Ministry of Health of Ukraine

O.O. Bogomolets
National Medical University

APPROVED

Department of Surgical Dentistry and Maxillofacial Surgery

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Protocol №1

Head of Department

professor _____V.O. Malanchuk

Study subject "Surgical dentistry and maxillofacial surgery"

Elective discipline "Operative approaches in maxillofacial surgery, soft tissue regeneration, facial aesthetics"

GUIDELINES

BEFORE CONDUCTING A PRACTICAL LESSON WITH STUDENTS OF THE IV COURSE OF THE FACULTY OF DENTAL

Topic №8: Treatment of age-related changes in the skin of the face, neck, and décolletage.

The number of hours is 3 hours.

Compiler: prof. Astapenko O.O.

KYIV, 2022

I. Relevance of the topic: with the development of society and the general improvement of people, the desire to look beautiful and young began to increase. The share of people over 60 is 24%, which is a record value in the history of civilization. The development of aesthetic surgery began with the demands for a younger facial appearance. At this stage of development, civilization is the most advanced method of combating old age.

II. Learning objectives of the lesson:

- Familiarize yourself with the main rejuvenating operations

- To form an idea about the possibilities of aesthetic surgery

- Understand the main indications and contraindications for aesthetic operations

- To develop the professional skill of assessing the patient's face from an aesthetic point of view

- To learn the basic techniques of conducting operations

III. Personal development goals (educational goals):
- To acquire a caring attitude towards the patient and respect for his personality
- To develop a sense of aesthetics in the maxillofacial area
- Understanding the main manifestations of aging
- Acquisition of terminological knowledge that will be able to better explain to patients their age changes
-Professional competences

1. The student must:
- name the anatomical and physiological features of the structure of jaw bones and teeth.
- name the innervation and blood supply of hard and soft tissues of the face.

2. The student must:
- collect anamnesis and conduct an examination of the patient,
- draw up a patient examination plan;
- draw up a plan for additional research methods.

3. The student must determine the indications for the main types of rejuvenating operations,
- determine general and local contraindications to the main types of rejuvenating operations

2. General competencies:
- ability to clinical thinking;
- - knowledge and understanding of the subject area and professional activity;
- - the ability to quickly make informed decisions when providing emergency care;
- - the ability to apply and evaluate the quality of facial rejuvenation surgery

3. Teaching methods
- story, explanation, educational discussion;
- - illustration, demonstration, individual observation;
- - individual survey; - solving typical situational problems;
- - solving atypical situational problems;
- - professional practical training;
- - group method for solving the task (work in small groups);

4. Control methods:

Express survey, interview, partially targeted survey. Individual survey. Individual written assignments. Testing.

Solutions of typical and atypical problems. Individual control of skills and their results.

5. Control questions:

Basic indications for aesthetic operations
Histological structure of the skin of the face
Relative and absolute contraindications to aesthetic operations
Age-related changes in the maxillofacial area
The main types of analgesia for the skin of the maxillofacial area
Types of general anesthesia, main drugs

IV. Contents of the topic of the lesson:

Blepharoplasty

Nomenclature

1. Dermatochalasia is a term denoting an excess of skin, usually caused by a weak bone base, aging, genetics, and exogenous influences.

2. Blepharochalasia is an inflammatory condition characterized by excess skin of the eyelids, the cause of which is angioedema, swelling of the periorbital tissue.

3. Blepharoptosis - drooping of the upper eyelid. It usually occurs secondary to damage to the aponeurosis of the levator muscle of the upper eyelid.

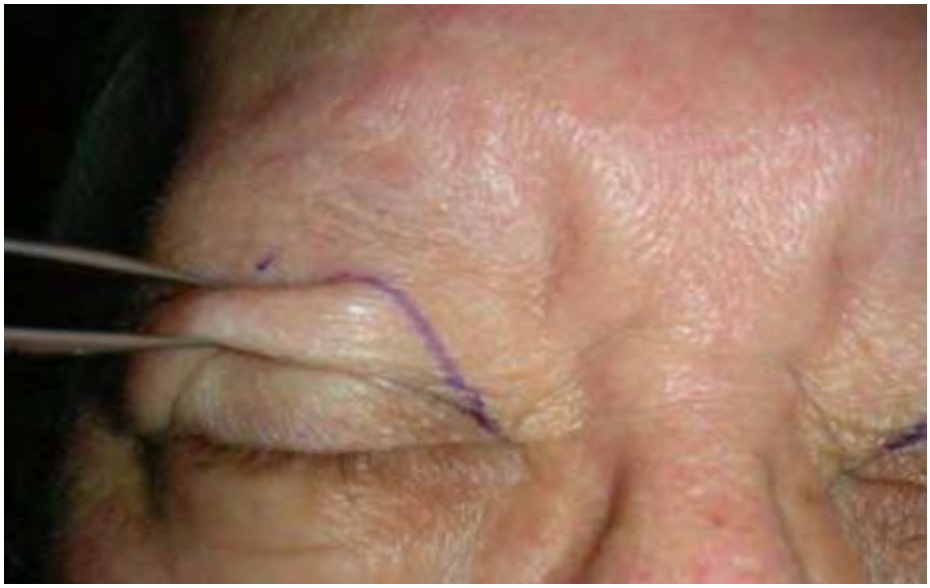
4. Pseudoptosis - drooping of the upper eyelid, which is not caused by muscle dysfunction. It is simply excess skin of the eyelid that gives it the appearance of blepharoptosis.

5. Prolapse of the fatty layer of the eyelids - occurs due to the weakening of the septum of the eye, but not tears, the tear is a hernia.

6. Hypertrophic orbicularis oculi – hypertrophy of the tarsal part of the orbicularis oculi muscle.

The operation begins with the marking of the operating field

Marking begins medially from the upper lacrimal point and ends medially in one of the wrinkles. It is easier to mark the upper contour of the incision by pinching the excess tissue with tweezers until the eyelashes begin to turn out.



The skin flap is separated with scissors. Hemostasis is achieved with an electrocoagulator. The hypertrophied muscle can be cut, this will expose the orbital partition (septum) if the fat underneath it is to be removed (photo). A transverse incision of the septum will free the fatty tissue, which is removed with scissors and coagulated. The wound is sutured only after a bilateral operation for a symmetrical result. Suture material 6-0.

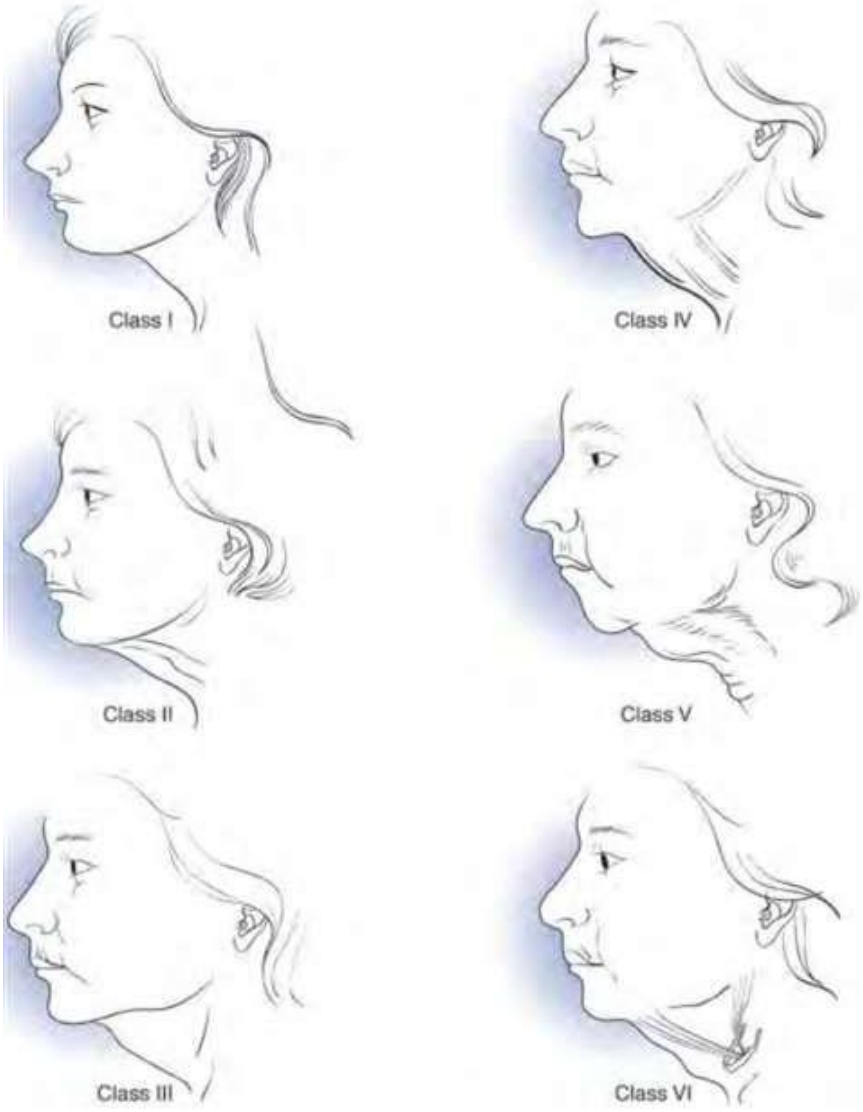
Demonstration video: https://webeye.ophth.uiowa.edu/eyeforum/video/plastics/1/upper-blepharoplasty.htm

