

# Acne scarring management update



**JERRY TAN MD FRCPC**  
UNIVERSITY OF WESTERN ONTARIO  
WINDSOR CAMPUS, ONTARIO, CANADA



## Relationships with financial sponsors:

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Patents: Imaging technique for skin surface topography

# Acne scarring

## Learning Objectives

3

01

CLASSIFY THE  
DIFFERENT  
TYPES OR  
SCARS

02

EXPLAIN THE  
MECHANISM  
OF ACTION OF  
SCAR  
FORMATION

03

FORMULATE A  
PLAN FOR  
ACNE SCARS  
AND  
PREVENTION

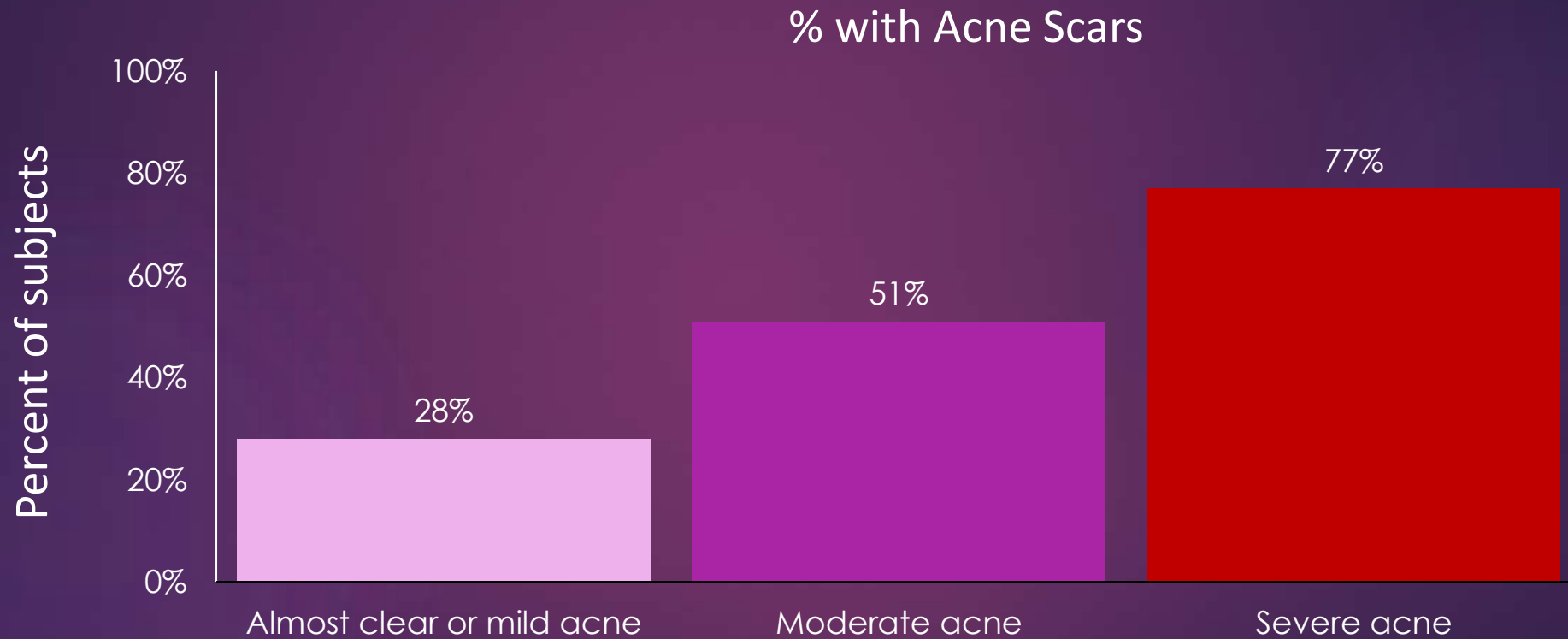
04

REVIEW THE  
LIMITATIONS OF  
SCAR  
TREATMENT



