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## Chemical Peels

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Type	Treatment Depth <sup>a</sup>	Concentration, %	Neutralization <sup>b</sup>	Treatment Risks	Comments
<b>α-Hydroxy Acids</b>			Yes		
				Dyspigmentation, scarring, infection, HSV reactivation; initial itching and burning followed by erythema and peeling is expected on application	Hydrophilic, humectants; overall good for sun-damaged skin; also helps with shallow acne scarring; stimulates collagen growth
Citric acid	VS to S	20–70			Good for solar hyperpigmentation
Glycolic acid	VS to S to M to D	20–70			Most commonly used α-hydroxy acid; derived from sugarcane; sometimes called the “lunchtime peel”
Lactic acid	S	12–15			Derived from milk
Mandelic acid	S	30–50			Good for rosacea and melasma; derived from bitter almonds
<b>β-Hydroxy Acid</b>					
Salicylic acid	VS to S	20–30	No	Salicylism: tinnitus, tachycardia, tachypnea, anxiety, delirium	Derived from willow bark; lipophilic, can easily penetrate follicle; good for acne, keratosis pilaris, and follicular conditions
<b>Other</b>					
Jessner solution	S	Combination of resorcinol 14%, salicylic acid 14%, and lactic acid 14%, all in an ethanol base	No	Hyperpigmentation, contact dermatitis	
Phenol	D	88	Yes (water only)	Cardiac toxicity, hypopigmentation in darker skin types	Not routinely used due to cardiac toxicity
Retinoic acid	S to M	5	No	Dyspigmentation, scarring	Used as adjunct to other α-hydroxy acid peel agents

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Type	Treatment Depth <sup>a</sup>	Concentration, %	Neutralization <sup>b</sup>	Treatment Risks	Comments
<b>Other</b> (continued)					
Trichloroacetic acid	S to D	10–20 (S to M); 30–50 (M to D)	No	Dyspigmentation, scarring	Produces hallmark “frosting” after application; good for sun-damaged skin

Abbreviation: HSV, herpes simplex virus.

<sup>a</sup>Treatment depth scale: VS=very superficial (stratum corneum); S=superficial (epidermis); M=medium (papillary dermis);

D=deep (reticular dermis).

<sup>b</sup>Neutralize with sodium bicarbonate solution in water (spray onto skin).

## Practice Questions

1. Which one of the following peels produces “frosting” after application?
  - a. citric acid
  - b. glycolic acid
  - c. mandelic acid
  - d. salicylic acid
  - e. trichloroacetic acid
  
2. Which one of the following peels is lipophilic?
  - a. citric acid
  - b. glycolic acid
  - c. mandelic acid
  - d. salicylic acid
  - e. trichloroacetic acid
  
3. A Jessner solution peel contains which of the following 4 components?
  - a. lactic acid, resorcinol, salicylic acid, ethanol
  - b. lactic acid, resorcinol, salicylic acid, methanol
  - c. lactic acid, resorcinol, salicylic acid, retinoic acid
  - d. retinoic acid, resorcinol, phenol, ethanol
  - e. retinoic acid, resorcinol, glycolic acid, methanol
  
4. What is the most serious risk associated with phenol peels?
  - a. cardiac dysrhythmia
  - b. hearing loss
  - c. scarring
  - d. seizure
  - e. tinnitus
  
5. Which one of the following peels self-neutralizes?
  - a. citric acid
  - b. glycolic acid
  - c. lactic acid
  - d. mandelic acid
  - e. salicylic acid

*Fact sheets and practice questions will be posted monthly. Answers are posted separately on [www.cutis.com](http://www.cutis.com).*