



## WEBINAR

# Ultrasound for Nonsurgical Rhinoplasty: Avoiding Vascular Complications and Improving Results

April 2024





# Your Host



**Shelley Guenther, CRGS, CRCS**

Sonographer | Clinical Marketing Manager



# Consensus Recommendations on the use of HA-Based Fillers for Nonsurgical Nasal Augmentation in Asian Patients

“ ... a Nonsurgical nasal augmentation is an advanced procedure that warrants in-depth knowledge of the nasal anatomy ”

Trevidic P, Kim HJ, Harb A, Ho WWS, Liew S. Consensus Recommendations on the Use of Hyaluronic Acid-Based Fillers for Nonsurgical Nasal Augmentation in Asian Patients. *Plast Reconstr Surg.* 2022 Feb 1;149(2):384-394. doi: 10.1097/PRS.00000000000008722. PMID: 35077414.

## Consensus Recommendations on the Use of Hyaluronic Acid-Based Fillers for Nonsurgical Nasal Augmentation in Asian Patients

Patrick Trevidic <sup>1</sup>, Hee-Jin Kim <sup>1</sup>, Ayad Harb <sup>1</sup>, Wilson W S Ho <sup>1</sup>, Steven Liew <sup>1</sup>

Affiliations + expand

PMID: 35077414 DOI: [10.1097/PRS.00000000000008722](https://doi.org/10.1097/PRS.00000000000008722)

### Abstract

**Background:** Nonsurgical nasal augmentation using dermal fillers such as hyaluronic acid is increasing in popularity because of its less invasive nature and shorter downtime compared with traditional surgery. However, the complexity of the nasal vasculature makes it a high-risk procedure without proper training. Appropriate patient and product selection and safer standardized injection techniques are warranted to minimize complications and to achieve reproducible aesthetic results. In this article, recommendations for nonsurgical nasal augmentation using hyaluronic acid fillers are outlined, with focus on the dorsum, tip, and columella.

**Methods:** A consensus meeting was conducted to develop recommendations on nonsurgical nasal augmentation in Asian patients using hyaluronic acid-based fillers. Literature review was performed using PubMed and Google Scholar. Relevant studies were included to formulate recommendations. Consensus statements were graded using the criteria outlined by the Grading of Recommendations Assessment, Development and Evaluation Working Group.

**Results:** Nonsurgical nasal augmentation is an advanced procedure that warrants in-depth knowledge of the nasal anatomy. The panel recommends thorough preinjection assessment and counseling to fully align the patient's expectations with aesthetic goals. Injections must be deep and at the level of the periosteum or perichondrium to minimize risk of intravascular injection. Aliquots of hyaluronic acid must be introduced using slow, low-pressure, and low-volume injections. Optimal aesthetic effect is achieved with hyaluronic acid dermal fillers that are highly elastic, cohesive, and with good adaptability to their environment.

**Conclusions:** Hyaluronic acid injections are safe and effective in nonsurgical nasal augmentation. In-depth knowledge of vascular anatomy and proper injection techniques using suitable products are necessary to achieve aesthetic goals safely.

**Clinical question/level of evidence:** Therapeutic, V.

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### Conflict of interest statement



# Ultrasound assessment of the nose vasculature: A review of the common method of non-surgical filler-based rhinoplasty

“...the **safety** of this procedure could be **enhanced** by using **ultrasound** for planning and conducting a tailored treatment.”

Shekarriz P, Hosseini F, Shojaee P. Ultrasound assessment of the nose vasculature: A review of the common method of non-surgical filler-based rhinoplasty. J Cosmet Dermatol. 2024 Mar;23(3):731-736. doi: 10.1111/jocd.16037. Epub 2023 Oct 17. PMID: 37846655.

## Ultrasound assessment of the nose vasculature: A review of the common method of non-surgical filler-based rhinoplasty

Pantea Shekarriz <sup>1</sup>, Farid Hosseini <sup>2</sup>, Pardis Shojaee <sup>1</sup>

Affiliations + expand

PMID: 37846655 DOI: [10.1111/jocd.16037](https://doi.org/10.1111/jocd.16037)

### Abstract

**Background:** With the increasing use of dermal injectable fillers in aesthetic medicine, the popularity of non-surgical filler-based rhinoplasty (NSR) is also growing. While performing this procedure might result in certain vascular complications, injecting deep into the midline of the nose is commonly considered the safest method for blind primary NSR.

**Aims:** In this study, we challenged the common NSR method with a Doppler ultrasound study of the nose.

**Patients/methods:** The vascular pattern of the common zones of the NSR procedure (radix and nasal tip) of 21 Iranian women were investigated by using a 14 MHz Doppler handheld ultrasound device (Silarious L14PS). Participants had never undergone any procedure on their nose. We focused on the depth of midline vessels in the radix and nasal tip. The radix was studied sagittally and horizontally, and the nasal tip was examined axially by ultrasound.

**Results:** In the radix of eight cases (38%), at least one vessel was observed at midline, and all were superficial. In the nose tip of 18 cases (86%), at least one vessel was observed at midline, and 9 out of these 18 vessels (50%) were deep. As a result, conducting NSR by the common method in our study population was relatively safe in the radix, but there was an increased likelihood of vascular events in the tip.

**Conclusion:** Our research results show that while the common method of the NSR may carry a high risk of vascular events, the safety of this procedure could be enhanced by using ultrasound for planning and conducting a tailored treatment.

**Keywords:** aesthetics; hyaluronic acid fillers; injectables; rhinoplasty; ultrasound.

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### Similar articles

[Injection Rhinoplasty Using Filler.](#)

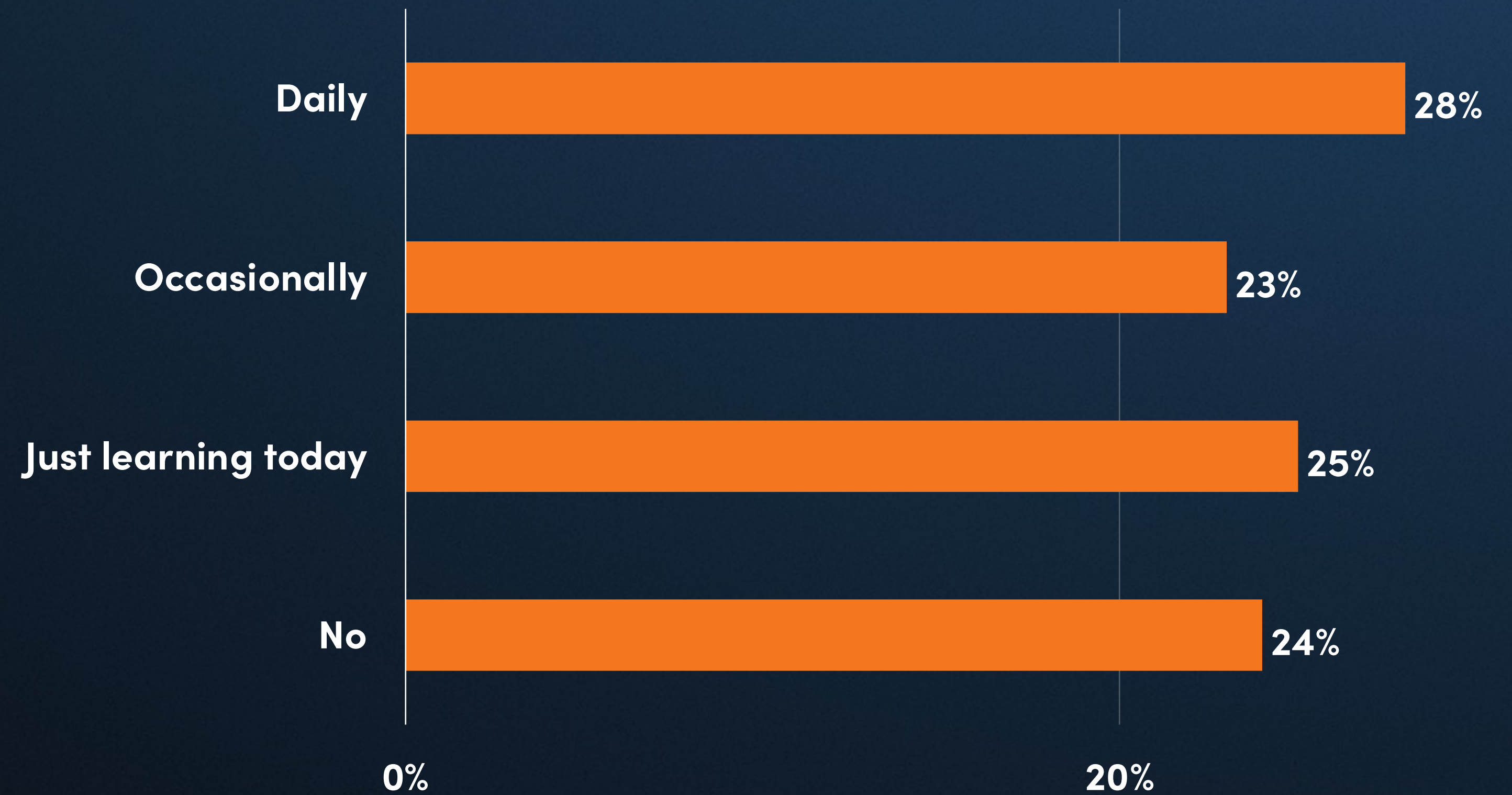
Moon HJ.



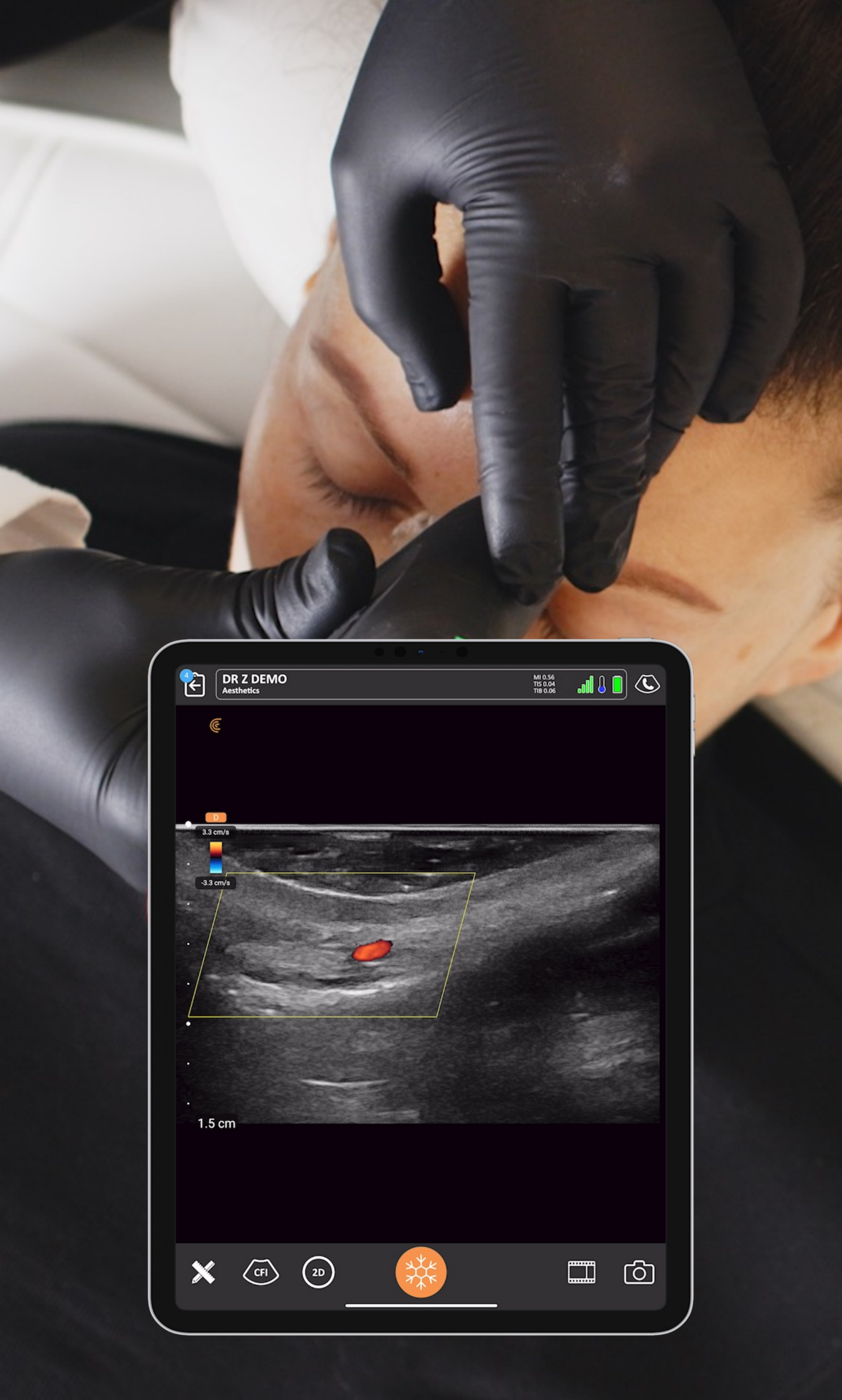


## Interactive Poll 1

# Do you use ultrasound in your practice today?

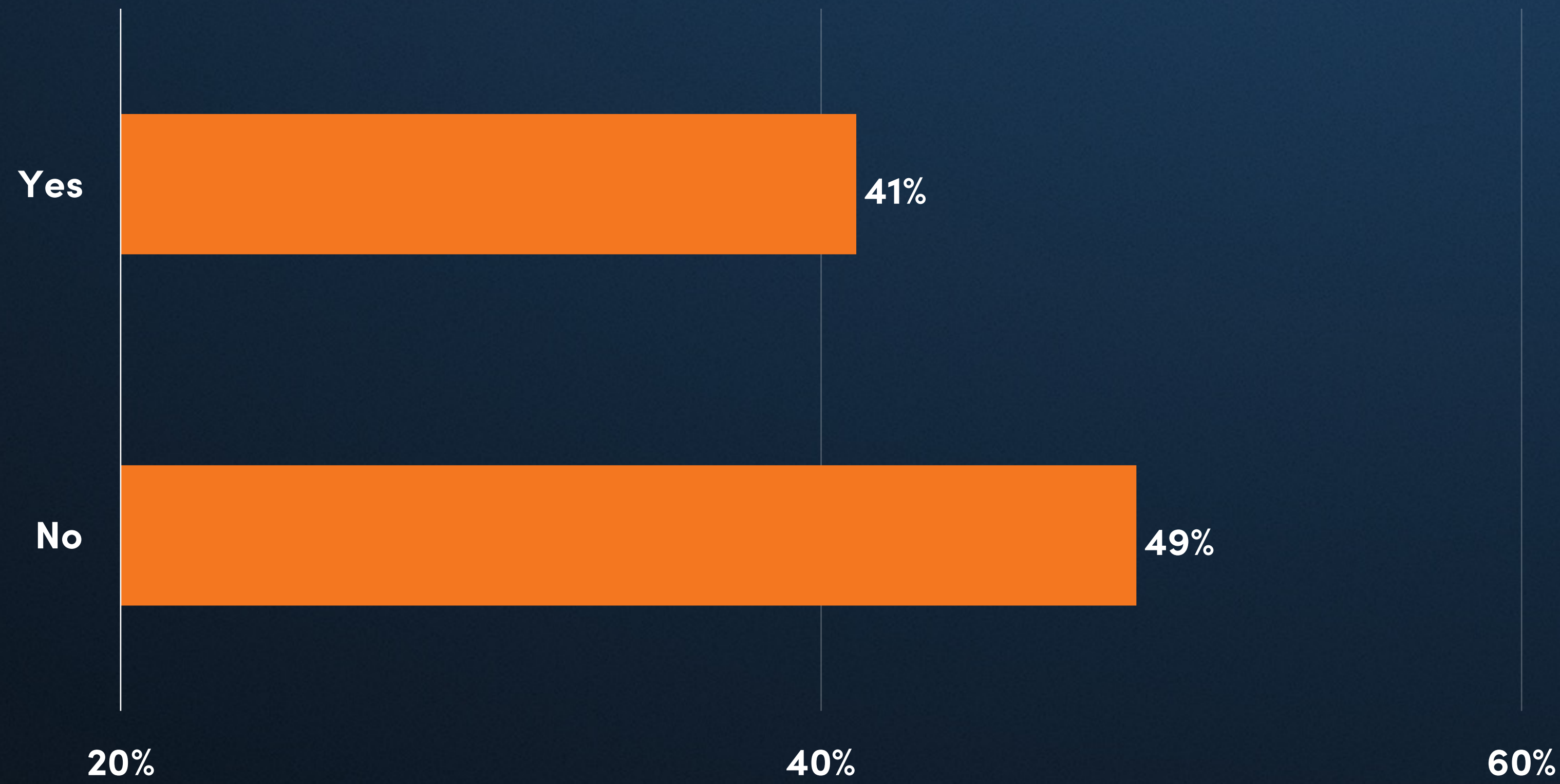






Interactive Poll 2

Do you perform nonsurgical rhinoplasty in your practice?





