КИЇВСЬКИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ
KIYV MEDICAL UNIVERSITY

Try-in and correction of the PRD. Remodeling and repair of removable dentures. Impact of basis of dentures on tissues of an oral cavity. Prosthetic stomatitis. Adaptation to the partial removable dentures.

Lecture 5

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Content

- Try-in and correction of the PRD.
- Remodeling of denture
- Repair of removable dentures.
- Prosthetic stomatitis.
- Adaptation to the partial removable dentures.

Try-in and correction of the PRD.

Doctor have to evaluate:

- the quality of polishing,
- faults after processing the denture (porosity, processing stress, ets.),
- color of teeth,
- erroneously recorded centric relationship of the jaws
- contact between antagonists.

Then, after disinfection, dentures are placed in the oral cavity of patient.

Extraoral examination of the RPD
(on the cast and out of cast)

Intraoral examination of the RPD (with open mouth and close mouth)

Try-in and correction of the PRD.

Gaseous porosity

(Volatilization of monomer **):**

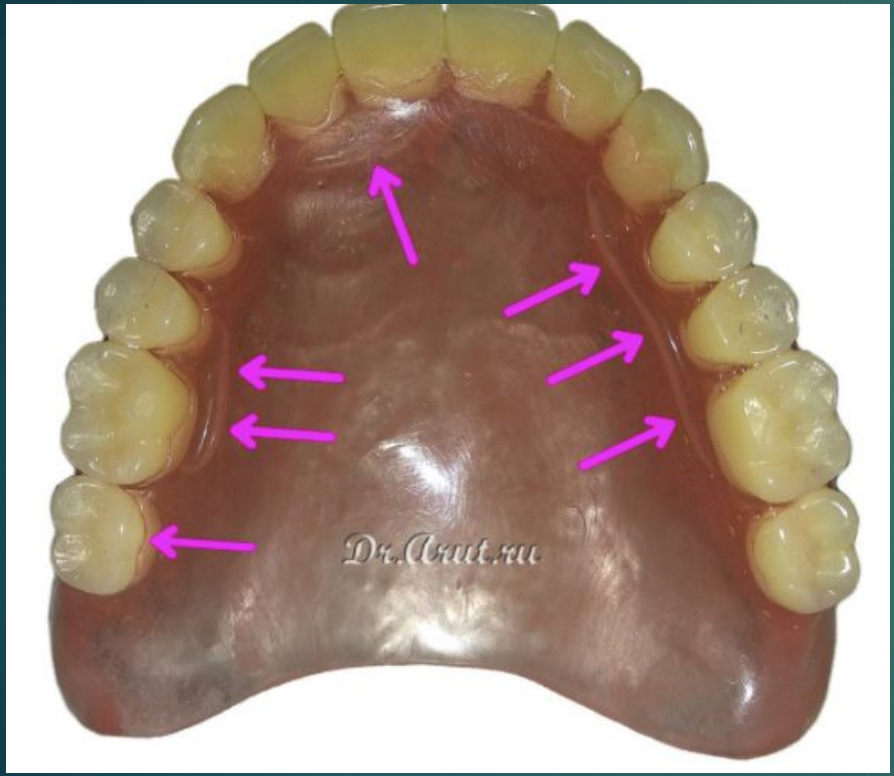
- Caused by a rise in the resin temperature during curing above 100°C (> boiling temperature of resin)
- Gaseous monomer forms and causes gaseous porosity
- This is avoided by allowing a slow and controlled rise in temperature

Try-in and correction of the PRD.

Granular porosity (marble),

- due to loss of monomer while resin mix is left to stand until dough stage is reached.
- Granular plastics do not react and do not turn into a monolithic mass, but remain in the form of granular materials.
- Also if the resin mix is dry

Try-in and correction of the PRD.



Contraction (compression) porosity:

- occurs due to monomer contraction by 20% during processing. Processing involves a raise in temperature to initiate polymerization at first and then temperature due to the exothermic reaction During this, resin flows (under pressure) into spaces created by curing contraction (excess resin is important to maintain this pressure)
- Once resin becomes rigid, thermal contraction may occur (change from curing temperature to room temperature). Curing temperature for cold cure resin is lower than heat cure resin.

Try-in and correction of the PRD.

Contraction (compression) porosity:

- Insufficient amounts of resin packed in the flask may lead to voids or porosity. Also resin should be packed in the dough stage. Prior to that the resin would flow too rapidly and pressure is lost
- Obviously, this kind of porosity is observed in ending, thin products, also between artificial teeth.

Try-in and correction of the PRD.

