiece; set of diamond heads and set of burs for air handpiece; two one-side separate disks.

Method of performing

One-side separate disk, turned with work side in direction of the preparing tooth, set parallel to the tooth aproximal surface. Separate the preparing tooth from neighbor with flowing movement in direction from edge to papilla.

1. In a similar manner prepare second aproximal surface parallel to the first one.
2. Remove height of contour of the tooth from vestibular and palatal surfaces using diamond bur, preserve parallel with aproximal surfaces, create cylindric form.
3. Under the control of the bite remove additionally 0.25 – 0.3 mm of hard tissues from palatal surface, safe anatomical form of the tooth.
4. Remove addition 0.7 mm from vestibular surface.
5. In case of need additionally remove hard tissues from edge, aiming create shorter tooth (0.3 mm).
6. Remove sharp edges.

Requirements to the prepared tooth

1. The form has to be cylindric - probe must touch all surfaces of the tooth while passing around tooth.

2. Surface must be without undercuts or steps.

3. Separate disk should easily move between actual tooth and neighbor.

4. 0.3 - 0,5 mm of free space must be between the tooth and its an antagonist - 8-12 layers of articular paper can freely pass between them.

5. Vestibular surface is smaller then vestibular barh by 0.7 mm.

Preparation of tooth 3.1 for crown with lining

Supply of materials

Phantom, model with intact or filled teeth; straight mechanical or air handpiece; set of diamond heads and set of burs for air handpiece; two one-side separate disks.

Method of performing

1. One-side separate disk, turned with work side in direction of the preparing tooth, set parallel to its aproximal surface. Separate the preparing tooth from neighbor with flowing movement in direction from edge to papilla.
2. In a similar manner prepare second aproximal surface parallel to the first one.
3. Remove height of contour of the tooth from vestibular and palatal surfaces using diamond bur, preserve parallel with aproximal surfaces, create cylindric form.
4. Remove addition 0,7mm from vestibular surface.
5. In case of need, under the control of the bite, additionally remove hard tissues from edge, aiming create shorter tooth (0.3 mm).
6. Remove sharp edges.

Requirements to the prepared tooth

1. The form has to be cylindric - probe must touch all surfaces of the tooth while passing around tooth.
2. Surface must be without undercuts or steps.

3. Separate disk should easily move between actual tooth and neighbor.

4. 0.3 – 0.5 mm of free space must be between the tooth and an antagonist - 16 layers of articular paper can freely pass between them.

5. Vestibular surface is smaller then vestibular barh by 0.7 mm.

Preparation of teeth 1.1, 1.2, 1.3 for crowns with lining

Supply of materials

Phantom, model with intact or filled teeth; straight mechanical or air handpiece; set of diamond heads and set of burs for air handpiece; two one-side and one two-side separate disks.

Method of performing

1. One-side separate disk, turned with work side in direction of the tooth 1.1, set parallel to the tooth aproximal surface. Separate the tooth 1.1 from tooth 2.1 with flowing movement in direction from edge to papilla.
2. One-side separate disk, turned with work side in direction of the tooth 1.3, set parallel to the tooth aproximal surface. Separate the tooth 1.3 from tooth 4.1 with flowing movement in direction from edge to papilla, parallel to tooth 1.1.
3. Separate the tooth 1.1 from tooth 1.2 with flowing movement in direction from edge to papilla with two-side separate disk.
4. Prepare mesial surface of tooth 1.2 parallel to aproximal surface of 1.1 with two-side separate disk without damaging of papilla.
5. Separate the tooth 1.2 from tooth 1.3 with separate disk.
6. Prepare mesial surface of tooth 1.3 with two-side separate disk without damaging of papilla.
7. Remove height of contours of the teeth from vestibular and palatal surfaces using diamond bur, preserve parallel with aproximal surfaces, and create cylindric form.
8. Under the control of the bite remove additionally 0.25 – 0.3 mm of hard tissues from palatal surfaces, safe anatomical form of the tooth.

9. Remove addition 0.7 mm from vestibular surface.
10. Additionally remove 0.3 mm of hard tissues from edge in case of need.
11. Remove sharp edges of the prepared teeth.

Requirements to the prepared teeth

1. The form has to be cylindric - probe must touch all surfaces of the tooth while passing around tooth.
2. Surface must be without undercuts or steps.
3. Space between teeth must not be less then 0.6 mm. Separate disk should easily move between actual tooth and neighbor.
4. 0.3 - 0.5 mm of free space must be between the teeth and their antagonists - 16 layers of articular paper can freely pass between them.
5. All vestibular surfaces must be on one new vestibular line that is smaller then starting by 0.7 mm.

Preparation of tooth 1.1 for metal-ceramic crown

Supply of materials

Phantom, model with intact or filled teeth;
air handpiece; set of burs.

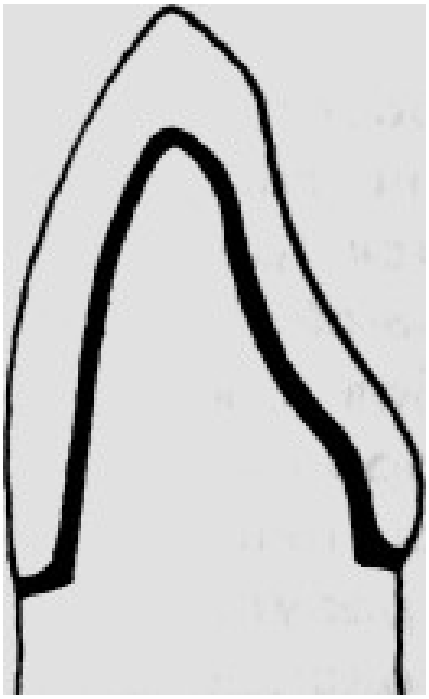
Method of performing

1. Make depth-orientating grooves on vestibular surface of 1.1 with coneshaped diamond bur with flat tape (for control of hard tissues removing) 1.2 mm in depth (diameter of the bur), and 2.0 mm on the edge of the tooth.
2. Make depth-orientating grooves (1.2 mm) on palatal surface: near the gingiva - parallel to the vestibular surface, over the palatal tuberculum - parallel to incisive route.
3. Remove hard tissues from vestibular surface of the tooth according to depth-orientating grooves.
4. Make separation of teeth with long narrow cone-shaped diamond bur.
5. Prepare aproximal surfaces of the tooth with one-shaped diamond bur with flat tape.
6. Prepare palatal region near the gingiva according to depth-orientating grooves.
7. Prepare palatal region over the palatal tuberculum according to depthorientating grooves, creating space between actual tooth and antagonist equal 1mm.
8. Remove sharp edges on the prepared tooth with diamond fissure bur.
9. Form the gingival finish line with frontal bur (90^0).

Requirements to the prepared tooth

1. Vertical surfaces must be slightly cone - 5-7^0.
2. Edge of the tooth must be reduced by 2mm.
3. Distance between the tooth and its antagonist must be 1mm.
4. Circular gingival finish line must have rounded inner edge and be 0.8 1mm depth.
5. Surface of the tooth must be smooth and without undercuts.

**Method of Shillinburg H.T.*



Requirements to the prepared tooth for metal-ceramic crown

Preparation of teeth 1.3 and 2.3 for metal-ceramic crowns as abutments of bridge

Supply of materials

Phantom or model with intact or filled teeth, defect of dentition- IV class by Kennedy (1.2, 1.1, 2.1 and 2.2 teeth are absent); straight mechanical or air handpiece; set of burs.

Method of performing

1. Make depth-orientated grooves on vestibular surface of 1.3 and 2.3 with cone-shaped diamond bur with flat tape (for control of hard tissues removing) 1.2 mm in depth (diameter of the bur), and 2.0 mm on the edge of the tooth.
2. Make depth-orientating grooves (1.2 mm) on palatal surface: near the gingiva - parallel to the vestibular surface, over the palatal tuberculum - parallel to palatal surface.
3. Reduce hard tissues on vestibular surface according to depth-orientated grooves.
4. Make separation of teeth with long narrow cone-shaped diamond bur.
5. Prepare aproximal surfaces of the teeth with one-shaped diamond bur with flat tape.
6. Prepare palatal regions near the gingiva according to depth-orientating grooves.
7. Prepare palatal regions over the palatal tuberculums according to depthorientating grooves, creating space between actual teeth and antagonists equal 1mm.

8. Remove sharp edges on the prepared tooth with diamond fissure bur.

9. Form the gingival finish line with frontal bur (90^0).

Requirements to the prepared teeth

1. Vertical surfaces must be parallel and be slightly cone $5\text{-}7^0$.

2. Tearing humps must be reduced by 2 mm.

3. Distance between the teeth and their antagonists must be 1 mm.

4. Circular gingival finish lines must have rounded inner edge and be 0.8 - 1 mm depth.

5. Surfaces of the teeth must be smooth and without undercuts.

**Method of Shillinburg H.T.*

Preparation of root of tooth 3.4 for post and core crown by Il`jina-Markosjan

Supply of materials

Phantom or model with ruined crown part of tooth 3.4 at level of gingiva; angle mechanical or air handpiece; set of burs; set of reamers.

Method of performing

1. Remove necrotic dentine from the root surface with fissure or round bur. Visual (absence of pigmentation, glance of dentine`s surface) and instrumental (solid while probing) control of necroectomy.
2. Alignment root surface perpendicular to the longitudinal axis of the tooth with fissure bur.
3. Under the control of the contact radiographs, enlarge root canal tooth on 2/3 of length to diameter of 1 mm with reamers gradually increasing the diameter of the tool.
4. Adhering to the longitudinal axis of the root canal, form depreciation cavity in isthmus of root canal. Diameter is 1/2 the outer diameter of the tooth root. The form of the cavity must match to the form of the outer surface of the root (oval), the depth of the cavity - 2 mm.
5. Smooth out all irregularities of the tooth.

Requirements to the root of prepared tooth

1. No residual necrotic dentin should be left in the prepared tooth roots.

2. The root canal must be prepared on 2/3 of the length of the tooth with diameter of 1 mm.

3. Root walls must be without perforations.

4. The vertical wall of the root canal and cavity depreciation should be parallel, without undercuts.

5. Depreciation cavity must repeat form the outer surface of the tooth root (oval) and constitute 1/2 of its diameter. Depth of Depreciation cavity is 2 mm.

Shape of post and core crown

Preparation of root of tooth 1.1 for pinlay

Phantom or model with defect of crown of tooth 1.1 (IDOST - >0.85).

angle mechanical or air handpiece; set of burs; set of reamers.

Method of performing

1. Remove necrotic dentine from the root surface with fissure or round bur. Visual (absence of pigmentation, glance of dentine`s surface) and instrumental (solid while probing) control of necroectomy.
2. Alignment root surface perpendicular to the longitudinal axis of the tooth with fissure bur.
3. Under the control of the contact radiographs, enlarge root canal tooth on 2/3 of length to diameter of 1 mm with reamers gradually increasing the diameter of the tool.
4. Adhering to the longitudinal axis of the root canal, form depreciation cavity in isthmus of root canal. Diameter is 1/2 the outer diameter of the tooth root. The form of the cavity must match to the form of the outer surface of the root (oval), the depth of the cavity - 2 mm.
5. Create bevel 45^{o} on outer surface of the root with sharp cone-shape bur.
6. Smooth out all irregularities of the tooth.

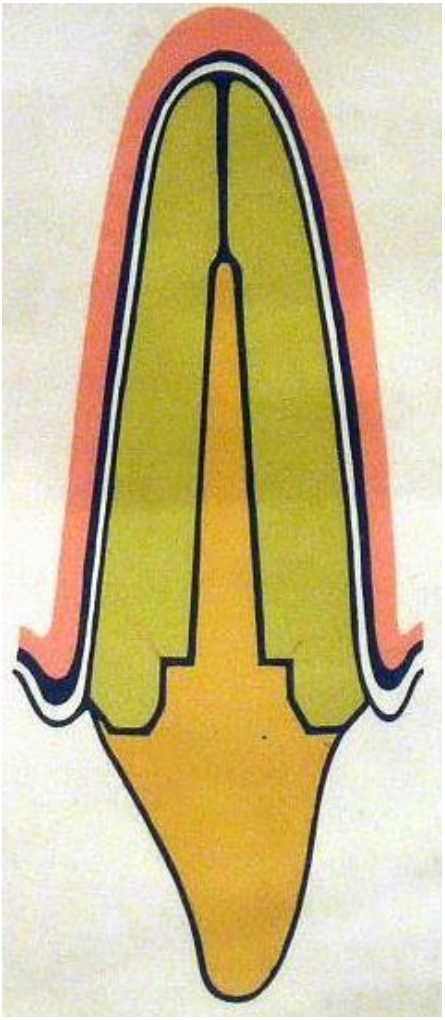
Requirements to the root of prepared tooth

1. No residual necrotic dentin should be left in the prepared tooth roots.
2. The root canal must be prepared on 2/3 of the length of the tooth with diameter of 1 mm.
3. Root walls must be without perforations.

Supply of materials

4. The vertical wall of the root canal and cavity depreciation should be parallel, without undercuts.

5. Depreciation cavity must repeat form the outer surface of the tooth root and constitute 1/2 of its diameter. Depth of depreciation cavity is 2 mm.



The look of pinlay in tooth 1.1.

Preparation of root of tooth 2.6 for pinlay

Phantom or model with defect of crown of tooth 2.6 (IDOST - >0.85).
angle mechanical or air handpiece; set of burs; set of reamers.

Method of performing

1. Remove necrotic dentine from the root surface with fissure or round bur. Visual (absence of pigmentation, glance of dentine`s surface) and instrumental (solid while probing) control of necroectomy.
2. Alignment root surface perpendicular to the longitudinal axis of the tooth with fissure bur.
3. Under the control of the contact radiographs, enlarge root canal tooth on 2/3 of length to diameter of 1 mm with reamers gradually increasing the diameter of the tool.
4. Under the control of the contact radiographs, enlarge root canal tooth on 2/3 of length to diameter of 1 mm with reamers gradually increasing the diameter of the tool.
5. Adhering to the longitudinal axis of the root canal, form depreciation cavity in isthmus of root canal. Diameter is 1/2 the outer diameter of the tooth root. Form of the cavity must match the form of the outer surface of the tooth, vertical wall cavities should be parallel to the palatal root canal, don`t prepare bottom cavity (bifurcation).
6. Create bevel 45^{o} on outer surface of the root with sharp cone-shape bur.
7. Smooth out all irregularities of the tooth.

Requirements to the root of prepared tooth

Supply of materials

1. No residual necrotic dentin should be left in the prepared tooth roots.
2. Two root canals (palatal and one of buccal) should be prepared on 2/3 length with a diameter of 1 mm.
3. Root walls and bifurcation must be without perforations.
4. Vertical walls of depreciation cavity should be without undercuts and be parallel to palatal root canal.
5. Depreciation cavity must repeat form the outer surface of the tooth root and constitute 1/2 of its diameter.

Preparation of tooth 1.6 for stamp crown

Phantom, model with intact or filled teeth;
straight mechanical or air handpiece; set of burs (fissure, big flare) and diamond heads; two one-side separate disks.