# Your Expert Speaker



**Dr. Zainab Al-Mukhtar**  
Aesthetic Medicine & Dentistry



# ULTRASOUND FOR NON-SURGICAL RHINOPLASTY

AVOIDING VASCULAR COMPLICATIONS  
&  
IMPROVING OUTCOMES

DR ZAINAB AL-MUKHTAR, BDS MFDS RCSENG MJDF RCSEd  
FACIAL AESTHETIC PRACTITIONER & AESTHETIC DENTIST  
INJECTABLES TRAINER SINCE 2014  
ADOPTED ULTRASOUND 2021



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DR ZAINAB AL-MUKHTAR



# OBJECTIVES

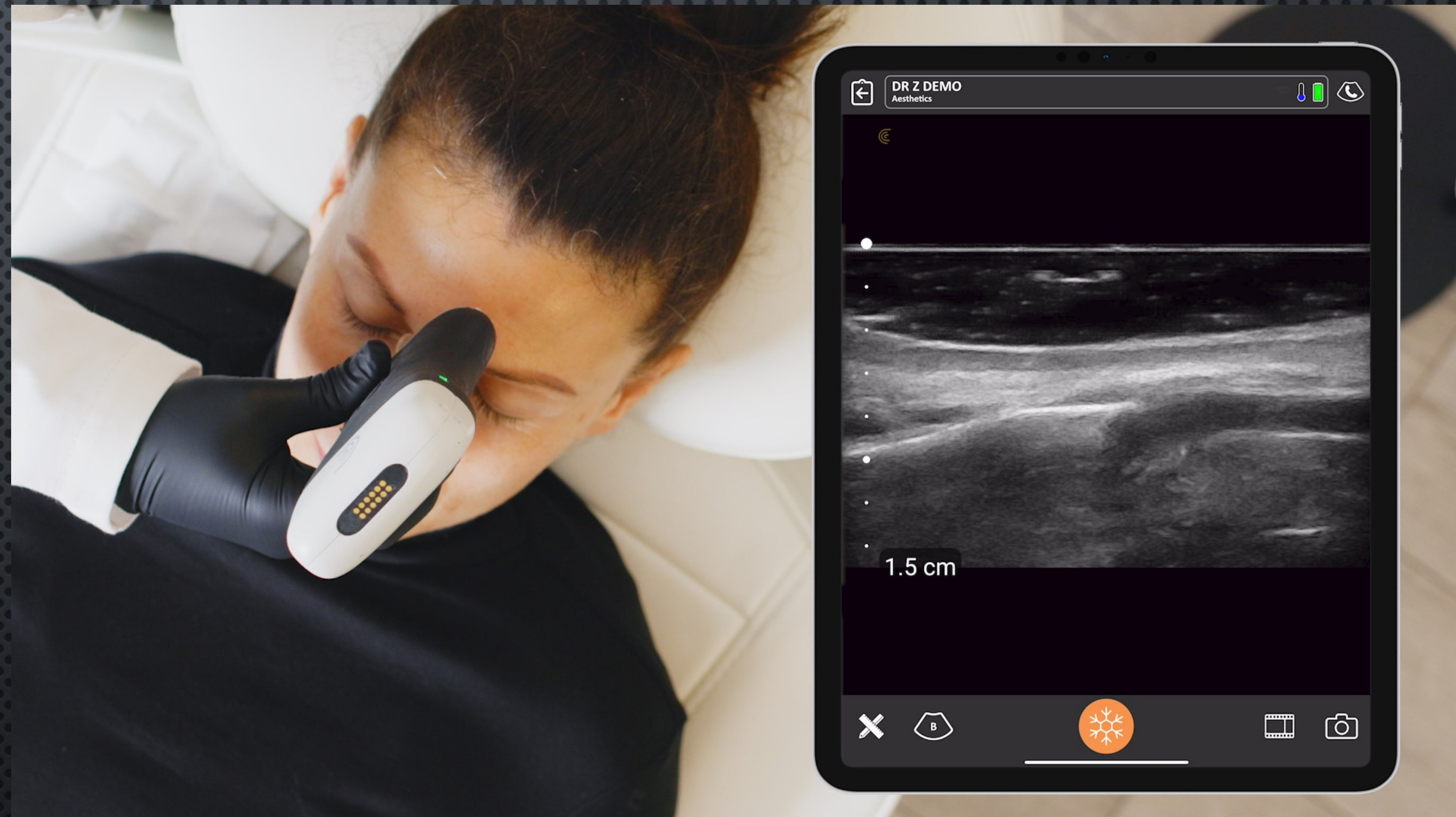
- GOALS OF NON SURGICAL RHINOPLASTY
- REVIEW NOSE ANATOMY
- ROLE OF ULTRASOUND IN PREVENTING VASCULAR INJURY
- OPTIMISING OUTCOMES BASED ON ULTRASOUND FINDINGS
- THE IMPORTANCE OF GOOD SCANNING TECHNIQUE



# APPLICATIONS OF NASAL ULTRASOUND

Imaging tool - beneath the skin

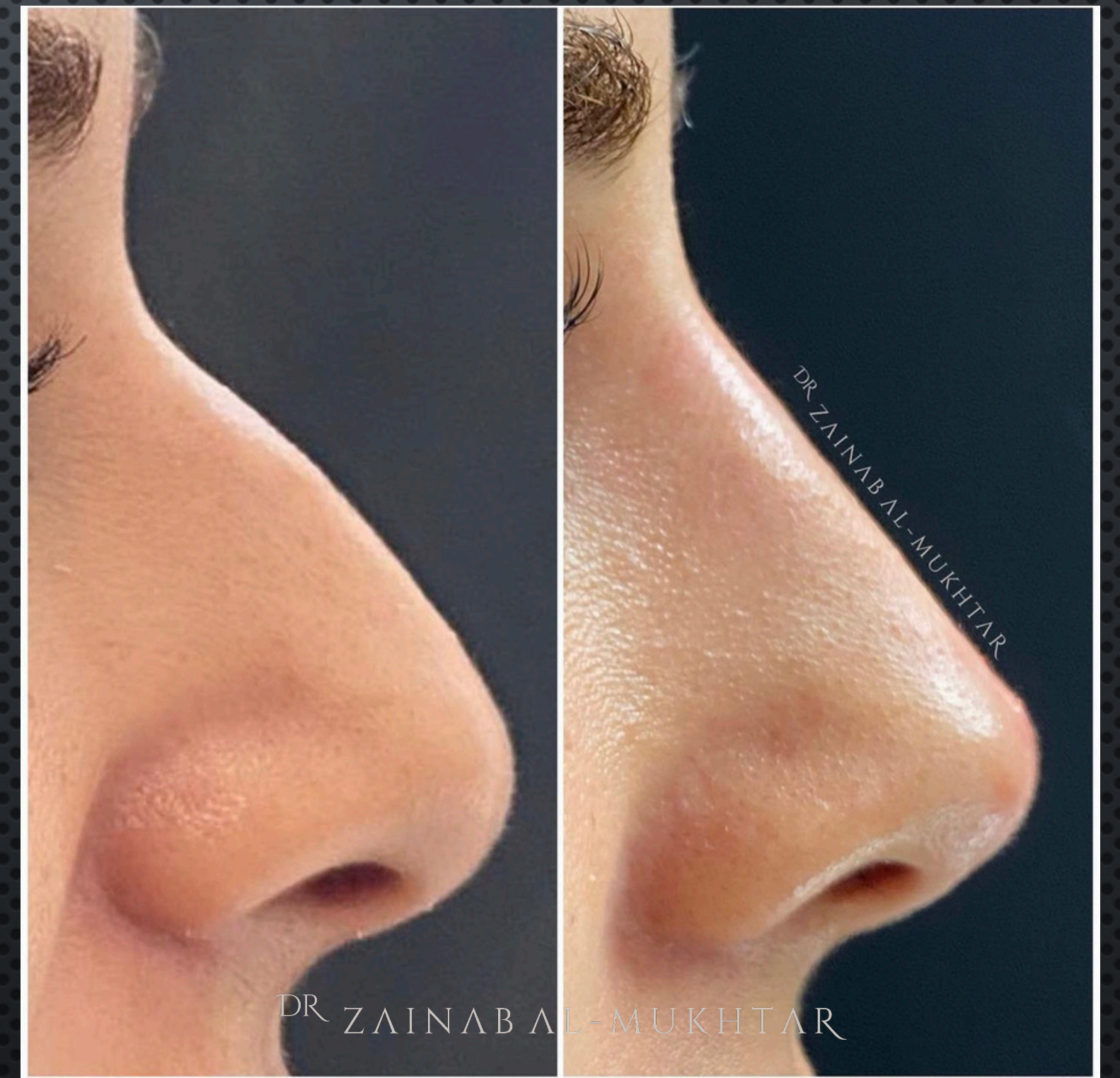
- **VISUALISE** TISSUE LAYERS AND SEE DYNAMIC ANATOMY
- **LOCATE** AND TRACE BLOOD FLOW
- **DISTINGUISH** PRESENCE OF FILLER
- **IDENTIFY** ANATOMICAL VARIATIONS FOR SAFER PLANNING
- **GUIDE** INJECTIONS - ELEVATE PRECISION & SAFETY
- **DIAGNOSE** & TREAT COMPLICATIONS
- **EVALUATE** FILLER/TISSUE BEHAVIOUR





# GOALS OF NON SURGICAL RHINOPLASTY

- TO DISGUISE ARCHED DORSAL BRIDGES / DORSAL HUMPS
- TO IMPROVE NASO FRONTAL ANGLE & NASOLABIAL ANGLES
- TO IMPROVE TIP DEFINITION / ELEVATION
- TO IMPROVE EXTERNAL NASAL ASYMMETRY





“NON SURGICAL RHINOPLASTY HAS  
BECOME **INCREASINGLY POPULAR**  
AMONG PATIENTS WHO WANT TO  
IMPROVE THE AESTHETIC ASPECTS OF  
THEIR NOSE AND DO NOT ACCEPT  
THE RISKS/ COST OF SURGICAL  
RHINOPLASTY”

> [J Cosmet Dermatol](#). 2023 Jul;22(7):2054-2062. doi: 10.1111/jocd.15669. Epub 2023 Feb 7.

## Non-surgical rhinoplasty technique: An innovative approach for nasal reshaping with hyaluronic acid fillers

[Giulio Giammarioli](#)<sup>1</sup>, [Alberto Liberti](#)<sup>1</sup>

Affiliations + expand

PMID: 36751855 DOI: [10.1111/jocd.15669](#)

### Abstract

**Objective:** Nonsurgical rhinoplasty has become increasingly popular among patients who want to improve the aesthetic aspects of their nose and do not accept the risks and/ or cost of surgical rhinoplasty. The main goal of the current paper was to present the preliminary aesthetic and clinical outcomes of an innovative injection technique for nose sculpturing with hyaluronic acid (HA) filler.

**Methods:** Retrospective analysis of a prospective clinical registry of patients who attended one of the study centers and were candidates for non-surgical nose reshaping between October 2019 and November 2020. A 25 mg/mL HA filler was administered, in all the cases, by using a syringe with a fixed microneedle (30G/8mm). All patients were injected at three key nose points with the following order: (1) Tip (maximum HA injected 0.2 mL); (2) columella (maximum HA injected 0.3 mL); and (3) Radix and Dorsum (maximum HA injected 0.3 mL). Degree of patient satisfaction with the treatment was assessed by using a five-points Likert scale. The primary endpoint was the degree of patients' satisfaction 12 months after treatment.

**Results:** One-hundred-and-one patients (91 women) were included in the study. Fifty-six (56%) patients underwent a unique treatment-session and 44 (44%) subjects needed an additional touch-up. Eighty-five (84.2%) patients were very satisfied with the treatment results. Six (5.9%) patients reported moderate adverse events, which were successfully controlled with medical therapy.

Giammarioli G, Liberti A. Non-surgical rhinoplasty technique: An innovative approach for nasal reshaping with hyaluronic acid fillers. *J Cosmet Dermatol*. 2023 Jul;22(7):2054-2062. doi: 10.1111/jocd.15669. Epub 2023 Feb 7. PMID: 36751855.



# “NON SURGICAL RHINOPLASTY IS A GOOD, MINIMALLY INVASIVE ALTERNATIVE OVER CONVENTIONAL RHINOPLASTY”.

> [J Cosmet Dermatol](#). 2021 Aug;20(8):2414-2424. doi: 10.1111/jocd.14173. Epub 2021 Apr 30.

## Non-surgical rhinoplasty using hyaluronic acid dermal fillers: A systematic review

Vaibhav Kumar<sup>1 2</sup>, Anuj Jain<sup>3</sup>, Swarali Atre<sup>4</sup>, Debraj Shome<sup>5</sup>, Rinky Kapoor<sup>6</sup>, Komal Doshi<sup>5</sup>, Sapna Vadera<sup>5</sup>

Affiliations + expand

PMID: 33900020 DOI: [10.1111/jocd.14173](#)

### Abstract

**Background:** Non-surgical rhinoplasty using hyaluronic acid dermal fillers is a cosmetic procedure that has been becoming increasingly popular among patients wanting to correct nasal deformities or nasal irregularities, in the recent years.

**Aim:** This systematic review aims to provide quality evidence about the success of non-surgical rhinoplasty procedures in terms of patient satisfaction and complications.

**Methods:** A systematic electronic literature search using keywords and MESH search terms over the PubMed/Medline, Cochrane Central, Scopus, and EBSCO online databases was conducted from November 2005 to February 2021. Additionally, the reference lists of included systematic reviews were hand searched. Data collected included patient satisfaction and complications from prospective and experimental studies providing highest level of evidence. Articles were critically appraised, and MINORS scale was used to assess the risk of bias.

**Results:** Based on the search criteria, 2896 citations were found. After removing duplicates and screening for relevance, 23 citations were finalized for full-text review, of which 12 articles were excluded and 11 articles were included in the study. The average satisfaction of patients amongst the studies was found to be >90%. In all the studies, transient edema and erythema, post-injection pain, and bruising were some temporary complications. Rare complications that were reported were vascular impairments and hematoma.

Kumar V, Jain A, Atre S, Shome D, Kapoor R, Doshi K, Vadera S. Non-surgical rhinoplasty using hyaluronic acid dermal fillers: A systematic review. *J Cosmet Dermatol*. 2021 Aug;20(8):2414-2424. doi: 10.1111/jocd.14173. Epub 2021 Apr 30. PMID: 33900020.



SO

WITH THE RISE IN POPULARITY OF NOSE AUGMENTATION

SAFETY IS EVEN MORE A PRIORITY.



DR. ZAINAB AL-MUKHTAR



**SOFT TISSUE FILLER AUGMENTATION IN THE NOSE CARRIES THE HIGHEST  
RISK BLINDNESS COMPARED WITH ANY OTHER FACIAL REGION**

(ALFERTSHOFER ET AL 2022)





EMERGING DATA AND ULTRASOUND MAKES PREVENTION &  
MANAGEMENT OF COMPLICATIONS MORE PREDICTABLE.



DR ZAINAB AL-MUKHTAR



# POST SURGICAL NOSE RESHAPING

## EXTRA CAUTION

The anatomic planes are distorted secondary to scarring.

Vessel position unpredictable.