Patients present with multiple types of acne scars

# Prevalence of Scarring with Acne Severity



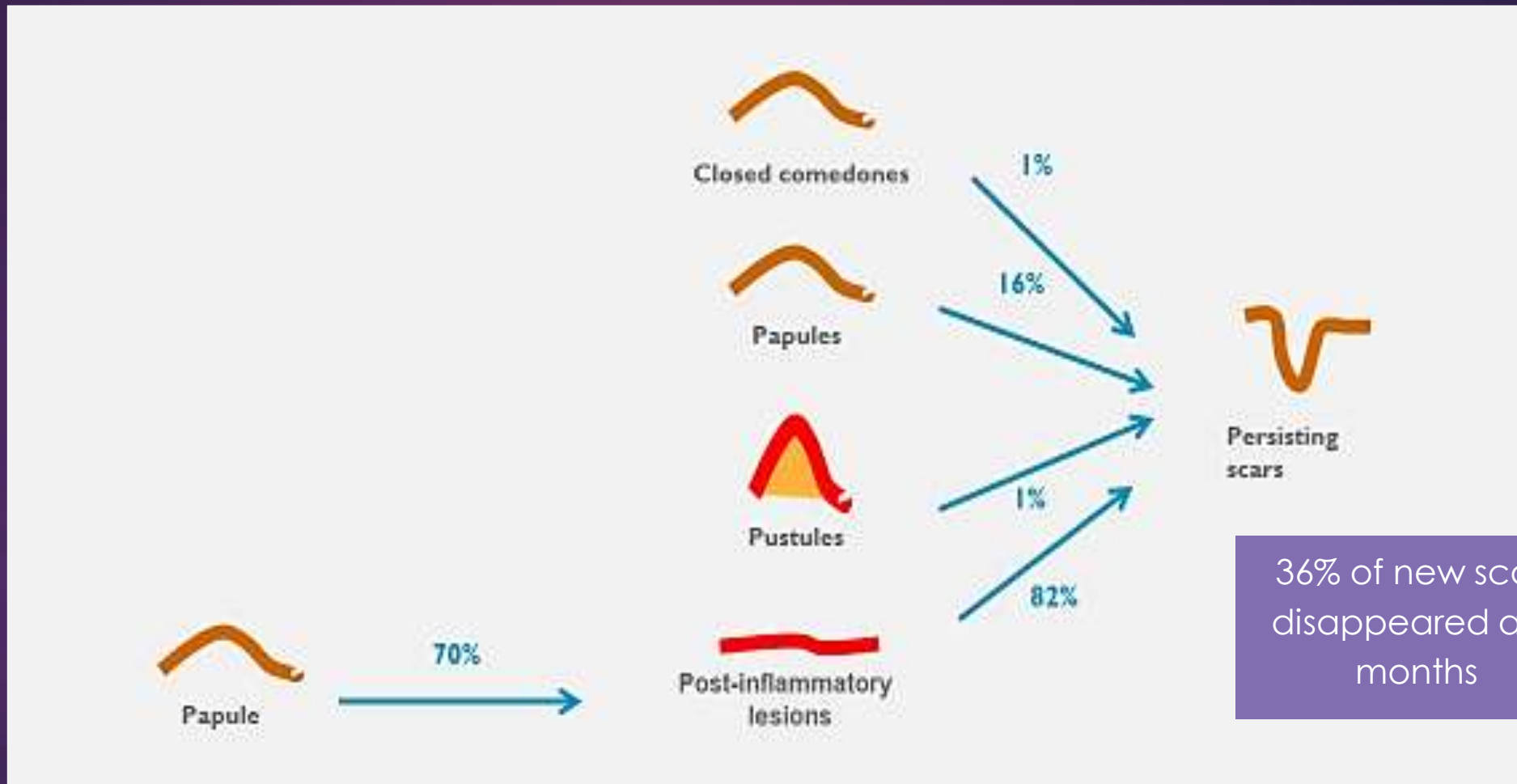
43% of all patients (n=1,972) had acne scars

A close-up photograph of human skin showing several atrophic acne scars. The scars are characterized by their depth and the way they pull the surrounding skin down, creating a textured, uneven surface. The skin is light-toned with some fine hairs visible. The lighting is soft, highlighting the contours of the scars.

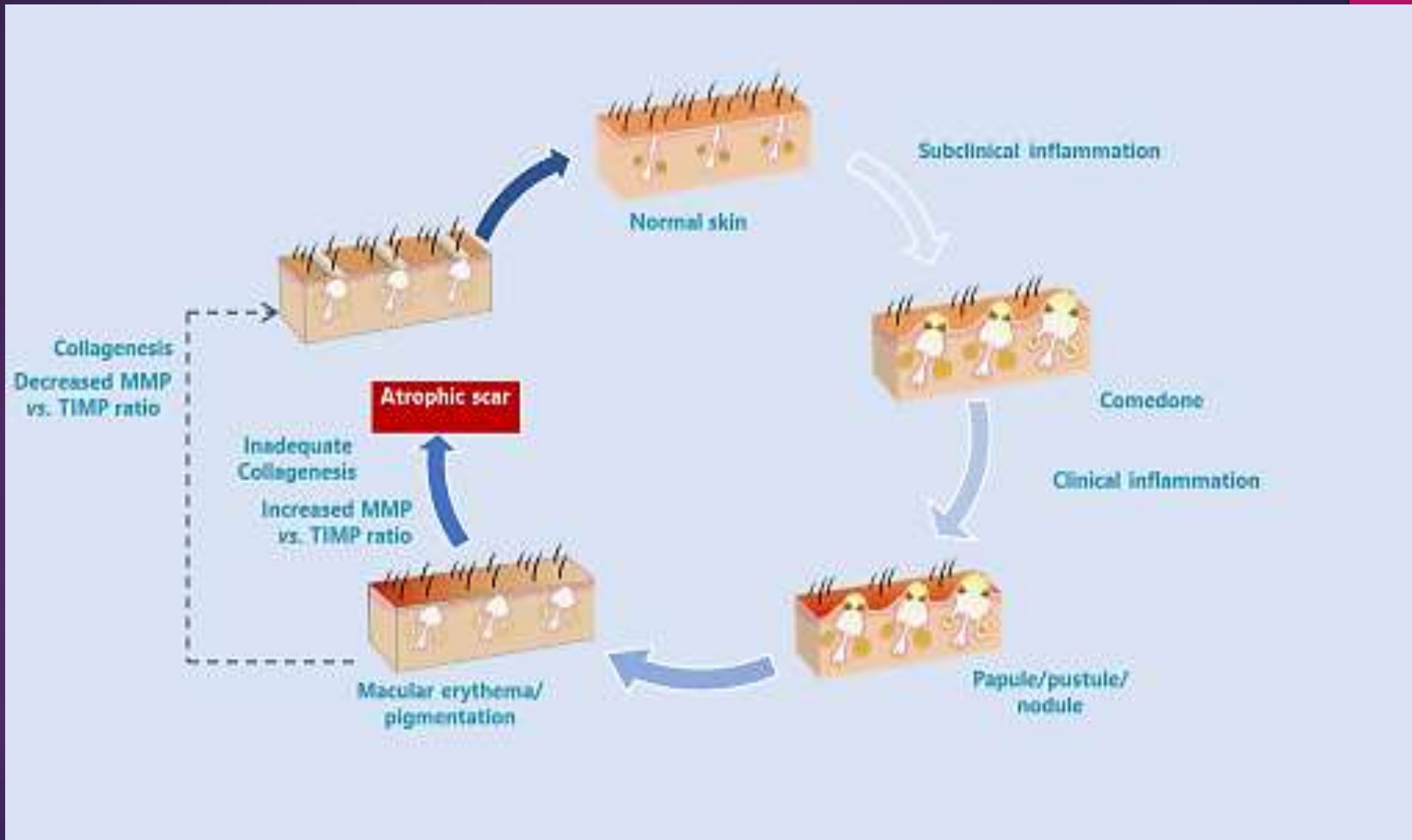
**Natural history of  
atrophic acne scars**