Dentist requirements

Head of the patient should be at level of shoulder of dentist. Handpiece checked for serviceability, fix bur, check the quality of fixing and centering of bur. Dentist is in front of the patient. The thumb of the right hand fixed on the upper lip. Dentist holds handpiece in this hand, in his left hand - dental mirror, which protects the oral tissues from potential damage.

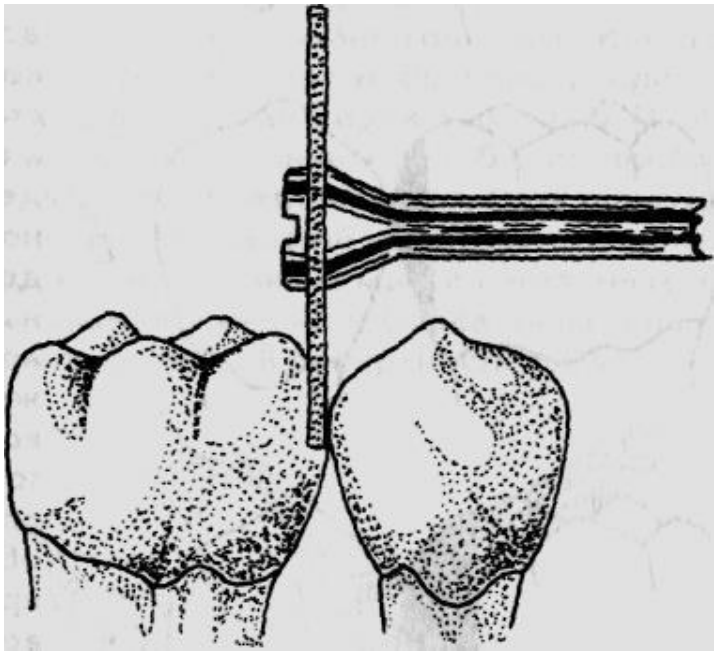
Method of performing

1. Use separate disk to separate the tooth from neighbors. Do flowing movement in direction from occlusion surface to papilla separate disk.
2. Reduce hard tissues on occlusion surface on 0.3 mm with big diamond round bur, trying to follow anatomical form of the tooth.
3. Remove Height of contour with cylindrical bur. Create cylindrical shape of the tooth
4. Additionally reduce hard tissues of vestibular and palatal surfaces by 0.25 mm.
5. Remove sharp edges.

Supply of materials

Requirements to the prepared tooth

1. The form has to be cylindric - probe must touch all surfaces of the tooth while passing around tooth.
2. Surface must be without undercuts or steps.
3. Separate disk must freely move between actual tooth and neighbors.
4. 0.3 - 0.5 mm of free space must be between the tooth and its an antagonist - 12 layers of articular paper can freely pass between them.
5. Humps on chewing surface are preserved.



Position of separate disk

Preparation of tooth 2.4 for stamp crown

Phantom, model with intact or filled teeth;
straight mechanical or air handpiece; set of burs (fissure, big flare) and diamond heads; two one-side separate disks.

Dentist requirements

Head of the patient should be at level of shoulder of dentist. Handpiece checked for serviceability, fix bur, check the quality of fixing and centering of bur. Dentist is in front of the patient. The thumb of the right hand fixed on the upper lip. Dentist holds handpiece in this hand, in his left hand - dental mirror, which protects the oral tissues from potential damage.

Method of performing

1. Use separate disk to separate the tooth from neighbors. Do flowing movement in direction from occlusion surface to papilla separate disk.
2. Reduce hard tissues on occlusion surface on 0.3 mm with big diamond round bur, trying to follow anatomical form of the tooth.
3. Remove Height of contour with cylindrical bur. Create cylindrical shape of the tooth

Supply of materials

4. Additionally reduce hard tissues of vestibular and palatal surfaces by 0.25 mm.

5. Remove sharp edges.

Requirements to the prepared tooth

6. The form has to be cylindric - probe must touch all surfaces of the tooth while passing around tooth.

7. Surface must be without undercuts or steps.

8. Separate disk must freely move between actual tooth and neighbors.

9. 0.3 - 0.5 mm of free space must be between the tooth and its an antagonist - 12 layers of articular paper can freely pass between them.

10. Humps on chewing surface are preserved.

Preparation of tooth 1.6 for cast crown

Phantom, model with intact or filled teeth;
air handpiece; set of burs (fissure, big
round, front).

Dentist requirements

Head of the patient should be at level of shoulder of dentist. Handpiece checked for serviceability, fix bur, check the quality of fixing and centering of bur. Dentist is in front of the patient. The thumb of the right hand fixed on the upper lip. In this hand dentist holds handpiece, as pencil. In his left hand - dental mirror, which protects the oral tissues from potential damage.

Method of performing

1. Separate tooth from neighbors with narrow (0.2 mm) cylindrical bur (look at the pic.).
2. Reduce hard tissues on occlusion surface on 0.5 mm with big round or fissure diamond bur, trying to follow anatomical form of the tooth.

Supply of materials

3. Remove Height of contour with cylindrical bur, creating the form of truncated cone with a slope of about 5-7°.

4. Additionally reduce hard tissues of vestibular and palatal surfaces by 0.5 mm.

5. Remove sharp edges.

6. Create shoulder (1 mm) with front bur at the level of 1 mm below gingival margin.

Requirements to the prepared tooth

1. Form of the tooth is truncated cone with a slope of about 15°.
2. Surface must be without undercuts or steps. Except shoulder.
3. Between the tooth and its antagonist must be space approximately 0.5 mm - 12 layers of articular paper can freely pass between them.
4. Anatomical form of the tooth must be preserved.

TAKING OF IMPRESSIONS AND FABRICATION OF CASTS

Choice of stock tray for taking of full anatomical impression from upper jaw with teeth

Supply of materials

Set of impression trays for upper jaw;
phantom with intact upper dental raw;
basic wax; spirit lamp; technician
spatula.

Method of performing

1. Choose size and design of perforated tray.
2. First, move tray behind tubers of the upper jaw that she embraced them, making sure that between the sides of tray and mucous membranes remained a gap of 2-3 mm and the edge of the tray reaches neutral zone.
3. It should raise the tray forward and up, so that its sides not only covered upper incisors and canines, but also alveolar process and transition fold.
4. Between the sides of tray and mucous membranes remains a gap of 2-3 mm for impression material.
5. Tray must repeat circuit of palate vault and trays edge - go for the vibrating line to 1.5-2 mm.
6. In case of absence of the fully suitable tray should be used wax to extend sides of tray in the required places.

Requirements to the tray

1. Tray must be perforated.
2. Form of the tray must repeat the contours of prothetic field, cover its margins, without touching, by 2-3 mm.

Choice of stock tray for taking of full anatomical impression from lower

jaw with teeth

Supply of materials

Set of impression trays for lower jaw;
phantom with intact lower dental raw;
basic wax; spirit lamp; technician
spatula.

Method of performing

1. Choose size and design of perforated tray.
2. First, move tray behind inner oblique line of the lower jaw that she embraced them, making sure that between the sides of tray and mucous membranes remained a gap of 2-3 mm and the edge of the tray reaches neutral zone.
3. It should lower the tray forward and down, so that its sides not only covered lower incisors and canines, but also alveolar process and transition fold.
4. Between the sides of tray and mucous membranes remains a gap of 2-3 mm for impression material.
5. Tray should repeat the contour of lower jaw, cover retromolar triangle by
1.5-2 mm.
6. In case of absence of the fully suitable tray should be used wax to extend sides of tray in the required places.

Requirements to the tray

1. Tray must be perforated.
2. Form of the tray must repeat the contours of prothetic field, cover its margins, without touching, by 2-3 mm.

Taking of full anatomical impression with alginate materials from upper jaw

with teeth

Supply of materials

Phantom with intact upper dental raw; alginat impression material; measure for impression material and water; standard upper perforated impression tray of different sizes; rubber bulb; spatula for plaster mixing; flask of water.

Technique of anatomical impression taking

1. Select impression tray.
2. Select impression material.
3. Pour 1.5-2 spoons (without excess) of alginat impression material into rubber bulb.
4. Add 1.5-2 spoons of water.
5. Mix impression material during 30 sec.
6. Put impression material on tray.
7. Moisten surface of impression material.
8. Bring tray to oral cavity with impression material aloft, one edge of tray put into the mouth, move away corner of the mouth, enter the other side of tray, place tray so that the teeth row was in the middle of tray groove.
9. Gently pressed to the back edge of tray to dental row, then make sure that the back edge contacts the jaw (that impression mass has not got to the root of the soft palate and tongue), press against the front edge of the tray.
10. Hold the tray still, use free hand, lips, and cheeks and form the edges of an impression for 30 sec. - 1 min.
11. Hold the tray still till final hardening of the mass.

12. Put index finger of free hand on the lower dentition to prevent trauma of teeth of the lower jaw, remove the impression from the mouth with one movement.

13. Assess quality of the impression.

14. Wash impression with running water and place in a disinfectant solution.

Requirements to the impression

1. Impression materials must completely cover the impression tray, prosthetic field should not touch the tray all across the length.

2. Imprint of dentition is located in the middle of tray groove.

3. Midline of dentition imprint must match with the middle of impression tray.

4. Impression doesn`t contain backstays and deformations.

5. The edges should be rounded and match anatomical margins of prosthetic field.

Taking of full anatomical impression with alginate materials from lower jaw with teeth

Supply of materials

Phantom with intact lower dental raw; alginat impression material; measure for impression material and water; standard lower perforated impression tray of different sizes; rubber bulb; spatula for plaster mixing; flask of water.

Technique of anatomical impression taking

1. Select impression tray.
2. Select impression material.
3. Pour 1-1.5 spoons (without excess) of alginat impression material into rubber bulb.
4. Add 1-1.5 spoons of water.
5. Mix impression material during 30 sec.
6. Put impression material on tray.
7. Moisten surface of impression material.
8. Bring tray to oral cavity with impression material down, one edge of tray put into the mouth, move away corner of the mouth, enter the other side of tray, place tray so that the teeth row was in the middle of tray groove.
9. Place the tongue of phantom beyond the tray.
10. Gently and evenly press tray to dentition (first in front, then from behind).
11. Hold the tray still, use free hand, lips, tongue, and cheeks and form the edges of an impression for 1-1.5 min.

12. Hold the tray still till final hardening of the mass.

13. Put index finger of free hand on top of tray to prevent trauma of teeth of the upper jaw, remove the impression from the mouth with one movement.

14. Assess quality of the impression.

15. Wash impression with running water and place in a disinfectant solution.

Requirements to the impression

1. Impression materials must completely cover the impression tray, prosthetic field should not touch the tray all across the length.

2. Imprint of dentition is located in the middle of tray groove.

3. Midline of dentition imprint must match with the middle of impression tray.

4. Impression doesn`t contain backstays and deformations.

5. The edges should be rounded and match anatomical margins of prosthetic field.

Taking of full anatomical 2-layer impression with silicone materials from lower jaw with teeth

Supply of materials

Phantom with intact lower dental raw; silicon impression material; standard tray of different sizes for lower jaw; scalpel; dental spatula; dental glass.

Technique of impression taking

1. Select impression tray.
2. Select impression material.
3. Knead in hands 1 – 1.5 tanks of base silicone impression material, make a flat surface.
4. Add some amount of catalyzer (according to the instruction).
5. Intensively knead mass with catalyzer for 45 - 60 sec.
6. Lay impression material on tray.
7. Bring tray to oral cavity with impression material down, one edge of tray put into the mouth, move away corner of the mouth, enter the other side of tray, place tray so that the teeth row was in the middle of tray groove.
8. Place the tongue of phantom beyond the tray.
9. Smoothly and evenly press tray to dentition.
10. Hold the tray still, use free hand, lips, tongue, and cheeks and form the edges of an impression for 1 - 1.5 min.
11. Hold the tray still till final hardening of the mass (2 - 3 min.).
12. Put index finger of free hand on top of tray to prevent trauma of teeth of

the upper jaw, remove the impression from the mouth with one movement.

13. Assess quality of the impression.

14. Wash impression with running water, dry it.

15. Margins and overhanging edges of the impression carefully cut away with scalpel, so that they do not obstruct the re-imposition of tray on dentition, form offtake canals.

16. Mix the required amount of corrective catalyst paste ratio, as instructed, on dental glass with dental spatula for 30 - 45 seconds.

17. Apply corrective mass with spatula on the prepared base material.

18. Enter a spoon in the mouth according to stages 7 – 11.

19. Put index finger of free hand on top of tray to prevent trauma of teeth of the upper jaw, remove the impression from the mouth with one movement.

20. Assess quality of the impression.

21. Wash impression with running water and place in a disinfectant solution.

Requirements to the impression

1. Base material must completely cover the tray.

2. Corrective mass must completely cover the base mass on all length of prosthetic field.

3. Imprint of dentition is located in the middle of tray groove.

4. Midline of dentition imprint must match with the middle of impression tray.

5. Impression doesn`t contain backstays and deformations.

6. The edges should be rounded and match anatomical margins of prosthetic field.

Taking of full anatomical 2-layer impression with silicone materials from upper jaw with teeth

Supply of materials

phantom with intact upper dental raw; silicon impression material; standard trays of different sizes for upper jaw; scalpel; dental spatula; dental glass.

Technique of impression taking

1. Select impression tray.
2. Select impression material.
3. Knead in hands 1 tank of base silicone impression material, make a flat surface.
4. Add some amount of catalyzer (according to the instruction).
5. Intensively knead mass with catalyzer for 45-60 sec.
6. Lay impression material on tray.
7. Bring tray to oral cavity with impression material aloft, one edge of tray put into the mouth, move away corner of the mouth, enter the other side of tray, place tray so that the teeth row was in the middle of tray groove.
8. Gently press the back edge of tray to dental row, then make sure that the back edge contacts the jaw (that impression mass has not got to the root of the soft palate and tongue), press against the front edge of the tray.
9. Hold the tray still, use free hand, lips, and cheeks and form the edges of a impression for 1-1.5 min.

10. Hold the tray still till final hardening of the mass (2-3 min.).

11. Put index finger of free hand on the lower dentition to prevent trauma of teeth of the lower jaw, remove the impression from the mouth with one movement.

12. Assess quality of the impression.

13. Wash impression with running water, dry it.

14. Margins and overhanging edges of the impression carefully cut away with scalpel, so that they do not obstruct the re-imposition of tray on dentition.

15. Mix the required amount of corrective catalyst paste ratio, as instructed, on dental glass with dental spatula for 30 - 45 seconds.

16. Apply corrective mass with spatula on the prepared base material.

17. Enter a spoon in the mouth according to stages 7 – 10.

18. Put index finger of free hand on the lower dentition to prevent trauma of teeth of the lower jaw, remove the impression from the mouth with one movement.