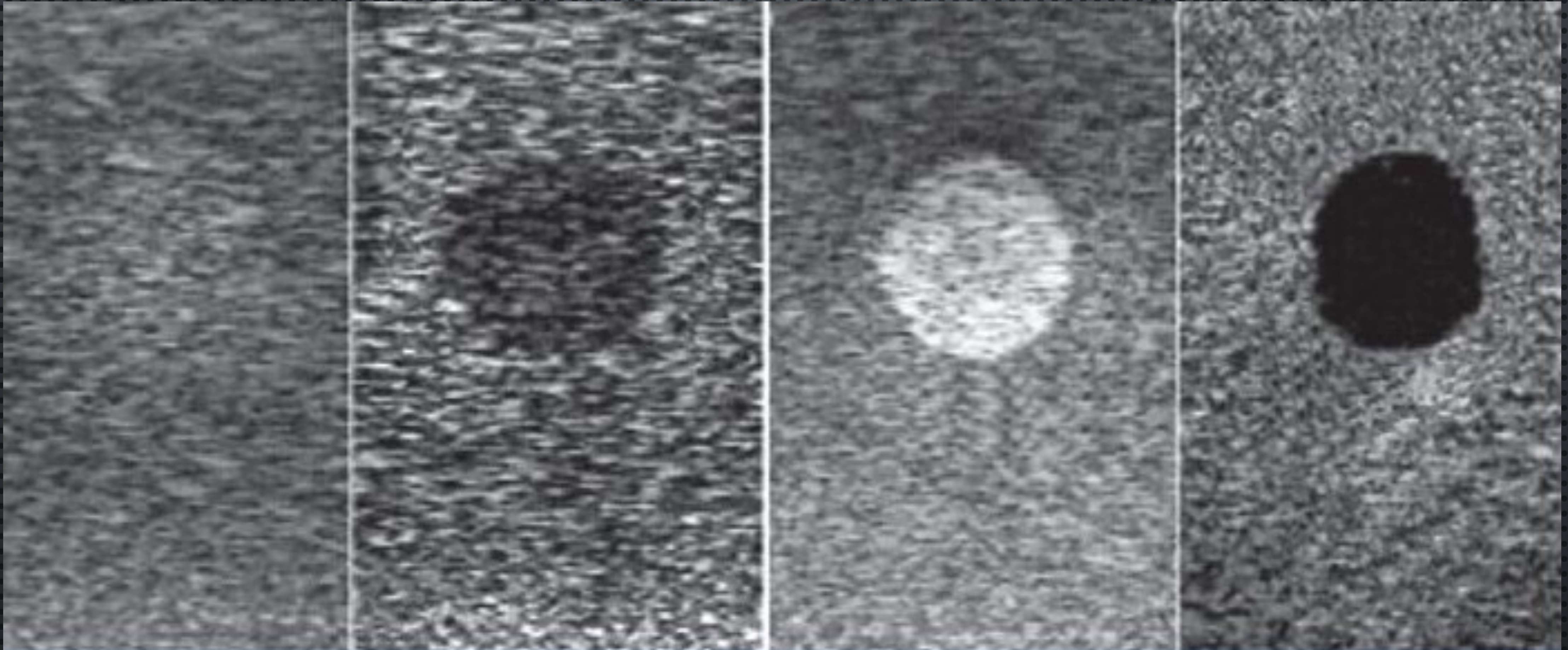


# ROUTINE CLINICAL PRACTICE

- PRE TREATMENT: ASSESSMENT
- DURING: GUIDED INJECTIONS
- POST TREATMENT: CONFIRMATORY SCANS







Isoechoic

Hypoechoic

Hyperechoic

Anechoic

Image provided by Dr Leonie Schelke



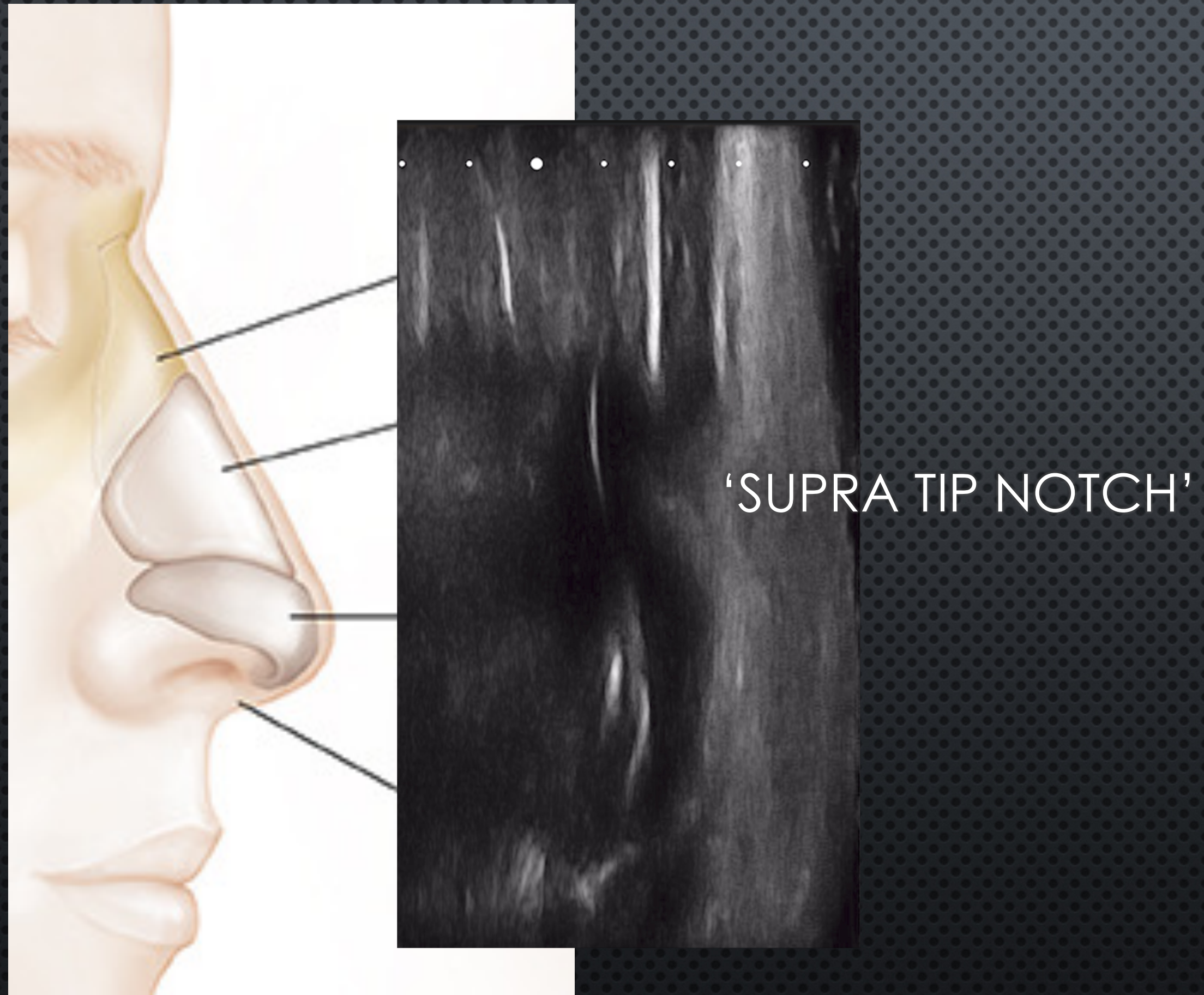
# PRE TREATMENT ASSESSMENT

- **ASSESS** & RECOGNIZE PREVIOUS FILLER
- VASCULAR MAPPING — LOCATE VESSELS
- DETERMINE PROXIMITY OF VESSELS TO PLANNED INJECTION SITES
- PLAN FILLER INJECTIONS MORE SAFELY





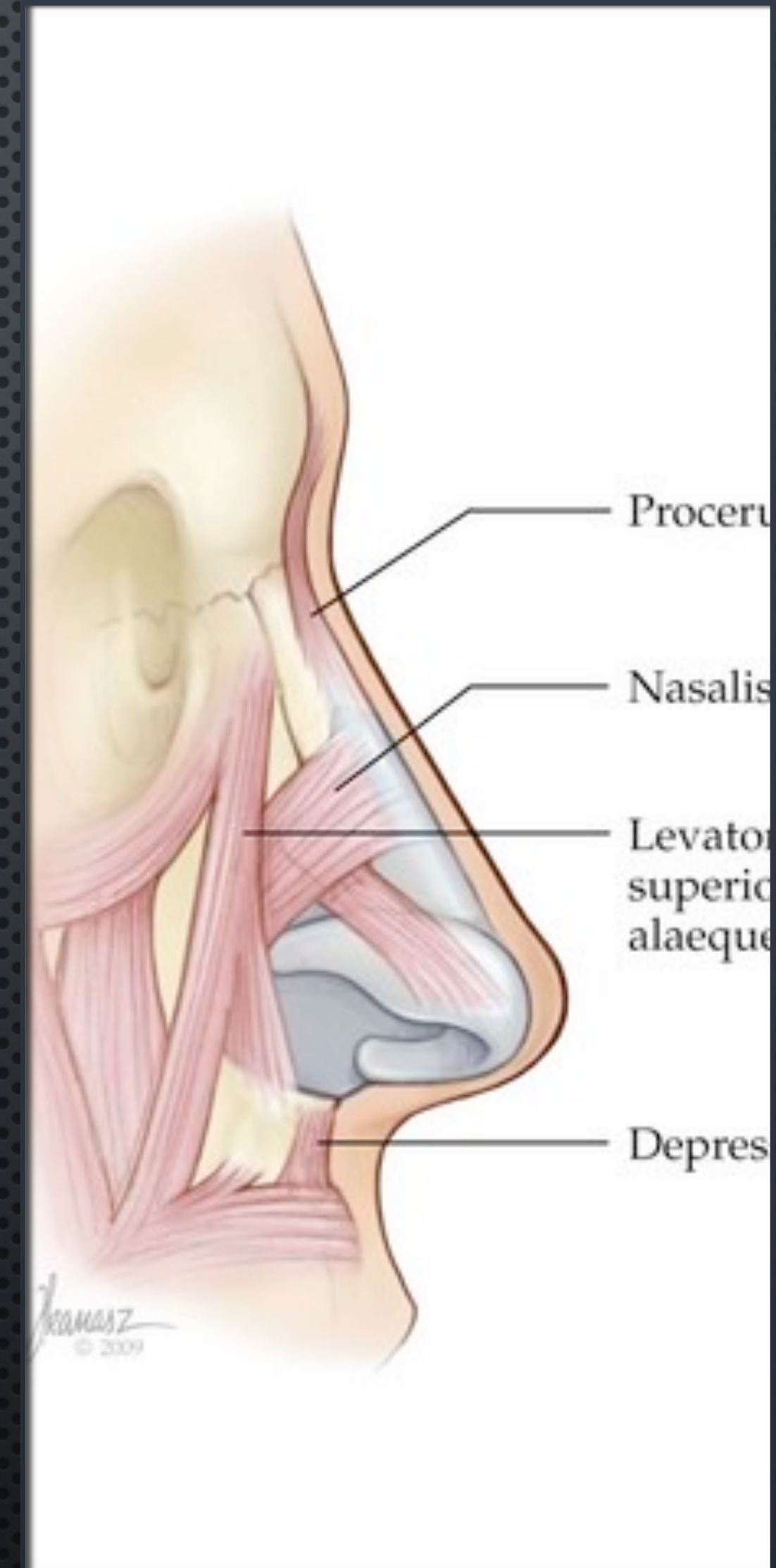
# NOSE ANATOMY





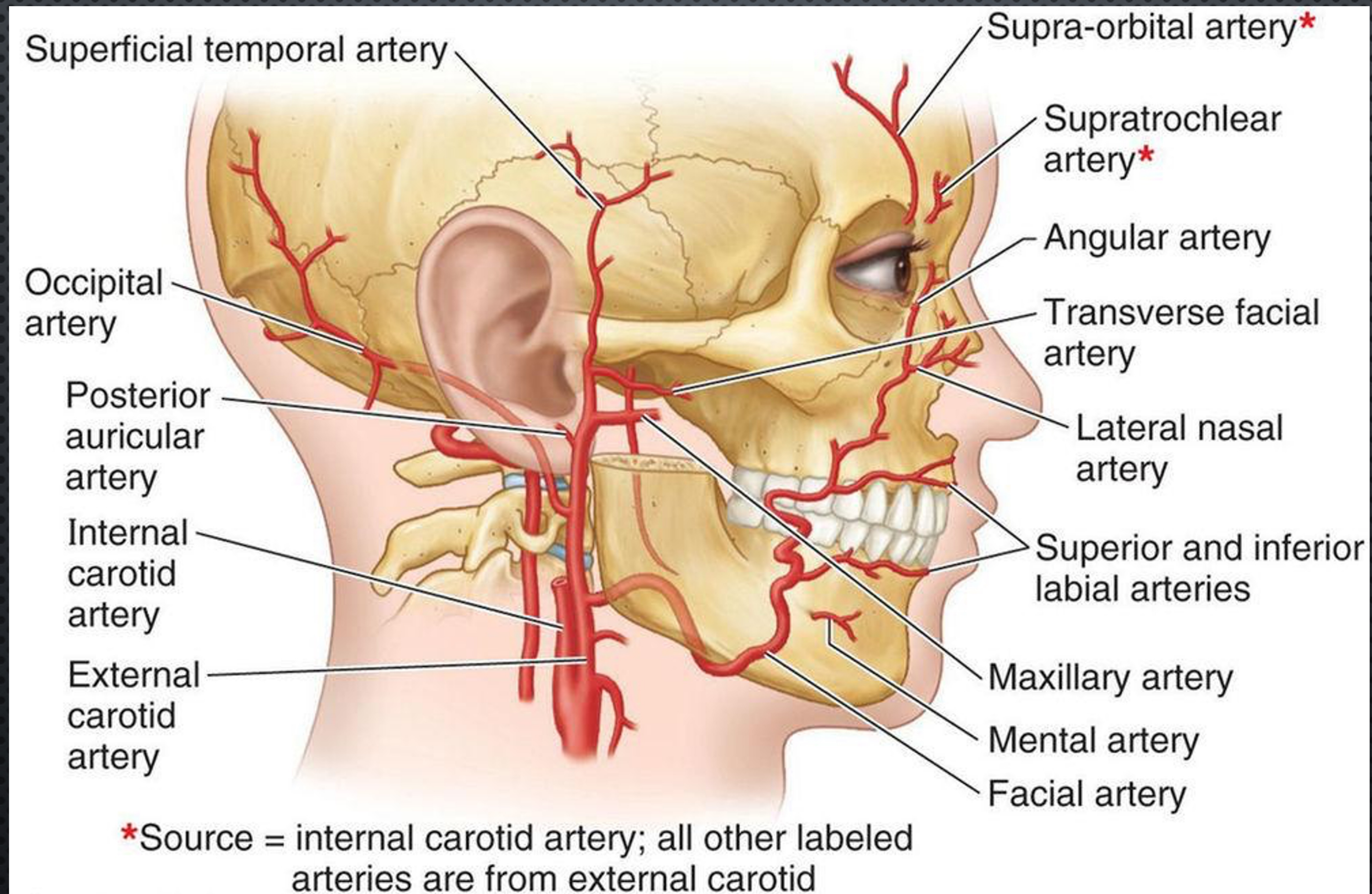
# MUSCLES OF THE NOSE

1. PROCERUS (UPPER THIRD)
2. NASALIS (MIDDLE THIRD)
3. DEPRESSOR NASI SEPTII (NASAL SPINE)



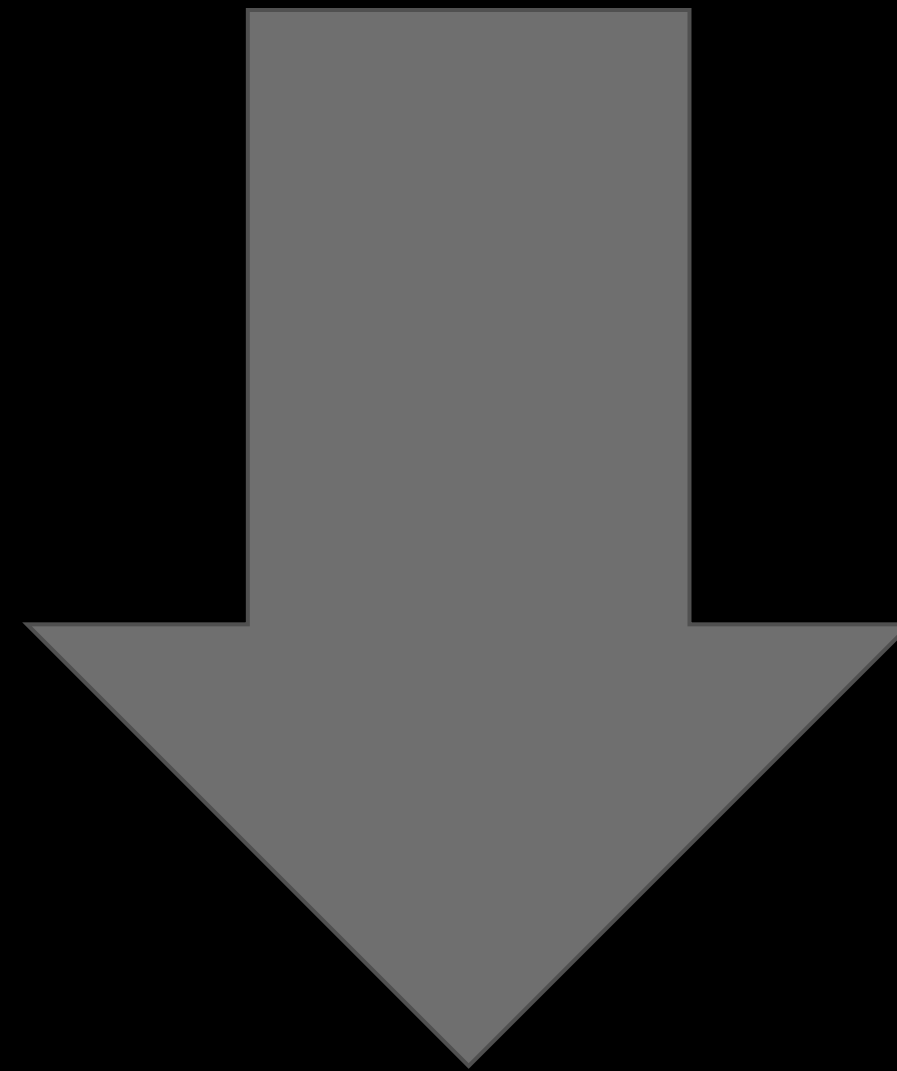


# BLOOD SUPPLY





## COMMON ARTERIES THAT CAN BE ENCOUNTERED DURING NOSE AUGMENTATION



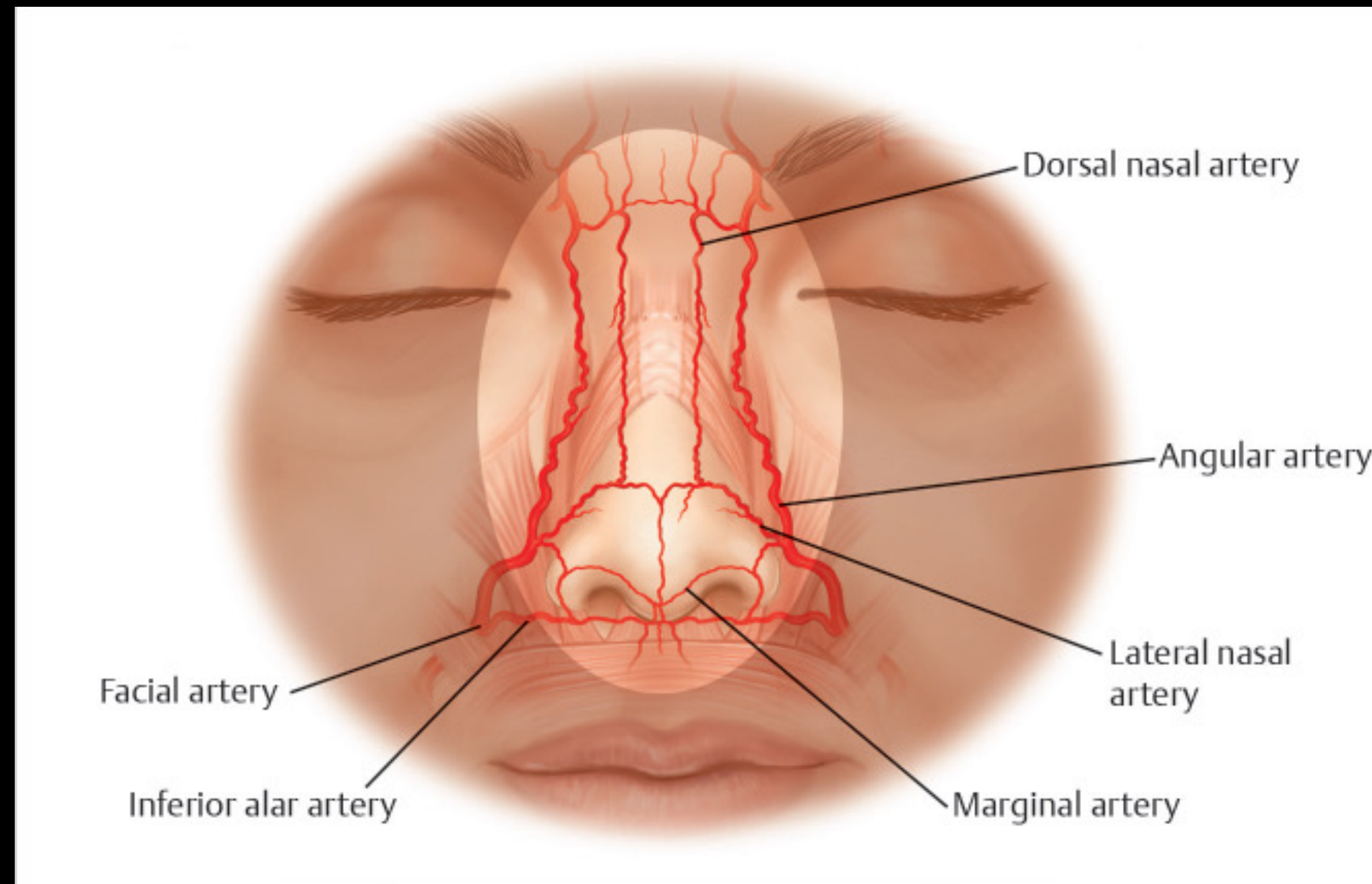


# NASAL VASCULATURE

INTERNAL CAROTID (VIA OPHTHALMIC A.) & EXTERNAL CAROTID (VIA FACIAL A.)  
**SEVERAL ANASTOMOSES**

## UPPER PORTION SUPPLY:

- **DORSAL NASAL A.**
- **EXTERNAL NASAL A.**



## LOWER PORTION SUPPLY:

- **COLUMELLAR A.**
- **LATERAL NASAL A.**

Anastomosis of the dorsal nasal artery with ophthalmic artery = reason for high risk visual loss



# HIGHLY VARIABLE VASCULAR ANATOMY

DEFINING SAFE ZONES AND DANGER ZONES IN THE NOSE IS NOT POSSIBLE

VARIABILITY OF DORSAL NASAL ARTERY HAS BEEN OBSERVED.