# Atrophic acne scar formation

6-month observational study of moderate inflammatory acne with facial mapping

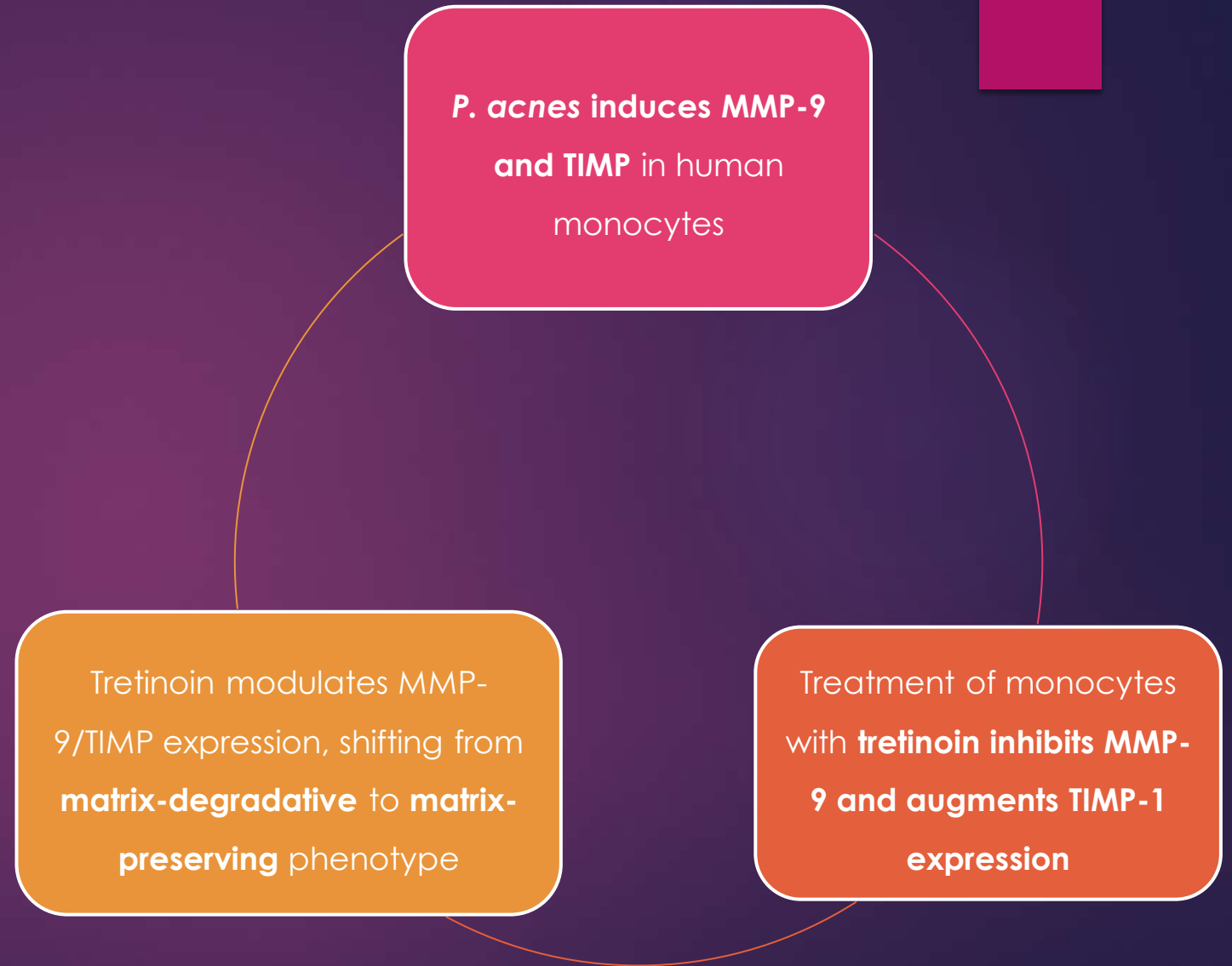


# Acne scar formation & repair



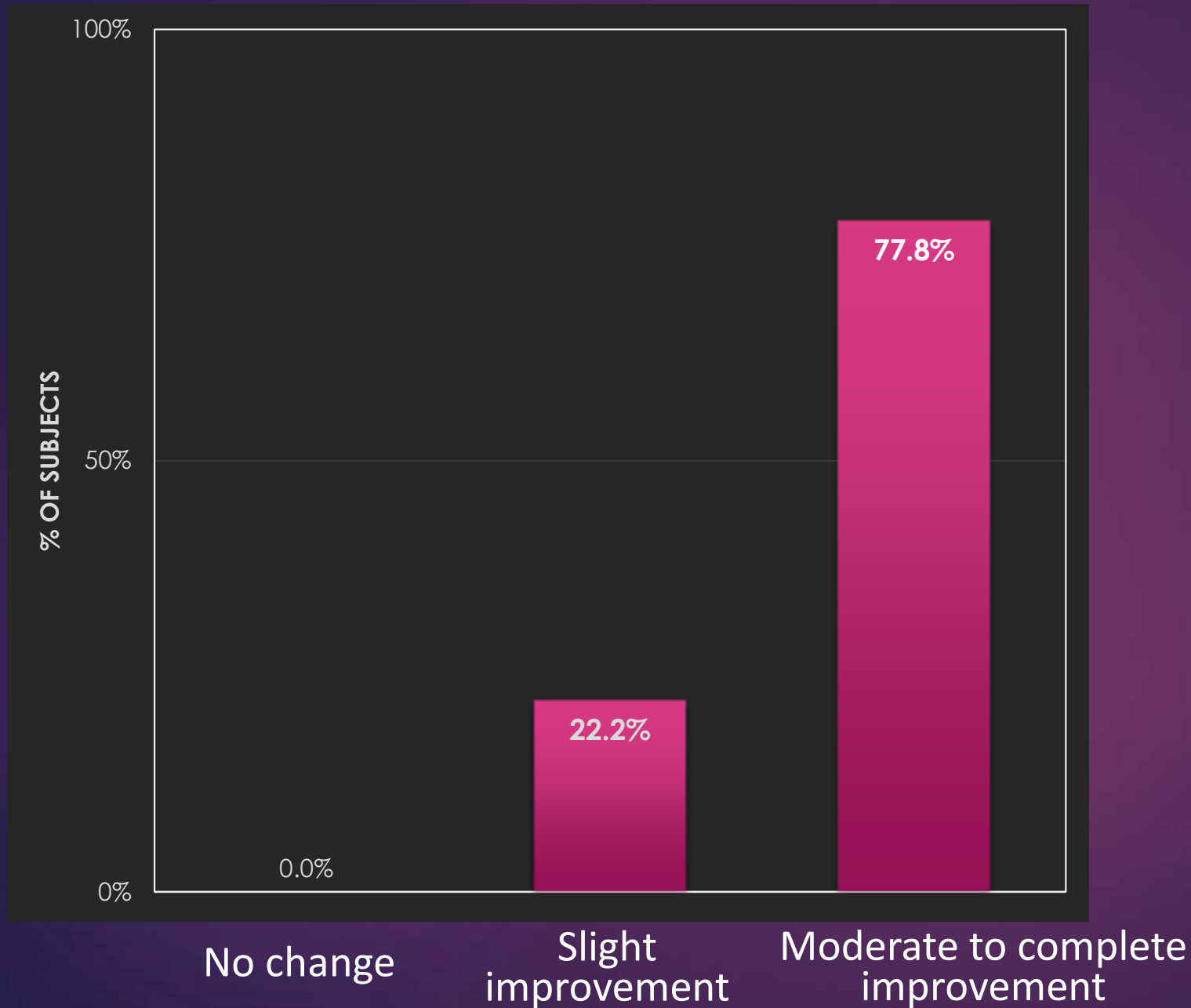


# Matrix Repair Capability of Tretinoin *in vitro*



# Adapalene 0.3% Gel and Atrophic Acne Scars

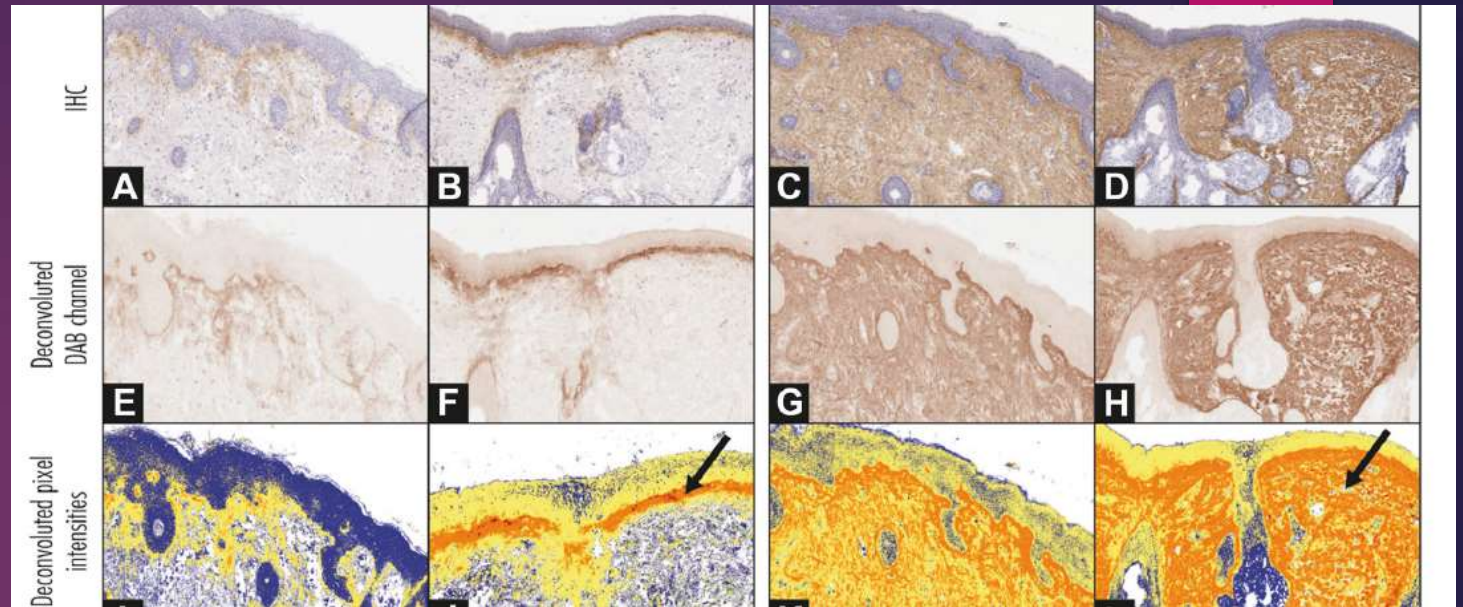
- **Design**
  - 24-week, open-label study (n=20)
  - Patients with past history of acne (no active lesions at time of enrollment)
  - Moderate to severe facial atrophic acne scars
    - Grade 3 or 4\* and  $\geq 5$  atrophic scars
- **Study Treatments**
  - Adapalene 0.3% once daily for first 4 weeks, then twice daily for 20 weeks
  - Daily skin care: Skin cleanser, moisturizing lotion and SPF50 sunscreen