Rhytidectomy

Historically, there are three directions of retidectomy:

1. Removal of excess skin
2. Subcutaneous procedures (separation and tightening)
3. Manipulations with superficial musculoaponeurotic complexes (SMAS - superficial musculoaponeurotic system manipulation). In 1974, Skoog described a technique based on anatomical research data - moving skin and platysma together for skin rejuvenation.

Assessment of the patient - ideal candidates are people aged 45-55 years, with good health, normal weight, and a deep cervical-occipital angle.



classes of face profiles for Dedo:

Normal - distinct cervical-substernal angle, good muscle tone, absence of chin fat.

Weak neck skin - a hidden corner due to the reduction of cervical tension and skin laxity.

Accumulation of subcutaneous fat - requires subcutaneous lipectomy

Sagging platysma requires clipping, plication and imbrication of the muscle.

Retrognathia - orthognathic surgery is required

Low hyoid bone - low possibilities of surgery

Post-perineal retidectomy

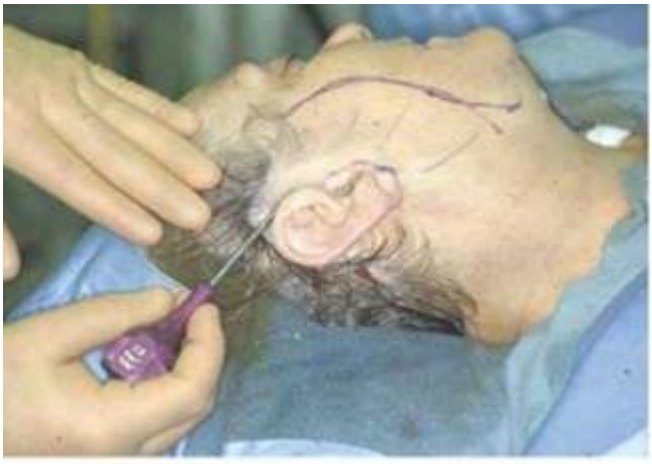
Anesthesia-sedation - IV fentanyl, midazolam, propofol, ketamine.

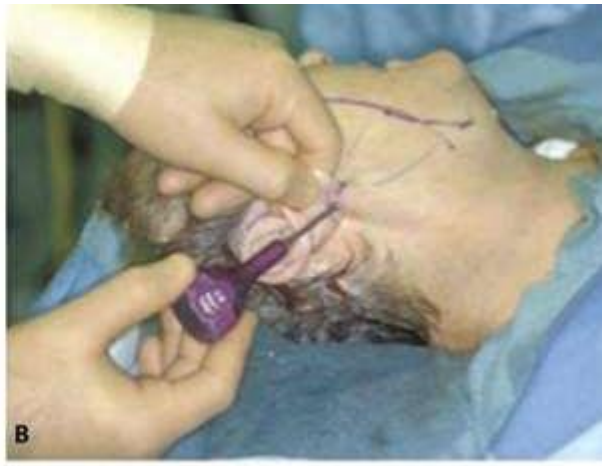
Local anesthesia - 2% lidocaine with adrenaline 1:100,000

Technique of hydropreparation

Using a mixture of 20 ml of 2% lidocaine and 180 ml of saline.

The injection takes place in 4 typical places - the temple, the preauricular area, the nipple-like area, the chin area. (a special trocar is used)

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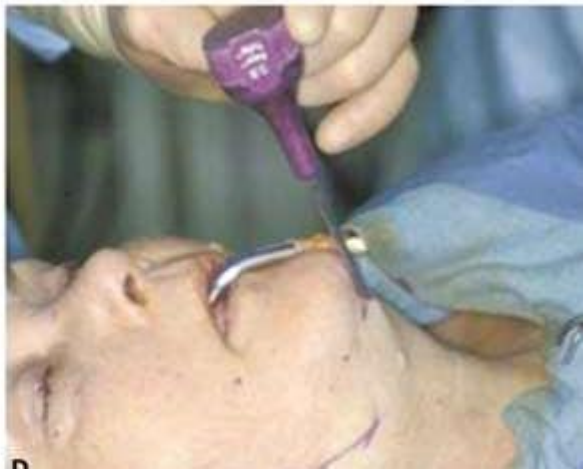
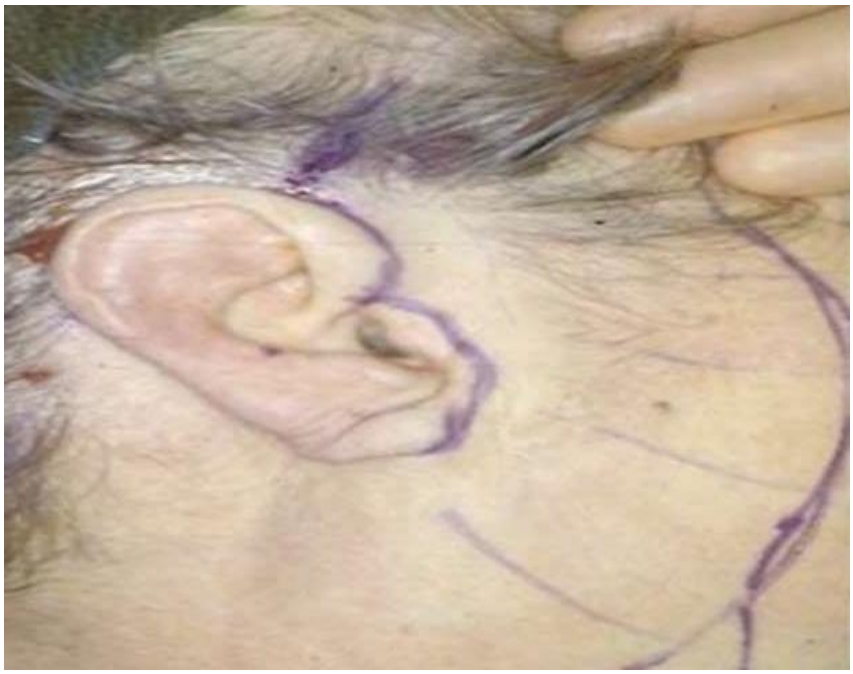