ALFERTSHOFER ET AL :

- IN THE RADIX: VESSELS COURSED SUBMUSCULAR IN 8.3%
- IN THE NASAL TIP, VESSELS COURSED SUBMUCOSAL IN 1.7% OF CASES



HIGH  
DEFINING

ALFERTSHOFER ET AL :

- IN THE RADIX: VESS
- IN THE NASAL TIP, V

> [Aesthet Surg J.](#) 2022 Mar 15;42(4):349-357. doi: 10.1093/asj/sjab310.

## The Layered Anatomy of the Nose: An Ultrasound-Based Investigation

Michael G Alfertshofer <sup>1</sup>, Konstantin Frank <sup>1</sup>, Denis Ehrl <sup>1</sup>, David L Freytag <sup>2</sup>,  
Nicholas Moellhoff <sup>1</sup>, Robert H Gotkin, Samir Mardini <sup>3</sup>, Katie Beleznyay <sup>4</sup>, Arthur Swift,  
Sebastian Cotofana <sup>5</sup>

Affiliations + expand

PMID: 34363459 DOI: [10.1093/asj/sjab310](#)

### Abstract

**Background:** An increasing number of soft tissue filler procedures in the nasal region has been reported. Concomitant with demand, the number of complications has risen due to the difficulty in administering filler in a region where soft tissue layering is complex.

**Objectives:** The authors sought to describe the layered soft tissue arrangement of the nose as it relates to the underlying arterial vasculature and to define safer zones for nasal filler enhancement.

**Methods:** A total of 60 (28 males and 32 females) study participants were investigated with respect to their layered anatomy in the midline of the nose utilizing ultrasound imaging. The presence and extent of the layered arrangement was examined as well as the depth of the arterial vasculature.

**Results:** In the mid-nasal dorsum, a 5-layer arrangement was observed in 100% (n = 60) of all investigated cases, whereas it was found to be absent in the nasal radix and tip. The 5-layer arrangement showed an average extent of 26.7% to 67.5% in relation to nasal length. The nasal arteries coursed superficially in 91.7% of all cases in the nasal radix, in 80% in the mid-nasal dorsum, and in 98.3% in the nasal tip.

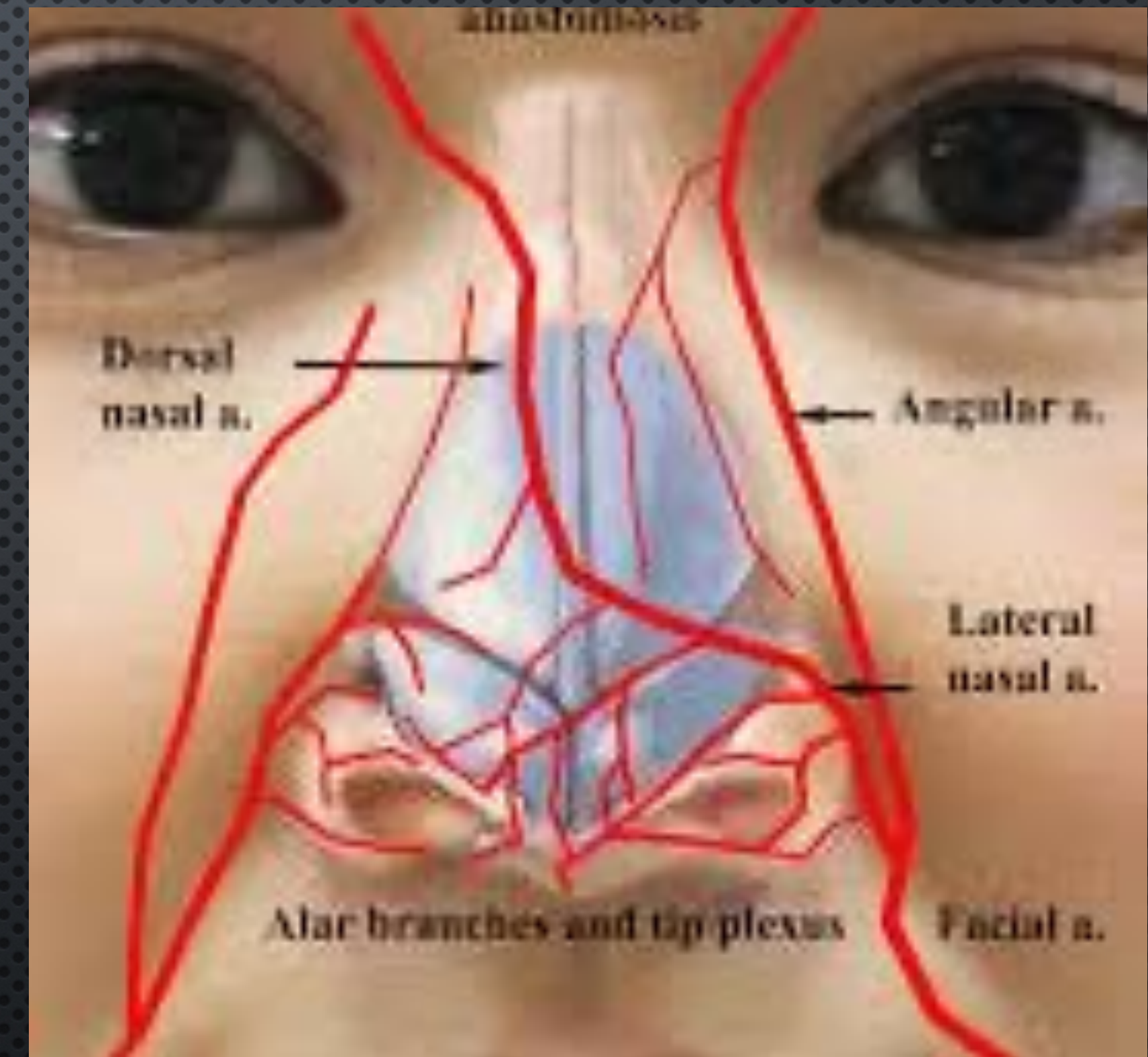
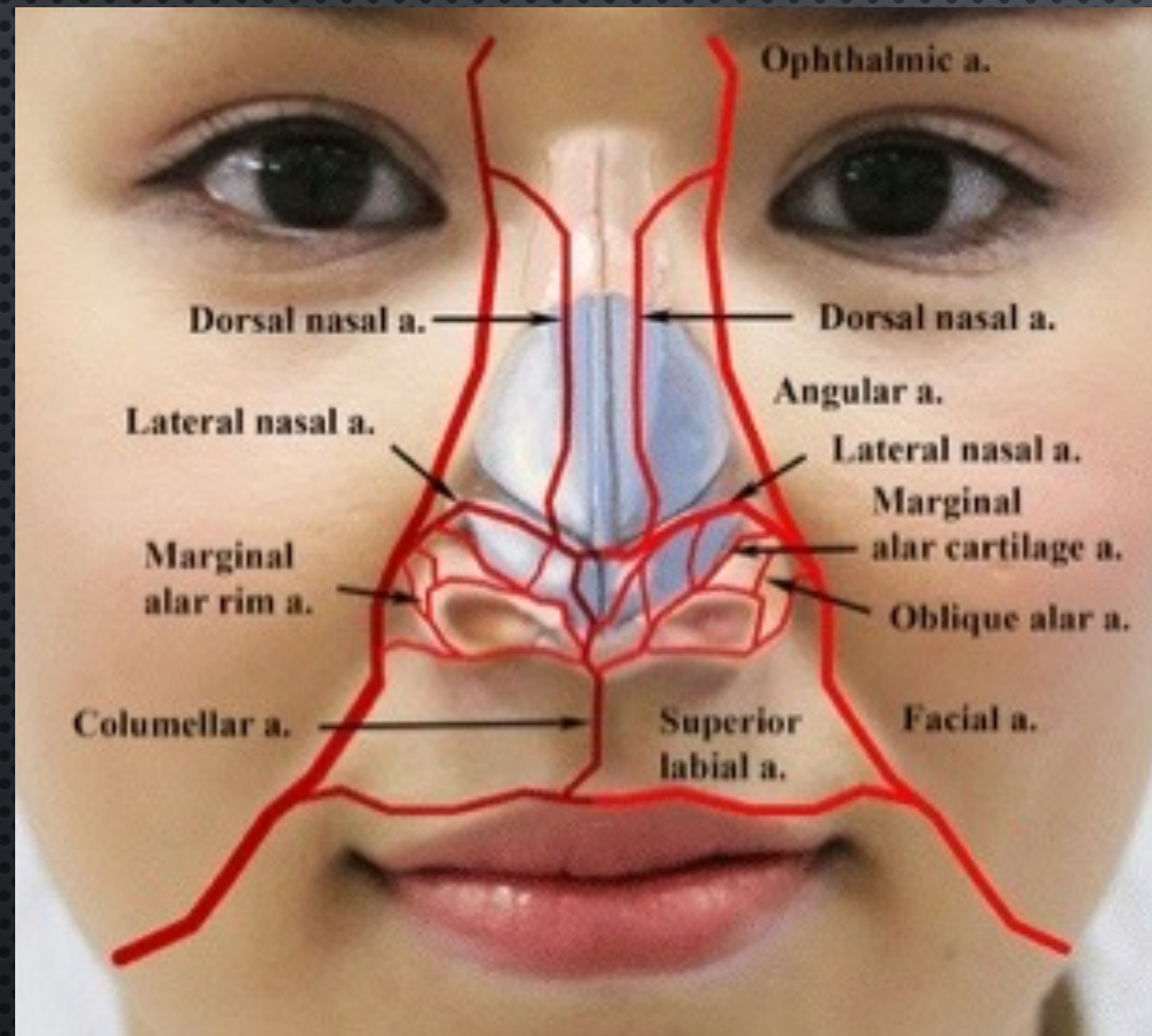
**Conclusions:** Soft tissue filler administration in the nose carries the highest risk for irreversible

OMY  
T POSSIBLE



53% of the dorsal nasal arteries are bilateral

28% are single or can run over the midline.



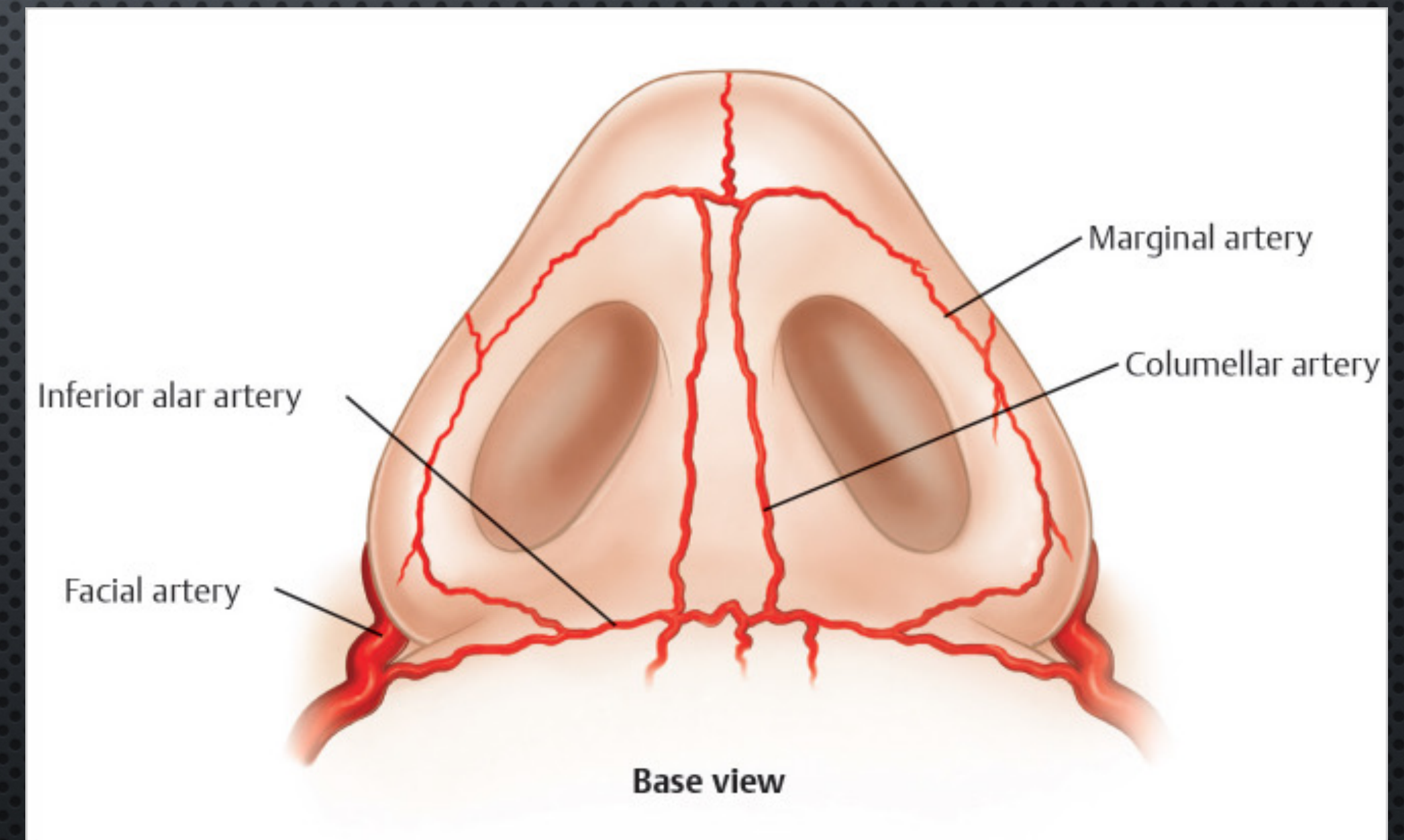
Tansatit et al.

DR ZAINAB AL-MUKHTAR



# COLLUMELLAR ARTERIES

- THE COLUMELLAR ARTERIES USUALLY RUN IN THE SUBCUTANEOUS PLANE LATERAL TO THE MIDLINE AND ANASTOMOSE IN THE NASAL TIP, BUT IN 31% OF CASES, THE COLUMELLAR ARTERIES MAY LIE IN THE MIDLINE.