Adapalene 0.3%  
Gel: Improvement  
in scar severity

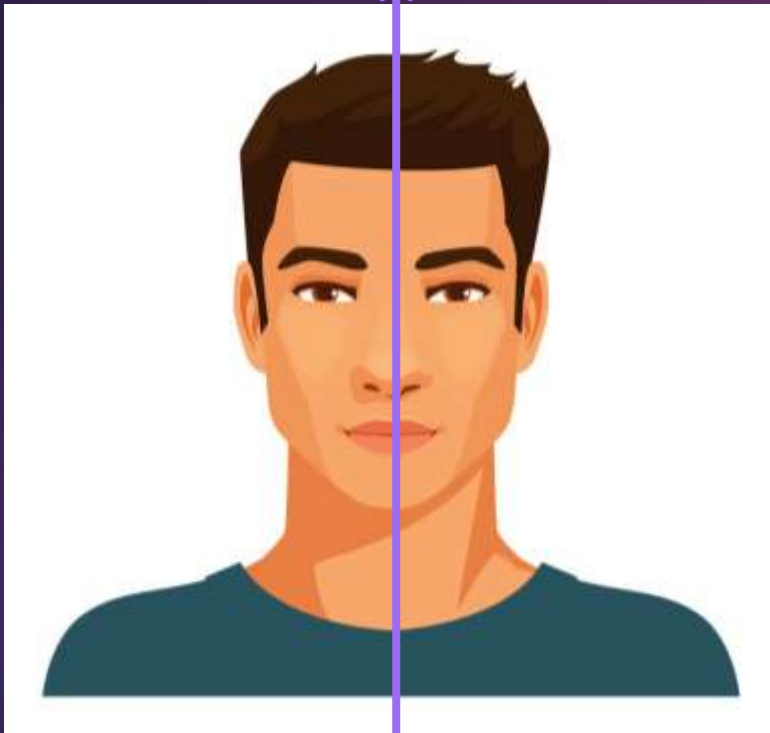
Increased

- Procollagen-1 by 15%
- Collagen-3 by 58%



Enhanced Collagen Synthesis with Adapalene 0.3%

# Adapalene 0.3%/BPO 2.5% Gel in acne and acne scarring (OSCAR Study)

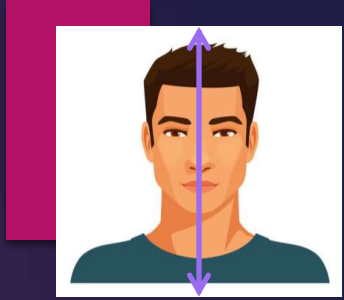


Once daily  
vehicle gel

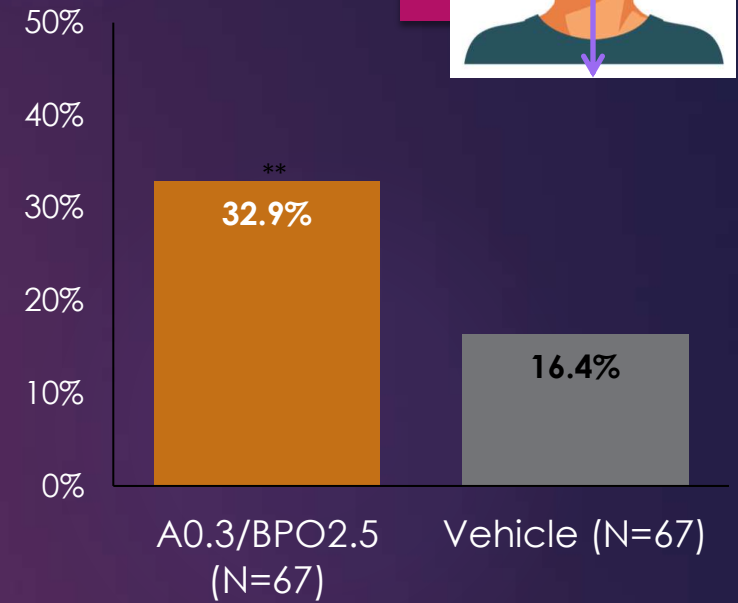
Once daily  
A0.3/BPO2.5 gel

- **Design**
- 24-week split-face, investigator-blinded, vehicle-controlled study
- Moderate to severe facial acne (n=67)

# Acne Scar Results



Atrophic Scar Count Change from Baseline



SGA clear/almost clear (week 24)

\*p<0.001; \*\*p<0.0001

A0.3/BPO2.5, adapalene 0.3%/ benzoyl peroxide 2.5%; SGA, Scar Global Assessment; Adapted from Dréno B et al. *Am J Clin Dermatol*. 2018 Epub ahead of print