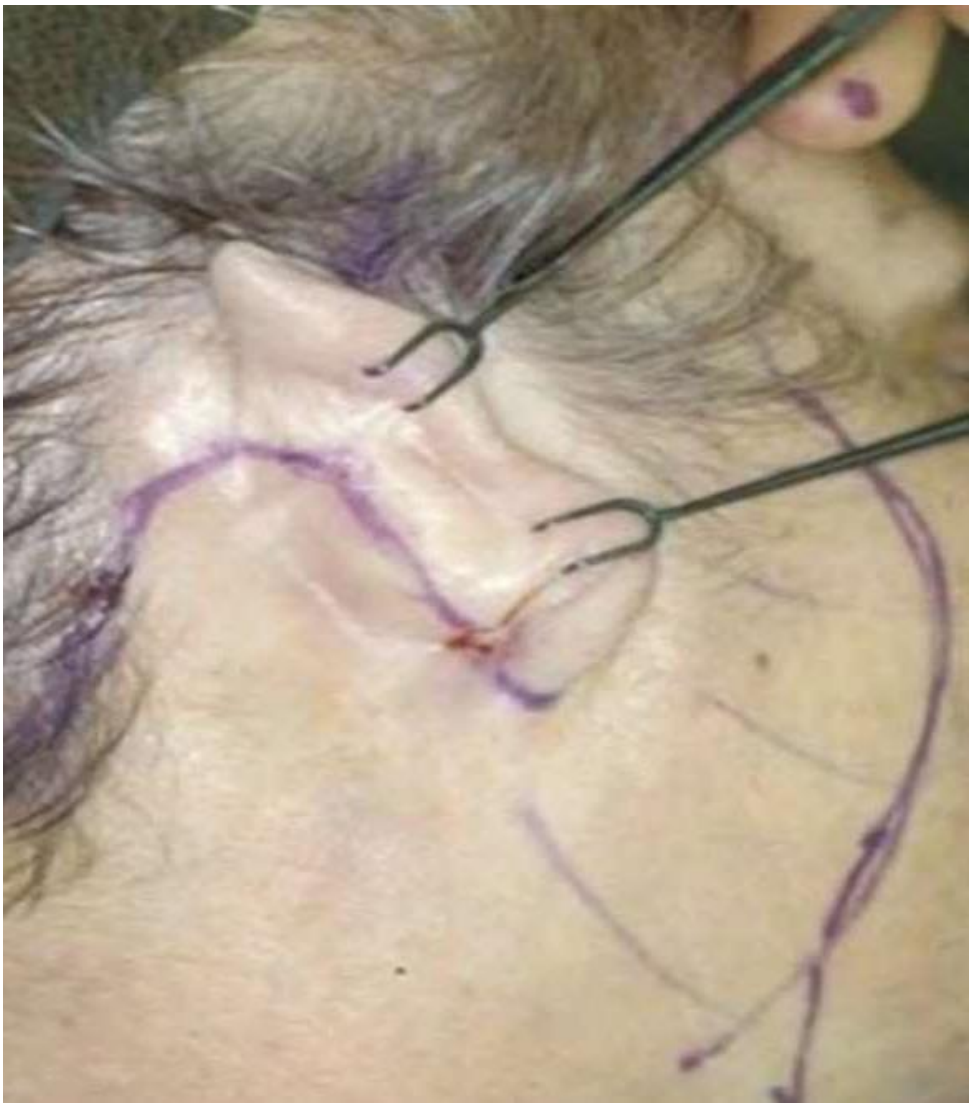


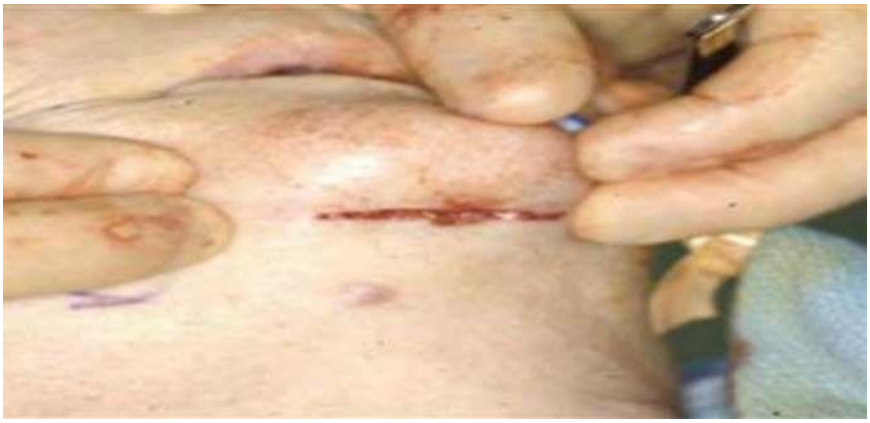
A typical cut around the ear is made down to the root of the curl, forward to the leg of the curl, repeating the edges of the tragus and protruding forward above the notch of the tragus (as in the photo).

Such an incision preserves the trace from the tear and causes an aesthetic scar.

The incision goes down to the place of connection with the earlobe, rises up the auricle, reaching the level of the extraauricular fold or the upper leg of the anti-curl.

The incision moves down and back 4-5 cm for scalping of the pubic area.