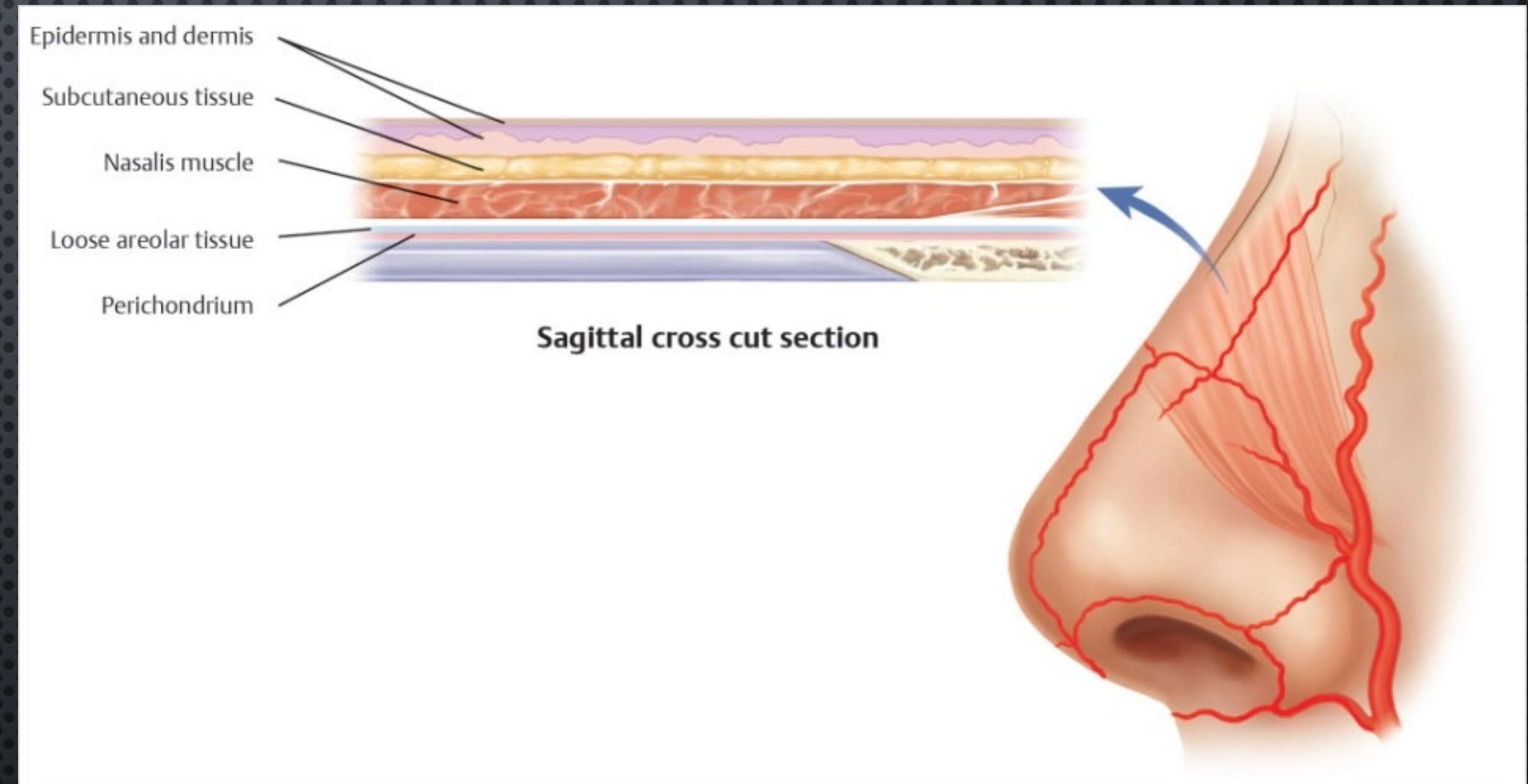


1.Lee KL, Lee HJ, Youn KH, Kim HJ. Positional relationship of superior and inferior labial artery by ultrasonography image analysis for safe lip augmentation procedures. Clin Anat. 2020 Mar;33(2):158-164. doi: 10.1002/ca.23379. Epub 2019 Apr 15. PMID: 30912205.



# NASAL TISSUE LAYERS

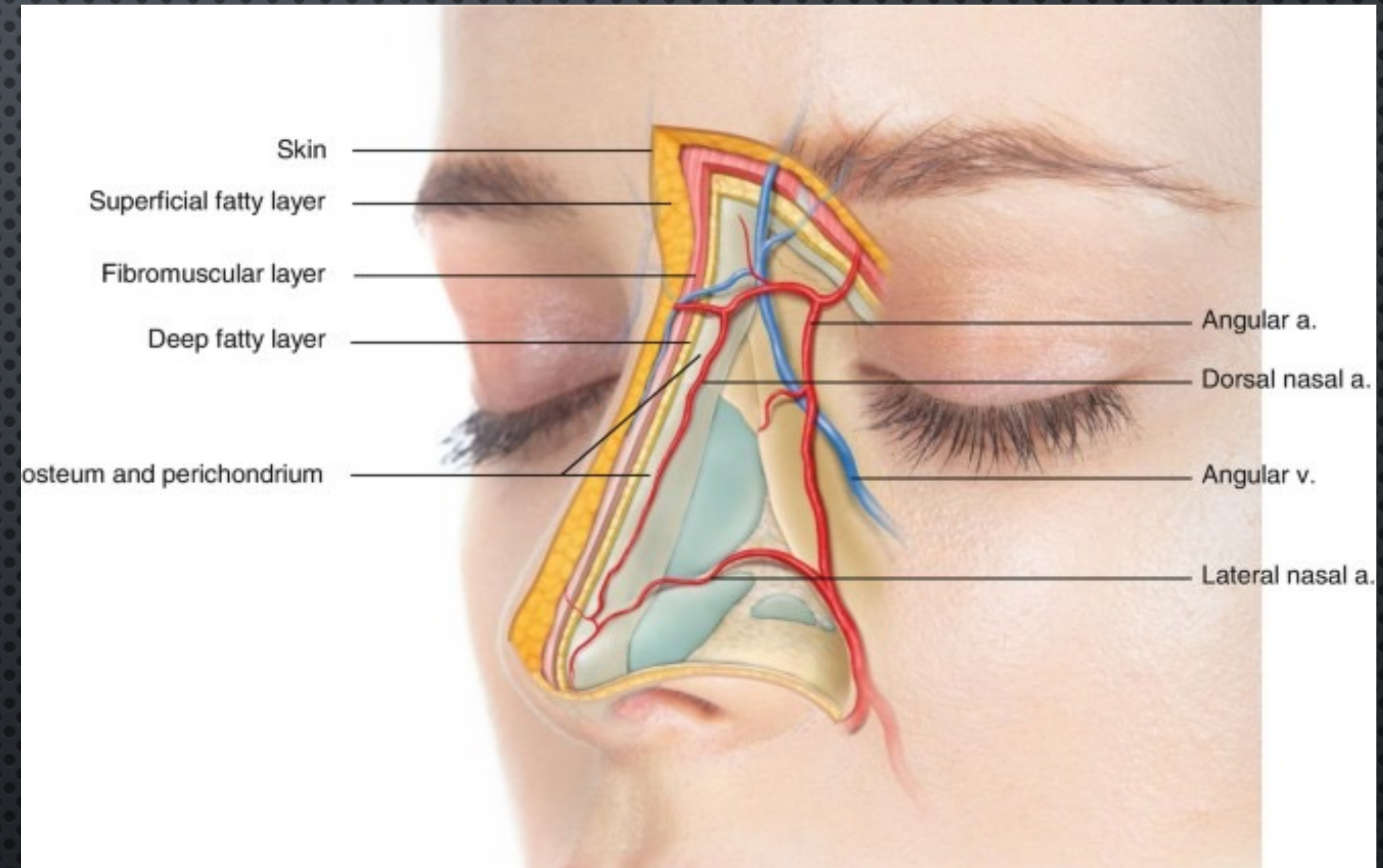
- DERMIS
- SUBCUTANEOUS LAYER
- MUSCLE LAYER
- LOOSE AREOLAR CONNECTIVE TISSUE
- PERIOSTEUM / PERICHONDRIUM





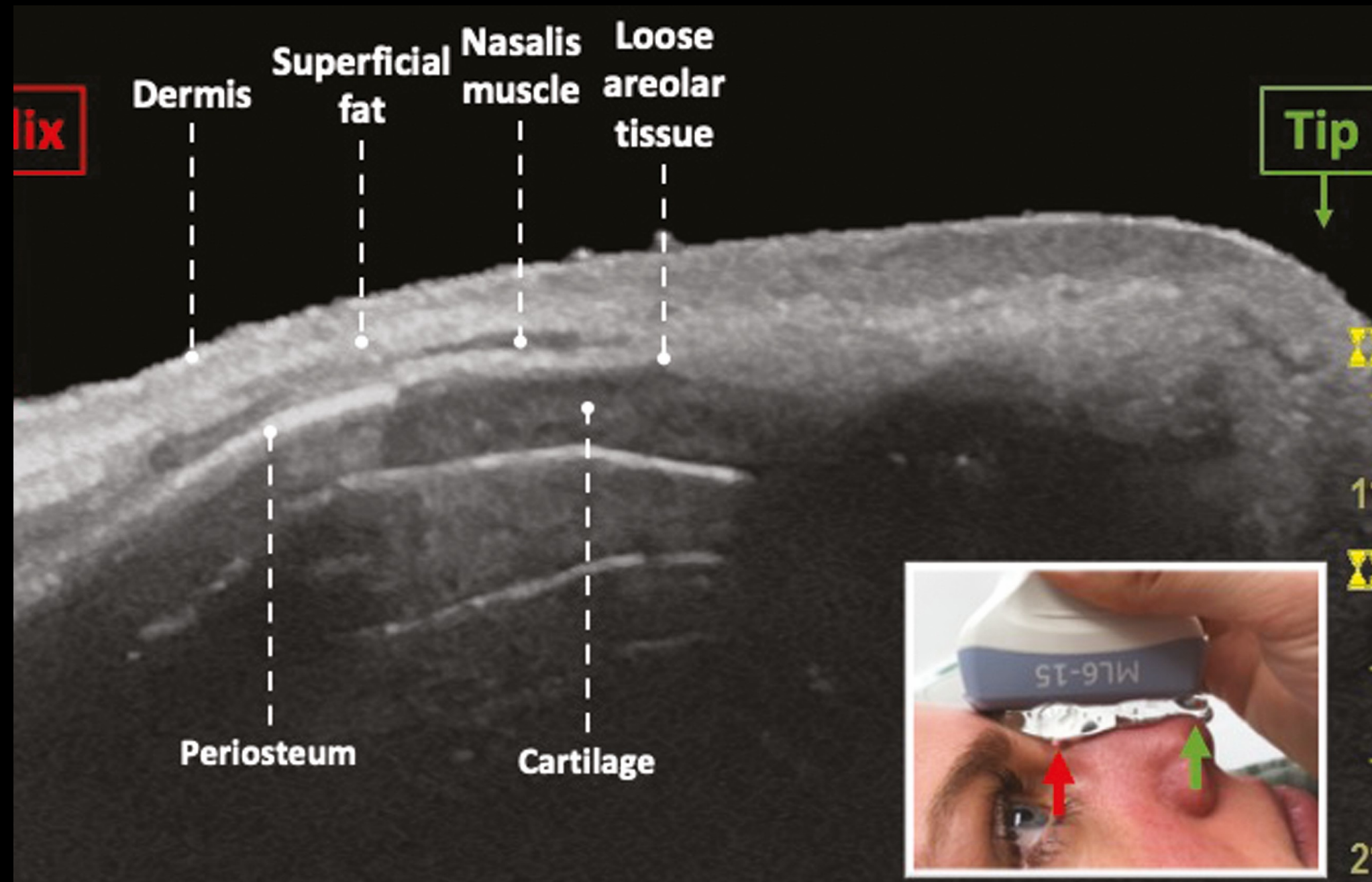
# NASAL TISSUE LAYERS

- DERMIS
- SUBCUTANEOUS LAYER
- MUSCLE LAYER
- LOOSE AREOLAR CONNECTIVE TISSUE
- PERIOSTEUM / PERICHONDRIUM





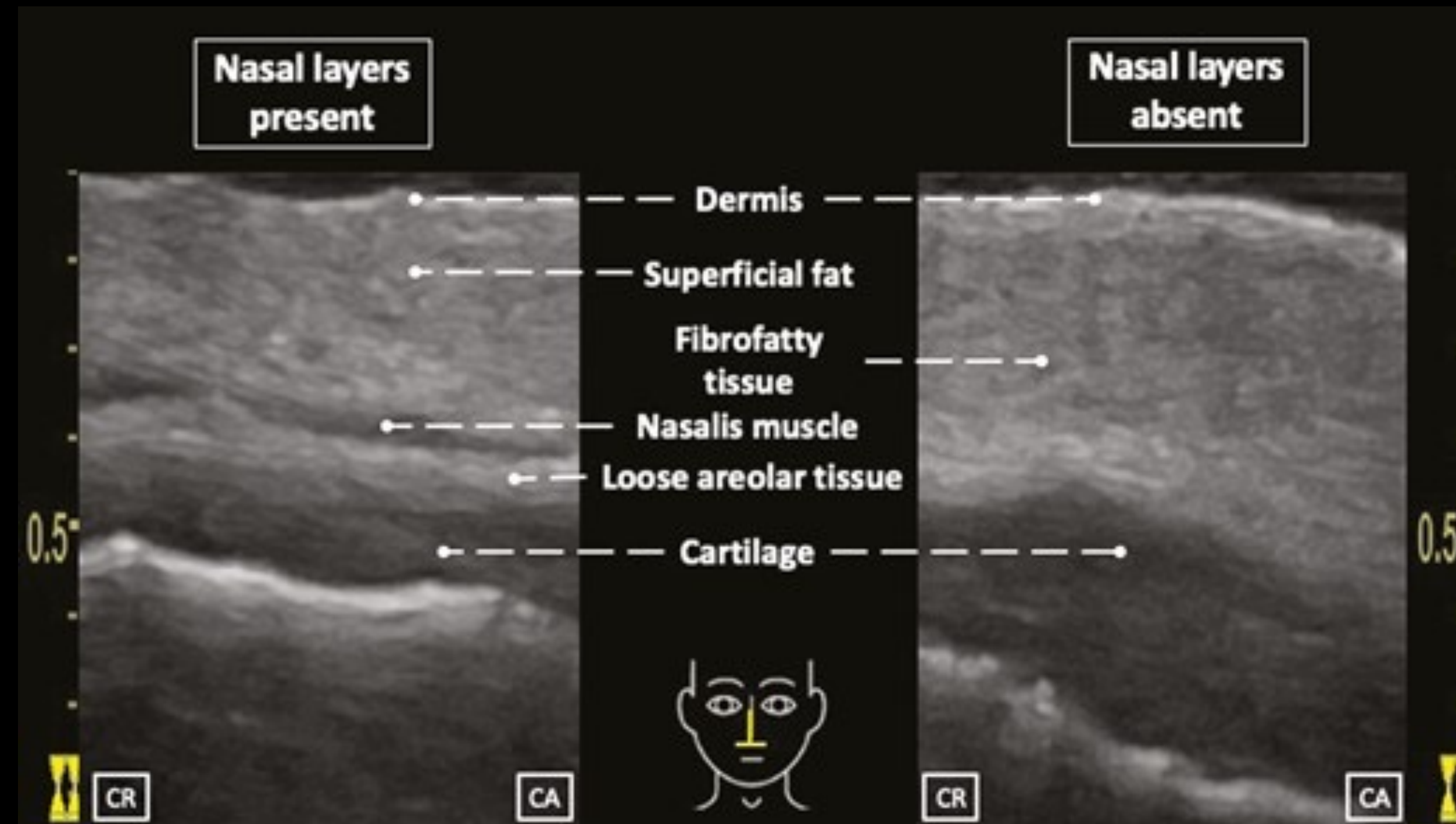
# DOES THE NOSE ALWAYS HAVE 5 LAYERS?



- ALFERTSHOFER ET AL 2021 FOUND THAT TISSUE **LAYERS CAN BE ABSENT** IN BOTH THE RADIX AND NASAL TIP,
- WORTHY OF NOTE AS THE NOSE ALREADY HAS LIMITED INJECTING SPACE.
- THE **ARTERIES HAVE BEEN FOUND AT VARYING DEPTHS** AND **WITHIN DIFFERENT LAYERS** OF THE NOSE.



# VARIABLE LAYERS



RADIX MAY HAVE ALL 5 LAYERS

NASAL TIP / SUPRATIP NOTCH MAY HAVE MISSING MUSCULAR LAYER – WE SEE A CONTINUOUS HOMOGENOUS HYPOECHOIC LAYER BETWEEN SKIN AND CARTILAGE

Alfertshofer et al The Layered Anatomy of the Nose: An Ultrasound-Based Investigation, *Aesthetic Surgery Journal*, Volume 42, Issue 4, April 2022, Pages 349–357