# Atrophic Acne Scar Management

CORRECTION/REPAIR

# Types of Atrophic Acne Scars



Icepick



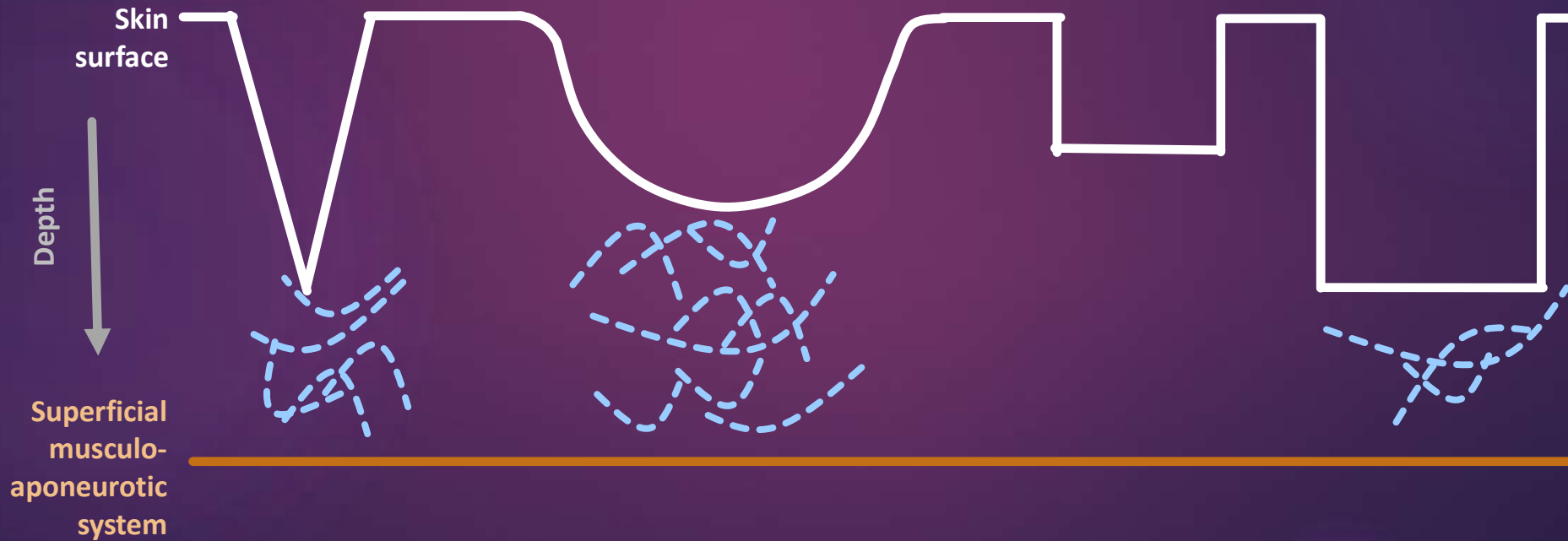
Rolling



Boxcar



Super Boxcar >4 mm





# Modalities for Acne scar treatment

Scar Type	Treatment Modalities
Ice pick	Chemical peel (CROSS technique), punch techniques, RF
Boxcar	Dermabrasion (shallow), dermal fillers (shallow), lasers (ablative, nonablative, fractional; shallow), punch techniques (deep), RF (shallow, deep), skin needling (shallow), subcision (shallow)
Rolling	Dermabrasion, dermal fillers, lasers (ablative, nonablative, fractional), RF, skin needling, subcision