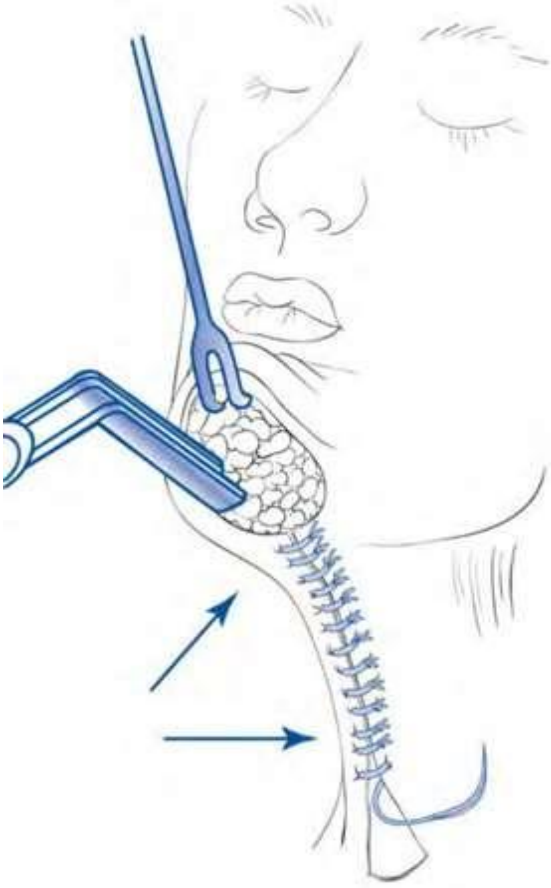


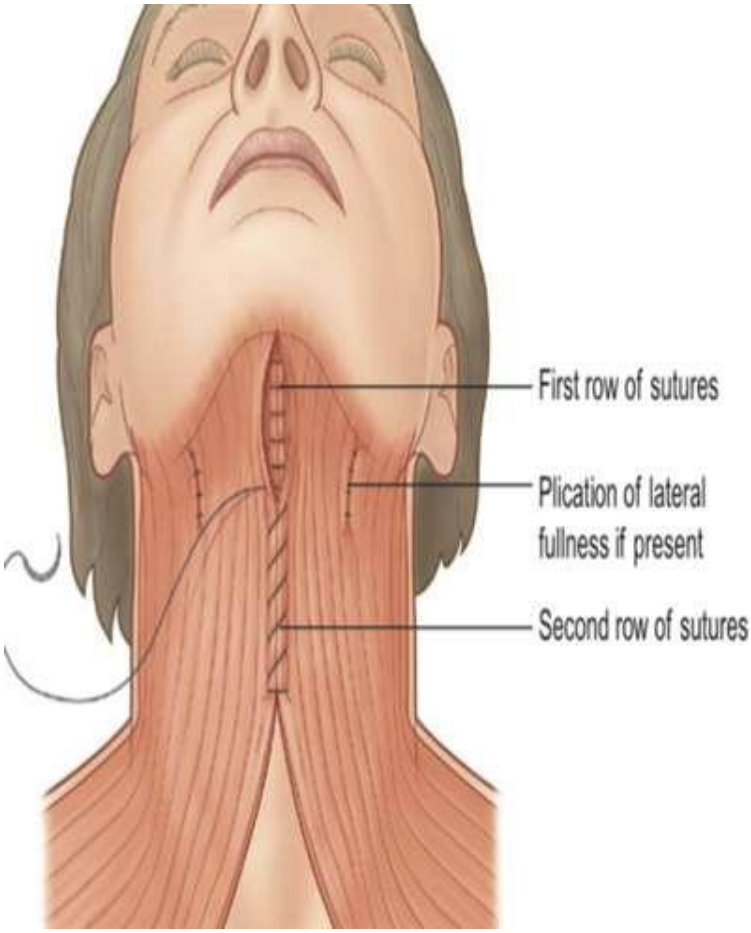


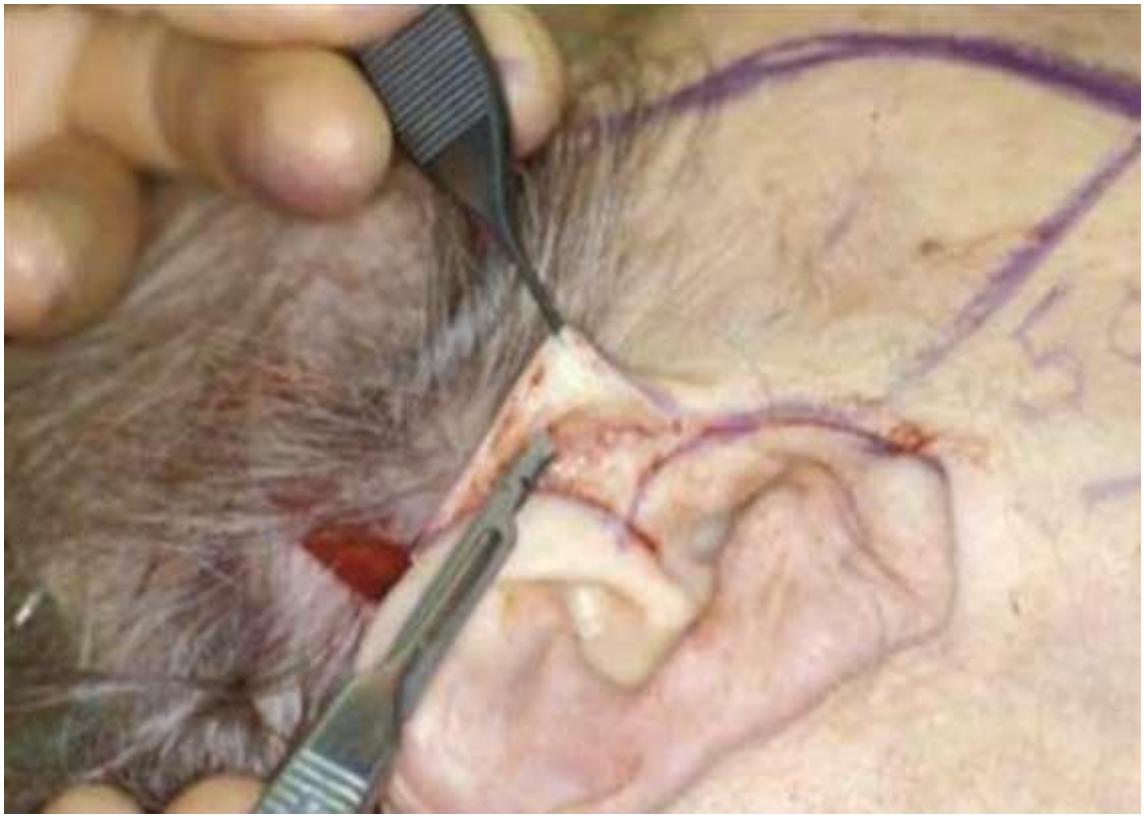
Neck incisions begin with a 2 cm long transverse incision of the chin skin.

With the help of endoscopic instruments, excess fat is removed (excessive removal will lead to deformation of the snake's neck type).

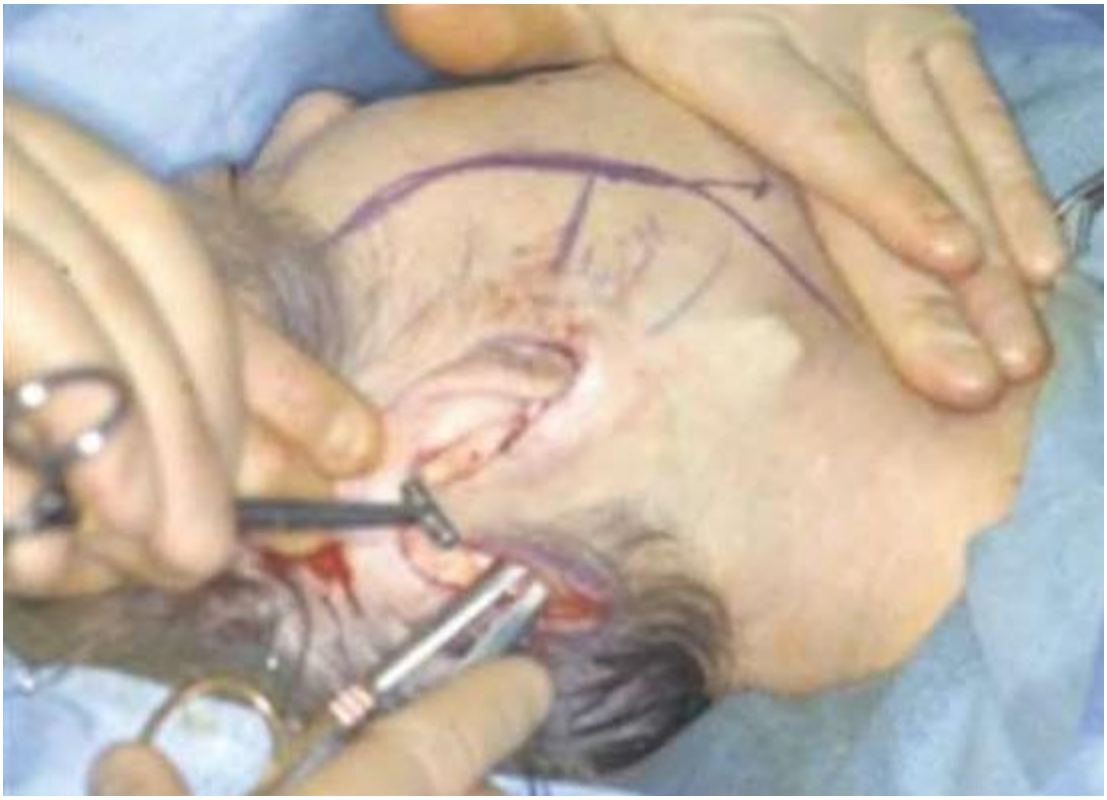
Formation of flaps







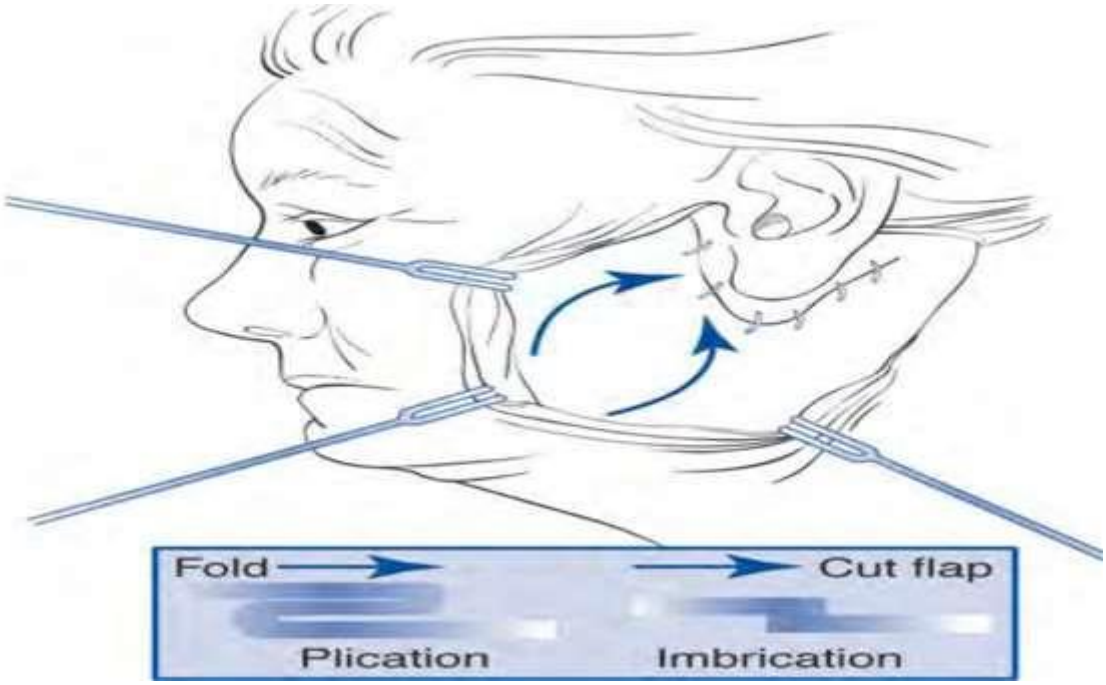
The length of the separated flaps depends on the age of the patient and the clinical situation, in younger patients it is 4-5 cm, in older patients it can reach up to 1 cm to the corners of the mouth. In the temporal area, the incision is made to the deep temporal fascia, which will protect this area from ischemic damage and subsequent possible alopecia.



