

AGEMGMT15



Mesotherapy

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Faculty Disclosure

- Dr. Neil Sadick has no affiliations



Overview

- Mesotherapy
- Lipo-dissolve
- Combination Therapies



Mesotherapy – The Hot New Trend

- Featured on CNN, Good Morning America, 20/20, and 48 hours
- Published in Allure, Marie Claire, and People
- Reproducible results with little down time
- Has been in use for decades
- Most widely known for fat reduction
- No to be confused with Lipo-dissolve



MESOTHERAPY

Skin Rejuvenation



Mesotherapy and skin rejuvenation

- As we age, our skin loses vital nutrients as a result of sun exposure, hormonal changes, poor diet and poor circulation
- Mesotherapy is used to treat and slow the process of ageing.
- This treatment results in a dynamic skin with improved tonicity, elasticity and appearance resulting in a clear, attractive complexion



What does the treatment consist of?

- Mesotherapy solution prepared prior to use
- Patient can be seated or lying down
- Treatment of facial and neck skin
- Injection into subdermis
- 5 to 10 minute treatments
- Minimal pain and downtime



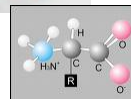
Mesotherapy Benefits

- Mesotherapy can be used to improve the appearance of sagging skin
- Spot reduction and contouring areas for skin rejuvenation can be achieved
- Side effects and down time are minimal as compared to more invasive surgical treatments.
- Tightening and toning of the area treated by the enhanced production of collagen and elastin.



Skin Rejuvenating Agents

- Vitamins
- Minerals
- Amino Acids
- Anti-oxidants
- Non-crosslinked Hyaluronic Acid



Possible mesotherapy formulation: Facial Rejuvenation

- α -Lipoic acid, lidocaine, DMAE, multivitamins, tretinoin, hyaluronic acid

MESOTHERAPY

Cellulite



Cellulite

- Cellulite is an accumulation of fat, fluid, and toxins trapped in a hardened network of connective tissue fibers that hold down the skin causing the "dimpling" effect.
- The fat cells inflate, causing a rippling and puckering of the skin, commonly referred to as orange peel skin. Lymphatic and venous circulation are poor in these areas.



Mesotherapy and Cellulite

- Mesotherapy is used to cause an increase in venous and lymphatic flow, as well as the elimination of fat and dimpling in the area.
- The medications used in Mesotherapy destroy the connective tissue bands and melt the trapped fat, creating a smooth, dimple-free appearance.



Candidates for cellulite reduction

- Patient who is seeking treatment for cellulite
- Possibly overweight, but not obese
- Not interested in surgery
- Wants a fast, easy, procedure that shows good results



Treating Cellulite

- Treatments will depend on how much cellulite and dimpling the patient has in the problem area
- Treatment can last 15-45 minutes
- Involves injecting several small amounts of medications and vitamins into the middle layer of skin
- Optional anesthetic



Agents utilized for Treating Cellulite

- Aminophylline (methylxanthine)
- Isoproterenol (β -Agonist)
- Ephedrine (Sympathomimetic amine)
- Calcium pyruvate (metabolite)
- Carnitine (amino acid derivative)
- Ma huang (herb)



Possible Mesotherapy Formulation Cellulite Reduction

- Pentoxiphylline; hyaluronidase or collagenase; carnitine; calcium pyruvate; aminophlline; coumarin, artichoke, melilotus, or ginko biloba



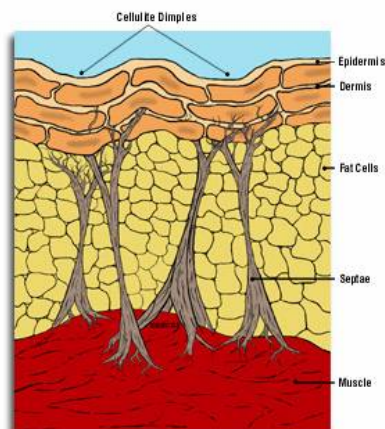
Post Treatment Guidelines

- No downtime procedure
- The treatment is permanent and the results are measurable as long as patients do not gain more than fifteen pounds
- Most people will require from 6-10 sessions to achieve results at 1-2 weeks intervals.
- Dieting and exercise will help to maintain one's results over the long term



Mesotherapy and Cellulite

- In four weeks, a patient's skin appears significantly smoother. Most patients lose anywhere from two to four inches where their cellulite is treated.