# Types of Atrophic Acne Scars



Icepick



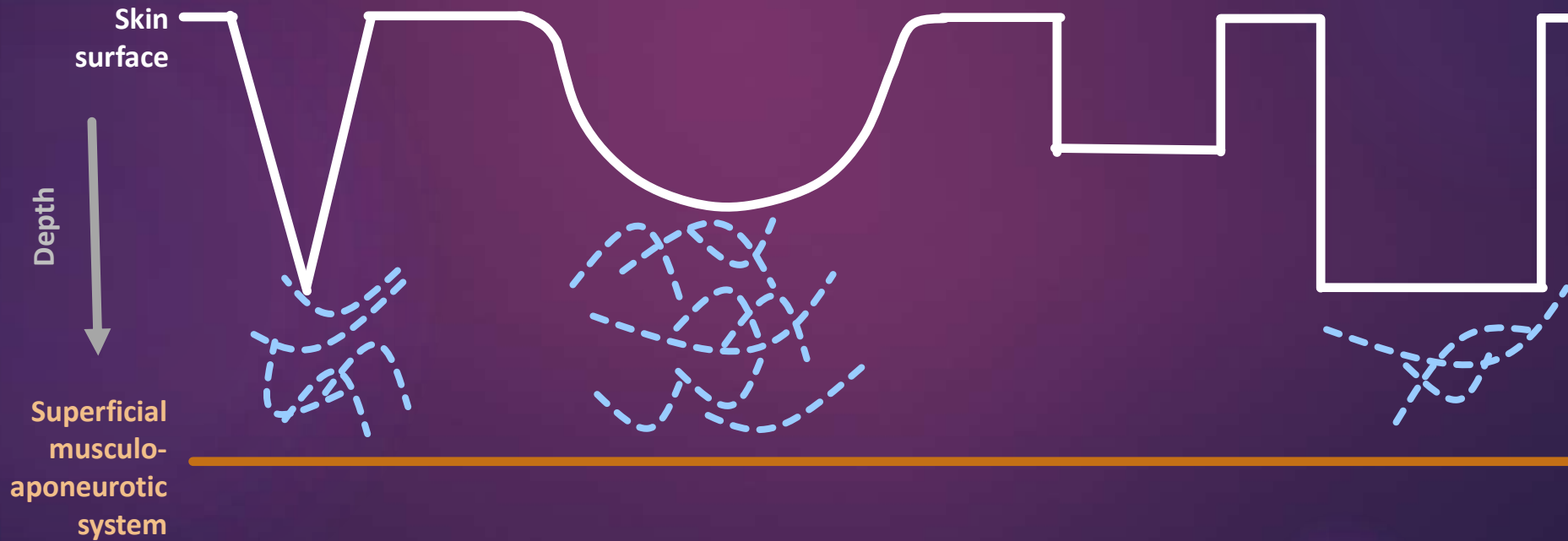
Rolling



Boxcar



Super Boxcar >4 mm



# Types of Atrophic Acne Scars



Icepick



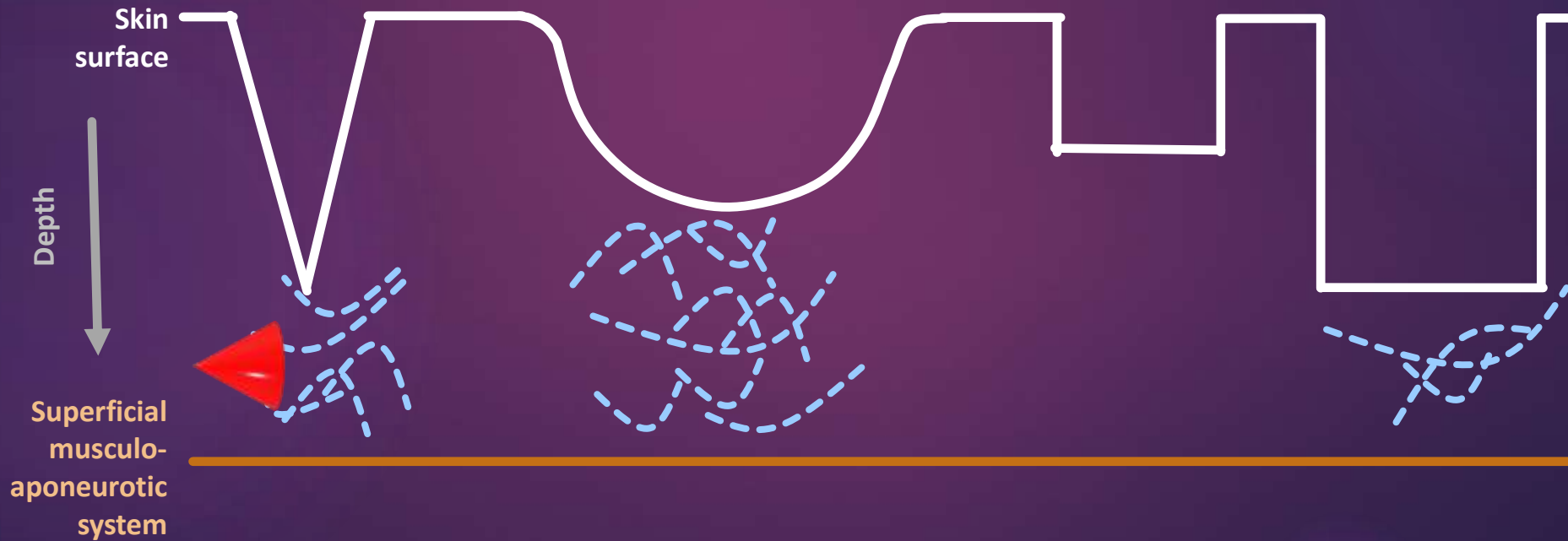
Rolling



Boxcar



Super Boxcar >4 mm



# Types of Atrophic Acne Scars



Icepick



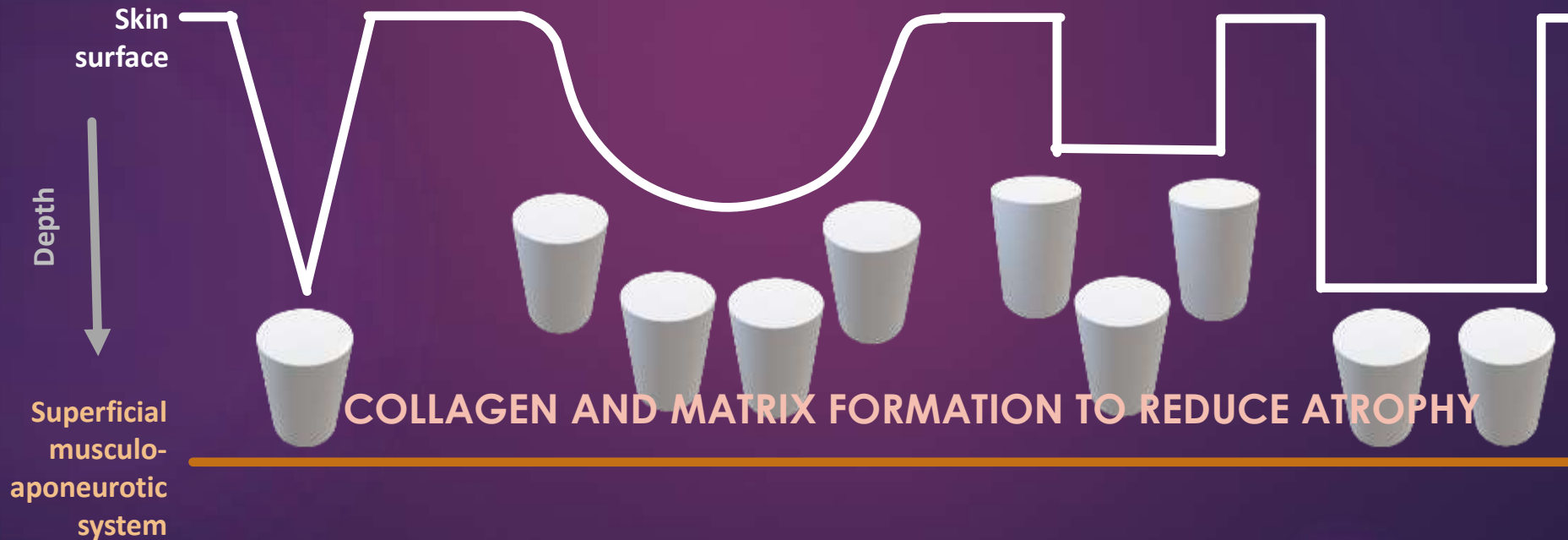
Rolling



Boxcar



Super Boxcar >4 mm



# Effectiveness of Procedures for Acne Scarring

Modality	Ice Pick Scars	Boxcar Scars	Rolling Scars
Chemical Peels TCA CROSS technique	++	++	-
Dermabrasion/microdermabrasion	+	+	-
Laser			
Ablative and nonablative laser	-	++	++
Fractional laser photothermolysis	++	++	++
Punch Techniques			
Punch excision	++	+	-
Punch elevation	-	++	-
Punch replacement grafting	++	-	-
Tissue augmenting agents	+	+	++
Needling	-	++	++
Subcision	+	+	++
++ = effective, + = less effect, - = not effective			

# Atrophic Acne Scar Management Pathways

**Topical retinoids**

**Ice Pick**

- TCA CROSS
- Peels