19. Assess quality of the impression.

20. Wash impression with running water and place in a disinfectant solution.

Requirements to the impression

1. Base must completely cover the tray.

2. Corrective mass must completely cover the base mass on all length of prosthetic field.

3. Imprint of dentition is located in the middle of tray groove.

4. Midline of dentition imprint must match with the middle of impression tray.

5. Impression doesn`t contain backstays and deformations.

6. The edges should be rounded and match anatomical margins of prosthetic field.

Taking of compressive functional impression with silicone materials from edentulous upper jaw with adjustment of custom impression tray

Supply of materials

Phantom with toothless alveolar process of upper jaw; tough individual tray on the upper jaw; straight mechanical handpiece; set of burs; corrective silicon impression mass; dental glass; dental spatula.

Technique of impression taking

1. Provide individual fitting of impression tray in the mouth.

2. Form margins of the tray using functional tests by Herbst:

a) press the individual tray to the palate and, while moving upper lip of the phantom, make several attempts to remove it. In case of throwing down short margins of the tray in the area of the upper lip frenulum from canine to canine (see fig. - zone 4); pull in cheeks of the phantom. In case of throwing down short margins of the

tray in the area of cheek folds (see fig. - zone 3);

c) in case of throwing down of the tray while wide opening of the mouth,

short margins of the tray in the area of the tuber of upper jaw (see fig. - zone 2);

d) determine visually or by palpation back limit of the palate - the transition of hard palate to the soft palate, the edge of tray has to cover the vibrating line by 1 - 1.5 mm (see fig. - zone 1).

3. Mix the required amount of corrective catalyst paste ratio, as instructed, on dental glass with dental spatula for 30 - 45 seconds.

4. Apply corrective mass on the prepared individual tray with spatula.

5. Bring tray to oral cavity with impression material aloft, one edge of tray put into the mouth, move away corner of the mouth, enter the other side of tray, place tray so that the teeth row was in the middle of tray groove.

6. Gently pressed to the back edge of tray to dental row, then make sure that the back edge contacts the jaw (that impression mass has not got to the root of the soft palate and tongue), press against the front edge of the tray.

7. Form margins of the impression using functional tests by Herbst (see p. 2) for 1 -1.5 min.

8. Hold the tray still till final hardening of the mass (2-3 min.).

9. Remove impression with one move.

10. Assess quality of the impression.

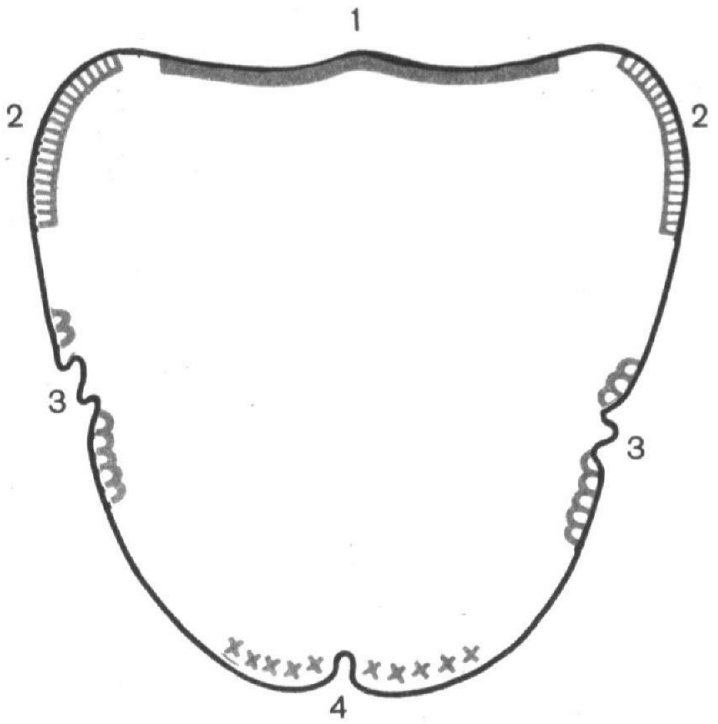
Requirements to the impression

1. Material must completely cover the tray.

2. Midline of dentition imprint must match with the middle of impression tray.

3. Impression doesn`t contain backstays and deformations.

4. The edges should be rounded and match anatomical margins of prosthetic field.



Places of custom trays correction on upper jaw **Taking of compressive functional impression with silicone materials from edentulous lower jaw with adjustment of custom impression tray**

Supply of materials

Phantom with toothless alveolar process of lower jaw; tough individual tray on the lower jaw; straight mechanical handpiece; set of burs; corrective silicon impression mass; dental glass; dental spatula.

Technique of impression taking

1. Provide individual fitting of impression tray in the mouth.
2. Form margins of the tray using functional tests by Herbst:

a) press individual tray to prosthetic field; during swallowing movements

tray displaces by straining of oral-pharyngial ring. To avoid resetting of the tray short it by posterio-inferior edge (see fig. - zone 1);

b) if tray fed the cutting edge with wide open of the mouth, short it from the

vestibular side in the area of the front teeth (see fig. - zone 2). If fed in distal areas, then short the vestibular edge in the distal section (see fig. - zone 3);

c) lick upper lip with the tongue. If tray fed, short its edge in the field of

lingual molars - the place of attachment of mylo-hyoid muscles (see fig. - zone 4);

d) if tray moves at the with touch of tip of the tongue alternately left and right cheeks, then short lingual edge of the tray in the region of premolars (see. fig.

- zone 5);

e) if the tray moves while trying to get the tip of the nose with the tip of the tongue, short the tongue edge of the tray in the area of the tongue frenulum (see fig. – zone 6).

3. Mix the required amount of corrective catalyst paste ratio, as instructed, on dental glass with dental spatula for 30 - 45 seconds.

4. Apply corrective mass on the prepared individual tray with spatula.

5. Bring tray to oral cavity with impression material aloft, one edge of tray put into the mouth, move away corner of the mouth, enter the other side of tray, place tray so that the teeth row was in the middle of tray groove.

6. Place the tongue of phantom beyond the tray.

7. Smoothly evenly press tray to alveolar process.

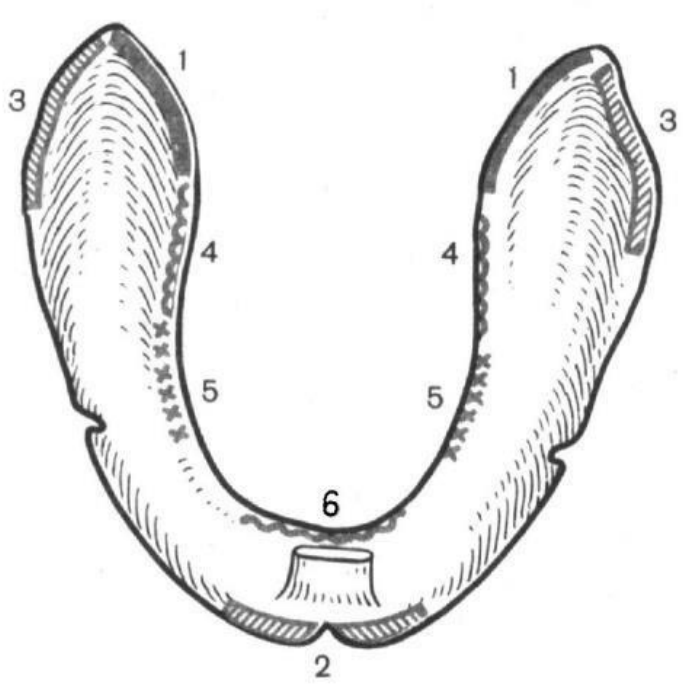
8. Form margins of the impression using functional tests by Herbst (see fig.

2) for 1 -1.5 min.

9. Hold the tray still till final hardening of the mass (2-3 min.).
10. Remove impression with one move.
11. Assess quality of the impression.

Requirements to the impression

1. Material must completely cover the tray.
2. Midline of dentition imprint must match with the middle of impression tray.
3. Impression doesn`t contain backstays and deformations.
4. The edges should be rounded and match anatomical margins of prosthetic field.



Places of correction of lower custom tray

Fabrication of custom impression tray out of self-curing resin

Supply of materials

Plaster toothless models of upper and lower jaws with the margins of individual trays basic wax; spirit lamp; technician spatula; brush; "Isocol"; self-curing plastic ("Protacryl", "Redont", etc.); porcelain cup; straight mechanical handpiece; set of burs, polishing buds.

Method of performing

1. Heat the wax plate with the flame.
2. Tightly compresses the model with preheated plate of wax and cut the excess wax on the outlined limits.

3. A second plate heats and compresses over the surface of the first, once again cut the wax on the outlined limits.

4. Pour the required amount of monomer in a porcelain cup. Pour powder in monomer plastic (powder has to be fully satisfied with monomer). Cover cup and to dismiss till maturation of plastic.

5. Apply with brush separate varnish "Izokol" (2 layers) on the model.

6. Lay plastic in doughy stage on a model uniform layer.

7. Press plastic paste to the model with the second wax plate.

8. Cut off the excess plastic with spatula.

9. Make plastic tray handle from the scraps of dough.

10. Remove the individual tray from the model after the final polymerization of the plastic, process and polish edges of tray with mills and gum.

Requirements to the individual tray

1. Individual tray must fit closely to the model.

2. The edges of the tray should be rounded, meet outlined limits, not injure oral mucosa.

Fabrication of work plaster cast

Supply of materials

Impression;
plaster; water;
rubber bulb;
spatula;
vibratory table;
knife for
plaster.

Method of performing

1. Pour the required amount of water into a flask (≈ 1/3 of the bulb). ≈

2. Slightly put plaster into the water to saturation with spatula. On the surface of the plaster soaked with water should remain slight excess of plaster.

3. Mix plaster with spatula until formation of smooth creamy consistency.

4. Take the impression with left hand and put it on vibratory table. Apply creamy plaster on the edge of impression with spatula in right hand. Displace plaster deeply into impression with vibration. Add the following portion of plaster to the edge of impression and repeat the procedure for filling of impression to the brim.

5. When plaster density increases and it begins to hold shape, lay it heaped on desk. Turns impression tray on plaster heap. Set tray parallel to the table.

6. Form the base of the cast with spatula, covering the edges of impression (height of impression - 1.5-2 cm).

7. Cut away areas that prevent the removal of the impression tray from cast after hardening of the plaster.

Requirements to the cast

1. Plaster of the cast must be solid without pore.
2. The cast has repeat all anatomical formations of prosthetic field.
3. Occlusal plane should be parallel to the base of the cast (table).
4. Base of cast should be height of 1 - 1.5cm.

Marking and engraving of edentulous upper jaw`s cast

Supply of materials

Plaster cast of toothless upper jaw;
chemical pencil; spatula for cast
graving.

Method of performing

1. Draw valve line on the cast with chemical pencil - on the outer slope of valve zone; alveolar - strictly along the crest of the alveolar process; middle - it

should separate cast at the right and left parts according to the frenulum of the upper lip, bone joint in the front section of the sky and blind holes in the back of the palate.

2. Mark bony projections with chemical pencil - torus and exostoses for their isolation.

3. Except described lines mark alveolar tubers on the cast. This layout helps define future margins of full dentures and orientate in setting of artificial teeth in toothless jaw.

4. Grave rounded groove with depth of 0.3 - 0.5 mm, width of 2 mm with dental spatula at the rear third of the palate on either sides of the median line, and grave same size groove on the vibrating line.

Requirements to the borders of full dentures bases on the upper jaw

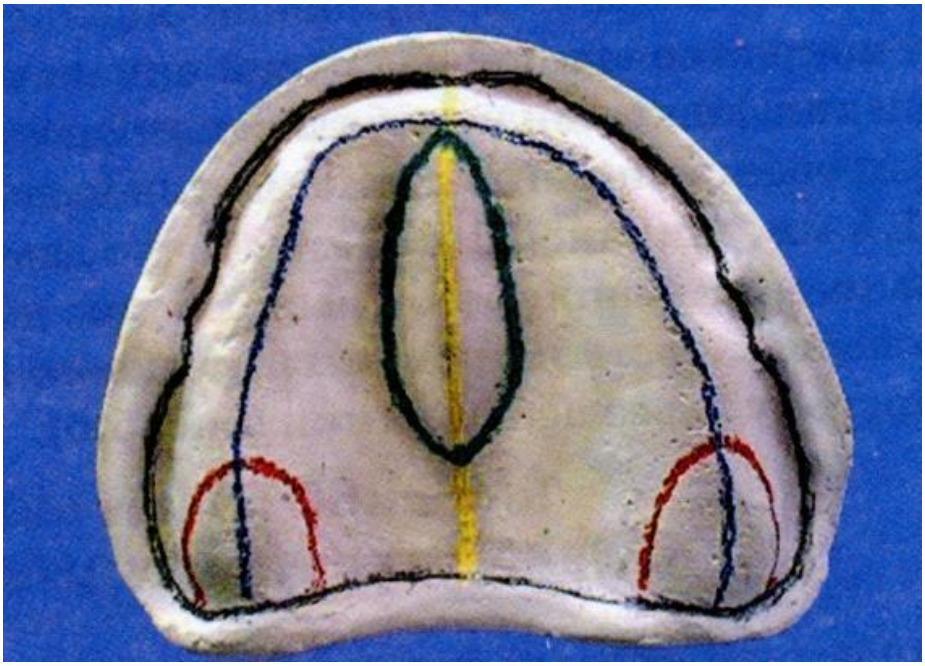
1. On the vestibular side margin reaches to actively moving area of mucous membrane, i.e. finishes on the neutral zone.

2. The front margin of the denture bypasses the frenum of the upper lip, and in the side sections - cheek bands.

3. In the posterior zone base covers tubers of maxillary to jaw-alar creases that come from the tubers` distal surfaces of the upper jaw.

4. Runs along the border area of transition from the base of tubers to the soft palate, i.e. follows the central zone, at the attachment of the muscles of the soft palate, decline on a so-called vibrating line by 1 - 2 mm.

5.



Marking of cast of toothless upper jaw

Drawing and isolation of torus and exostoses on edentulous upper jaw`s cast for making relief basis of the denture

Supply of materials

Drawn and graved cast of toothless upper jaw;
chemical pencil; lead foil; scissors; universal
glue.

Method of performing

1. Mark bony projections with chemical pencil - torus and exostoses for their isolation.
2. Cut with scissors plates from lead foil thickness from 0.3 to 0.5 mm following the form of the boundaries of the bone projections.
3. Fix foil plates with universal glue on the cast. Requirements for isolation of full dentures` exostosis
1. Lead plates must be 0.3 to 0.5 mm in thickness.
2. Isolating cover plates must fully cover exostosis, torus and accurately suit the marked boundaries of isolation.
3. Isolating cover plates must be firmly fixed to cast on the entire length to prevent the ingress of plastic under them during packaging.