Internal stresses in plastic

- Occur when cooling and curing of plastic occurs unevenly in different parts. Sites of tension are also localized at the junction points of the plastic with others materials (metal parts of dentures, porcelain teeth, etc.) and are related to the difference of their coefficients of thermal expansion.
- Internal stresses significantly worsen material strength.

Try-in and correction of the PRD.

Internal stresses in plastic

- Insignificant loads can lead to its destruction.
- To prevent the appearance of internal stresses in removable dentures, crowns, facets, devices, cooling of forms with them is necessary hold slowly.

Relining of denture

- **Relining and rebasingrelining** is the resurfacing of the tissue surface of a denture base with new material to make it fit the underlying tissue more accurately, whereas
- **rebasing** is the replacement of the entire denture base with new material while preserving the occlusal relationship. A new impression registration is necessary and uses the existing denture base as an impression tray for either a closed-mouth or an open-mouth impression procedure. One of several types of impression materials may be used. The impression may be made with a metallic oxide impression paste, with one of the rubber-base or silicone impression materials, with one of the tissue conditioning material, with an activated acrylic resin used as an impression material, or with a mouth-temperature wax.

- Before relining or rebasing is undertaken, the oral tissues must be returned to an acceptable state of health and conditioning abused and irritated tissues.

Relining of denture

Relining - recreation of the inner surface of the denture. One that lies on the mucosa (prosthetic bed).

Indication:

- The prosthesis is regularly falling.
- - Food goes under denture
- - The mucous membrane is regularly injured and the correction does not help. In this case, the doctor makes a a soft repositioning of elastic materials.

Relining of denture

When else is the doctor doing a soft reassignment?

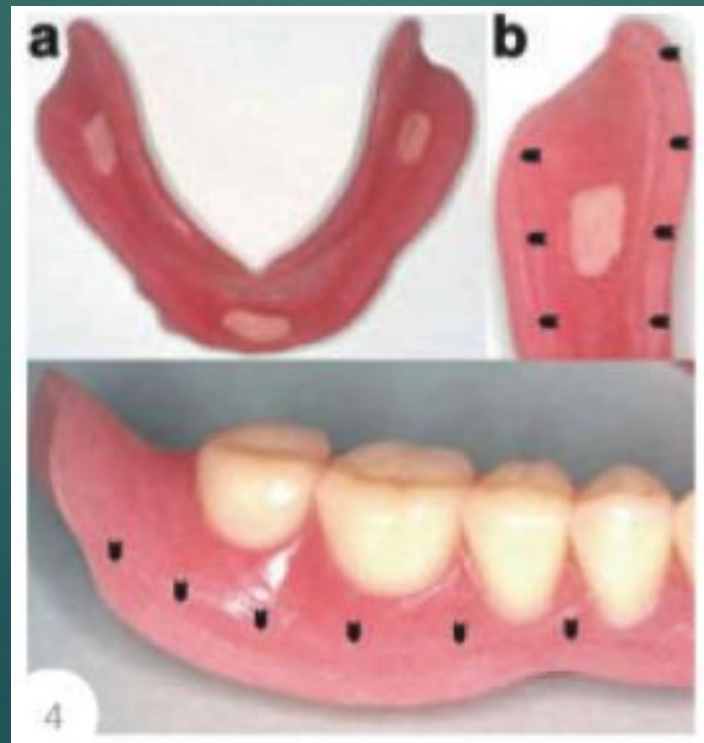
- - If exostoses or the sharp edges are on the prosthetic bed.
- - The mucous membrane of the patient is too hard and dry.
- - The jaw atrophied very strongly or unevenly.
- - The patient suffers from chronic mucosal diseases.
- - Allergy to plastic or something else.
- - Undercuts in the alveolar process.

Relining of denture

- The **relining** can be done by a doctor, called a clinical one.
- Or a dental technician - a laboratory.

There is a soft and hard repositioning.

- For soft use silicones.
- For rigid - plastic.



Relining of denture

Why is laboratory relocation better than clinical?

The technician uses hot polymerization plastic, and the doctor uses self-hardening. Because of this, all the problems.

Self-hardening plastic is more fragile and porous.

It contains more residual monomer.

It shrinks, deforms when solidified.

Food will clog into the pores.

Aesthetics are worse, and in general ... color fastness is low.

Plus only one, the doctor does the relocation himself, without a technician.

Relining of denture

But, there are methods of temporary clinical r**elining**. When you need to cure chronic prosthetic stomatitis.

For such a therapeutic remodeling, the doctor uses **plasticized acrylic masses**.

Fabric conditioners

It is an elastic mass, soft to the touch. It does not press on the mucous membrane and promotes its healing.

This material hardens not in the process of a chemical reaction (like plastic), but because of gelation (like agar-agar, aspic, in our opinion). It hardens for a long time, so it takes the desired anatomy of the prosthesis. And does not rub.