Advantages

- Improved blood flow to the treated area
- Dissolves excess fat deposits
- Removes fibrotic, hardened connective tissue
- Improved lymphatic drainage
- No downtime

MESOTHERAPY

Fat deposits

Mesotherapy for Treatment of Fat Deposits

- Cutaneous injections for localized treatment of fat and cellulite while also treating photoaged skin
- Treatments areas include the thighs, buttocks, hips, legs, arms, and facial areas
- Best candidate for mesotherapy is one with small pockets of unwanted fat

Best Candidates for Mesotherapy

- Adults between the ages of 18 - 75 in good health are candidates for weight loss, spot weight reduction, and cellulite reduction.
- People who are pregnant, on blood thinners, have diabetics, heart problems, or have cancer are not candidates for cosmetic Mesotherapy



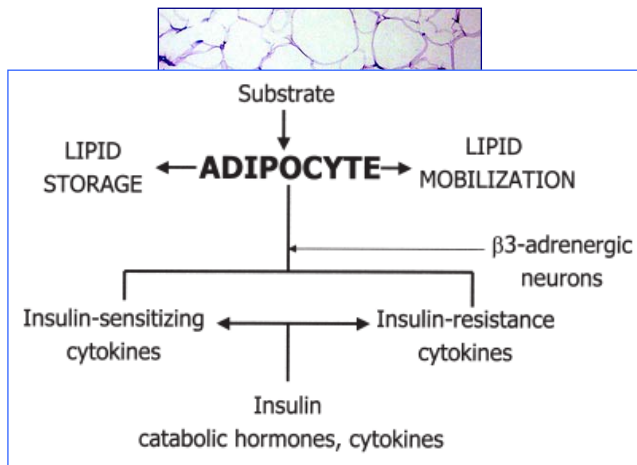
Lipolytic Agents in Studies

Phosphatidyl choline (PDC) – 100mg/ml

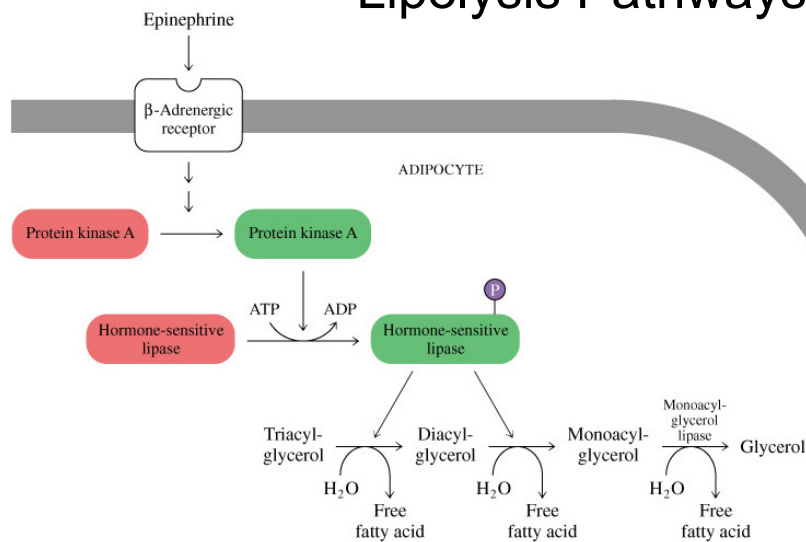
- Rittes PG. *Dermatol Surg.* 2001. 27:391-392. Improvement of lower lid bulging due to prominent fat pads (250mg/5mL)
- Hexsel D. *J Drugs Dermatol.* 2003. 2(5):511-518. Improvement of adipose deposits following liposuction (250mg/5mL)
- Rotunda AM. *Dermatol Surg.* 2004. 30(7):1001-1008. Active component - detergent effect of sodium deoxycholate.



Lipolysis Pathways

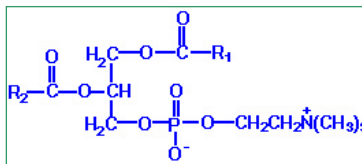


Lipolysis Pathways



Phosphatidyl choline

- Lower cholesterol levels
- Aides in the reduction of cellulite
- Help to decrease stretch marks
- Can be utilized for skin rejuvenation and skin tightening



Treatment Protocol

- 250mg of phosphatidylcholine (250mg/5mL) injected into effected area
- Patient can be seated or lying down
- Temporary swelling (<48 hrs)
- Treatments are given at 15-day intervals
- Total of 3-6 treatments

The Proof of Mesotherapy

- Ablon & Rotunda *Derm Surg* 2004;30: 422-7
 - 10 patients received 3-5 infraorbital injections 50mg/mL under each eye twice a month
 - Physician graded improvement of 80% with no side effects at 9 month follow up
- Moy (case study) presented at ASDS 2004
 - Trunk, chin, and extremities injected with .5mL/cm² twice a month
 - Average decrease of 7.45mm in subcutaneous fat thickness one month after last treatment