Marking and engraving of edentulous lower jaw`s cast

Supply of materials

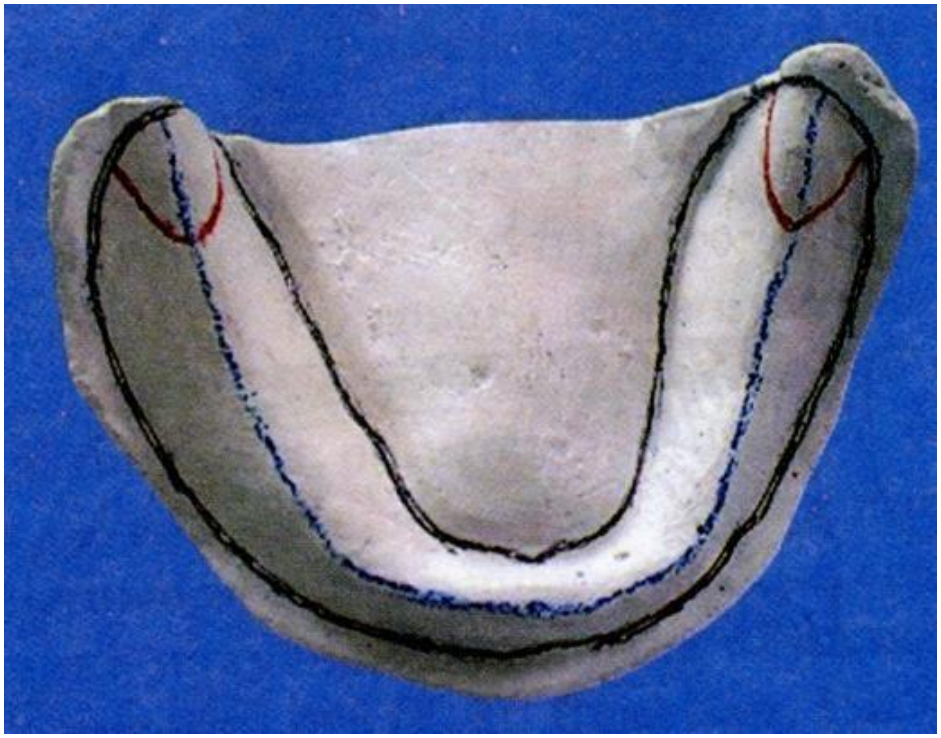
Plaster cast of toothless lower jaw;
chemical pencil; spatula for cast
graving.

Method of performing

1. Draw line on the cast with chemical pencil in place a transitional fold transitions to actively moving mucosa, bypassing the frenum of lower lip.
2. Bypass mucous tubers.
3. Turning on the lingual side, draw mandibulo-sublingual line going in the anterior zone to the site of attachment of the frenulum of the tongue and bypassing it.
4. Draw alveolar line - strictly on the crest of the alveolar bone.
5. Mark exostoses for their isolation with chemical pencil.
6. Except described lines mark mucous tubers. This layout helps with setting of artificial teeth in toothless jaw.

Requirements to the margins of full dentures` bases

1. On the vestibular side basis reaches actively moving zone of mucosa, bypasses the lower lip frenum, and in the area of premolars - by external bias line, not blocking it.
2. Basis overlaps the mandibular tubers, turns on the lingual side, necessarily covers oral and sublingual lines on right and left sides, reaches in anterior zone to the site of attachment the tongue`s frenum and bypasses it.



Drawing of toothless lower jaw

Drawing of edentulous upper and lower jaw`s casts according to the value of mucous` pliability by V.I. Kulazhenko

Supply of materials

Plaster cast of toothless upper jaw (I type by Schreuder);
plaster cast of toothless lower jaw (I type by Keller);
chemical pencil.

Method of performing

Draw cast of toothless upper jaw according ti zones and put average amounts of pliability in mm:

zone of middle palatal seam - 0.1-0.2mm;
lateral surfaces of hard palate - 0.5mm;
alveolar process - 0.5-0.4mm; rear third
part of hard palate - 0.8mm.
Draw plaster cast of lower jaw:
frontal zone of alveolar process - 0.4mm;
lateral zone - 0.5mm; rear distal zone -
0.6-0.7mm.

Fabrication of custom impression tray out of wax on upper jaw

Supply of materials

Marked plaster cast of the upper jaw casted by anatomical impressions; basic wax; spirit lamp; chemical pencil; orthodontic wire 0.8mm in diameter; crampon forceps; technician spatula; pincers.

Method of performing

1. Heat the wax plate with the flame of spirit lamp to its uniform softening, fold it in two layers.
2. Press the cast with plate.
3. Cut off the excess wax on with spatula.
4. Remove it from the cast and correct margins of the tray with a spatula.
5. Bend wire handle, send ends to the form of alveolar ridge.
6. Fix handle to tray - heat the wire, holding it with tweezers, and press into the tray with a spatula, pouring wax.

Requirements to the individual tray

1. Individual tray must fit closely to the cast.
2. The edges of the tray should be rounded, meet outlined limits, not injure oral mucosa.

Fabrication of custom impression tray out of wax on lower jaw

Supply of materials

Marked plaster cast of the lower jaw casted by anatomical impressions; basic wax; spirit lamp; chemical pencil; orthodontic wire 0.8 mm in diameter; crampon forceps; technician spatula; pincers.

Method of performing

1. Heat the wax plate with the flame of spirit lamp to its uniform softening, fold it in three layers.
2. Press the cast with plate.
3. Cut off the excess wax on with spatula.
4. Remove it from the cast and correct margins of the tray with a spatula.
5. Bend wire handle, send ends to the form of alveolar ridge.
6. Fix handle to tray - heat the wire, holding it with tweezers, and press into the tray with a spatula, pouring wax.

Requirements to the individual tray

Individual tray must fit closely to the cast.

The edges of the tray should be rounded, meet outlined limits, not injure oral mucosa.

Preparation of cast for duplication when making framework of bar denture on heat-resistant cast

Supply of materials

Combined cast (plaster + superplaster) with printed pattern of framework of bar denture; parallelometer with a set of tools; basic wax; bugel wax; spirit lamp; electric spatula; technician spatula; knife for plaster.

Methods of work

1. Cut the base of cast so that its sides are strictly vertical or have a conical shape.
2. Fill all niches and depressions with melted wax.
3. Fix cast on the table of parallelometer.
4. Cut the wax along the vertical axis moving knife of parallelometer.
5. Cut pads from bugel wax of size and shape of the places where the framework should not touch or adjacent mucosa (barh, saddle).
6. Glue wax to the cast in places that require isolation.

Requirements to the cast that prepared for the duplication

1. Cast must be without undercuts.
2. Places of the framework that must not touch or adjacent mucosa (barh, saddle) should be isolated with bugel wax.

Studying of cast with partial defect of dentitionin parallelometer

Supply of materials

Cast of jaw with partial defect of dental row, cast with superplaster;
red pencil; parallelometer with a set of tools and slate pencils;
sticky wax; spatula; spirit lamp; matchs.

Method of performing

1. Set cast with the rear side of the base to yourself on the table of parallelometer.

2. Fix slate pencil in holder on the rod.

3. Arbitrarily chose two teeth, tilted the mostly in the sagittal plane in different directions, carry their axis in two lines on the back of the base.

4. Find bisect of the angle formed between the lines, marked on rear of the base. Mark this line with red pencil.

5. Rotate the table with right side of the base to yourself.

6. Arbitrarily chose two teeth, tilted the mostly in the transversal plane in different directions, carry their axis in two lines on the right side of the base.

7. Find bisect of the angle formed between the lines, marked on this side of the base. Mark this line with red pencil.

8. Rotate the table with left side of the base to yourself.

9. Arbitrarily chose two teeth, tilted the mostly in the transversal plane in different directions, carry their axis in two lines on the left side of the base.

10. Find bisect of the angle formed between the lines, marked on this side of the base. Mark this line with red pencil.

11. Replace a slate pencil in holder on rod.

12. Get average angle between three red lines by rotating the table with cast. Fix position of the table with screws.

13. Set the rod in the center of the cast by moving the holder of parallelometer.

14. Attach match with melted sticky wax in the center of the cast parallel to the rod.

15. Replace rod to slate pencil.

16. Rotate table and outline general Height of contour (overview) line on plaster teeth with pencil.

Requirements to the cast analyzed with parallelometer

1. On the back and side surfaces of the base must be marked bisectors.

2. In the center of the cast must be fixed match according to the route of insertion of the denture.

3. In supporting teeth must be marked general clasp line according to the route of insertion of the denture.

MODELING OF DENTURE`S PARTS

Modeling of bar denture`s framework

Supply of materials

Wax: bugel, "Formodent", "Voskolit-02", Voskolit-03" (profile waxs); matrix for modeling of bar dentures; spirit lamp or electric spatula; technician spatula; cast of jaw with partial defect of dentitionand draw figure of the framework
of denture.

Method of performing

1. Cut gaskets from bugel wax heated over the alcohol lamp, fix them to the cast.

2. Warms up over alcohol lamp on spatula wax "Formodent" and pour it necessary (according to the pattern on the cast) niche in the matrix. Pull out from the matrix wax components with light bending movements after hardening wax.

3. Thus we get a bar, clasps, wire mesh, constraints and other bases.

4. Select required (by pattern) forms from the sets of wax "Voskolit."

5. Bend barh wax heated billet in the hands, place them on the cast according the contour of the figure, clutching easily.

6. Join all details with boiling wax.

Requirements to the modeled framework

1. Places of the framework that must not touch or adjacent mucosa (barh, saddle) should be isolated with bugel wax.

2. Wax blank of the framework should match the figure by shape.

3. Wax blank framework shape should fit snugly to the cast.

4. All parts of the framework should be accurately and confidently joined.

5. Between basis grids and other elements of the framework should be limiters of the basis.

Modeling of protective palatal plate after uranoplastics

Supply of materials

Plaster cast of the upper jaw with defect of hard palate.
spirit lamp or electric spatula; technician spatula; basic
wax; chemical pencil; plaster; spatula for plaster
mixing.

Methods of work

1. Mix plaster.
2. Fill defect of the palate with plaster, smooth down the edges to the level of the defect.

3. Outlining the boundaries of the plate, overlapping teeth with vestibular side before reaching the transition folds to 0.5 mm, covering the last molars, and on the palatal side by contour of the defect of palate.

4. Cut wax plate of required size and shape. Soften it over spirit lamp.

5. Compress the cast with unheated side.

6. Cut off the excess to the margins with warm spatula.

Requirements for protective palatine plate

1. The plate must fit snugly to the prosthetic bed.

2. Vestibular edge of the plate should take place on a 0.5 mm from the transitional fold.

3. The plate must cover last molars.

4. The plate must cover hard palate.

5. The distal margin of the plate must meet vibrating line.

Modeling of intermediate rinsing part of bridge on cast (teeth 1.4, 1.5 are absent)

Supply of materials

Plaster occludator with the appropriate defect and set crowns; spirit lamp or electric spatula; technician spatula; modeling wax; piece of isolating foil.

Methods of work

1. Paste a piece of foil in place of the defect.
2. Take a stick of modeling wax with length equal to the distance between the crowns.
3. Soften wax and set it on the cast. A piece of wax should be wider and higher by 2 - 5 mm than the gap.
4. Attach roller with boiling wax to crowns.

5. Close occludator to get impressions of teeth-antagonists.

6. Cut off the excess wax with cold spatula by width.

7. Separate piece of wax on parts that correspond to the width of missing teeth with spatula.

8. Provide anatomical shape to wax teeth of separated sections.

9. Make chewing surface of the premolars 2 - 3 mm narrower than that of natural teeth, make low chewing tubercles.

10. Form a slant for better hygiene of denture on oral surface facing the alveolar ridge. Model chewing teeth by the type of intermediate washing, leave gap of 1 - 2 mm between the gum and tooth.

Requirements to the modeled intermediate washing part

1. Alveolar ridge in the area of missing teeth must be isolated with foil.

2. Artificial teeth must have the correct anatomical shape with unpronounced tubercles.

3. Chewing surface of the artificial teeth must be 2 - 3 mm narrower than that of natural teeth, and have multiple contact with teeth-antagonists, without increasing occlusion.

4. The surface of the intermediate part, facing the alveolar ridge, should touch foil on vestibular side, and on oral side the gap should be 1 - 2 mm.

Preparation of cast for immediate-denture fabricating

Supply of materials

Cast of lower jaw with intact dental row, teeth 3.1, 3.2, 4.1 and 4.2 are marked, to be removed; straight handpiece; set of burs for straight handpiece (fissure, round); technician knife.

Method of performing

1. Cut away central incisors with a knife at the level of dental necks.
2. Cut away 1 - 2 mm of plaster on the crest of the alveolar bone with fissure bur, giving alveolar ridge crest oval form. Do not remove 3 - 4 mm of plaster from canines to prevent pressure of future denture on the mucosa.

Requirements for the cast prepared for the manufacturing of immediatedenture

1. The teeth to be removed should be cut to the level of necks.
2. 1 - 2 mm of plaster should be removed from the top of the alveolar ridge, retreating 3 - 4 mm from the teeth, limiting defect.

3. Alveolar crest should be rounded.

CHECKING, CORRECTION AND FIXATION OF DENTURES

Checking of single stamp crown on tooth 1.6

Supply of materials

Cast or phantom of jaw with tooth 1.6, prepared for the single stamped crown; straight mechanical handpiece; set of abrasives (disks and diamond heads); anvil and hammer; crampon or beak pliers; set of tools (tweezers, probe, mirror), cotton; crown remover.

Method of performing

1. Check stamped crown on a plaster column (competence to single stamped crown): must comply the anatomical shape of the tooth, the length must be at the level of anatomical neck of the tooth, fit tightly to the neck of the tooth; check for folds, various mechanical damage.
2. Provide antiseptic finishing of crown with alcohol.
3. Try crown on abutment tooth: crown should be firmly mounted on the supporting tooth (possibly with a click), go in under the gum for 0.1 - 0.2 mm (depth of gingival sulcus). The crown must restore aproximal contacts, neither overstate bite, nor come forward from the dentition.
4. If the crown does not meet these requirements, then use abrasives to prepare abutment tooth (if crown is not very narrow or a tooth has overhanging edges) or use crampon pliers to bends crown (if it`s wide); if the crown is long, it can be cut using the same abrasives.
5. If the crown is short, too narrow or too wide, it should be restamped.

Requirements to the stamp crown

1. Artificial crowns must be without folds or mechanical damage.
2. Crown must have correct anatomical form.
3. Artificial crown should fit tightly to the neck of the tooth, go in under the gum edge to a depth of gingival sulcus (0.1 - 0.2 mm).
4. The crown create dense aproximal contacts, without overpresuring of gingival papillae.
5. The crown should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.

Checking of cast crown on tooth 1.6

Supply of materials

Cast or phantom of jaw with tooth 1.6, prepared for the single cast crown; micrometer; straight mechanical and air handpieces; set of abrasives (disks and diamond heads), burs; set of tools (tweezers, probe, mirror, spatula), cotton; dental glass; corrective silicon impression mass; occlusion paper; crown remover.