After the healing of stomatitis, the doctor (or rather a technician) makes a permanent remodeling of the prosthesis.

Repair of removable dentures.

Reasons:

Poorly made (poorly constructed).

The patient mechanically break.

The lifetime of the denture is over (3 years).

Repair of removable dentures.

Other causes of denture fracture

- 1. Deep labial frenal notch
- 2. Absence of labial flange
- 3. Incomplete polymerization of acrylic resin
- 4. Previous repair
- 5. Maxillary posterior teeth placed buccally
- 6. V shaped palatal arch
- 7. Accidental dropping of the denture
- 8. Faulty denture design resulting in areas of inadequate thickness
- 9. High occlusal loads
- 10. Single denture

Repair of removable dentures.

When the dentures can not be repaired

- When the broken pieces cannot be joined accurately
- When the dentures need to be replaced anyway due to poor fit or occlusal wear or any other reason

Repair of removable dentures.

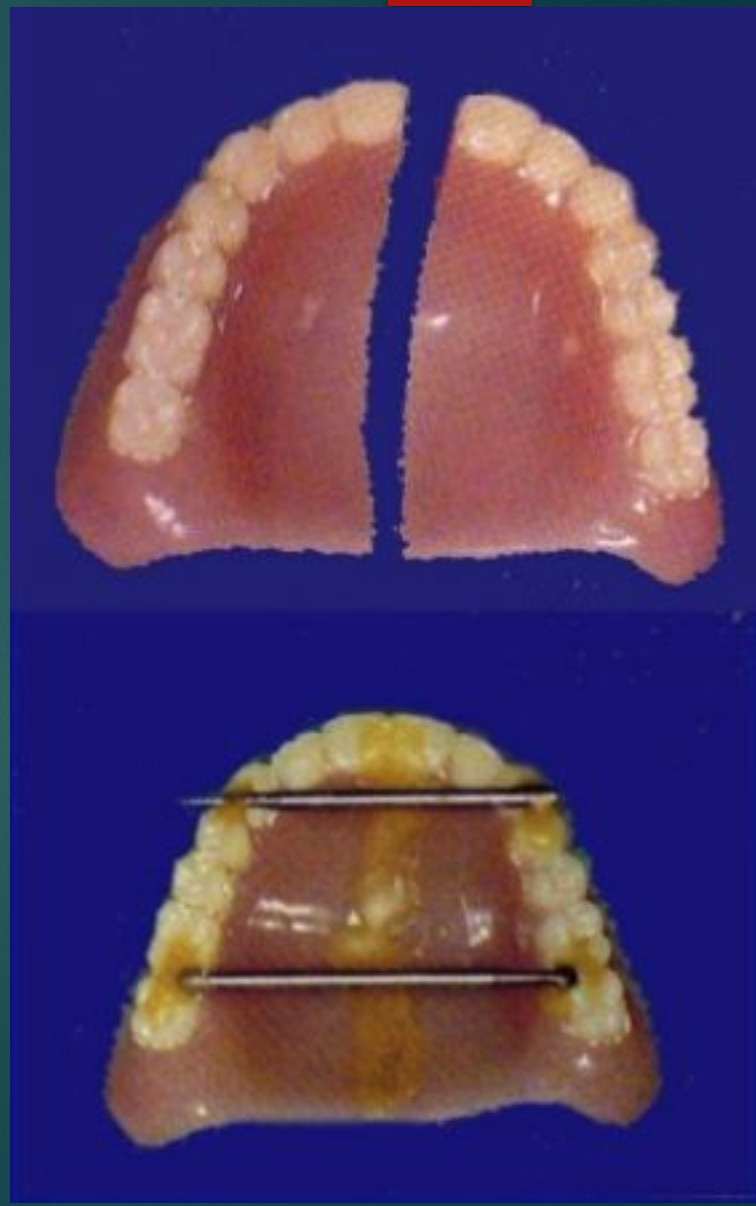
Types Of materials used in repairs

- 1.Chemical-Cured acrylic
- 2.Visible Light Cured (VLC) acrylic

Repair of removable dentures.

Broken parts are assembled & fixed together with sticky wax on the polished surface.

Assembled parts may be strengthened with burs or plastic sticks.



Repair of removable dentures.

Any undercut on the fitting surface is blocked out with wax or clay.

The fitting surface is painted with petroleum jelly.

Stone plaster is poured into the fitting surface. After stone has set, the denture is removed from the cast and cleaned from any traces of sticky wax.

Repair of removable dentures.

Fractured edges are widened along the fracture line and beveled towards the polished surface to increase bonding surface area.