The Proof of Mesotherapy

- Hexsel et al. *JDD* 2003;2: 511-8
 - 213 patients treated with 250mg/mL PPC every 15 days up to 5 treatments
 - Majority of patients experienced a reduction of fat before their last treatment
- Rittes *Derm Surg* 2001;27: 391-2
 - 30 patients injected with 50mg/mL PPC every 15 days total of 1 to 2 treatments
 - All patients had a reduction of intraorbital fat with results lasting up to 2 years



Mesotherapy Technique

- Using a very tiny needle (0.4 to 0.6 cm), the medication is injected into the mesoderm
- The "multi-pricking" technique is used with a number of swift, painless injections concentrated in a specific area.
- Treatments can also take form of a mechanical delivery system



Mesotherapy Technique

Facial Rejuvenation

- Intraepidermic (tremor) technique
- 4mm needle length
- Epidermis depth
- Rapid superficial injections every 2 weeks, up to 10 treatments

Fat Deposits

- Superficial intradermic (multipricking technique)
- 4-6 mm needle length
- Dermis depth
- Rapid injections, similar to PPD, 10 to 15 weekly treatments



MESOTHERAPY

Results



Mesotherapy Technique



Mesotherapy Technique



Mesotherapy Results



Pre Treatment

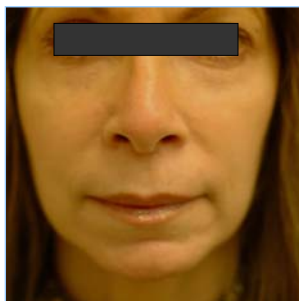
2 months Post Mesotherapy
3 treatments



Mesotherapy Results



Mesotherapy Results



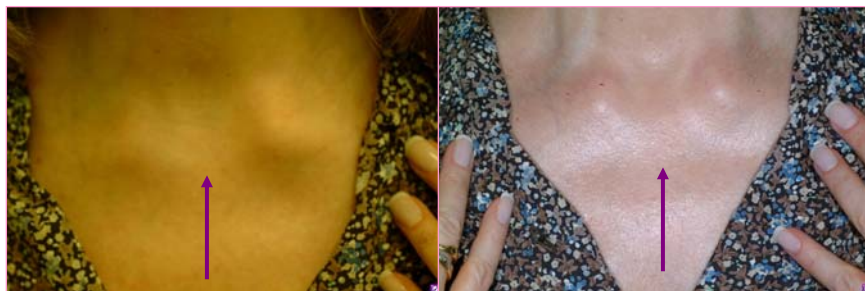
Pre - Treatment



4 months post Treatment



Mesotherapy Results



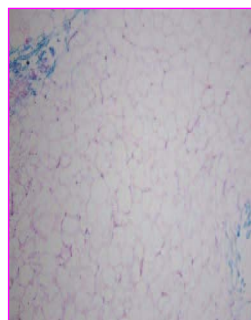
Pre - Treatment

4 months Post Treatment

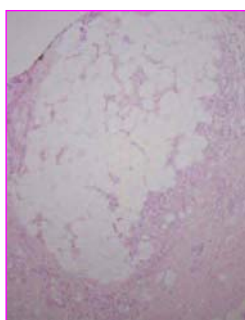


Mesotherapy Histology

Rose PT, Morgan M, Journal of Cosmetic and Laser Therapy. 2005; 7: 17-19

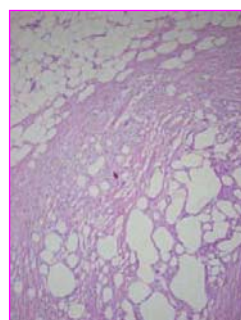


Normal Fat



One week after treatment with PDC

Inflammatory infiltrate



Two weeks after treatment with PDC

Fibrosis



Post Mesotherapy Protocol

- All patients asked to follow a natural healthy diet
- Lots of water is used to flush toxins that are eliminated from the body along with dissolved fat
- Exercise is needed to circulate the medications used, with either walking or another form of aerobic activity, three times a week.



Adverse Events Profile

- Minimal side effects due to small amounts injected
- Targets only the treatment area to deliver treatment avoiding complications
- Minimal pain during injection
- Some adverse events include post-inflammatory hyperpigmentation, ecchymoses, swelling, tenderness, and hematoma formation



Mesotherapy Controversies

1. Lack of standardization of solutions used
2. FDA status
3. Histologic effects not proven
4. Longevity and efficacy, need for maintenance



Liposuction vs Mesotherapy

- | | |
|---------------------------------------|---------------------------------------|
| • Surgical Procedure | • Non-invasive procedure |
| • Removes fat cells | • Removes fat from cells |
| • Cannot be used where cellulite is | • Used wherever there is cellulite |
| • 2 weeks down time | • No down time |
| • Wear restrictive garments for weeks | • Wear loose clothing after treatment |
| • Weight gain back in abnormal places | • Weight gain back where it was lost |