Method of performing

1. Check cast crown on the cast (compliance to requirements for single cast crown): must comply the anatomical shape of the tooth, the length must be at the level of bevel, fit tightly to the neck of the tooth; check for various mechanical damage and thickness (0.5 - 0.8 mm).
2. Provide antiseptic finishing of crown with alcohol.
3. Check the crown in the mouth on the abutment tooth: crown should tightly put on the abutment tooth, the edge should be based on the bevel, go in under the gum for 0.1 - 0.2 mm (depth of gingival sulcus). The crown must restore aproximal contacts, not overstate bite, not come forward of the dentition.
4. If the crown is to the loosely contacts adjacent tooth, then mix corrective impression mass on dental glass, fill crown with it and put the crown on the abutment tooth. After polymerization of the mass remove the crown and determine the place that prevent imposition of crown (places of bursting of impression mass).
5. Use abrasives to prepare abutment tooth or crown.
6. Made sure that the crown firmly placed on the abutment tooth, check occlusal contacts using occlusal paper, and, if necessary, adjust occlusal surface of the crown in the position of central occlusion.
7. Check with occlusal paper and, in case of presence, eliminate contacts at the front and side occlusions.

Requirements to the of cast crown

1. Artificial crowns must be without mechanical damage, crown`s thickness is 0.5 - 0.8 mm.
2. Crown must have correct anatomical form.
3. Artificial crown should fit tightly to the neck of the tooth and placed on the bevel.
4. Crown must restore dense aproximal contacts, without overpresuring of gingival papillae.
5. The crown should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.

Checking of metal-ceramic bridge with abutments 1.3 and 1.6

Supply of materials

Phantom with teeth 1.3 and 1.6, prepared for metal-ceramic crowns and missing teeth 1.4 and 1.5; straight mechanical and air handpieces; set of abrasives (separate discs, diamond heads), burs; occlusion paper; crown remover.

Method of performing

1. Check bridge on the cast (compliance to requirements for bridge): supporting crowns and artificial teeth should meet anatomical shape of teeth, supporting crowns should fit tightly to the abutment teeth, crowns` edges should be on the bevels; check for presence of mechanical damage, matching of ceramic lining`s color .
2. Provide antiseptic finishing of bridge with alcohol.
3. Check bridge on abutment teeth in the mouth: crowns should fit tightly to the abutment teeth, crowns` edges should be on the bevels, go in under the gum for 0.1 - 0.2 mm (depth of gingival sulcus). Crowns should restore aproximal contacts. Restored teeth should not overstate bite, not come forward from the dentition. The intermediate part is positioned in touch to the mucosa of the alveolar ridge on vestibular side, but do not put press on it (there should not be a whitening of gums).
4. If the crown tightly adjacent to abutment teeth, then use spray or corrective impression mass, injected into the crowns, find a place that prevent the imposition prosthesis (places marked with occlusal paper).
5. Using abrasives to remove places that prevent the imposition of the denture.
6. Made sure that the crowns firmly placed on the abutment teeth, check occlusal contacts using occlusal paper, and, if necessary, adjust occlusal surfaces of the bridge (in the position of central occlusion).
7. Check with occlusal paper and, in case of presence, eliminate contacts at the front and side occlusions.

Requirements to the metal-ceramic bridge

1. Bridge should be without mechanical damage.
2. Artificial teeth must have correct anatomical form.
3. Artificial crowns should fit tightly to the bevel of abutment teeth, go in under the gum edge to the depth of gingival sulcus (0.1 - 0.2 mm).
4. Denture must restore dense aproximal contacts, without overpresuring of gingival papillae.
5. The bridge should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.
6. The intermediate part (touching) should fit tightly to the mucosa of the alveolar process, without pressure on it (there should not be a whitening of gums).
7. Color of ceramic lining must match the color of the patient's teeth.

Checking of cast bridge with abutments 3.5 and 3.7

Supply of materials

Phantom of teeth 3.5 and 3.7, prepared for cast crowns, and missing tooth 3.6; micrometer; straight mechanical and air handpieces; set
of abrasives (separate discs, diamond heads), burs;

dental glass; corrective silicon impression mass;

occlusion paper; crown remover.

Method of performing

1. Check bridge on the cast (requirements to the cast bridge): supporting crowns and artificial teeth should meet anatomical shape of teeth, supporting crowns should fit tightly to the abutment teeth, crowns` edges should be on the bevels; check for various mechanical damage and thickness (0.5 - 0.8 mm).

2. Provide antiseptic finishing of bridge with alcohol.

3. Check bridge on abutment teeth in the mouth: crowns should fit tightly to the abutment teeth, crowns` edges should be on the bevels, go in under the gum for 0.1 - 0.2 mm (depth of gingival sulcus). Crowns should restore aproximal contacts. Restored teeth should not overstate bite, not come forward from the dentition. The intermediate part (washing) should not touch the mucous membrane of alveolar process (distant equal to the thickness of the probe).

4. If the crown tightly adjacent to abutment teeth, then use spray or corrective impression mass, injected into the crowns, find a place that prevent the imposition prosthesis.

5. Use abrasives to remove metal in the identified areas.

6. If the supporting crowns still don`t tightly bordered to the adjacent teeth, then mix corrective dental impression mass on the glass, fill it and put on the crown on abutment teeth. After polymerization remove denture and determine the places that prevent the imposition of denture (places of bursting of impression mass).

7. Use abrasives to prepare abutment teeth or crowns.

8. Make sure that the denture firmly bordered on the abutment teeth, check occlusal contacts using occlusal paper, and, if necessary, adjust occlusal surfaces of the bridge in the position of central occlusion.

9. Check with occlusal paper and, in case of presence, eliminate contacts at the front and side occlusions.

Requirements to the cast bridge

1. Bridge should be without mechanical damage, the least thickness of the crowns is 0.5 - 0.8mm.
2. Artificial teeth must have correct anatomical form.
3. Artificial crowns should fit tightly to the bevel of abutment teeth, go in under the gum edge to the depth of gingival sulcus (0.1 - 0.2 mm).
4. Denture must restore dense aproximal contacts, without overpresuring of gingival papillae.
5. The bridge should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.
6. The intermediate part (washing) should not fit tightly to the mucosa of the alveolar process, space between them is equal to the thickness of the probe, do not put pressure on it (there should not be a whitening of gums).

Removing of single stamp crown from tooth 1.6

Supply of materials

Phantom with stamp crown on tooth 1.6 fixed on cement;
observation set; straight handpiece; crown cutter; spatula;
crown remover.

Method of performing

1. Insert the crown cutter in a straight handpiece.
2. Fix the thumb of the right hand on the chewing surface of the upper right teeth, keep the handpiece with the rest of the fingers. Move away cheek with the mirror, protecting the soft tissue from damage.
3. Cut vestibular, and chewing surface of the crown with intermittent movements against movement`s direction of bur the, starting from the neck of the tooth.
4. After the destruction fixing cement and appearance of mobility of crown, separate crown brims with spatula by catching them, and gently remove crown from the tooth.

Requirements to the cut of crown

1. The cut should begin from the edge of the crown and take over the crown in the middle, across the vestibular and chewing surfaces.
2. The cut should be on the depth of the metal, but must not damage hard tissues of the tooth.

Fixation of stamp-brazing bridge

Supply of materials

Phantom of the jaw with teeth prepared for the stamped-brazing bridge; stamped-brazing bridge; cement for fixation; dental glass; instruments (tweezers, probe, mirror, spatula); cotton rollers; alcohol.

Method of performing

1. Check path of setting of the bridge.

2. Apply necessary amount of powder and liquid of cement (powder and liquid ratio indicated in the annotations to the cement) on dental glass. Using cotton rollers to isolate abutment teeth from oral fluid.

3. Provide antiseptic finishing of supporting teeth and artificial crowns.

4. Dry with air artificial crowns and abutment teeth.

5. Mix cement for fixation on the glass until consistence of liquid sour cream.

6. Fill crowns on 2/3 with cement, introduce bridge into the mouth, put on the supporting teeth and press.

7. Tightly close phantom teeth rows for controlling of correctness of occlusion.

8. After 5-10 minutes clear the crowns of excess of cement using the probe.

9. We recommend patient to avoid eating, drinking or rinsing mouth, and biting of solid materials for 2 hours.

Requirements to the fixed bridge

1. The edges of the supporting crowns should go under the gums to a depth of 0.1-0.2 mm of gingival sulcus.

2. Bridge should not raise occlusion.

Correction of partial removable denture on cast of upper jaw

Supply of materials

Phantom with partial defect of dentitionon upper jaw; partial removable denture for the upper jaw; straight mechanical handpiece; set of abrasives, disks, rubbers and diamond burs; occlusion paper; crampon forceps.

Method of performing

1. Check of the quality of partial removable denture:

a) quality of the plastic: there should not be pores, moires, broad patterns, foreign inclusions or mechanical damage; base must be thoroughly polished;

b) prosthesis must be without sharp edges, protuberances; in case of their presence eliminate defects using cutters;

c) base thickness should be 1.5 - 2.0 mm;

d) quality of clasps: clasps should have a shoulder, a body, a process which

is fully in basis; shoulder and body are released from plastics;

e) artificial teeth should meet the dental formula. 2. Provide antiseptic finishing of denture with alcohol.

3. Insert the partial removable denture into the mouth, put it on the prosthetic bed.

4. In case of gap between the denture and prosthetic bed is present, use occlusal paper to find places that prevent the imposition of denture and eliminate them using cutters.

5. After inserting of the denture check it`s margins: edges of the denture must reach the transitional fold on vestibular side. Bridles and mobile bands should be released. Margins of the prosthesis should not cover vibrating line (determine it by the shift of palatal curtain after pronunciation of sound "A"). The size of base depends on the number of remaining teeth. The more teeth, the smaller base, and vice versa. Denture base overlaps teeth that remain in the side areas by 2/3 of their height. In orthognatic bite overlapping of front teeth of the upper jaw is 1/3. In case of deep bite this may interfere with closing teeth. In such cases they must overlap less.

6. Validate the location of clasps` shoulders: shoulder of clasp should be placed between the neck and the height of contour of supporting tooth and firmly adhere to it, but do not push at rest.

7. Checks the teeth for the cosmetic requirements (color, shape, line of dental barh).

8. Check for multiple contact between antagonistic teeth in central occlusion with occlusal paper. Remove places of premature contacts with cutters.

9. Check with occlusal paper and, in case of presence, eliminate contacts at the front and side occlusions.

Requirements to the partial removable dentures for the upper jaw

1. Plastic should be without pores, moires, broad patterns, foreign inclusions or mechanical damage;

2. Base thickness should be 1.5 - 2.0 mm. Edges of the denture must reach the transitional fold on vestibular side. Bridles and mobile bands should be released. Denture base overlaps teeth that remain in the side areas by 2/3 of their height. In orthognatic bite overlapping of front teeth of the upper jaw is 1/3. In case of deep bite they must overlap less.

3. The denture should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.

4. Artificial teeth must meet cosmetic requirements (color, shape, line of dental barh).

5. Shoulder of clasp should be placed between the neck and the Height of contour of supporting tooth and firmly adhere to it, but do not push at rest.

Transposition of full removable denture`s front group of teeth

Supply of materials

Phantom with the complete absence of teeth; occludator with casts of toothless jaws and teeth in wax bases. Teeth 1.1 and 1.2 in wrong position; spirit lamp; technician spatula; plate of base wax; straight handpiece; set of abrasives.

Method of performing

1. Check setting of teeth in complete dentures at the phantom and determine the correct position of the right central and lateral incisors of upper jaw.
2. Impose basis of dentures on the cast.
3. Take out of wax teeth 1.1 and 1.2, raising them with blade of dental spatula.
4. Heats plot of wax, where were these teeth, with hot dental spatula.
5. Set artificial teeth in the place of warmed wax of the basis in correct position.
6. If necessary, adjust the shape of the teeth using abrasives.
7. Fix artificial teeth with melted wax.
8. After cooling of wax basis with the teeth remove all from the cast and check it in the mouth of the patient.
9. If necessary, refine the teeth directly in the mouth using dental spatula.
10. Transfer basis of dentures on the cast.
11. Fix teeth with melted wax.

Requirements to the prepared teeth

1. Artificial teeth must meet cosmetic requirements (color, shape, line of dental barh).

2. Transposed teeth should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.

Adaption of partial removable denture on cast of lower jaw

Supply of materials

Phantom with partial defect of dentitionon lower jaw; partial removable denture for the lower jaw; straight mechanical handpiece; set of abrasives, disks, rubbers and diamond burs; occlusion paper; crampon forceps.

Method of performing

1. Check of the quality of partial removable denture:

a) quality of the plastic: there should not be pores, moires, broad patterns, foreign inclusions or mechanical damage; quality of polishing;

b) prosthesis must be without sharp edges, performances; in case of their presence eliminate defects using cutters;

c) base thickness should be 3.0 - 4.0 mm;

d) quality of clasps: clasps should have a shoulder, a body, a process which is fully in basis; shoulder and body are released from plastics.

e) artificial teeth should meet the dental formula.

2. Provide antiseptic finishing of denture with alcohol.

3. Enter removable denture into the mouth, impose it on the prosthetic bed.

4. In case of gap between the denture and prosthetic bed is present, use occlusal paper to find places that prevent the imposition of denture and eliminate them using cutters.

5. After inserting of the denture check it`s margins: edges of the denture must reach the transitional fold on vestibular side. Bridles and mobile bands should

be released. On the lingual side in the frontal area basis` margins should bypass the bridle of the tongue, in the side area - reach the internal oblique line. The size of base depends on the number of remaining teeth. The more teeth, the smaller base, and vice versa. Remaining teeth overlaped by denture base on 2/3 of their height.

6. Validate the location of clasps` shoulders: shoulder of clasp should be placed between the neck and the height of contour of supporting tooth and firmly adhere to it, but do not push at rest.

7. Checks the teeth for the cosmetic requirements (color, shape, line of dental barh).

8. Check for multiple contact between antagonistic teeth in central occlusion with occlusal paper. Remove places of premature contacts with abrasives.

9. Check with occlusal paper and, in case of presence, eliminate contacts at the front and side occlusions.

Requirements to the partial removable dentures

1. Plastic should be without pores, moires, broad patterns, foreign inclusions or mechanical damage; must be thoroughly polished.

2. Base thickness should be 3.0 - 4.0 mm. Edges of the denture must reach the transitional fold on vestibular side. Bridles and mobile bands should be released. On the lingual side in the frontal area basis` margins should bypass the bridle of the tongue, in the side area - reach the internal oblique line. The size of base depends on the number of remaining teeth. The more teeth, the smaller base, and vice versa. Remaining teeth overlaped by denture base on 2/3 of their height.

3. The denture should create tight contact with the teeth-antagonists, thus should not raise interocclusal relation.

4. Artificial teeth must meet cosmetic requirements (color, shape, line of dental barh).

5. Shoulder of clasp should be placed between the neck and the Height of contour of supporting tooth and firmly adhere to it, but do not push at rest.

DETERMINATION AND FIXATION OF CENTRAL OCCLUSION, DIAGNOSTIC OF PATHOLOGICAL WEARING

Determination and fixation of central occlusion in cases of small defects of dentition in lateral area (using plaster)

Supply of materials

Phantom with small defect of dentitionon the upper or lower jaw; plaster; 3% saline solution; rubber bulb for plaster mixing; spatula for plaster mixing; investigaton set (tweezers, probe, mirror).

