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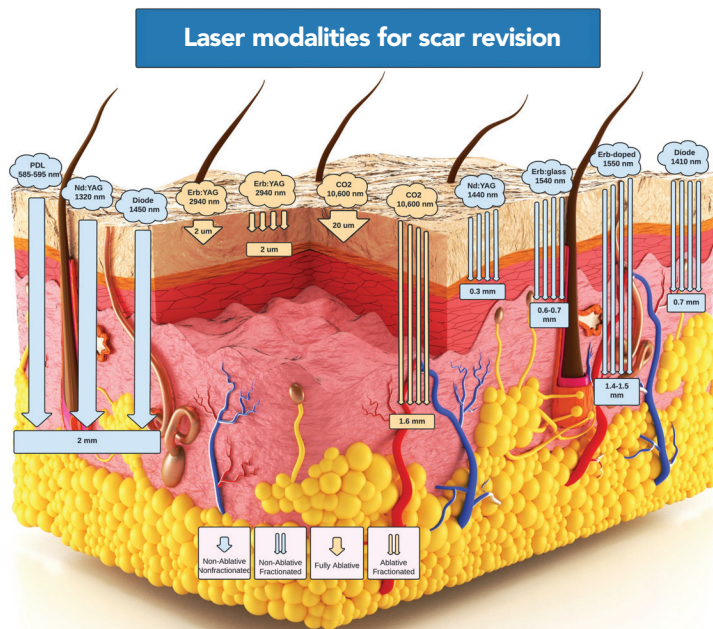
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Kent J. Krach, MD, FAAD, is a board-certified dermatologist, fellowship-trained Mohs surgeon, Fellow of the American College of Mohs Surgery (FACMS), and the Program Director for the Micrographic Surgery and Dermatologic Oncology (MSDO) Fellowship at St. Joseph Mercy Ann Arbor.

Procedural modalities for scar revision

By Michael J. Visconti, DO, Emily R. Davis, DO, and Kent J. Krach, MD, FAAD



Laser modalities for scar revision						
Pulsed dye Laser	Nd: YAG	Diode	Erbium: glass	Erbium doped	Erbium: YAG	CO ₂
Wavelength (nm)						
585-595	1320 or 1440	1410 or 1450	1540	1550	2940	10600
Fractionated or unfractionated						
Unfractionated	Either		Fractionated		Either	
Ablative or nonablative						
Nonablative					Either	
Primary chromophore						
Hemoglobin (Oxy-)		Water				
Scar candidate(s)						
Pigmented scars Hypertrophic scars/keloids	Atrophic scars Superficial facial scars		Atrophic or hypopigmented scars Moderately/severely hypertrophic scars			
Complications						
Purpura Pigmentary change	Pain Edema Blistering	Hypopigmentation (Fitzpatrick IV-VI)		Moderate pain (>> PDL)	Scabbing Crusting Pruritus	Elevated bleed risk Longer down-time

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Surgical modalities for scar revision

Subcision

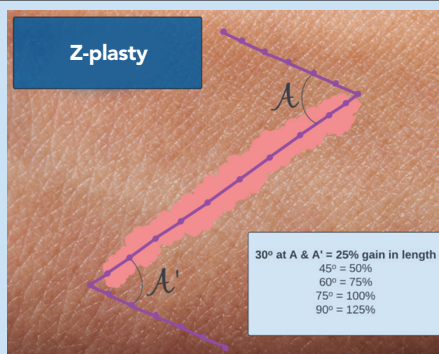
- **Candidates:** depressed scars of small area (i.e., facial scars)
- **Technique:**
 - ▶ Insert 20g tribeveled hypodermic needle
 - ▶ Direct tip to the deep dermis and/or subcutaneous tissue, then maintain parallel direction to skin surface while moving forward and back, which utilizes sharp edges to release fibrotic tissue



Simple ellipse excision

Simple ellipse excision

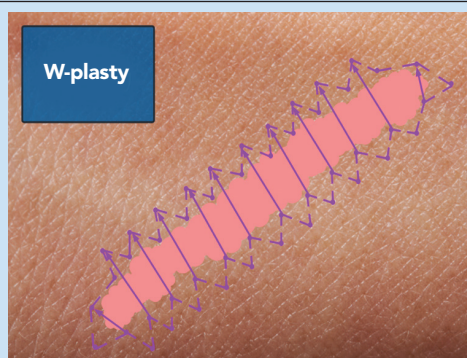
- **Candidates:** spread or depressed scars (poor wound eversion), mature scars (increased laxity of neighboring skin compared to the high tension of newly formed scars)



Z-plasty

Z-plasty

- **Candidates:** deformations involving free margin (i.e., elevated, or depressed oral commissure)
- Serves multiple benefits: creation of irregular lines, redirection of scars parallel to RSTLs, lengthening of contracted scars



W-plasty

W-plasty

- **Candidates:** shorter scars (longer → geometric broken-line closure)



Geometric broken line closure

Geometric broken line closure

- More extensive W-plasty
- **Candidates:** longer scars (shorter → W-plasty)

References:

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2. Bolognia J, Jorizzo J, Schaffer I. *Dermatology*. Elsevier; 2017.
3. Hundeshagen, Gabriel, et al. "Tissue rearrangements: the power of the Z-plasty." *Clinics in Plastic Surgery*. 44.4 (2017): 805-812.
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6. Robinson JK, Hanke CW, Siegal DM, Fratila A. *Surgery of the Skin*. Elsevier; 2015.
7. Xiao A, Etefagh L. Laser Revision of Scars. In: *StatPearls*. StatPearls Publishing, Treasure Island (FL); 2021.

More boards!



There are more new charts online! A complementary chart on [non-surgical scar revision](#) by Michael J. Visconti, DO, Emily R. Davis, DO, and Kent J. Krach, MD, FAAD is now available online. We also have new charts on [systemic antifungal agents](#) and [systemic antiviral agents](#) by Sujitha Yadlapati, MD, and Leah Shama-Brown, DO. Check out the full archives at www.aad.org/boardsfodder.