- Punch excision

**Boxcar**

- TCA CROSS
- Peels
- Lasers: ablative & non-ablative
- Microneedling ± PRP
- RF: microneedle or fractional bipolar
- Dermabrasion
- Punch elevation

**Rolling**

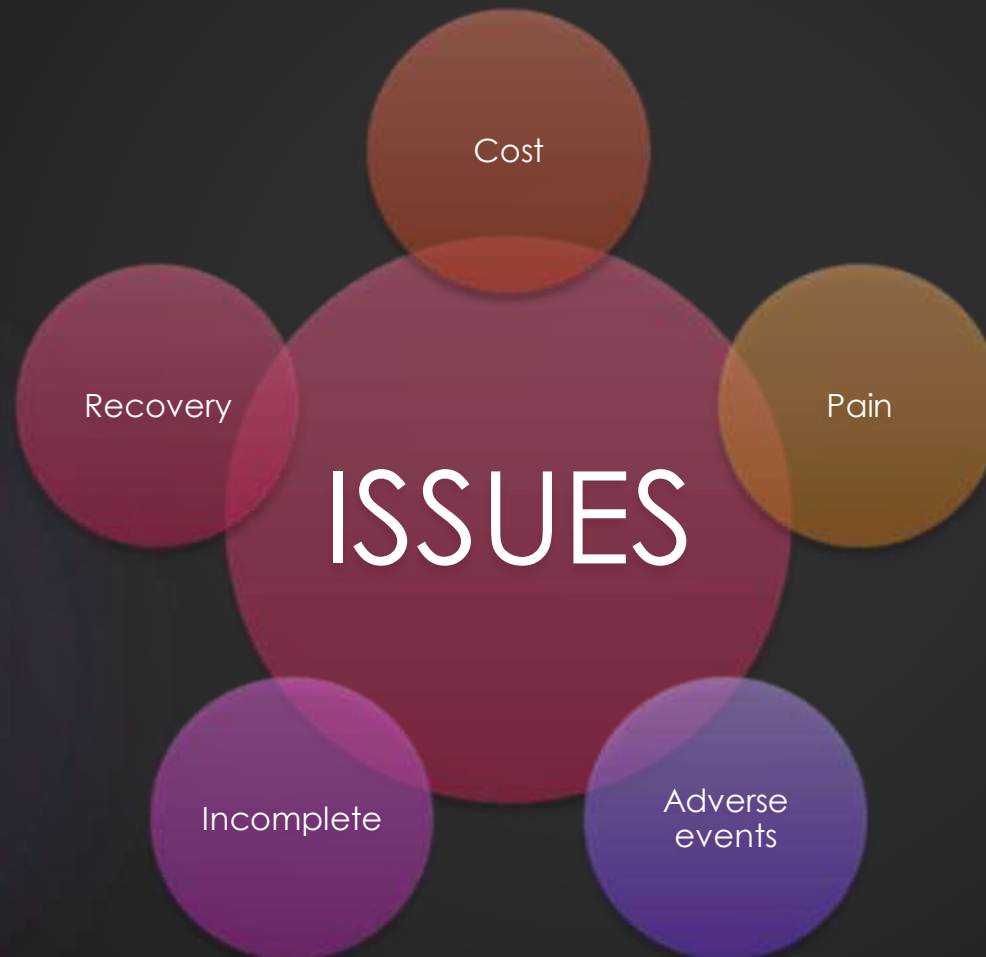
- Subcision
- Peels
- Lasers: ablative & non-ablative
- Microneedling ± PRP
- RF: microneedle or fractional bipolar
- Fillers

KEY:

TCA CROSS: trichloroacetic acid chemical reconstruction of skin scars; PRP, platelet-rich plasma; RF: radiofrequency

Adapted from Connolly D et al. *J Clin Aesthet Dermatol.* 2017; 10(9):12-23 and Bhargava et al. *Am J Clin Derm* 2018; 19:459-477

# Scar correction procedures



# SUBCISION WITH CANNULA







TCA X, (SubC and PRP/filler) x 2



# Summary

## Atrophic acne scarring



Scarring results from intensity and duration of inflammation; inadequate matrix repair



Atrophic acne scars can repair spontaneously



Topical retinoids can reduce scar formation



Corrective procedures need to be tailored individually