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Epidermis

Dermis

Subcutaneous  
layer

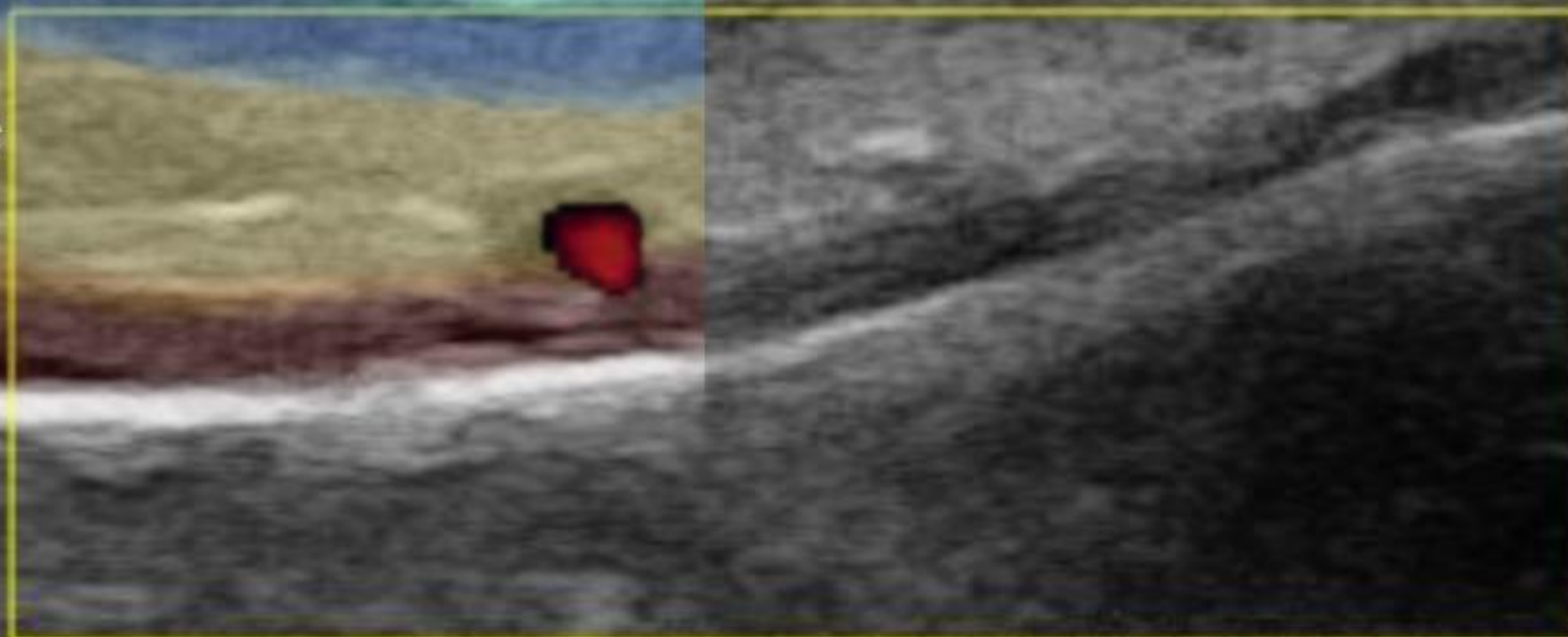
Muscle

Bone

1.4 cm/s



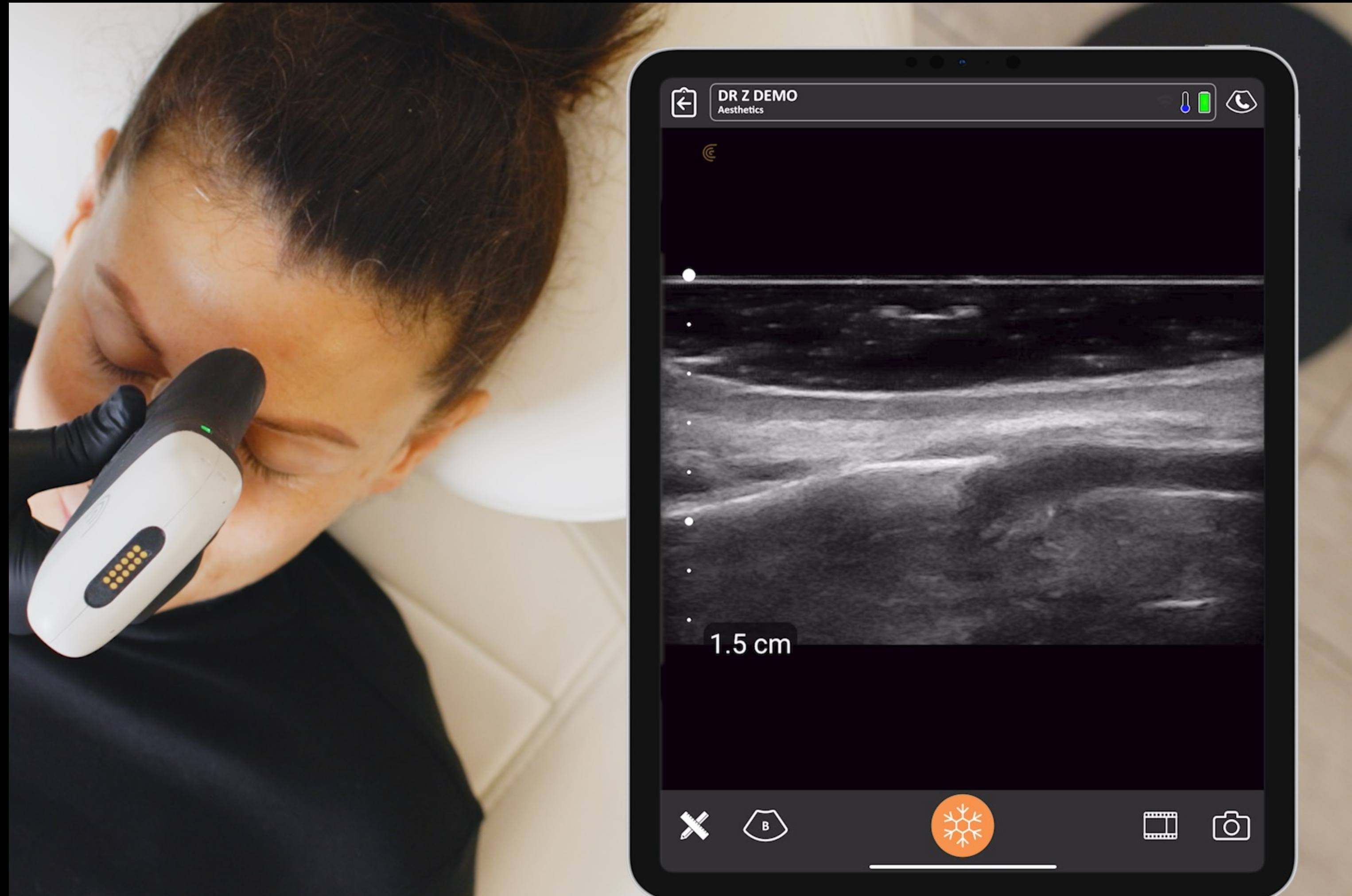
-1.4 cm/s



1 cm

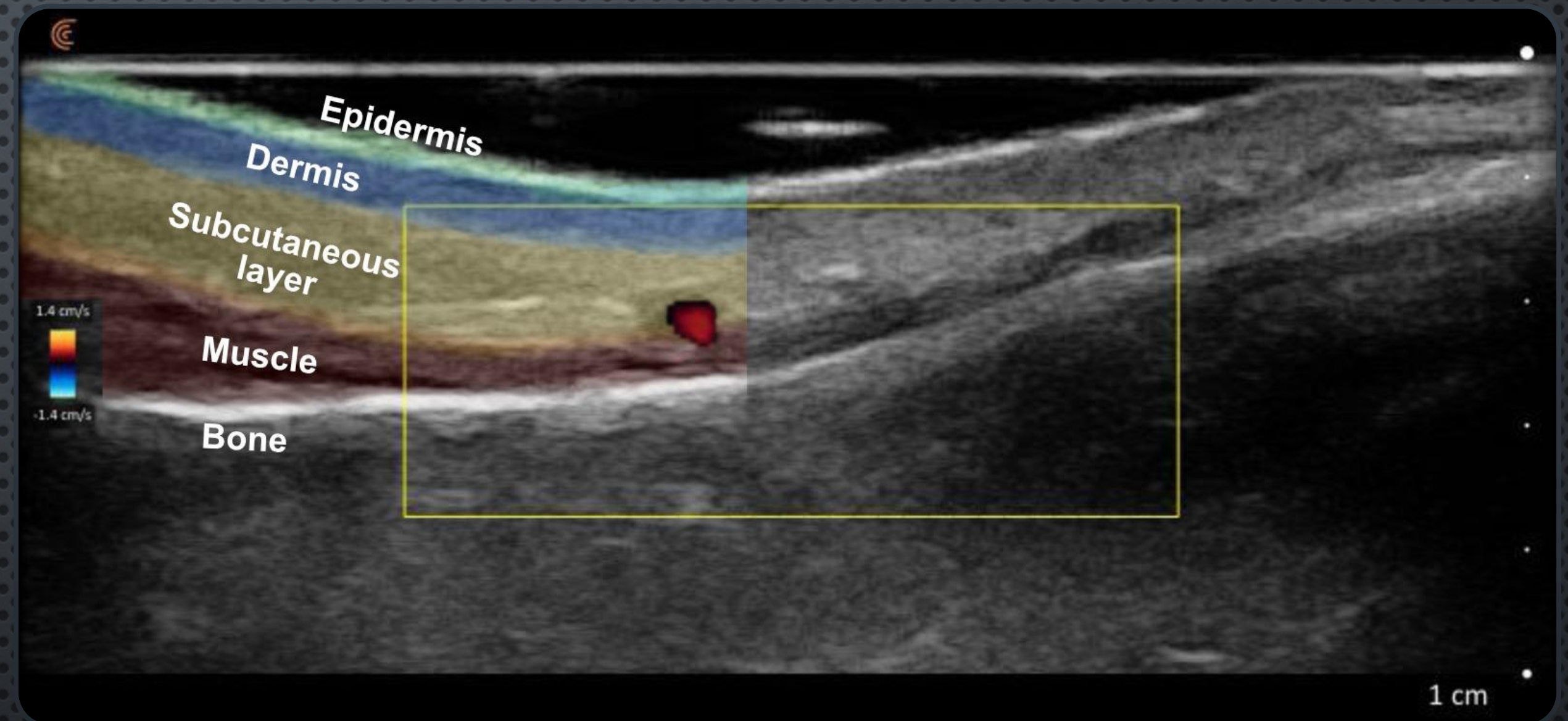


# RHINION: JUNCTION BETWEEN BONE AND CARTILAGE





# VASCULAR MAPPING



Radix of nose: deep vessel



# WHY VASCULAR MAPPING?

## ANATOMICAL VARIATIONS!

### VISUALISE...

1. PRESENCE OF VESSEL
2. DEPTH OF VESSEL
3. COURSE OF VESSEL WITHIN TISSUE PLANES





# VASCULAR MAPPING

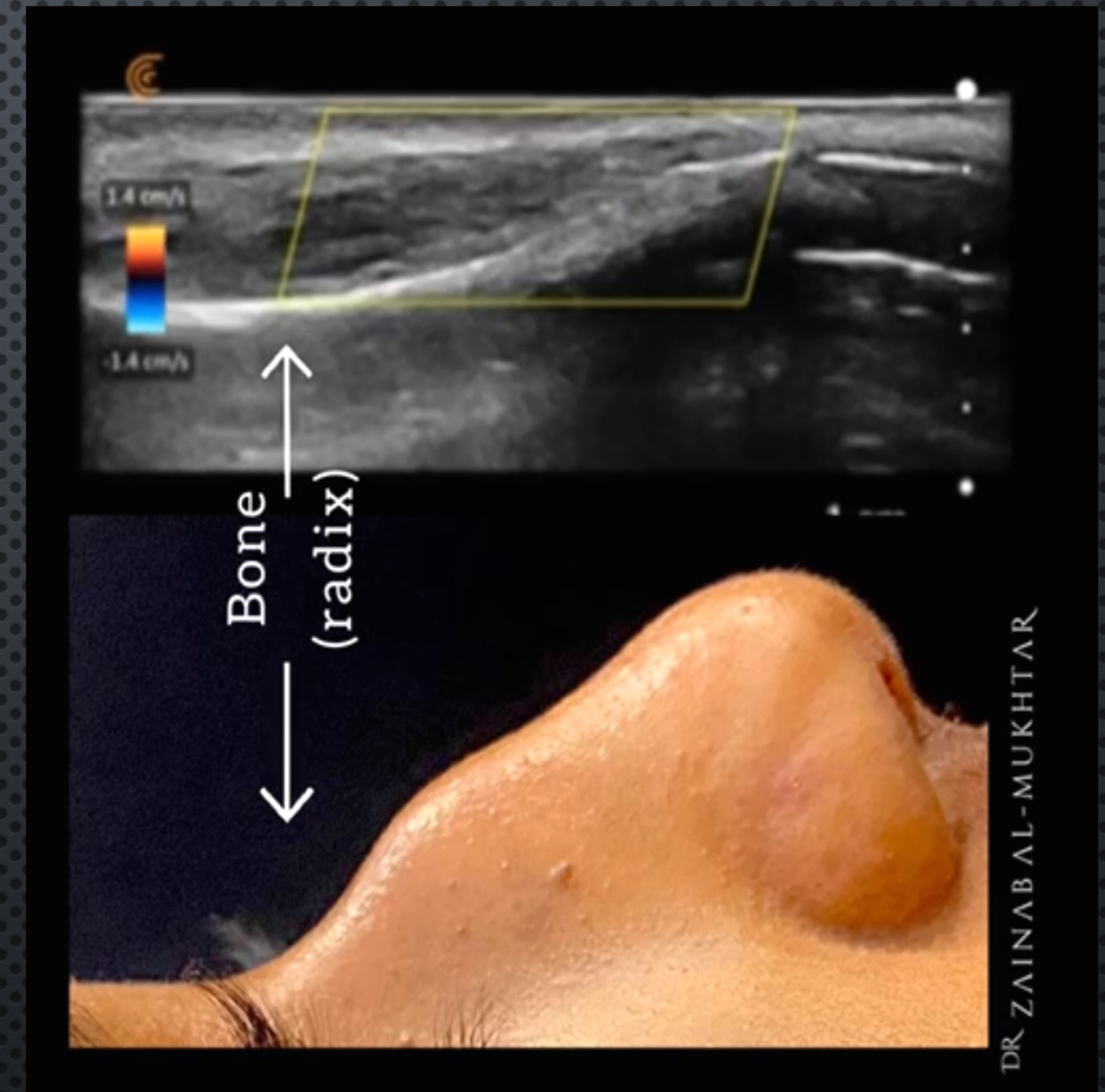
REMEMBER...

LIMITED INJECTING SPACE, VARIABLE TISSUE LAYERS

NASAL ARTERIES COURSE DEEP IN 1.7% CASES IN NASAL TIP

8.3% SUBMUCOSAL AT RADIX (ALFERTSHOFER *ET AL* 2021)

ANASTOMOSIS OF DORSAL NASAL A. WITH OPHTHALMIC A.





# STANDARD PROBE POSITIONS

CAPTURING GOOD IMAGE ALLOWS ACCURACY IN FUTURE COMPARISONS

SAGGITAL

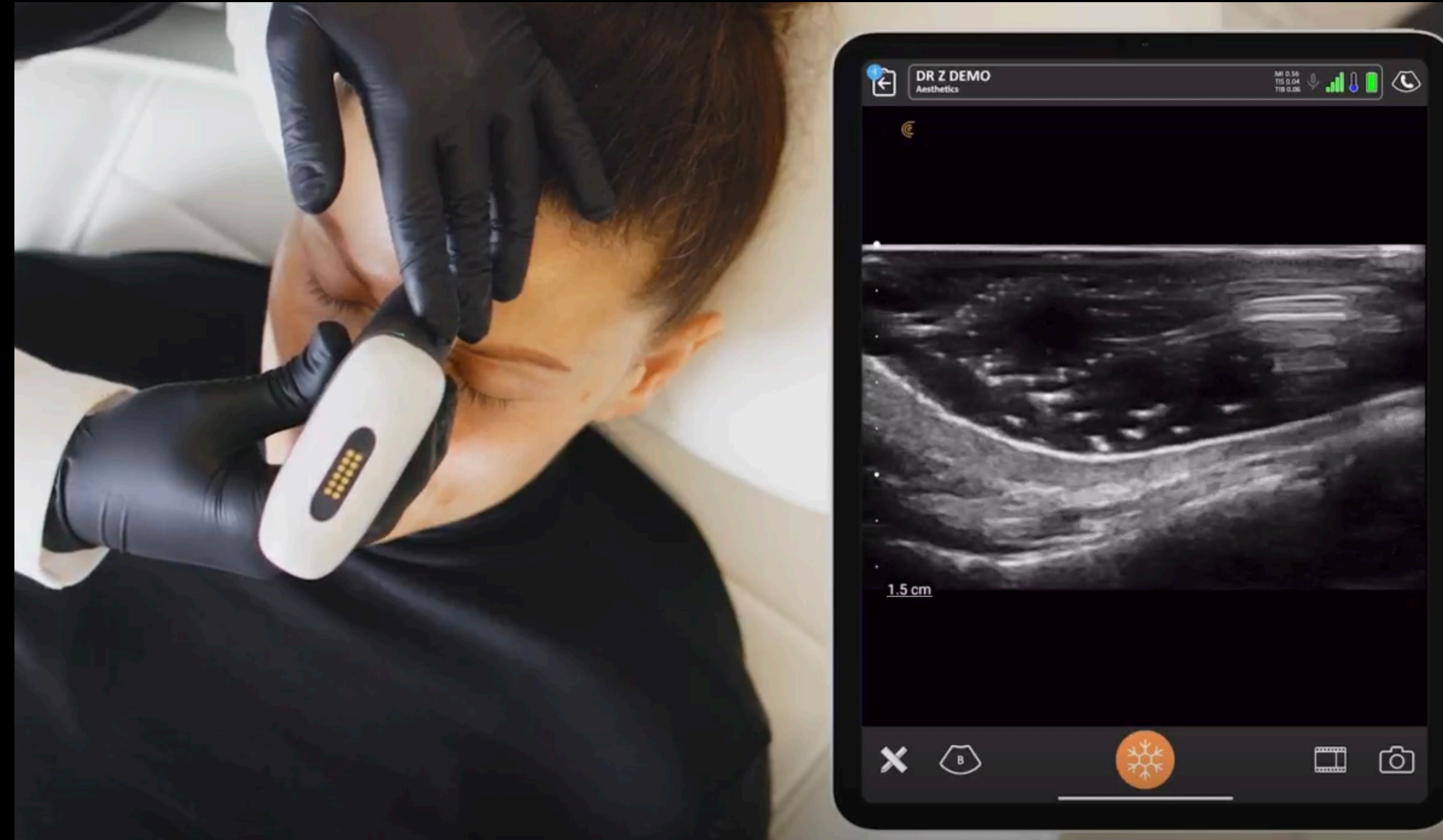


TRANSVERSE (MOST USEFUL)