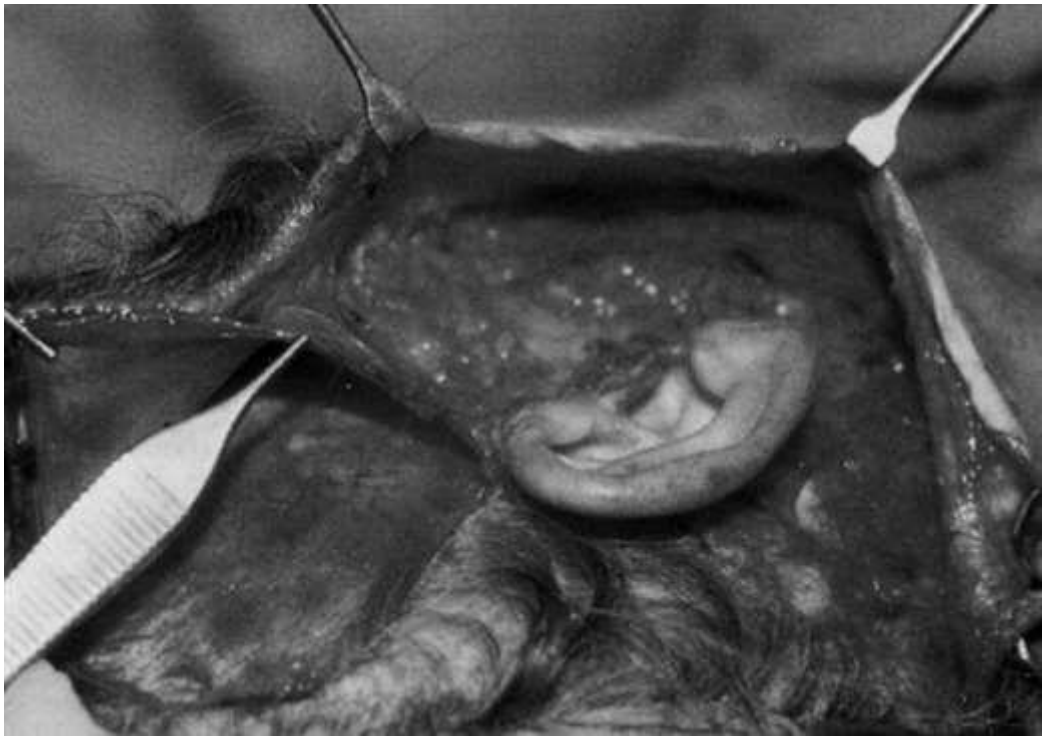
Blunt scissors are used to separate flaps and scalpels.

Using blunt scissors for separation.

SMAS Procedures have three techniques. 1. Plication - a technique where the SMAS folds under itself to the desired reposition. 2. Imbrication - a technique in which the SMAS is incised or a part is removed in such a way that the distal end overlaps the proximal end. 3. a combination of the previous two.

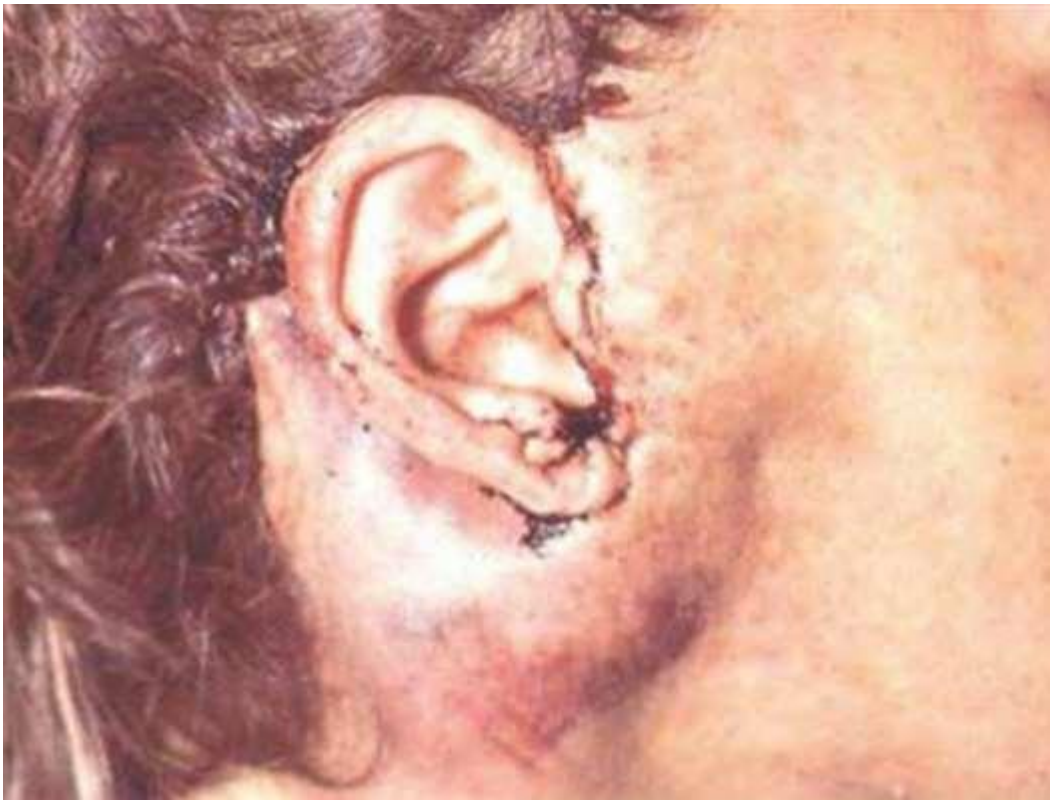

Fold
Cut flap
Plication
Imbrication

The procedure begins with tightening the skin in the temporal area. The area of smoothing is the lateral part of the eyebrows, the corner of the eye to the temple, therefore tightening is not required, for example, in the 1st grade. Then the separation of tissues in front of the ear in the subcutaneous layer. A tissue bridge (vascular-nerve) should be preserved here to preserve the frontal branch of the facial nerve.