The cast is painted with separating medium and the denture is secured to the cast with rubber bands. • Self cure acrylic resin is applied to the modified fracture area until the area is overfilled.

Repair of removable dentures.

Cure the denture in the pressure pot.

Finishing and polishing

Prosthetic stomatitis.

- **Factors of prosthetic stomatitis (inflammation of mucosa of the prosthetic bedcaused by denture)**
- **Violation of thermoregulation**. The prosthesis does not allow heat to pass. He, like a blanket, covers the mucous membrane, and that heats up. And the higher the temperature, the more comfortable the microbes. Plus, saliva can't wash them away. Microbe multiply and cause stomatitis. Especially if denture hygiene is not the best.
- **Negative pressure.** A good denture is attached to the mucous membrane and held on to it. The pressure under the prosthesis is less than atmospheric. Vacuum expands vessels, causes edema and mucous membranes - stomatitis.
- **Traumatic effect.** An uneven edge, a sharp projection injures the mucous membrane

Prosthetic stomatitis.

- **Toxic effect.** 1) Toxins of germs. 2) And the residual monomer is methyl methacrylic acid. It even sounds bad. It is a lot if the prosthesis is poor. The monomer irritates the mucous membrane and causes stomatitis.
- **Allergic action.** Reaction to any component of the prosthesis (monomer, dye, opacifier, etc.). Usually generalized.

Prosthetic stomatitis.

Toxic stomatitis (bacterial or chemical).

Contact stomatitis.

Traumatic stomatitis.

Adaptation to the partial removable dentures.

The adequacy of denture retention on the jaws and the accuracy of the rim borders usually cannot be established on the first day because time is needed for the patient to become adapted to the denture and for the appliance itself to settle. This refers especially to individuals supplied with dentures for the first time. It is better to make a careful re-examination after the patient has worn the dentures for a day.

Dental prostheses at first may cause nausea, excessive salivation, unclear speech, loss or decrease of taste sensations, inability to differentiate cold and hot sensations in the mouth, and difficulties in biting and chewing food.

All these complaints gradually disappear as the patient gets used to the dentures.

Adaptation to the partial removable dentures.

To become accustomed to the dentures within a shorter time the patient is recommended not to remove the dentures for at least a few nights. When the dentures are seated on the jaws the patient should be given the following instructions.

- 1. The appliances should not be removed during talking and eating.
- 2. Once the patient gets accustomed to them the appliances should be taken off for the night.
- 3. Dentures need regular hygienic care. They should be washed with soap and cold water and cleaned with a tooth brush and tooth paste.
- 4. Dentures removed for the night should be cleaned and washed and kept dry in a box suited for the purpose.

Adaptation to the partial removable dentures.

- 5. Dentures that cause pain should be removed and the orthodontist should be consulted: two or three hours before visiting him the dentures must be inserted into the mouth to make evident the cause of the pain.
- 6. To avoid damage the patient himself should not make corrections in the dentures.
- 7. A denture that has cracks in it or one that is broken should not be worn in order to avoid trauma of the soft tissues of the mouth. Gases are known of malignant new growths developing owing to injury caused to the soft tissues by a bad appliance.
- 8. Dentures should be changed, every four to five years.

Adaptation to the partial removable dentures.

- **Three phases (by Kurlyandsky)** should be distinguished in the adaptation to a dental prosthesis.
- **The first phase**, the phase of stimulation, is encountered on the day the denture is supplied; it can also include the period of the preparation of the oral cavity for the prosthesis (tooth preparation, etc.). It is characterized by the patient's attention being-fixed on the prepared tooth (teeth) used for the appliance or on the appliance itself as a foreign body. Stimulation is expressed in:
- (a) excessive salivation; (b) marked changes in articulation and phonation; (c) lisping; (d) loss or reduction of masticating power;. (e) tenseness of lips and cheeks; (f) vomiting reflex.

Adaptation to the partial removable dentures.

- **The second phase**, the phase of partial inhibition, occurs between the first and fifth day after the patient is supplied with the denture. Characteristic features: (a) normal salivation; (b) restoration of articulation and phonation; (c) tenseness of the soft tissues disappears; (d) the vomiting reflex, if previously existing, is extinguished; (e) restoration of masticating power begins (faster or slower, depending on the denture construction).
- **The third phase**, that of complete inhibition, sets in between the fifth and 33d day after insertion of the denture. It is marked by the following features: (a) the person does not feel the denture . as a foreign body, on the contrary, he can no longer be without it; (b) there is complete adaptation of the muscular and ligamentous apparatus to the restored (or altered) occlusion; (c) maximum rehabilitation of masticating power is observed.

The **greatest enemy of knowledge** is not ignorance, it is the illusion of **knowledge**

~~**Stephen Hawking**~~

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