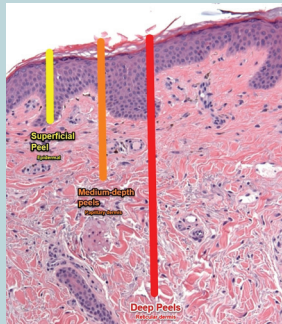


Chemical Peels

by Roman Bronfenbrener, MD and Toni Bronfenbrener, RN, BSN

General principles



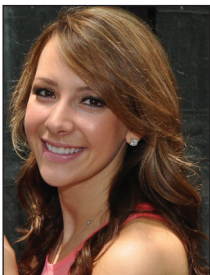
- Patient must avoid tanning to decrease risk of hyperpigmentation.
- Appropriate sunscreen use should be reinforced.
- Multiple superficial peels are not equivalent to one medium depth peel.
- Topical retinoids should be part of a preconditioning regimen to ensure an even peel. Stop 2-4 days prior, resume 2-4 days after re-epithelialization is complete.
- Hydroquinone and azelaic acid are very effective for post-peel hyperpigmentation, as is a second light peel.
- HSV prophylaxis recommended for all patients getting medium depth or deeper peels.
- Post-peel treatment should consist of gentle cleansers or dilute vinegar soaks with bland emollient.

Frosting Appearance

Level 0	Pink or erythematous skin
Level I	Scattered white speckling with background erythematous skin
Level II	Frosted skin with background erythema showing through
Level III	Enamel white skin, no erythema visible



Roman Bronfenbrener, MD, is a 2nd year derm resident or PGY-3 at SUNY - Stony Brook



Toni Bronfenbrener, RN, BSN is a Nurse Practitioner student at Samford University in Alabama.

	Compound	Concentration	Acid-Type	Indications	Skin preparation	Contact time	Notes
Superficial Peels	Glycolic acid	20-70%	alpha-hydroxy	Face and body acne, rosacea, dyschromia, mild photodamage, Axs (especially when used with other field treatment), keratosis pilaris	Gentle degreasing with alcohol or acetone	1-5 minutes (most start around 3 minutes)	Must neutralize by either rinsing with plain water or using 10% bicarbonate solution to end exposure
	Salicylic acid	20-35%	beta-hydroxy	face and body acne, melasma, fine rhytides	Gentle degreasing with alcohol or acetone	Self-neutralizes within 3 minutes. Frosting seen due to precipitation of salicylic acid crystals	Salicylic acid possesses anesthetic properties. Must avoid in aspirin allergic. Lipophilicity increases sebaceous gland penetration and increases efficacy in acne relative to other superficial peels.
	Trichloroacetic acid	10-35%	acetic acid analog	melasma, fine rhytides, post inflammatory pigmentation	Gentle degreasing with alcohol or acetone	Self-neutralizes within 3 minutes. Lower concentrations cause white speckling while 25% causes white frosting.	Application of several coats or overaggressive degreasing can cause increased depth of penetration
	Jessner's	14% salicylic acid, 14% lactic acid, 14% resorcinol in ethanol base	mixed	acne, melasma, post inflammatory pigmentation, fine rhytides	Gentle degreasing with alcohol or acetone	Self-neutralizes with white speckling and erythema	Can be used as initial peel to increase depth of penetration (i.e. Jessner's followed by 35% TCA). Short peeling time after procedure.

Chemical Peels (cont.)

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	Compound	Concentration	Acid-Type	Indications	Skin preparation	Contact time	Notes
Medium-Depth Peels	Trichloroacetic acid	40-50%	acetic acid analog	actinic damage, medium depth rhytides, scarring, dyschromia, blending with laser resurfacing	Gentle and even degreasing with acetone or alcohol	Self-neutralizes, frosting peaks within 2 minutes generally	Single-agent TCA has fallen out of favor due to unpredictability of results and higher complication rate
	TCA combo peel	TCA 25-35-40% after either Jessner's or 70% glycolic acid	mixed	actinic damage, medium depth rhytides, scarring, dyschromia, blending with laser resurfacing	Gentle and even degreasing with acetone or alcohol	Superficial peel is performed and neutralized if necessary. After skin is dry, TCA peel is performed.	Combo peel produces a more even peel than single agent TCA. TCA can be reapplied thinly to areas that did not have good frosting after 4 minutes. Level III frosting should be avoided in areas of thinner or more sensitive skin.

	Compound	Concentration	Acid-Type	Indications	Skin preparation	Contact time	Notes
Deep Peels	Baker-Gordon Phenol	Phenol, sepiisol, croton oil in distilled water	mixed	Advanced photo-aging, extensive actinic keratoses, severe acne scarring, peri-oral rhytides	Degreasing with sepiisol and acetone	Grade III frosting occurs over 10 seconds. Full-face phenol peels should be performed over the course of an hour to decrease exposure to phenol.	Due to risk of pigmentary change, restricted to Fitzpatrick skin type III or less (ideally, I or II). If contact with eyes occurs, should flush with mineral oil, not water. Phenol is cardiotoxic and requires intraoperative monitoring of cardiac function and vital signs. Intravenous hydration during procedure decreases cardiotoxicity risk.
	Trichloroacetic acid CROSS (chemical reconstruction of skin scars)	70-100%	Acetic acid analog	Ice-pick acne scarring	Gentle degreasing focused on ice-pick scars	Placed into depth of ice-pick scars with toothpick or wood tip of cotton applicator	Treats ice-pick scars individually to decrease depth of scar apex. Usually requires several treatments every 2-3 weeks. Ideally used prior to laser resurfacing, microdermabrasion, or additional peels.

Works Cited

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