Method of performing

1. Check the bite of dentition in the position of central occlusion.
2. Pour into the bulb 50 ml of 3% saline solution, then add plaster and, thoroughly stirring, bring to the consistency of thick cream
3. Form plaster roller of 3 - 4 cm length and of 1.0 - 1.5 cm a width.
4. Enter plaster roller into the mouth and place it in the area of dentition defect.
5. Bite teeth in the position of central occlusion.
6. Open the bite after the crystallization of plaster; if plaster imprint was broken, carefully take out all its parts and give to the technical laboratory.

Requirements to the occlusal plaster roller

1. When extracting plaster roller has to break for 2 - 3 parts.
2. Fragments of the roller should easily match together.
3. The roller is securely fixing teeth rows in the position of central occlusion.

Determination and fixation of central occlusion in cases of small defects of dentition in frontal area (using plaster`s blocks)

Supply of materials

Phantom with defect of dentitionin frontal area on the upper or lower jaw; plaster;
3% saline solution;
Rubber bulb for plaster mixing; spatula
for plaster mixing; investigaton set
(tweezers, probe, mirror).

Method of performing

1. Check the bite of dentition in the position of central occlusion.
2. Pour into the bulb 50 ml of 3% saline solution, then add plaster and, thoroughly stirring, bring to the consistency of thick cream
3. Form plaster roller of 3 - 4 cm length and of 1.0 - 1.5 cm a width, separated for 2 parts.
4. Enter one part of plaster roller into the mouth and put it in the area of defect teeth from the inside to the teeth, limiting defect.
5. Bite teeth in the position of central occlusion.
6. Convinced that the tooth rows closed in position of central occlusion, apply the second half of plaster roller in the area of dentition defect from outside to the teeth, limiting defect.

7. Open the bite after the crystallization of plaster; if plaster imprint was broken, take out all its parts and give to the technical laboratory.

Requirements to the occlusal plaster roller

1. When extracting plaster roller has to break for 2 - 3 parts.
2. Fragments of the roller should easily match together.
3. The roller is securely fixing teeth rows in the position of central occlusion.

Determination and fixation of central occlusion in cases of small defects of dentition (using silicone material)

Supply of materials

Phantom with small defect of dentitionof upper or lower jaw;
base silicon material; investigaton set (tweezers, probe,
mirror).

Method of performing

1. Check the bite of dentition in the position of central occlusion.
2. Mix base silicon material according to instructions.
3. Form roller of 3 - 4 cm in length and of 1.0 - 1.5 cm in width.
4. Enter silicone rollers into the mouth and place them in the side areas of teeth rows.
5. Bite teeth in the position of central occlusion.
6. After polymerization of the mass open the teeth, gently pull it out and give to technical laboratory.

Requirements to the occlusal silicon roller

1. Silicone rollers should be without guys.

2. Is securely fixing teeth rows in the position of central occlusion.

Determination and fixation of central occlusion in cases of big defects of dentition in presence of one pair of antagonists using wax rims

Supply of materials

Phantom with a large defect of dentitionof upper and lower jaws in the presence of a pair of antagonists; casts of upper and lower jaws with wax rims; technician spatula; alcohol burner; investigaton set (tweezers, probe, mirror).

Method of performing

1. Check the suitability wax patterns with wax rims to the following requirements:

a) margins of wax pattern must meet margins of prostheses;

b) wax pattern should tightly fit to the casts;

c) wax rims are strictly placed in the middle of alveolar bone, width in the frontal area - 0.8 - 10.0 mm, in side area 1 - 1.5 cm, 2 - 3 mm above remaining teeth.

2. Check the bite of dentition in the position of central occlusion.

3. Enter wax rims into the mouth and adjust height using dental spatula. Distance between antagonists should not exceed 2 - 3 mm. Rims should fit tightly each other across the length.

4. Heat wax rims with dental spatula and alcohol burner for 2 - 3 mm.

5. Enter heated wax rims into the mouth and bite teeth in the position of central occlusion.

6. Extract wax rims from the oral cavity after hardening of wax and validation of central occlusion registration.

Requirements to the wax rims after determination of central occlusion

1. Wax rims should fit tightly to the casts.
2. Wax rims should be securely glued together.
3. Wax rims should securely fix the casts in the position of central occlusion.

Determination and fixation of central occlusion in cases of big defects of dentition without antagonists using wax rims

Supply of materials

Phantom with a large defect of dentitionof upper and lower jaws in the presence of a wax rims; casts of upper and lower jaws with bite rollers; technician spatula; alcohol burner; investigaton set (tweezers, probe, mirror).

Method of performing

1. Check the suitability wax patterns with wax rims to the following requirements:

a) margins of wax pattern must meet margins of prostheses;

b) wax pattern should tightly fit to the casts;

c) wax rim is placed strictly in the middle of the alveolar process; width in the frontal area - 0.8 - 10.0 mm, in side area 1 - 1.5 cm, and 2 - 3 mm above the remaining teeth.

2. Get intraalveolar height with anatomical-physiological method:

a) use paper or a ruler: apply arbitrary points on the chin and nose of the patient;

b) then in a state of physiological rest we transfer these dots on a sheet of paper or a ruler;

c) subtract 1 to 4 mm on the line or paper, depending on the patient's age (tone of chewing muscles) to get height bite.

3. Cut or add wax on wax rim with dental spatula to get height of physiological rest, seeking their tight contact with each other throughout the length.

4. Heat wax rims with dental spatula and alcohol burner for 2 - 3 mm.

5. Enter heated wax rims into the mouth and bite teeth in the position of central occlusion (using tests).

6. Extract wax rims from the oral cavity after hardening of wax and validation of central occlusion registration.

Requirements to the wax rims after determination of central occlusion

1. Wax rims should fit tightly to the casts.
2. Wax rims should be securely glued together.
3. Wax rims should securely fix the casts in the position of central occlusion.

Determination and fixation of central occlusion in cases of edentulous jaws using wax rims

Supply of materials

Phantom of the complete absence of teeth in the upper and lower jaws; casts of upper and lower jaws with bite rollers; technician spatula; alcohol burner; investigaton set (tweezers, probe, mirror).

Method of performing

1. Check the suitability wax patterns with wax rims to the following requirements:

a) margins of wax pattern must meet margins of prostheses;

b) wax pattern should tightly fit to the casts;

c) wax rim is placed strictly in the middle of the alveolar process; width in the frontal area - 0.8 - 10.0 mm, in side area 1 - 1.5 cm, height in the frontal area - 1-1.5 cm, in lateral area - 0.8 cm.

2. Get intraalveolar height with anatomical-physiological method:

a) use paper or a ruler: apply arbitrary points on the chin and nose of the

patient;

b) then in a state of physiological rest we transfer these dots on a sheet of

paper or a ruler;

c) subtract 1 to 4 mm on the line or paper, depending on the patient's age (tone of chewing muscles) to get height bite.

3. Cut or add wax with dental spatula in the frontal area of the upper wax rim parallel to pupillary line, seeking that it be 0.5 - 1 mm below the upper lip.

4. Cut side areas of wax rims parallel to each other and to ala-tragus line.

5. Make locks on the upper surface of the wax rim.

6. Cut lower wax rim, seeking for the contacts across the plane of the upper wax rim; height of wax rims must comply to height of physiological rest (2 - 3 mm higher than the height of the bite); control with ruler.

7. Heat wax rims with dental spatula and alcohol burner for 2 - 3 mm.

8. Enter heated wax rims into the mouth and bite teeth in the position of central occlusion (using tests).

9. After hardening of the wax and validation of bite height`s and central relationship`s fixation of the jaws draw tentative line on the wax rims: middle, bite of the teeth, fangs, smile.

10. Remove wax patterns from the oral cavity.

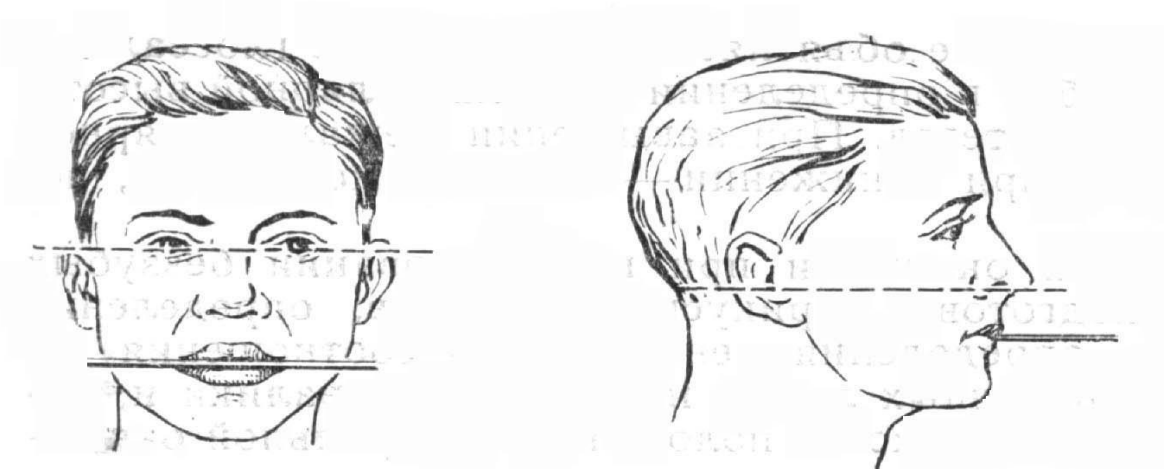
Requirements to the wax rims after determination of central occlusion

1. Wax rims should fit tightly to the casts.

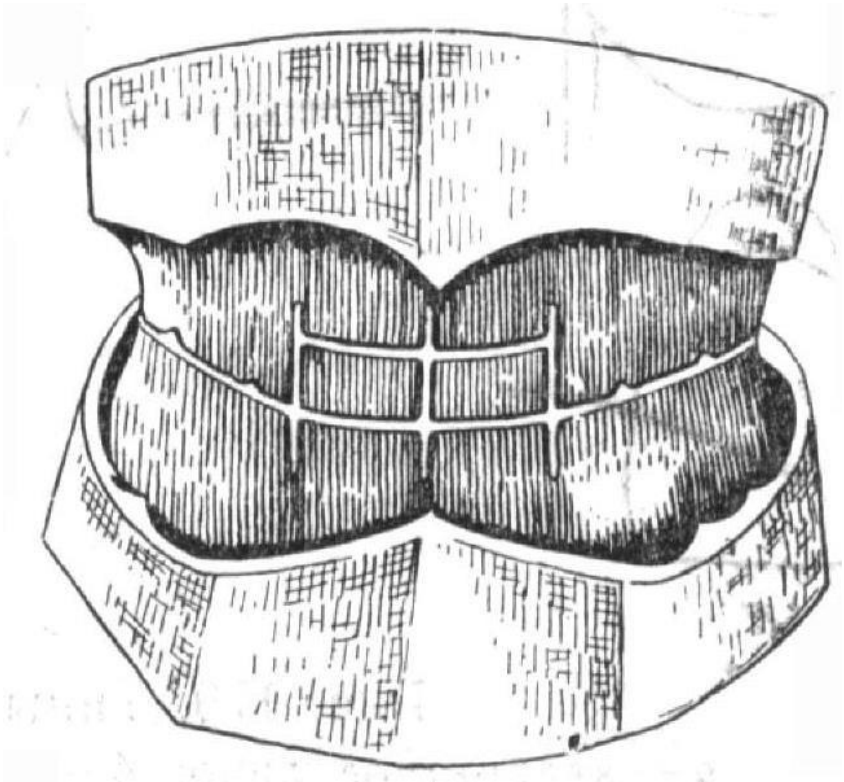
2. Wax rims should be securely glued together.

3. Wax rims should securely fix the casts in the position of central occlusion.

4. Tentative line must be drawn on the wax rims: middle, bite of the teeth, fangs, smile.



Determination of frontal area of prosthetic plane



Drawing of wax rims

Fabrication of wax rims in cases of edentulous jaws

Supply of materials

Plaster casts cast by functional impressions;
basic wax - 2 plates; technician spatula;
electric spatula; chemical pencil;
orthodontic wire 0.8mm in diameter.

Method of performing

1. Cut from the plate slice of wax of required size according to the cast with warm spatula.
2. Moist cast with water.
3. Heat cut wax plate on one side.
4. Apply to the cast with the unmelted flip side.

5. Compress the cast with wax using your fingers, starting at the upper jaw from the palate, and at the lower - from the side of the tongue and further out.

6. Strengthen the bases with orthodontic wire of 0.8 mm diameter and 2 cm long, bending it to form the inner surface of alveolar processes, heat and immerse into basis, pour with boiling wax.

7. Warm up the second plate wax and roll it into a tight roll.

8. The resulting roller attach strictly to the center of alveolar bone of wax pattern.

9. Attach wax roller to the base with boiling wax, forming steep vestibular surface of following sizes: height - 1.5 cm, width - 1 cm.

10. Make the surface of rollers smooth, in the distal areas form bevel.

11. Cut wax basis of appropriate limits.

12. Remove from the cast and redress the wax on the margins.

Requirements to the wax rims

1. Margins of wax pattern must meet margins of prostheses.

2. Wax pattern should tightly fit to the casts.

3. Wax rim is placed strictly in the middle of the alveolar process; width in the frontal area - 0.8 - 10.0 mm, in the side area - 1 - 1.5 cm.

Determination of bite`s type

Supply of materials

Phantom with intact dentition; investigaton
set (tweezers, probe, mirror).

Method of performing

1. Examine dentition: form dentition of upper and lower jaws, the position of individual teeth in the dental barh (inclination to oral or vestibular sides toward defect teeth, turn on the axis, and supra- or infrapotition relatively to the prosthetic plane), defects of dentition.

2. Determine bite (character of dentition in the position of central occlusion), intraalveolar height; detect premature contacts, character of movements in the temporomandibular joint (symmetry, smoothness, volume of movements).

3. Estimates the relations of the teeth in central occlusion in three mutually perpendicular planes.

4. Establish full diagnosis (type of bite, form dentition, position, shape, size, other pathology of individual teeth).

Requirements to the diagnosis

Diagnosis must be full (type of bite, form dentition, position, shape, size, other pathology of individual teeth).

Planning of attrition`s treatment

Supply of materials

Phantom with attrition of teeth; investigation
set (tweezers, probe, mirror).

Method of performing

1. Examine oral cavity to determine the form of attrition of dental hard tissues (by M. R. Bushan).

Stages of development

I. Physiological - within the enamel.

II. Transitional - within enamel and partly within dentin.

III. Pathological - within the dentin.

1) The depth of destruction:

a) less than 1/3 of the length of the crown;

b) from 1/3 to 2/3 the length of the crown;

c) from 2/3 of the length of the crown to gums.

2) Plane of destruction: a)

horizontal;

b) vertical;

c) mixed.

3) The length of lesions: a)

limited;

b) generalized. 4)

Dentin sensitivity: a)

normal;

b) with hypersensitivity.