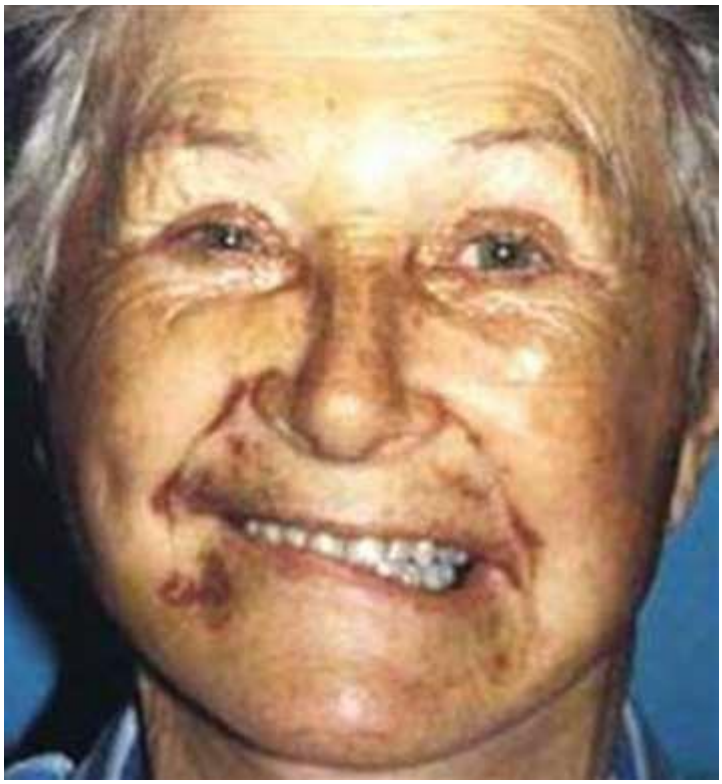


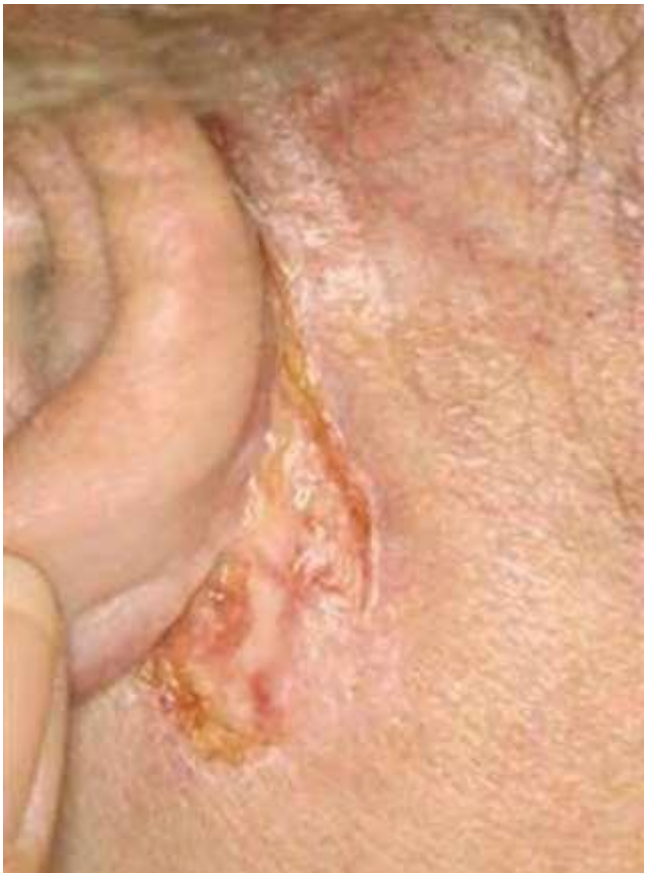
Next, dissection is carried out on the neck.
Surplus SMAS is excised or grafted, excess skin is removed, and the flaps are pulled back and up to achieve an aesthetic facial appearance.
Fixation of tissues in the behind-the-ear area begins. Next, the tissues of the neck are stretched as far as possible up to the ear and fixed with catgut 5-0, the ear is fixed in place with deep sutures with vicryl 5-0. The temporal incision is fixed with staples.

Complications: 1. Hematoma



2. Damage to the facial nerve





3. Necrosis of the skin - the most typical place is the preauricular area

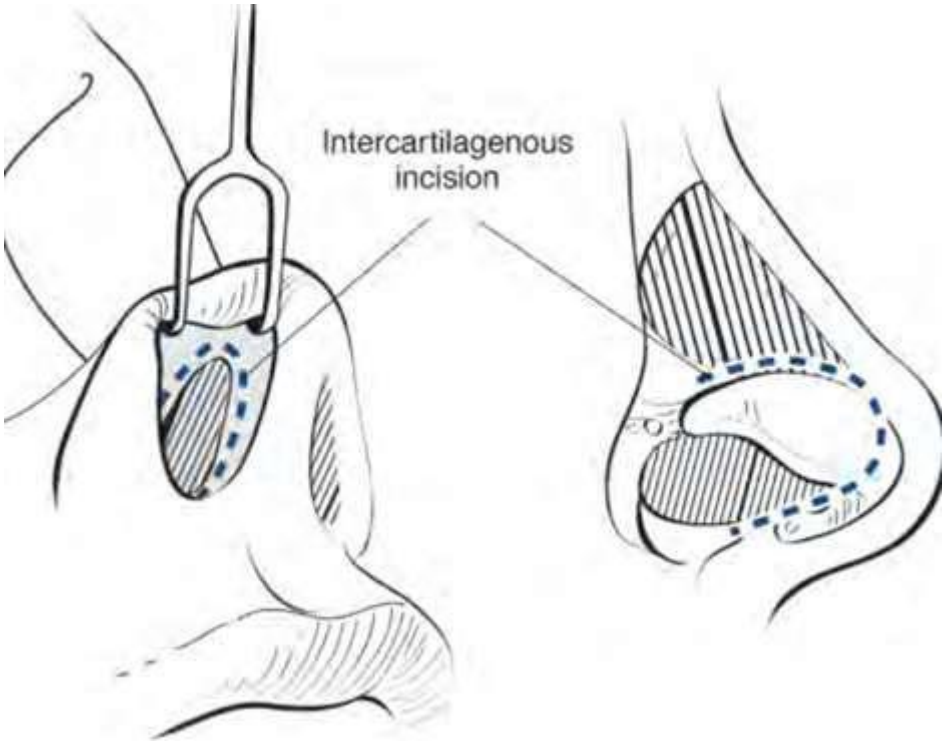
Rhinoplasty Indications for rhinoplasty

- A large, long or wide nose.
- Saddle-shaped nose.
- "Hump" on the nose.
- The tip of the nose is thickened, hangs down or sinks.
- Asymmetric or wide wings of the nose.
- Large or flared nostrils.
- Congenital or acquired (as a result of injuries) deformities of the nose.
- General contraindications: oncological, cardiovascular, acute infectious diseases, chronic hypertension, thyroid disease, diabetes, blood coagulation disorders.

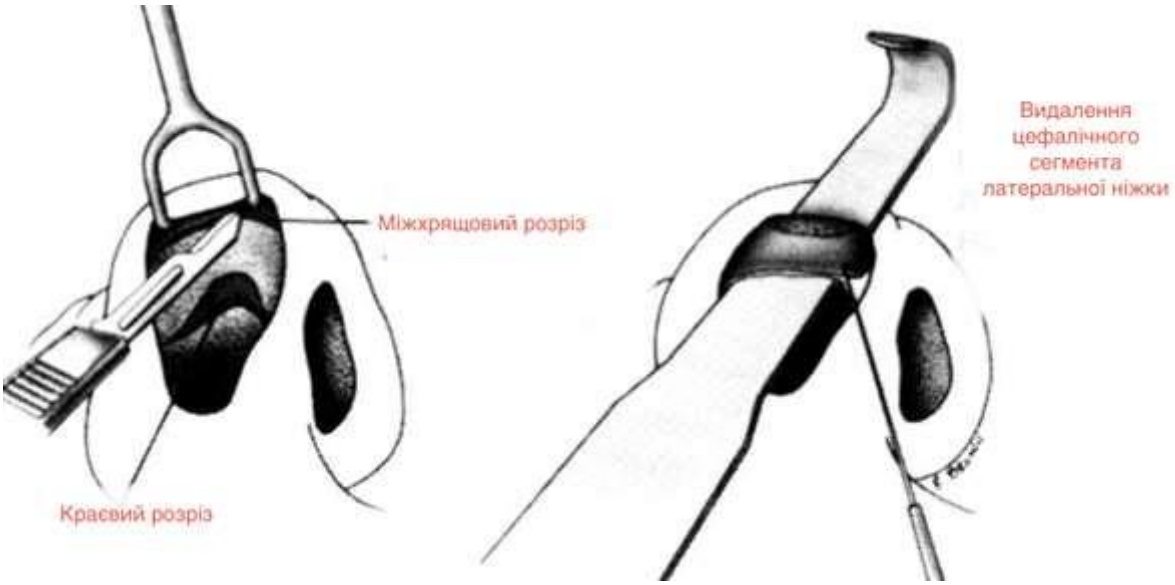
Surgical approaches

1. Access without exposure

Transcartilaginous is the simplest and best. Such access is possible in patients with slight thickening of the tip of the nose.



2. Approaches with exposure - if the edges of the nose are widely curved, the nostrils are widened, the triangular shape of the nose is unsatisfactory. This is an effective technique for narrowing the nostrils



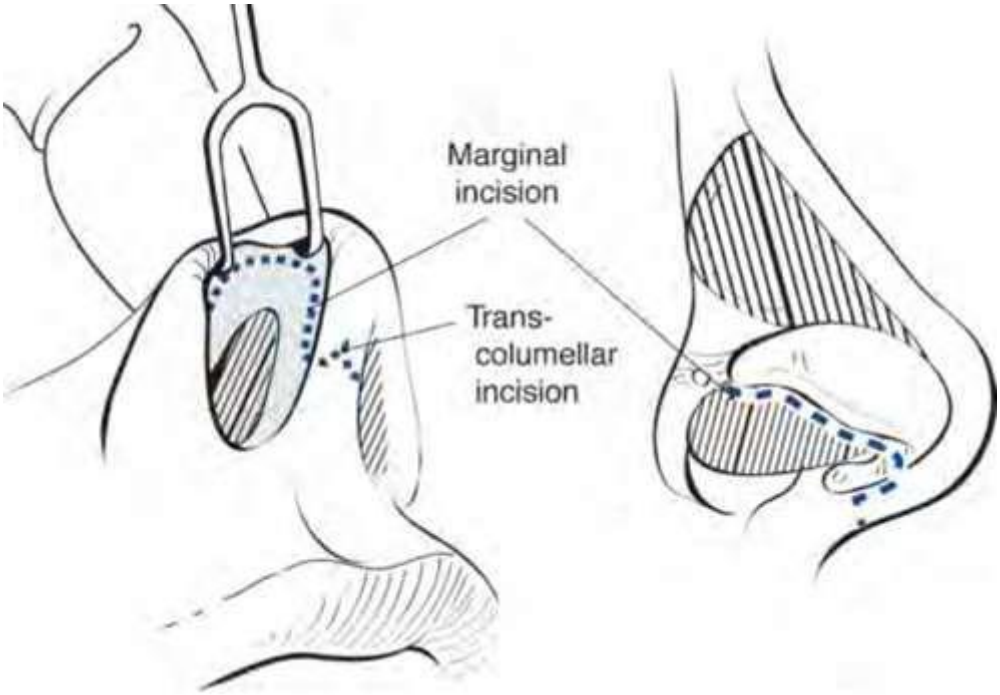
3.