Liposuction vs Mesotherapy

- | | |
|---|---|
| <ul style="list-style-type: none">• Significant bruising and pain• Causes divots and scarring• Takes up to 3 months to see results• Causes loose and weak skin | <ul style="list-style-type: none">• Minimal bruising and pain• Reduces divots and scarring• Results seen in weeks• Tightens and strengthens skin |
|---|---|



Mesotherapy Conclusion

- Histologic effect on skin cells and adipocytes will help define mechanism of action of mesotherapy
- Longevity and efficacy needs to be further evaluated
- Synergistic effect when used with other treatment modalities needs to be evaluated



Future Considerations

Combined modality approach

- Surgical

Liposuction

- Non-invasive

VelaSmooth™



Lipo-Dissolve



Lipo-dissolve vs. Mesotherapy

- The main difference with Lipo-dissolve is that results are more certain with each treatment and fewer treatments are needed
- With Lipodissolve, the medications are put deeper into the fat pockets and more medication is used.
- In Mesotherapy, the medications are put into the skin in small amounts



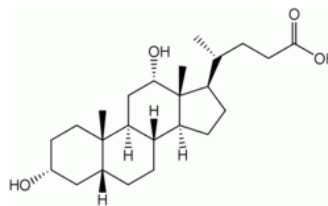
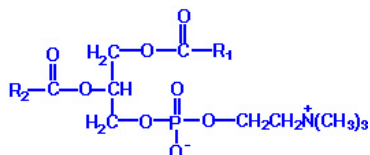
Lipo-Dissolve Injection Lipolysis

- New and gentle way to dissolve small to medium amounts of fat deposits
- Great for areas under the eyes, neck, arms, legs, and small fatty deposits
- Uses PPC substance (soy lecithin)
- 1-4 treatments at 8 week intervals are common
- Side effects include pain, bruising, reddening, swelling, itching, burning



Components of Lipo-Dissolve

- Phosphatidylcholine
- Deoxycholate



Science of Lipo-Dissolve

- Phosphatidylcholine and deoxycholate act as detergents causing adipose cell walls to dissolve and break down
- Immune system is activated to remove cellular debris from the broken cell walls and pass out of the body through lymph system and is excreted

Candidates for Lipo-dissolve

- Men and women who are not excessively overweight
- Problem areas of fat that patients cannot get rid of with diet and exercise
- Areas to treat are the abdomen, arms, thighs, knees, neck, back, bra line, and planks



Who should not get lipo-dissolve

- Patients that are pregnant or breast-feeding
- People that have cancer, AIDS, or diabetes
- Allergies to eggs or soy



Key Points

- Lipodissolve averages about 1 inch of fat loss for each 100cc of the medications used.
- Variability in results due to individual responses to medications as well as the type of fat that is being treated.
- Soft fat shows great improvement and is reduced with Lipodissolve.



Key Points

- Fibrous fat is more difficult to treat because it does not completely burst and therefore will need additional treatments and/or will need to other procedures to optimize the results
- Lipo-dissolve works, but it is a question of how many treatments it will take to attain a goal in fat reduction.



Post-Treatment Lipo-dissolve

- Results vary depending on your body type and the condition being treated.
- Patients begin noticing visible improvement from any particular treatment session about 4-7 weeks after that treatment.
- In some patients, it is not unusual to see the end result 12 weeks after the treatment.
- No downtime with minimal side effects resolved 48 hours after the procedure



Treatment of cellulite



Pre Lipo-Dissolve (PDC)



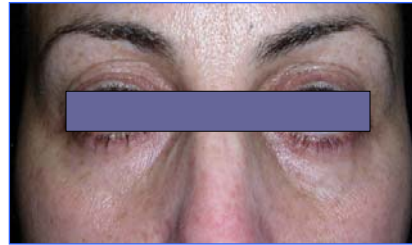
4 months Post
Lipo-Dissolve (PDC)
6 treatments



Treatment of localized fat



Pre Lipo-Dissolve (PDC)



4 months Post Lipo-Dissolve (PDC) 2 treatments



Lipo-Dissolve Conclusion

- Similar to mesotherapy in action, but utilizes different active ingredients
- Multiple treatment sessions with no downtime
- Great results with minimal adverse events



Combination therapies

- Possible combination approaches
 - Mesotherapy + VelasMOOTH + Liposuction
 - Thermage + VelasMOOTH
 - VelasMOOTH + Lipo-dissolve + Liposuction
 - Mesotherapy + Botox
 - Botox + IPL + Lipo-dissolve



Lipo-dissolve + Liposuction + VelasMOOTH



Pre-Procedure



3 months post- Procedure



Conclusion

- Many therapies that include injections and technologies that can greatly reduce fat and cellulite
- Patients are looking for treatments that provide good results while having little down time
- Combination treatments are in their infancy, but have shown effective results



Questions

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