2. Determine the presence of lowering of the bite

First stage	Second stage	Third stage
Beginning	Developed with preferentially localization of pathological process in the dental system	With localization of the pathological process in the dental system and temporomandibular joint

	a) without significant deformation of dental and alveolar barhes	b) with deformation of the dental and alveolar barhes	a) without significant deformation of dental and alveolar barhes	b) with deformation of the dental and alveolar barhes

3. Form full diagnosis.

4. Form plan of treatment.

Requirements to the treatment plan

Use medicamental methods at early stages:

1. Remineralization of the superficial layers of dentin and enamel, and calcification of substitute dentin of teeth.

2. General treatment:

I. Medicines of calcium.

II. Group of multivitamins and polyminerals.

III. In case of increased tone of masticatory muscles or bruxism - sedatives.

IV. Diet.

Orthopaedic treatment

1. Eliminate minor violations of occlusion and greatly thinned edges of teeth due to abnormal wearing using preparation of teeth.

2. Restoration of defects of enamel and dentin in case of attrition of teeth is possible only when they are little.

3. Creating 2-3 corresponding contact points on the teeth in patients with attrition of the first stage, and 4-6 contact points in patients with the second degree.

4. Treatment of the patients with advanced stages of reducing bite, and with the localization of the pathological process in the dental system and temporomandibular jaw joint, is two-staged:

I - determine the height of the bite and restore it with dentogingival splint; II - fix this height with prostheses.

THE GLOSSARY OF PROSTHODONTIC TERMS

Abutment: 1: that part of a structure that directly receives thrust or pressure; an anchorage; 2: a tooth, a portion of a tooth, or that portion of a dental implant that serves to support and/or retain a prosthesis.

Acrylic resin: 1: pertaining to polymers of acrylic acid, methacrylic acid, or acrylonitrile; for example, acrylic fibers or acrylic resins; 2: any of a group of thermoplastic resins made by polymerizing esters of acrylic or methylmethacrylate acids.

Acrylic resin base: a denture base made of acrylic resin.

Adjustable articulator: an articulator that allows some limited adjustment in the sagittal and horizontal planes to replicate recorded mandibular movements.

Ala-tragus line: a line running from the inferior border of the ala of the nose to some defined point on the tragus of theear, usually considered to be the tip of the tragus. It is frequently used, with a third point on the opposing tragus, for the purpose of establishing the ala tragus plane. Ideally the ala-tragus plane is considered to be parallel to the occlusal plane. The occlusal plane is at an angle of approximately 10 degrees relative to the Frankfort horizontal plane, when viewed in the mid-sagittal plane.

Alginate: *see* IRREVERSIBLE HYDROCOLLOID.

Alveolar: that part of the jaws where the teeth arise.

Alveolar bone: the bony portion of the mandible ormaxillae in which the roots of the teeth are held by fibers of the periodontal ligament—called also dental alveolus.

Alveolar mucosa: the fixed mucosal covering of the alveolar process, loosely. attached to the bone.

Anatomic crown: the portion of a natural tooth that extends coronal from the cementoenamel junction.

Anchorage area: that area which, by its situation, configuration and/or preparation, is suitable for the retention of a prosthesis.

Antagonist: a tooth in one jaw that articulates with a tooth in the other jaw.

Anterior: 1: in front of or the front part; situated in front of 2: a term used to denote the incisor or canine teeth or the forward region of the mouth.

Approximation: 1: the process of drawing together 2: the quality of being close or near.

Bar: *see* BAR.

Articulating paper: ink-coated paper strips used to locate and mark occlusal contacts.

Articulation: in dentistry, the static and dynamic contact relationship between the occlusal surfaces of the teeth during function.

Articulator: a mechanical instrument that represents the temporomandibular joints and jaws, to which axillary and mandibular casts may be attached to simulate some or all mandibular movements—usage: articulators are divisible into four classes. Class I articulator: a simple holding instrument capable of accepting a single static registration; vertical motion is possible. A. Class II articulator: an instrument that permits horizontal as well as vertical motion but does not orient the motion to the temporomandibular joints. Class III articulator: an instrument that simulates condylar pathways by using averages or mechanical equivalents for all or part of the motion; these instruments allow for orientation of the casts relative to the joints and may be baron or nonbaron instruments. A. Class IV articulator: an instrument that will accept three dimensional dynamic registrations; these instruments allow for orientation of the casts to the temporomandibular joints and simulation of mandibular movements.

Artificial crown: a metal, plastic, or ceramic restoration that covers three or more axial surfaces and the occlusal surface or incisal edge of a tooth.

Attached gingival: the portion of the gingiva that is firm, dense, stippled, and tightly bound to the underlying periosteum, bone, and tooth.

Attachment: 1: a mechanical device for the fixation, retention, and stabilization of a prosthesis 2: a retainer consisting of a metal receptacle and a closely fitting part; the former (the female {matrix} component) is usually contained within the normal or expanded contours of the crown of the abutment tooth and the latter (the male {patrix} component), is attached to a pontic or the denture frameworkwork.

Attrition: 1: the act of wearing or grinding down by friction. 2: the mechanical wear resulting from mastication or parafunction, limited to contacting surfaces of the teeth.

Auto polymerizing resin: a resin whose polymerization is initiated by a chemical activator.

Axial reduction: the amount of tooth removal (alteration, preparation) along its long axis.

Axial wall: in dentistry, the surface of a tooth preparation that is in its long axis.

Axis of preparation: the planned line or path of placement and removal for a dental restoration.

Bar: a straight or curvolinear piece of metal or wood that is longer than it is wide. It may have several uses including a lever, barrier, fastener, handle, or support. In prosthodontics, it serves to connect two or more parts of a removable dental prosthesis or fixed dental prosthesis.

Bar clasp: a clasp retainer whose body extends from a major connector or denture base, passing adjacent to the soft tissues and approaching the tooth from a gingivo-occlusal direction.

Base: the portion of a denture that supports the artificial dentition and replaces the alveolar structures and gingival tissues.

Base material: any substance of which a denture base may be made, such as acrylic resin, vulcanite, polystyrene, or metal.

Baseplate wax: a hard wax used for making occlusion rims, waxing dentures, and other dental procedures.

Bevel: 1: a slanting edge. 2: the process of slanting the finish line and curve of a tooth preparation.

Biologic width: the combined width of connective tissue and junctional epithelial attachment formed adjacent to a tooth and superior to the crestal bone.

Block out: 1: elimination of undesirable undercuts on a cast, 2: the process of applying wax or another similar temporary substance to undercut portions of a cast so as to leave only those undercuts essential to the planned construction of a prosthesis. A blocked out cast may also include other surface modifications needed relative to the construction of the prosthesis.

Bone: the hard portion of the connective tissue which constitutes the majority of the skeleton; it consists of an inorganic or mineral component and an organic component (the matrix and cells); the matrix is composed of collagenous fibers and is impregnated with minerals, chiefly calcium phosphate (approx. 85%) and calcium carbonate (approx. 10%), thus imparting the quality of rigidity.

Bone atrophy: bone resorption noted internally by a decrease in density and externally by a reduction in form.

Border: the circumferential margin, edge or surface; a bounding line, edge, or surface.

Border molding: 1: the shaping of the border areas of an impression material by functional or manual manipulation of the soft tissue adjacent to the borders to duplicate the contour and size of the vestibule 2: determining the extension of a prosthesis by using tissue function or manual manipulation of the tissues to shape the border areas of an impression material.

Border seal: the contact of the denture border with the underlying or adjacent tissues to prevent the passage of air or other substances.

Bridge: *see* FIXED DENTAL PROSTHESIS.

Buccal vestibule: the portion of the oral cavity that is bounded on one side by the teeth, gingiva, and alveolar ridge (in the edentulous mouth, the residual ridge) and on the lateral side by the cheek posterior to the buccal frenula.

Bur: a steel or tungsten carbide rotary cutting instrument.

Bur head: the cutting portion of a dental bur.

Camper's line: *see* ALA-TRAGUS LINE.

Camper's plane: 1: a plane established by the inferior border of the ala of the nose (or the average between the two) and the superior border of the tragus of each ear 2: a plane passing from the acanthion to the center of each bony external auditory meatus; called also *acanthion-external auditory meatus plane.*

Cast: 1: to produce a shape by thrusting a molten liquid or plastic material into a mold possessing the desired shape. 2: a life-size likeness of some desired form. It is formed within or is a material poured into a matrix or impression of the desired form.

Cast clasp: a removable dental prosthesis clasp fabricated by the lost-wax casting process.

Cast metal core: the foundation restoration made for a fixed dental prosthesis formed indirectly by lost-wax casting.

Casting wax: a composition containing various waxes with desired properties for making wax patterns to be formed into metal castings.

Catalyst: a substance that accelerates a chemical reaction without affecting the properties of the materials involved.

Cement: 1: a binding element or agent used as a substance to make objects adhere to each other, or something serving to firmly unite 2: a material that, on hardening, will fill a space or bind adjacent objects.

Cementation: 1: the process of attaching parts by means of cement 2: attaching a restoration to natural teeth by means of a cement.

Center of the ridge: the faciolingual or buccolingual mid-line of the residual ridge.

Centric occlusion: the occlusion of opposing teeth when the mandible is in centric relation. This may or may not coincide with the maximal intercuspal position.

Centric relation: 1: the maxillomandibular relationship in which the condyles articulate with the thinnest cartilage d centric relation avascular portion of their respective disks with the complex in the anterior-superior position against the shapes of the articular eminencies. This position is independent of tooth contact.
This position is clinically discernible when the mandible is directed superior and anteriorly. It is restricted to a purely rotary movement about the transverse horizontal axis. 2: the most retruded physiologic relation of the mandible to the maxillae to and from which the individual can make lateral movements. It is a condition that can exist at various degrees of jaw separation. It occurs around the terminal hinge axis. 3: the most retruded relation of the mandible to the maxillae when the condyles are in the most posterior unstrained position in the glenoid fossae from which lateral movement can be made at any given degree of jaw separation. 4: The most posterior relation of the lower to the upper jaw from which lateral movements can be made at a given vertical dimension. 5: a maxilla to mandible relationship in which the condyles and disks are thought to be in the midmost, uppermost position. The position has been difficult to define anatomically but is determined clinically by assessing when the jaw can hinge on a fixed terminal axis (up to 25 mm). It is a clinically determined relationship of the mandible to the maxilla when the condyle disk assemblies are positioned in their most superior position in the mandibular fossae and against the distal slope of the articular eminence. 6: the relation of the mandible to the maxillae when the condyles are in the uppermost and rearmost position in the glenoid fossae. This position may not be able to be recorded in the presence of dysfunction of the masticatory system. 7: a clinically determined

position of the mandible placing both condyles into their anterior uppermost position. This can be determined in patients without pain or derangement in the TMJ.

Centric relation record: a registration of the relationship of the maxilla to the mandible when the mandible is in centric relation. The registration may be obtained either intraorally or extraorally.

Ceramic crown: a ceramic fixed dental prosthesis that restores a clinical crown without a supporting metal frameworkwork.

Cervical: in dentistry, pertaining to the region at or near the cementoenamel junction.

Chamfer: 1: a finish line design for tooth preparation in which the gingival aspect meets the external axial surface at an obtuse angle 2: a small groove or furrow 3: the surface found by cutting away the angle of intersection of two faces of a piece of material (i.e., stone, metal, wood): a beveled edge.

Christensen's phenomenon: eponym for the space that occurs between opposing occlusal surfaces during mandibular protrusion.

Clasp: the component of the clasp assembly that engages a portion of the tooth surface and either enters an undercut for retention or remains entirely above the Height of contour to act as a reciprocating element. Generally it is used to stabilize and retain a removable dental prosthesis.

Cleft palate: 1: a congenital fissure or elongated opening in the soft and/or hard palate. 2: an opening in the hard and/or soft palate due to improper union of the maxillary process and the median nasal process during the second month of intrauterine development.

Clinical crown: the portion of a tooth that extends from the occlusal table or incisal edge to the free gingival margin.

Complete crown: a restoration that covers all the coronal tooth surfaces (mesial, distal, facial, lingual, and occlusal).

Complete denture: a removable dental prosthesis that replaces the entire dentition and associated structures of the maxillae or mandible.

Convergence angle: 1. The taper of a crown preparation. 2. The angle, measured in degrees, formed between opposing axial walls when a tooth or teeth are prepared for crowns or fixed dental prostheses.

Crest of the ridge: the highest continuous surface of the residual ridge—not necessarily coincident with the center of the ridge.

Crown: 1: the highest part, as the topmost part of the skull, head or tooth; the summit; that portion of a tooth occlusal to the dentinoenamel junction or an artificial substitute for this. 2: an artificial replacement that restores missing tooth structure by surrounding part or all of the remaining structure with a material such as cast metal, porcelain, or a combination of materials such as metal and porcelain.

Cusp: cone-shaped protuberance on the crown of a tooth that forms the occlusal surface.

Custom tray: an individualized impression tray made from a cast recovered from a preliminary impression. It is used in making a final impression.

Dental barh: the composite structure of the natural teeth and alveolar bone.

Dental impression: a negative imprint of an oral structure used to produce a positive replica of the structure to be used as a permanent record or in the production of a dental restoration or prosthesis.

Dental plaster: the beta-form of calcium sulfate hemihydrate. It is a fibrous aggregate of fine crystals with capillary pores that are irregular in shape and porous in character.

Dental stone: the alpha-form of calcium sulfate hemihydrate with physical properties superior to the beta-form (dental plaster). The alpha-form consists of cleavage fragments and crystals in the form of rods or prisms, and is therefore more dense than the beta-form.

Dentition: the teeth in the dental barh.

Denture border: 1: the margin of the denture base at the junction of the polished surface and the impression surface. 2: the peripheral border of a denture base at the facial, lingual, and posterior limits.

Denture foundation area: the surfaces of the oral structures available to support a denture.

Denture occlusal surface: the portion of the surface of a denture that makes contact with its antagonist.

Denture supporting area: *see* DENTURE FOUNDATION AREA.

Diagnosis: the determination of the nature of a disease.

Edentulous: without teeth, lacking teeth.

Elastomeric impression material: a group of flexible chemical polymers, which are either chemically or physically cross-linked. Generally, they can be easily stretched and rapidly recover their original dimensions when applied stresses are released.

Examination: scrutiny or investigation for the purpose of making a diagnosis or assessment.

Fabrication: the building, making, or constructing of a restoration.

Final impression: the impression that represents the completion of the registration of the surface or object.

Finish line: 1: a line of dembaration determined by two points. 2 (obs) the peripheral extension of a tooth preparation. 3: the planned junction of different materials. 4: (obs) the terminal portion of the prepared tooth.

Fixed dental prosthesis: any dental prosthesis that is luted, screwed or mechanically attached or otherwise securely retained to natural teeth, tooth roots, and/or dental implant abutments that furnish the primary support for the dental

prosthesis. This may include replacement of one to sixteen teeth in each dental barh. If a metallic or ceramic component is included within the fixed dental prosthesis, that component is termed the frameworkwork.