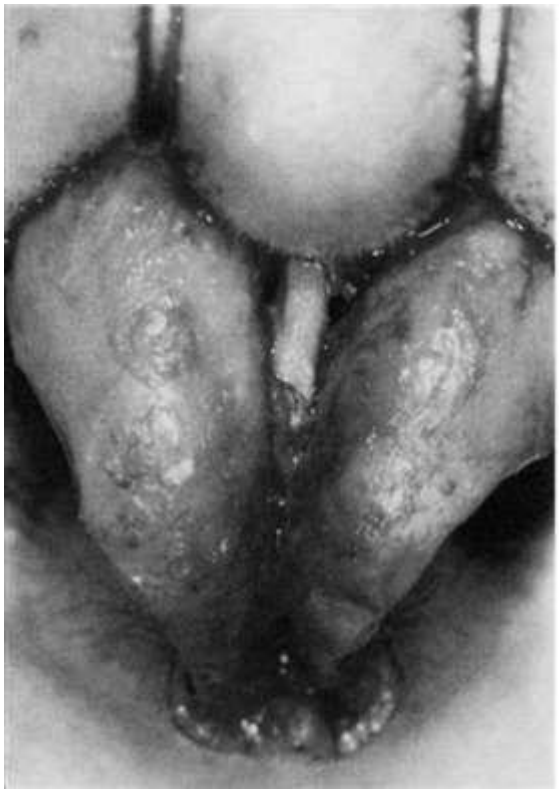
External access to rhinoplasty requires a bilateral marginal incision made by an incision through the columella in its middle part.

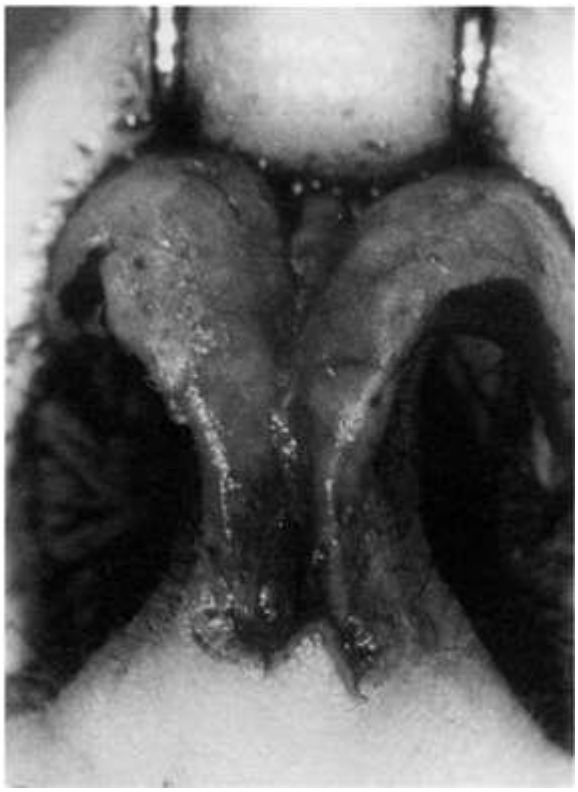
The best access that can provide an excellent view of the nasal skeleton.

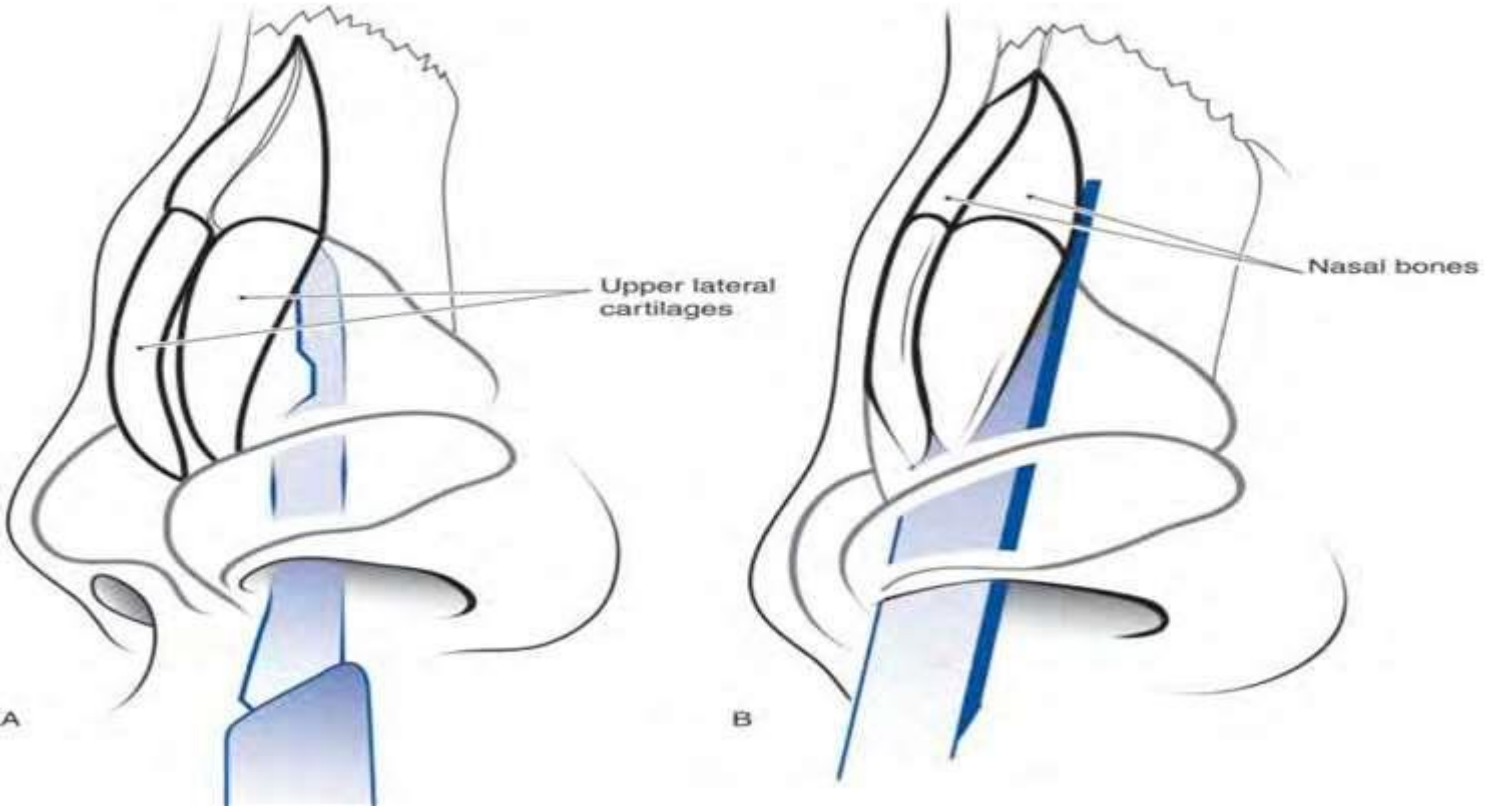
Disadvantages are a wider area of preparation with the possibility of scarring, strong and long-lasting swelling, and a longer duration of the operation.

Indications - asymmetry of the tip of the nose, its significant thickening, strong or insufficient protrusion, anatomically complex shape, large perforations.









