

4. Tell us about a phenol peel.

Phenol is a deep chemical resurfacing peel. There are many formulations including pure, mixed with soap, water, croton oil, and sometimes olive oil. One commonly used formulation is the Baker-Gordon formula composed of 3 mL of United States Pharmacopeia (USP) phenol, 2 mL of tap water, 8 gtt of liquid soap, and 3 gtt of croton oil.

MOA: causes both keratolysis and Keratocoagulation. Phenol differs from other agents in that increasing the concentration of phenol actually decreases the penetration up to a point, because ensuing damage actually forms a barrier to further damage.

Use: has the most remarkable resolution of actinic damage and wrinkling, but has more morbidity. And generally because of these side-effects this therapy has fallen out of favor.

SE: marked hypopigmentation- most noticeably on darker skinned patients, and there is often a clear line of demarcation btwn treated and untreated skin. Causes intense burning on application that is often long lasting (4-6 hrs) requiring oral analgesics/ anxiolytics. OD may cause liver and kidney toxicity, and in large doses may lead to cardiotoxicity in the form of arrhythmias.

5. What are the indications for and the complications of chemical peels?

The goal of chemical peeling is to remove a predictable uniform thickness of damaged skin. Normal wound healing and skin rejuvenation follow while complications such as scarring and pigmentary changes are minimized. **Indications** are for those with moderate to severe photodamage and medium to fine rhytides. Pts with Fitzpatrick classification less than IV often are ideal as they have less complications with hypopigmentation

Fitzpatrick scale:

Type I: always burn and never tan.

Type II: tan only with difficulty and usually burn.

Type III: tan but sometimes burn.

Type IV: rarely burn and tan with ease.

Type V: tan very easily and very rarely burn.

Type VI: tan very easily and never burn.

Complications: Complications are generally more likely with darker skinned types and certain agents.

Erythema is present after the procedure and generally subsides in 90 days- this may be prolonged or worse in pts who are on OCP's, exogenous estrogens and other photo sensitizing agents. Topical hydrocortisone +/- po CS may lead to earlier resolution. Puritis may result and is generally treated with oral anti-hist. Skin is typically very photosensitive after treatment and sunscreen should be used daily for 6-12 months as well as camouflaging makeup.

Hypopigmentation- primary with use of phenol secondary to destruction of melanocytes. Delayed healing or hypertrophic scars may occur.

Acne: generally between 3-9 days, milia may also occur in the healing process- 2-3 weeks after a chemical peel.

Infections: unusual but require aggressive treatment. Pseudomonas infxn is treated with 1/2 water/ 1/2 distilled vinegar. Herpes exacerbations may occur and are treated with oral or topical acyclovir.

6. Describe pre-op preparation and post-op care of peels. Is pretreatment with hydroquinone and retinoid necessary?

Pre-op care: Pt should D/c OCP and photosensitizing meds several days before. If pt has a hx of herpes infection they should begin treatment with acyclovir several days prior to and after the peel. If pt is on Accutane, the peel should not be done until after 1 year after therapy has stopped. Skin is often pre-treated with Trans-retinoic acid, which is believed to facilitate uniform penetration of the peeling agent and promote more rapid re-epithelialization. This may be applied nightly/ every other night for several weeks prior to peeling, depending on the degree of skin irritation caused and patient tolerance. This promotes a thinning of the stratum corneum with shedding of keratinocytes while fibroblasts are stimulated.

Just prior to the peel, the patient should thoroughly cleanse the face with non-residue soap on the evening before and morning of the procedure. The patient is instructed not to apply makeup or moisturizers in the interim. The skin is cleansed immediately prior to the procedure to remove any remaining traces of makeup or oils. Either acetone or isopropyl alcohol may be used for this purpose. This step is absolutely essential to prevent uneven penetration of the peeling agent.

Post-op: Generally a large amount of petroleum or A&D ointment is applied to the treated area, and reapplied by the patient several times throughout the day. Once shedding begins the pt may shower but will pat the skin dry and apply more ointment- also NO PICKING. pt should avoid sun exposure and use daily sunscreen for 6-12 months after.

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State AAD recommends pretreating with topical tretinoin to promote wound healing faster and maintain cosmetic benefits of chemical peels. This therapy is initiated nightly 6 weeks prior to peel and D/C'd 48 hours prior to a peel. In pts at risk for post-inflammatory hyperpigmentation (typically darker skinned individuals) topical retinoids are d/c'd 2-4 weeks prior to peel series.

Hydroquinones- bleaching agent that is thought to reduce the incidence of post-inflammatory hyperpigmentation. And is often used pre-and posttreatment.

12. Does Retin-A work? How do you give it? Will you give it before or after a peel?

Cochrane review: photodamaged skin 2009

12 trials to suggest that topical tretinoin cream, in concentrations higher than 0.02% is beneficial to participants with mild to severe photodamage on the face and forearms. Topical application 0.02% was shown to improve photodamage but lower doses may affect rhytids.

MOA Retin-A. An synthetic vitamin A analogue used as a topical therapy for acne, photoaging and in the pre-treatment of chemical peel pts, Thought to work by increasing cell turn over. A disrupts the keratinocytes in the sebaceous follicle from being adherent and allows for sloughing and easy removal. It is also thought to promote wound healing and accelerate collagen synthesis.