In the name of GOD

Surgical Acne scar treatment

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Acne scars

95% of the acne scars occurred on face

It can be disfiguring and devastating, and can often negatively affect the patient's psychological, professional and social lives.
European Classification of acne scarring

- V-shaped (ice-pick)
- U-shaped (boxcar)
- W-shaped (rolling)
- keloidal or hypertrophic
Icepick scars.
Boxcar scars
Rolling (W-shape) scars
surgical Methods of scar revision in acne
- punch excision
- punch elevation
- Subcision (subcutaneous incision)
- Dermal fillers, PRP, autologous fat transfer
- DermaRollers
- dermabrasion
Punch excision of acne scars is especially effective for ice pick and boxcar scars.
Punch-Out Excision of Acne Scars

punch excision of a given small acne scar with a punch instrument of equal or slightly greater diameter. Then one or two 5.0 or 6.0 simple interrupted sutures are used to close.

minor surgical procedure to treat *rolling and boxcar types of scars*

typically benefit from subcision
Local undermining and subcision

- 18-gauge Nokor® needle with a spear-like tip, is inserted at an angle into the dermis at a distance of 1-2cm from the scar.

The needle tip is aimed upward

- Acne scars adhere to the underlying tissue through fibrous bands, a needle is introduced beneath the scar and the fibrous band is cut through firm, lateral movements. The scar is raised.

**Bruising** can last 2 weeks

the procedure is well-tolerated with local infiltration of anesthetic. *A benefit of subcision is the absence of any epidermal injury, except for minute needle insertion points.*
Punch floating (or punch elevation)

Punch float is especially useful to get rid of shallow and boxcar acne scars of 3-5 mm where the skin texture is normal within the scar. A punch is pushed around the scar deep into the subcutaneous level and the graft is gently lifted up using an inward and lateral pressure. Any fibrous bands beneath is cut using the scalpel blade and the punched out graft is allowed to remain raised above the skin surface for a couple of minutes.
The DermaRoller treatment

- improves acne scars around 50% with minimal down-time. But it usually takes 6 treatments.
Dermaroller cause micro tears. Your body will promote more collagen growth than needed, which allows any tissue damage to be healed to collagen aid, including boxcar scars.
platelet rich plasma (PRP) and micro needling with dermaroller
• platelet rich plasma has been utilized in wound repair,
• combination of PRP infusion with micro needling quantify the stimulation of new collagen synthesis and cell formation exactly where it is needed
Dermaroller microneedling usually require between 3 and 6 treatments and return every 2 to 6 weeks for a treatment.
Combination of microneedling and glycolic acid peels

Glycolic acid 35% peeling every 3 weeks for 6 sessions combined with dermaroller microneedling is better than each separately for moderate to severe acne scars.
Microdermabrasion

- Microdermabrasion is a popular technique used in the treatment of several skin problems, including acne, acne scarring.
- Microdermabrasion can produce changes in dermal matrix result in improvement in contour irregularities.
- It may also be beneficial in improving transepidermal delivery of medications.
- Its role in the treatment of dyschromias and acne vulgaris is limited.
For acne scarring microdermabrasion

• requires deeper and more severe ablation

• and at least once a week for a total of six treatments
What about Ice picks or deep fibrotic acne scars ...??
Combination of methods are advised

Dot peeling (focal application and tattooing of high concentration TCA) and subcision were performed every 2-3 months apart and fractional laser irradiation was performed every 3-4 week on acne scars
Laser treatment of acne scars

- **Ablative lasers** vaporize the epidermis and scar scar, allowing regenerated skin to take its place.

- **Non-ablative lasers** help activate the production of collagen without damaging the surface of epidermis.
Skin tightening by Needle-assisted fractional radiofrequency

This is a newer treatment and tends to be more effective for atrophic scarring and this treatment is safe for all skin colors.
Results of:
RF needle-assisted Fractional 3 treatments, 4-6 weeks apart
Some other combination techniques
Another combination:
Punch excision and spot Peel (TCA 70%)
Another combination

punch Excision and

Fractional co2 laser resurfacing

6-8 weeks later
combination methods
mixed Wide rolling and boxcar scars:

**subcision** plus **Laser resurf**, then later **filler** or fat injections
Soft tissue augmentation techniques

such as:

Hyaluronic acid filler
Cacium hydroxyyapatite
Autologus Fat
Collagen
- **Resorbable filler**: such as hyaluronic acid is a good option. It is expensive but safe. It is indicated for scars with gentle slopes and no sclerosis. Results are temporary, so they need to be repeated every 4 to 6 periodically.

- **Nonresorbable fillers (PMMA)**: carry the risk of granuloma formation.
Autologous fat transplantation has been proven successful in the treatment of acne scarring, it is simple, safe, inexpensive, and effective. Its ready availability, natural integration into host tissues, and potentially permanent correction make it particularly useful for this application.
Hypertrophic scars and keloids in acne
Hypertrophic scars:

- Potent topical steroid for a few weeks
- Intralional steroid + 5-FU injections
- Silicone gel dressings
- Cryotherapy
- Surgical revision
Silicone gel was applied on the scars 2 times daily for 8 weeks with an average improvement in the thickness estimated between 40% and 50% compared to baseline.
Hypertrophic acne Scars

cryo + intralesional inject steroid therapy

- During each session of cryotherapy the patient is usually subjected to 2-3 cycles, each lasting less than 25 seconds.

- Cryotherapy can also be used before each cycle of intralesional injections of steroids to reduce the pain of injection therapy and to facilitate the injection of cortisone.
Hypertrophic acne Scars

Intralesional injection of 5-FU 50 mg/mL in combination with triamcinolone 10 mg/mL (80% vs. 20%) resulted in regression without recurrence of keloid scars <2 cm in diameter. Intervals one month maximum sessions until improvement or 14 sessions.
Adverse Effects of Acne Scar Revision Techniques
• **Bleeding** ….. after the acne scar revision is quite common, and if compression bandages are not applied, hematomas may form. These usually get absorbed and disappear within 5-7 days.

**Other adverse effects include**

• allergic reaction to adhesive dressings
• infection at the site,
• Punch excision may result in further scarring in some, if the closure does not heal properly.
Medical management of acne scars
tretinoin (Retin-A)

Skin Turn over
regeneration of epidermis
remodeling of collagen and
control of pigment melanin synthesis

PIP and atrophic scar
Alpha-Hydroxy Acids (AHAs) and Beta-Hydroxy Acid (BHA):

- Glycolic acid
- Lactic acid
- Salicylic acid

- Keratolytic action and could be interesting to treat acne.
- Epidermal turn over
- Collagen remodeling (less extent vs. tretinoin.)
- Decrease pigment
The best way to prevent post-inflammatory changes caused by acne is to prevent acne lesions from occurring. This is done by understanding the factors that cause acne and using the appropriate treatments for the different acne types.

Acne is a skin condition that affects up to 80% of people in their teens and twenties, and up to 5% of older adults. While many people recover from acne without any permanent effects, some people are left with disfiguring acne scars. There are some topical skin care products and medications that can improve mild scarring, but most acne scars are treated with a combination of surgical procedures and skin resurfacing.
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