Reduction of the bridge of the nose

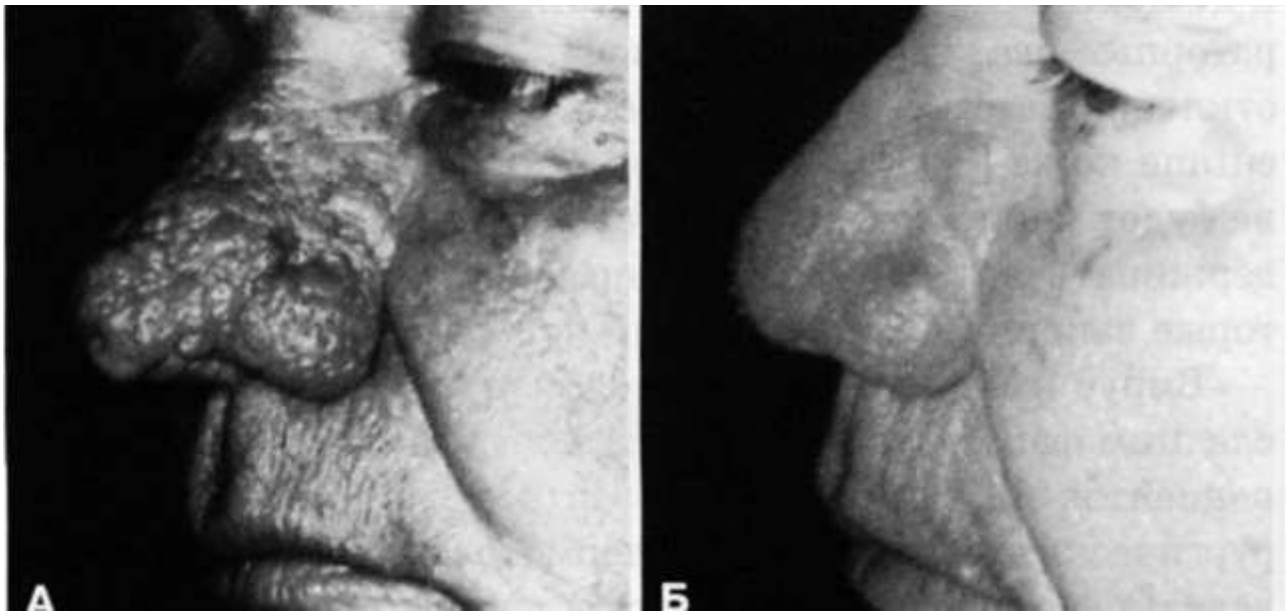
And using a scalpel to access and remove the soft part of the tubercle

In the use of the Rubin osteotome for removing the bone base.

Dermabrasion and chemical peeling Dermabrasion is a mechanical method of "cold steel", it consists in removing the epidermis to the papillary layer of the dermis. The subsequent formation of new collagen, a new layer of papillary dermis, which is not so susceptible to sunlight, perfectly satisfies aesthetics.

Indication

The most frequent indication is the treatment of scars after acne, wrinkles, premalignant solar keratoses,



rhinophyma, traumatic and surgical scars, tattoos.

Rhinophyma before and after

Grinding procedure

After cooling the skin with a spray, the procedure begins with areas that can be treated in 10 seconds or as little as 6 cm2. Pressure on the instrument should be applied only in the direction of the handle, perpendicular to the axis of rotation, translational and circular movements will cause notches in the skin.

Removal of skin pigment means passage to the basal layer. When advancing into the papillary layer, small capillary loops are illuminated and ruptured. To stop the bleeding, it is better to use cotton towels instead of gauze, as the gauze is wrapped in the tool.

It is easiest to start dermabrasion near the nose and move on.

Chemical peeling is the application of a chemical agent that removes surface damage and improves the skin structure by destroying the epidermis and dermis.

Light surface peeling - stimulation of the growth of the epidermis by removing the stratum corneum. For further destruction and emergence of inflammation and the papillary layer, peeling of medium depth is used.

Substance	Concentration	Mechanism of action
Trichloroacetova k.	10-25%	Protein precipitation
P-H JESSNER	Official	Keratolysis
Glycolic acid	40-70%	Deposition of protein, epidermolysis
Salicylic acid	5-15%	Keratolysis

Substances used for peeling

Test tasks

1. Specify a new plastic method used in retidectomy?
A) smas - plastic
B) Rhinoplasty
B) operation of moving the skin, removing excess
D) Schorcher's operation

2. Patient G.V. A 45-year-old complained of tired eyes, the skin over the upper eyelid is thickened in the form of a roller, the function of the levator eyelid muscle is not impaired, specify the pathological condition
A) Pseudoptosis
B) Prolapse of the fatty layer of the eyelids
B) Blepharoptosis
D) Blepharochalasia
3. Specify the meaning of the term rhinophyma
A) inflammatory disease of the skin of the nose, characterized by fibrous growth of all elements of the skin - connective tissue, blood vessels, sebaceous glands
B) decrease in the elasticity of the soft tissues of the face
B) chronic inflammation of sebaceous glands
D) cicatricial deformations of the tissues of the nose
4. Specify the reason for cutting the seams in the nasal area?
A) a large number of sebaceous glands
B) developed subcutaneous fat layer
C) use of synthetic suture materials
D) the presence of mimic muscles

5. During smas-plasty, a nerve bundle was damaged, the patient developed facial asymmetry, has the appearance of gaping teeth, which nerve was damaged?
A) marginal branch of the facial nerve
B) anterior ear nerve
B) temporal branch of the facial nerve
D) infraorbital nerve
6. When examining the patient, the chin is smoothed, the upper lip is much shorter, it visually "stretches" when smiling, the chin fold is pronounced, a feeling of tension is created, the lower jaw is tilted back, which operation is indicated for the patient?
A) orthognathic surgery on the lower jaw
B) dermabrasion
B) facial contouring with silicone implants
D) does not require surgical intervention7. Patient F., aged 50, has moderately developed subcutaneous adipose tissue, sagging skin on the neck, the cervical-chin angle is well defined, no acute infectious diseases have been detected, indicate the class according to Dedo?
A) first class
B) second class
B) fifth grade
D) third class

8. After an operation to move a superficial muscle-aponeurotic flap, the patient developed postoperative complications. What are the most common?

A) facial nerve injury, hematoma, necrosis

B) dissatisfaction with the obtained result

C) infection of the patient D) phlegmon of the operated areas

9. A 43-year-old woman consulted a plastic surgeon with the aim of performing an operation to remove wrinkles, indicate the contraindications to the operation? A) chronic heart failure in the exacerbation phase

B) smoking

C) distal bite

D) cholelithiasis

10. When performing dermabrasion, the surgeon performs de-epithelialization, indicate the meaning of this procedure?

A) removal of the unaesthetic epidermis and subsequent restoration of a new one from the germ layers of the dermis

B) removal of the epidermis for the formation of smooth scars

C) preparation of the bed for transplantation of donor skin

D) Shaving dermal capillaries to form granulation tissue

Assessment of students in a practical session

Evaluation according to the following criteria:

1. Evaluation of the result of solving test tasks. 2. Evaluation of the solution to the situational problem. 3. Evaluation of demonstration of practical skill or ability.

4. Evaluation of work with the phantom. 5. Evaluation of the student's oral answer. 6. Assessment of student activity.

Evaluation criteria "excellent"

evaluation of work with patients	assessment of solving a clinical situational problem	assessment of the solution of test tasks	assessment of demonstration of practical skill or ability	assessment of oral response
The student has a deep and perfect knowledge of the technique of examining patients with age-related changes in the skin of the face	Accurately formulated and substantiated clinical diagnosis	The percentage of correct answers is 91-100%	The student will learn practical skills of varying degrees of complexity	The student has firmly mastered the material, consistently teaches it competently

List of literature for studying the topic

1. V.O. Malanchuk Surgical stomatology and maxillofacial surgery volume 2, pp. 485-499
2. Peterson's Principles of Oral and Maxillofacial Surgery, section 8
3. Facial plastic and reconstructive surgery, edited by Ira D. Papel pp. 155-385, 391 - 507
4. Atlas of plastic surgery of the face and neck edited by Professor F.M. Khitrova
5. Bernadsky Yu.Y. Fundamentals of surgical stomatology and maxillofacial surgery. - Minsk: Belknyga, 1998.