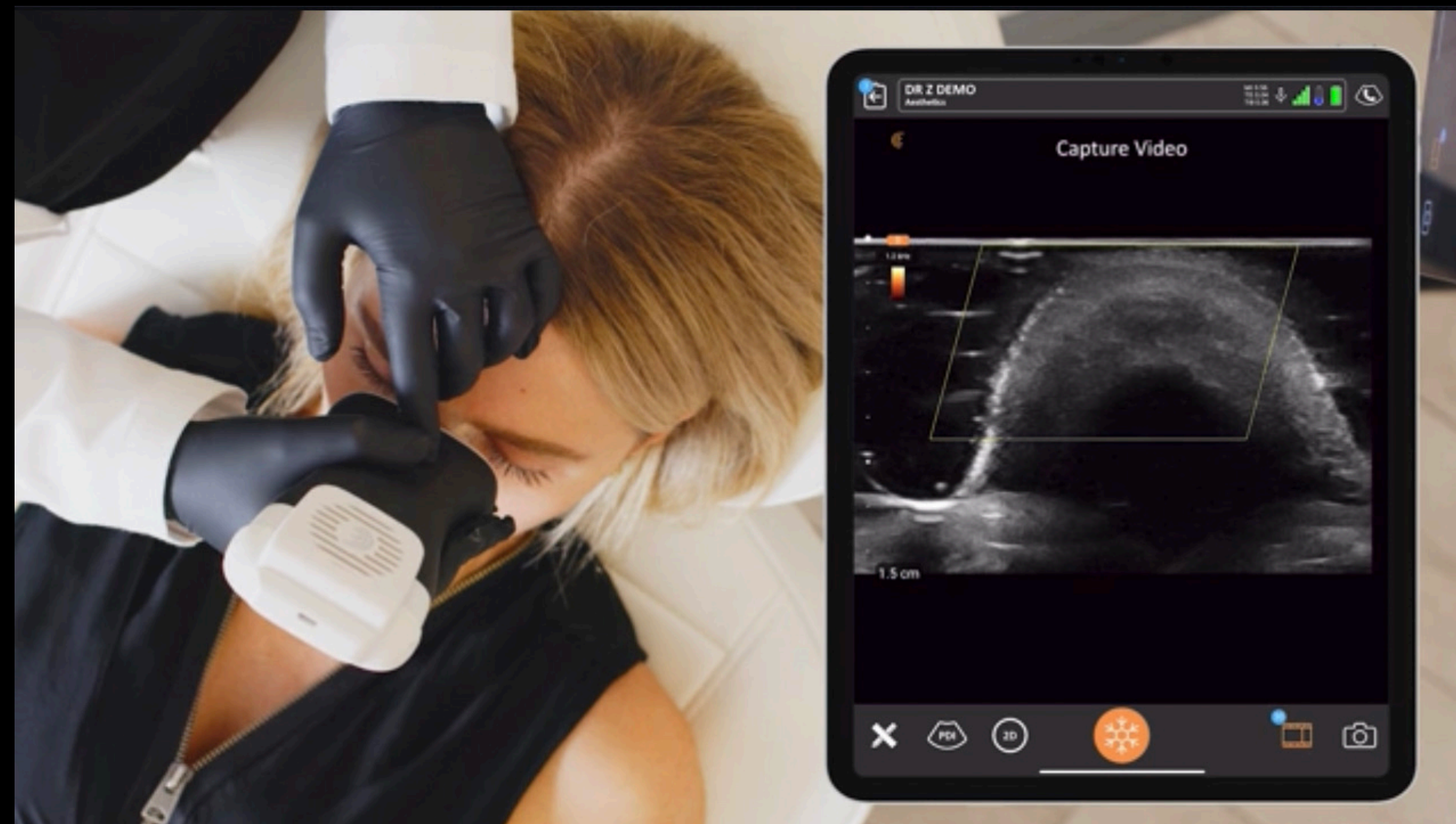




# RADIX / NASAL BRIDGE



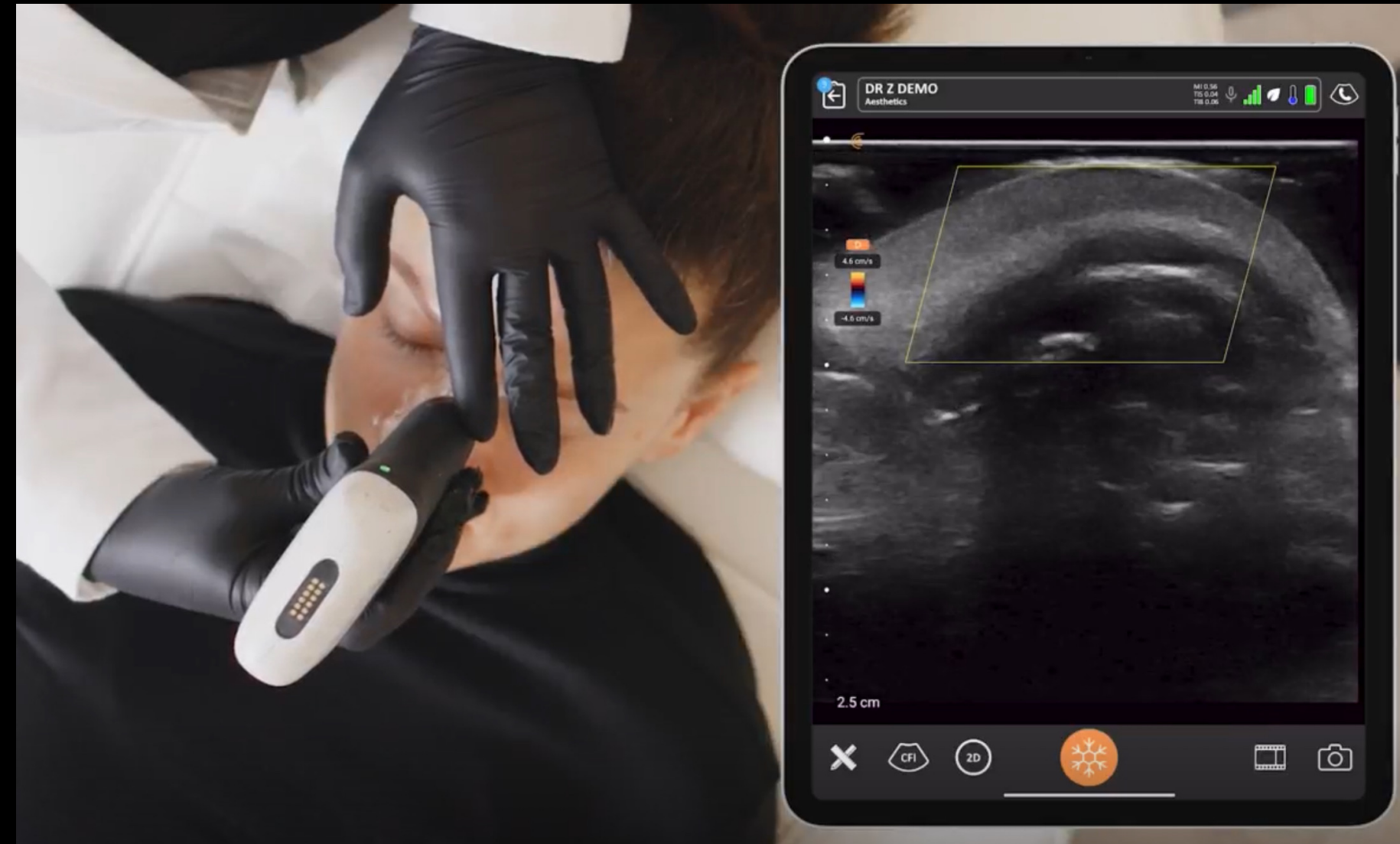
SAGGITAL (LONGITUDINAL)



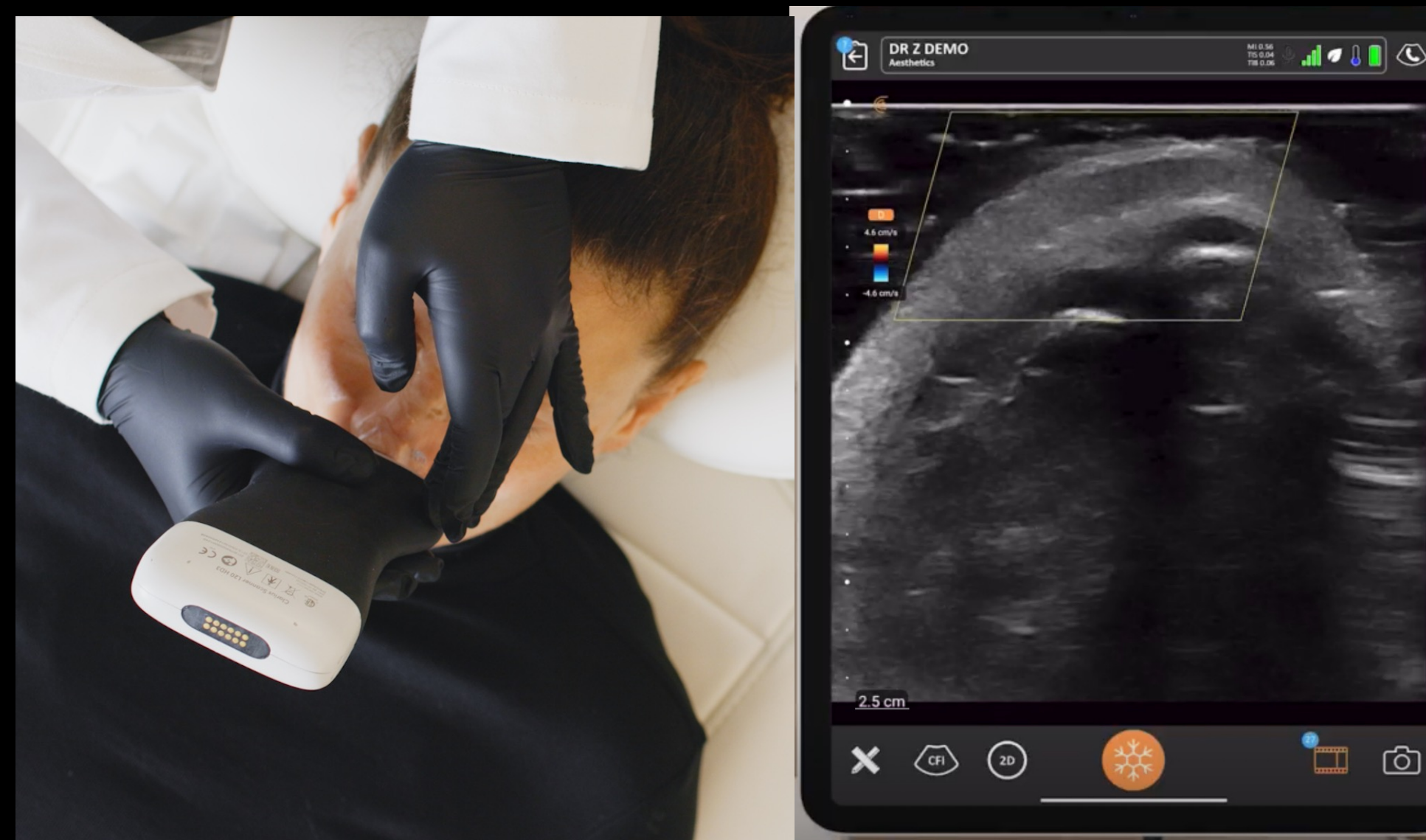
TRANSVERSE



# NASAL TIP



SAGGITAL



TRANSVERSE







# PLANNING PROTOCOL

## MARKING IDEAL INJECTION SITES BEFORE SCANNING

(MARK UP AGAIN AFTER WIPING OFF GEL  
AND SKIN DECONTAMINATING)

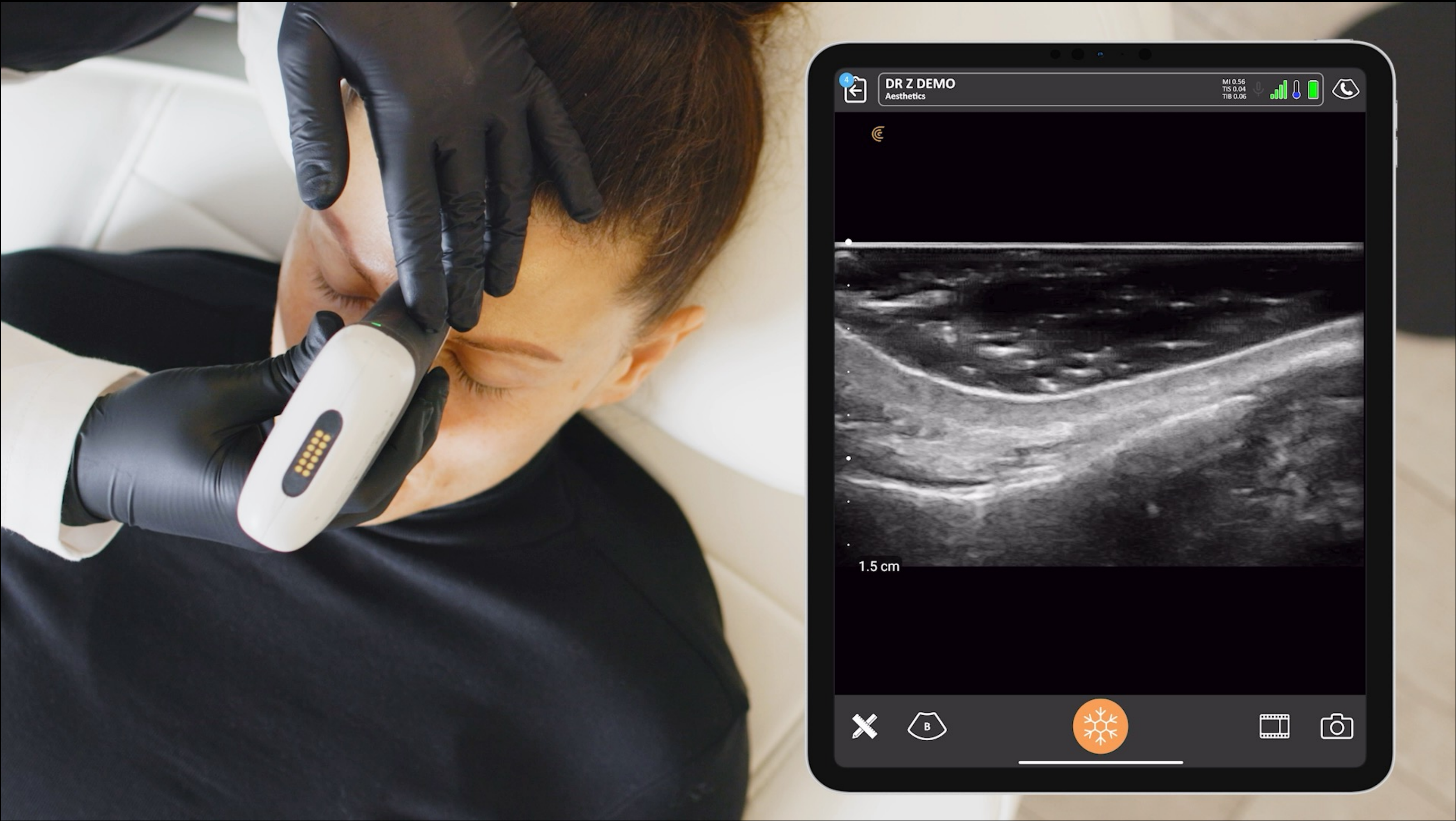
## MARKING



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PRE-TREATMENT SCREENING (VASCULAR MAPPING WITH DEPTH MEASUREMENTS)





# TREATMENT



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IMMEDIATE BEFORE AND AFTER



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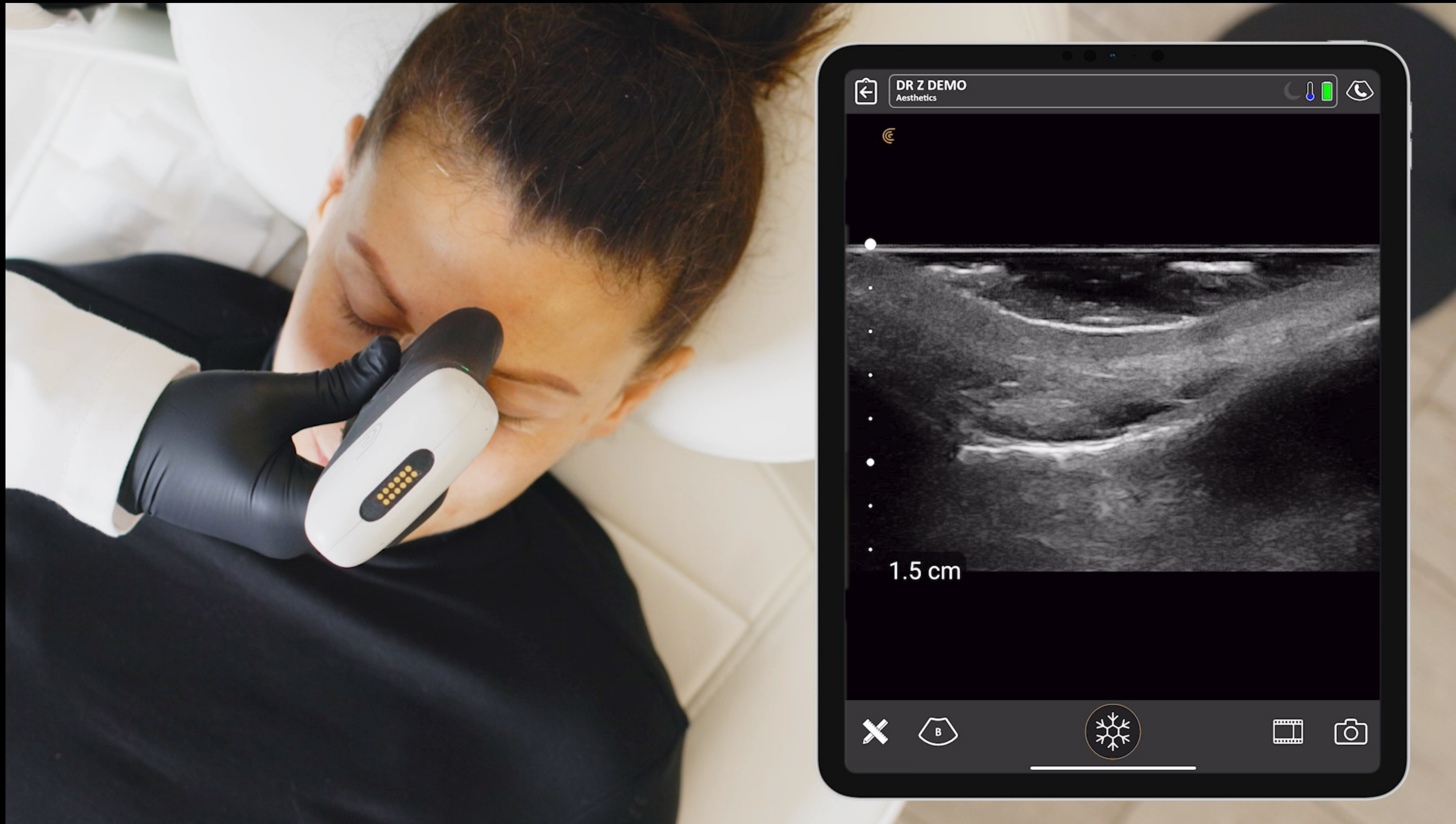
# POST TREATMENT SCAN: CONFIRMATORY