Fixed prosthodontics: the branch of prosthodontics concerned with the replacement and/or restoration of teeth by artificial substitutes that not readily removed from the mouth.

Flange: a rib or rim used for strength, for guiding or attachment of another object.

Foil: an extremely thin, pliable sheet of metal, usually of variable thickness.

Frameworkwork: 1: an interior or imbedded, openwork or structural framework used to support some other object or objects. 2: the skeletal portion of prosthesis (usually metal, sometimes ceramic) around which and to which are attached the remaining portionsoftheprosthesistoproduceafinishedrestoration—usage: for dental prostheses, the frameworkwork may be any metal or combination of metals or ceramic material, with various forms including designedslots, incorporated correctiveangulationpatternsetc.which provide rigidity to a dental prosthesis. Such a frameworkwork can be madeinwholeormade ofcomponent parts.Frequently used to anchor a prosthesis to natural teeth (by cementation) or dental implant abutments (by cementation, mechanical undercuts, screws) or both.

Free gingival: the part of the gingiva that surrounds the tooth and is not directly attached to the tooth surface.

Fully adjustable articulator: an articulator that allows replication of three dimensional movement of recorded mandibular motion—called also Class IV articulator.

Glass ionomer: a cement, luting or restorative agent composed of an acidsoluble glass, polyacrylic acid, and water that sets via an acid-base reaction.

Gums: the fibrous and mucosal covering of the alveolar process or ridge.

Gypsum: the natural hydrated form of calcium sulfonate, $CaSO_4\ 2H_2O$ plaster dihydrate.

Height of contour: a line encircling a tooth and designating its greatest circumference at a selected axial position determined by a dental surveyor; a line encircling a body designating its greatest circumference in a specified plane.

IDOST: index of destruction of occlusional surface of tooth.

Imbibition: the act or process of imbibing or absorbing. In dentistry, an example is the dimensional change caused in hydrocolloidimpression materials if they are stored in water.

Immediate denture: any removable dental prosthesis fabricated for placement immediately following the removal of a natural tooth/teeth.

Impression: a negative likeness or copy in reverse of the surface of an object; an imprint of the teeth and adjacent structures for use in dentistry.

Impression material: any substance or combination of substances used for making an impression or negative reproduction.

Impression tray: 1: a receptacle into which suitable impression material is placed to make a negative likeness. 2: a device that is used to carry, confine, and control impression material while making an impression.

Iinlay: a fixed intracoronal restoration; a dental restoration made outside of a tooth to correspond to the form of the prepared cavity, which is then luted into the tooth.

Instrument: a tool or implement, especially one used for delicate work or for artistic or scientific purposes.

Interbarh distance: the interridge distance; the vertical distance between the maxillary and mandibular dentate or edentate barhes under specified conditions.

Interdental splint: a splint for treatment of fractures and consisting of a metal or acrylic resin prostheses wired to the teeth in the maxilla and mandible and joined to keep the segments immovable.

Interocclusal: between the occlusal surfaces of opposing teeth.

Interocclusal rest space: the difference between the vertical dimension of rest and the vertical dimension while in occlusion.

Interproximal contact: the area of a tooth that is in close association, connection, or touch with an adjacent tooth in the same barh.

Irreversible hydrocolloid : a hydrocolloid consisting of a sol of alginic acid having a physical state that is changed by an irreversible chemical reaction forming insoluble calcium alginate— called also alginate, dental alginate.

Jaw: the bony structure bearing the teeth.

Labial: 1: of or pertaining to the lip. 2: toward the lip.

Line of occlusion: the alignment of the occluding surfaces of the teeth as viewed in the horizontal plane.

Lingual flange: the portion of the flange of a mandibular denture that occupies the alveololingual sulcus.

Mandible: the lower jawbone.

Margin: the outer edge of a crown, inlay, onlay, or other restoration. The boundary surface of a tooth preparation and/or restoration is termed the finish line or finish curve.

Maxilla: the irregularly shaped bone that, with its contralateral maxilla, forms the upper jaw. It assists in the formation of the orbit, the nasal cavity, and the hard palate; it contains the maxillary teeth.

Maxillary tuberosity: the most distal portion of the maxillary alveolar ridge.

Maxillomandibular relationship: any spatial relationship of the maxillae to the mandible; any one of the infinite relationships of the mandible to the maxillae.

Maxillomandibular relationship record: a registration of any positional relationship of the mandible relative to the maxillae. These records may be made at any vertical, horizontal, or lateral orientation.

Maximal intercuspal position: the complete intercuspation of the opposing teeth independent of condylar position, sometimes referred to as the best fit of the teeth regardless of the condylar position - called also maximal intercuspation.

Median line: the centerline dividing a body into the right and left.

Metal-ceramic restoration: a tooth or/and implant retained fixed dental prosthesis that uses a metal substructure upon which a ceramic veneer is fused.

Model: a facsimile used for display purposes; a miniature representation of something; an example for imitation or emulation.

Modeling wax: a wax suitable for making patterns in the fabrication of nonmetallic restorations.

Monomer: a chemical compound that can undergo polymerization; any molecule that can be bound to a similar molecule to form a polymer.

Mounting: the laboratory procedure of attaching a cast to an articulator or cast relater.

Nonadjustable articulator: an articulator that does not allow adjustment to replicate mandibular movements.

Obturator: 1. a maxillofacial prosthesis used to close a congenital or acquired tissue opening, primarily of the hard palate and/or contiguous alveolar/soft tissue structures. 2. That component of a prosthesis which fits into and closes a defect within the oral cavity or other body defect. 3. a maxillofacial prosthesis used to close, cover or maintain the integrity of the oral and nasal compartments resulting from a congenital, acquired or developmental disease process, i.e., cancer, cleft palate, osteoradionecrosis of the palate. The prosthesis facilitates speech and deglutition by replacing those tissues lost due to the disease process and can, as a result, reduce nasal regurgitation and hypernasal speech, improve articulation, deglutition and mastication. An obturator prosthesis is classified as surgical, interim or definitive

and reflects the intervention time period used in the maxillofacial rehabilitation of the patient. Prosthetic restoration of a defect often includes use of a surgical obturator, interim obturator, and definitive obturator.

Occluding framework: a name given to a device for relating casts to each other for the purpose of arranging teeth.

Occlusal adjustment: 1: any change in the occlusion intended to alter the occluding relation. 2: any alteration of the occluding surfaces of the teeth or restorations.

Occlusal contact: 1: the touching of opposing teeth on elevation of the mandible. 2: any contact relation of opposing teeth.

Occlusal reduction: the quantity (usually measured in millimeters) of tooth structure that is removed to establish adequate space for a restorative material between the occlusal aspect of the tooth preparation and the opposing dentition.

Occlusal wear: loss of substance on opposing occlusal units or surfaces as the result of attrition or abrasion.

Occlusion rim: occluding surfaces fabricated on interim or final denture bases for the purpose of making maxillomandibular relation records and arranging teeth - called also record rim.

Outline form: the shape of the area of a tooth preparation that is included within the cavosurface margins.

Palatal cleft: 1: an opening in the roof of the mouth and/or in the functional soft palate. A deformity of the palate from improper union of the maxillary process with the median nasal process during the second month of intrauterine development. 2: a cleft in the palate between the two palatal processes. If both the hard and soft palate are involved, it is termed uranostaphyloschisis; if only the soft palate is divided, it is termed uranoschisis.

Parallelometer: 1: an instrument used for determining the exact parallel relationships of lines, structures, and surfaces in dental casts and prostheses. 2: an apparatus used for making one object parallel with another object, as in paralleling

attachments and abutments for fixed dental prostheses or precision attachments for removable dental prostheses.

Partial denture: a removable dental prosthesis or a fixed dental prosthesis that restores one or more but not all of the natural teeth and/or associated parts and may be supported in part or whole by natural teeth, dental implant supported crowns, dental implant abutment(s), or other fixed dental prostheses and/or the oral mucosa; usage: a partial denture can be described as a fixed dental prosthesis or removable dental prosthesis based on the patient's capability to remove or not remove the prosthesis. If the prosthesis is a fixed dental prosthesis that can only be removed by a clinician, i.e., a fixed dental prosthesis (FDP) supported by dental implants that has been retained by means of a mechanical system [i.e., screw(s)], this prosthesis is also termed a fixed dental prosthesis. Adjectives (modifiers) may be added to the clinical description of the dental prosthesis, if needed, to designate the means of mechanical retention, i.e., a screw retained fixed dental prosthesis. Any such prosthesis luted to dental implants (in the same manner as luting a fixed dental prosthesis to natural teeth) needs no additional designation as to its means of retention.

Path of placement: the specific direction in which a prosthesis is placed on the abutment teeth or dental implant(s).

Pathogenic occlusion: an occlusal relationship capable of producing pathologic changes in the stomatognathic system.

Physiologic rest position: 1: the mandibular position assumed when the head is in an upright position and the involved muscles, particularly the elevator and depressor groups, are in equilibrium in tonic contraction, and the condyles are in a neutral, unstrained position. 2: the position assumed by the mandible when the attached muscles are in a state of tonic equilibrium. The position is usually noted when the head is held upright. 3: the postural position of the mandible when an

individual is resting comfortably in an upright position and the associated muscles are in a state of minimal contractual activity.

Pinlay: An inlay or onlay which is held in place partly by a pin or pins inserted in the tooth.

Plaster: in dentistry, a colloquial term applied to dental plaster of paris.

Plaster of paris: a white, powdery, slightly hydrated calcium sulfate made by calcination of plaster, used for making casts and molds when combined with water to form a quick-setting paste.

Plastic: any of numerous organic synthetic or processed materials that generally are thermoplastic or thermosetting polymers, usually of high molecular weight. They can be cast, extruded, molded, drawn, or laminated into films, filaments, and objects.

Polish: to make smooth and glossy, usually by friction; giving luster; the act or process of making a denture or casting smooth and glossy.

Polymerization: the forming of a compound by the joining together of molecules of small molecular weights into a compound of large molecular weight.

Pontic: an artificial tooth on a fixed dental prosthesis that replaces a missing natural tooth, restores its function, and usually fills the space previously occupied by the clinical crown.

Porcelain: a ceramic material formed of infusible elements joined by lower fusing materials. Most dental porcelains are glasses and are used in the fabrication of teeth for dentures, pontics and facings, metal ceramic restorations including fixed dental prostheses, as well as all-ceramic restorations such as crowns, laminate veneers, inlays, onlays, and other restorations.

Porosity: 1: the presence of voids or pores within a structure. 2: the state or quality of having minute pores, openings or interstices.

Post and core crown: a restoration in which the crown and cast post are one unit.

Preliminary impression: a negative likeness made for the purpose of diagnosis, treatment planning, or the fabrication of a tray.

Prosthesis: 1: an artificial replacement of an absent part of the human body. 2: a therapeutic device to improve or alter function. 3: a device used to aid in accomplishing a desired surgical result.

Record: 1: to register data relating to specific conditions that exist currently or previously. 2: to register permanently by mechanical means, i.e., jaw relationships.

Registration: l: the making of a record of the jaw relationships present, or those desired, thus allowing their transfer to an articulator to assist in proper fabrication of a dental prosthesis. 2: a record made of the desired maxillomandibular relationship and used to relate casts to an articulator.

Removable partial denture prosthesis: any prosthesis that replaces some teeth in a partially dentate barh. It can be removed from the mouth and replaced at will – also called partial removable dental prosthesis.

Residual ridge: the portion of the residual bone and its soft tissue covering that remains after the removal of teeth.

Resin: 1: any of various solid or semisolid amorphous natural organic substances that usually are transparent or translucent and brown to yellow; usually formed in plant secretions; are soluble in organic solvents but not water; are used chiefly in varnishes, inks, plastics, and medicine; and are found in many dental impression materials. 2: a broad term used to describe natural or synthetic substances that form plastic materials after polymerization. They are named according to their chemical composition, physical structure, and means for activation of polymerization.

Rest vertical dimension: the distance between two selected points (one of which is on the middle of the face or nose and the other of which is on the lower face or chin) measured when the mandible is in the physiologic rest position.

Restoration: a broad term applied to any material or prosthesis that restores or replaces lost tooth structure, teeth, or oral tissues.

Retromolar pad: a mass of tissue comprised of nonkeratinized mucosa located posterior to the retromolar papilla and overlying loose glandular connective tissue. This freely movable area should be differentiated from the pear-shaped pad.

Saddle: *see* DENTURE BASE.

Self-curing resin: *see* AUTOPOLYMERIZING RESIN.

Semi-adjustable articulator: an articulator that allows adjustment to replicate average mandibular movements—called also Class III articulator.

Shoulder finish line: a finish line design for tooth preparation in which the gingival floor meets the external axial surfaces at approximately a right angle.

Spatula: a flat-bladed instrument used for mixing or spreading materials.

Speech aid prosthesis: a removable maxillofacial prosthesis used to restore an acquired or congenital defect of the soft palate with a portion extending into the pharynx to separate theoropharynxand nasopharynx duringphonation and deglutition, thereby completing the palatopharyngeal sphincter.

Splint: 1: a rigid or flexible device that maintains in position a displaced or movable part; also used to keep in place and protectaninjuredpart. 2:a rigid or flexible material used to protect, immobilize, or restrict motion in apart.

Stock tray: a metal prefabricated impression tray typically available in various sizes and used principally for preliminary impressions.

Subgingival margin: the restoration margin or tooth preparation finish line that is located apical to the free gingival tissue.

Surveying: an analysis and comparison of the prominence of intraoral contours associated with the fabrication of a dental prosthesis.

Surveyor: a paralleling instrument used in construction of a dental prosthesis to locate and delineate the contours and relative positions of abutment teeth and associated structures.

Table: a flat surface; a raised horizontal surface.

Tooth preparation: 1. the process of removal of diseased and/or healthy enamel and dentin and cementum to shape a tooth to receive a restoration. 2. the resulting prepared tooth.

Treatment plan: the sequence of procedures planned for the treatment of a patient after diagnosis.

Tubercule: a small bony prominence or excrescence; a nodule.

Undercut: 1: the portion of the surface of an object that is below the Height of contour in relationship to the path of placement. 2: the contour of a crosssectional portion of a residual ridge or dental barh that prevents the insertion of a dental prosthesis. 3: any irregularity in the wall of a prepared tooth that prevents the withdrawal or seating of a wax pattern or casting.

Vertical dimension: the distance between two selected anatomic or marked points (usually one on the tip of the nose and the other upon the chin), one on a fixed and one on a movable member.

Vibrating line: an imaginary line across the posterior part of the palate marking the division between the movable and immovable tissues of the soft palate. This can be identified when the movable tissues are functioning.

Wax: one of several esters of fatty acids with higher alcohols, usually monohydric alcohols. Dental waxes are combinations of various types of waxes compounded to provide desired physical properties.

Wax pattern: a wax form that is the positive likeness of an object to be fabricated.

Wear facet: any wear line or plane on a tooth surface caused by attrition.

Working model: *see* CAST.

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