- EVALUATE FILLER LOCATION
- EVALUATE PROXIMITY TO VESSELS
- BASELINE TO EVALUATE FILLER BEHAVIOUR





# CONFIRMATORY SCAN

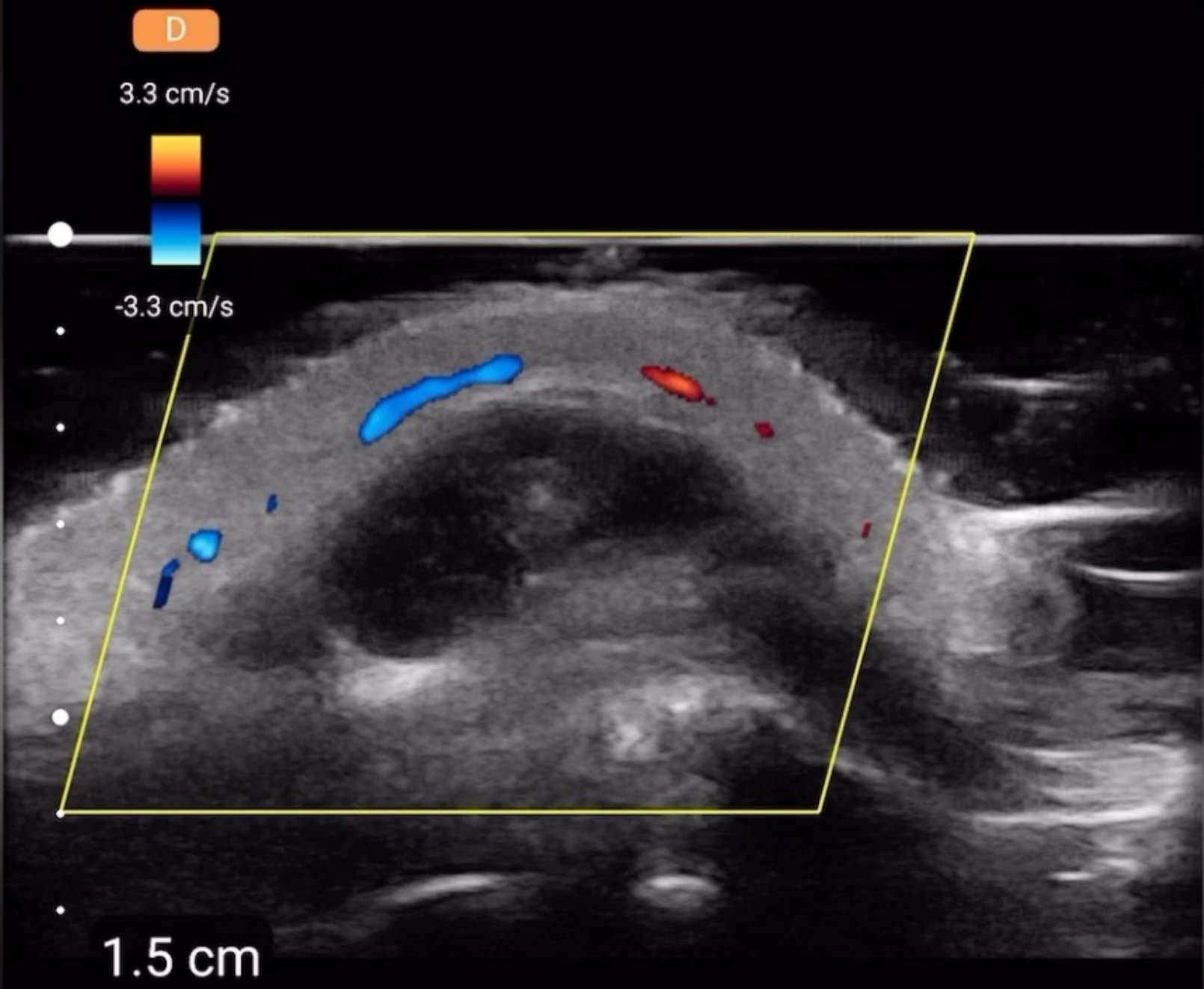




POST TREATMENT SCAN



SAGGITAL VIEW





# IMPORTANT TIPS FOR NASAL SCANNING

- *ADEQUATE AMOUNT* OF GEL
- SAGGITAL VIEW THEN TRANSVERSE
- NO PRESSURE ON SKIN
- FINGER REST – STAY MIDLINE
- GENTLE GLIDE ALONG BRIDGE, TIPPING MOTIONS TO FIND VESSEL
- TAKE YOUR TIME AS FLOW CAN TAKE TIME TO APPEAR
- CAPTURE VIDEO / IMAGES



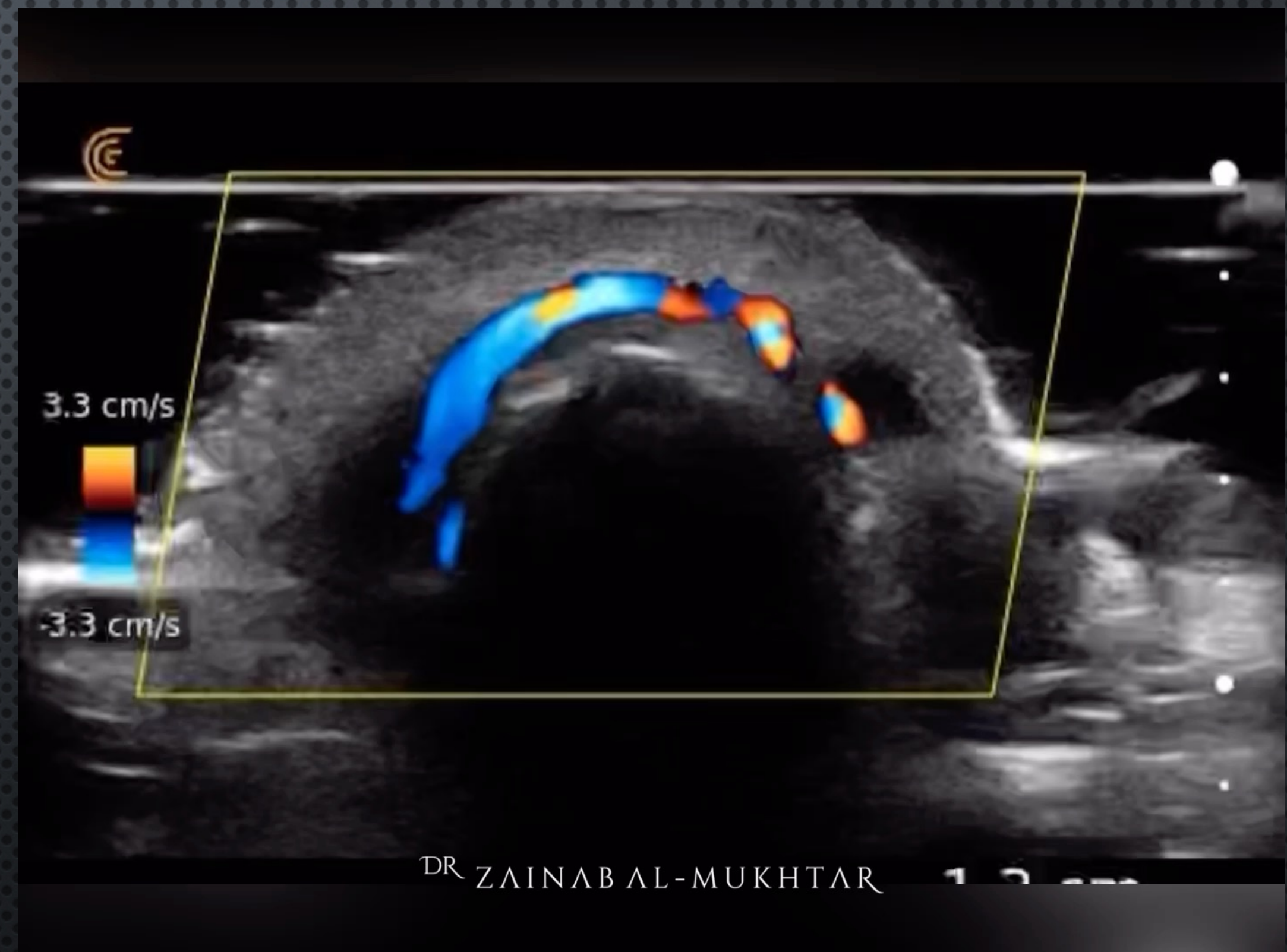
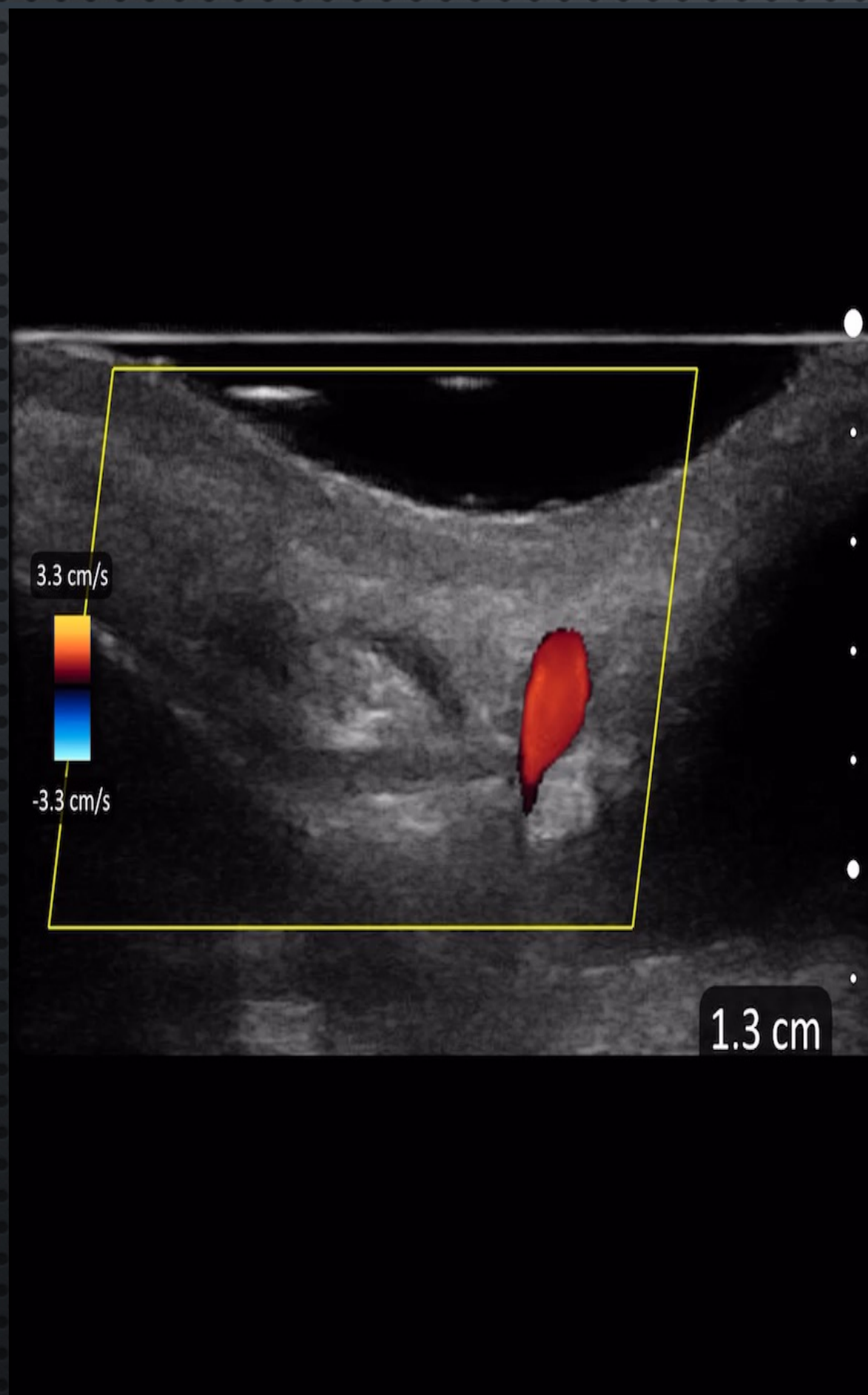


# VASCULAR MAPPING A HIGH-RISK NOSE





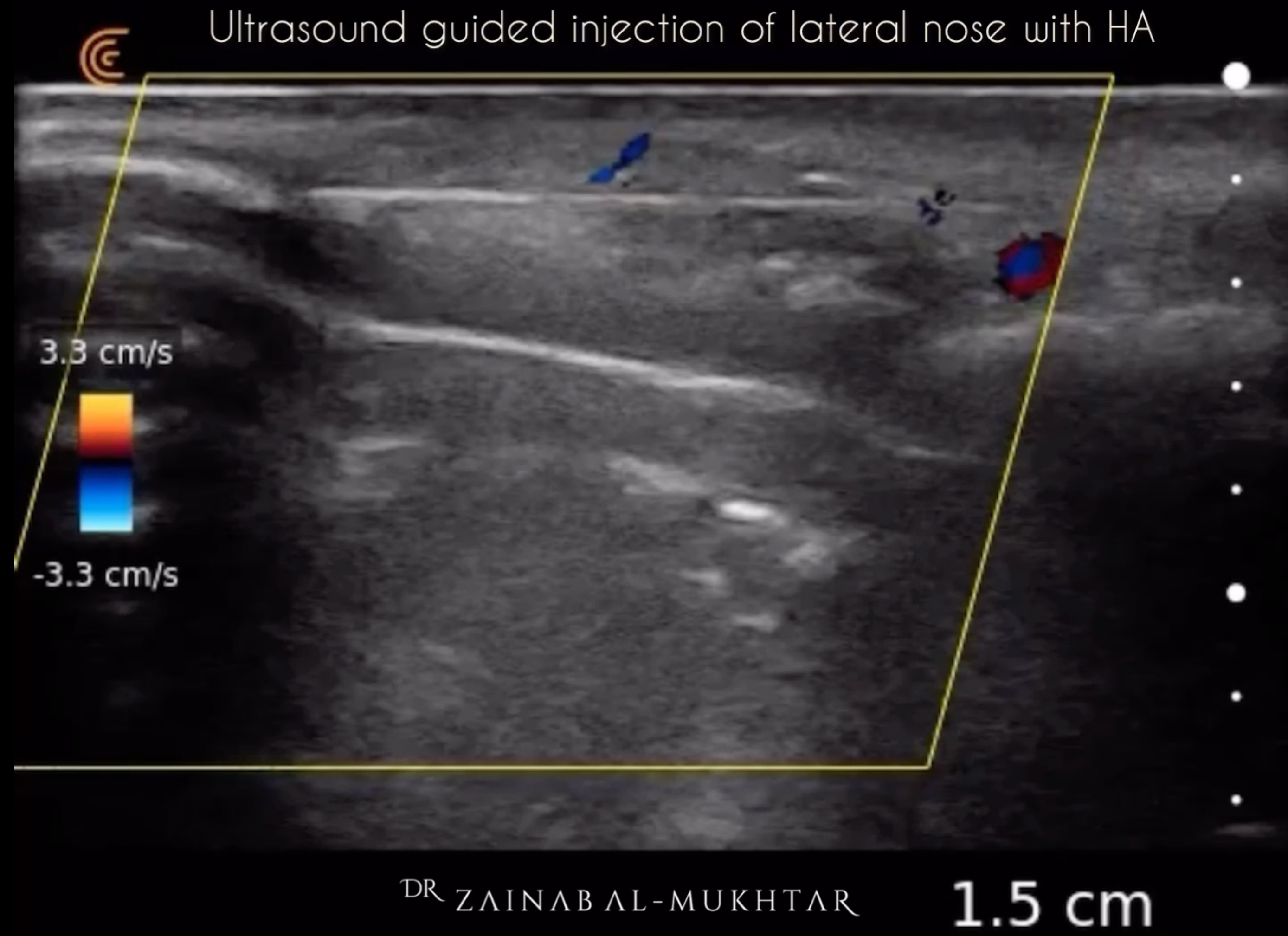
# LARGE VESSEL (INTERCANTHAL VEIN?)





# GUIDED FILLER INJECTIONS

VISUALIZE INJECTION INTO PRECISE LOCATION





# KEY POINTS TO MAXIMISE SAFETY IN NSR

- COMPRESS DORSAL NASAL AND ANGULAR ARTERIES WHEN PERFORMING INJECTIONS ADJACENT TO THESE BLOOD VESSELS.
- KEEP INJECTIONS IN MIDLINE, DEEP PLANE TO AVOID SUPERFICIAL VASCULATURE
- MICRO ALIQUOTS 0.01 ML AT A TIME, WATCH SKIN
- NEVER INJECT PERMANENT FILLER
- DO NOT INJECT NASAL SIDEWALL, VASCULATURE IS SUPERFICIAL IN THESE REGIONS
- NEVER INJECT ALAR GROOVE, LOCATION OF LATERAL NASAL ARTERY



# ULTRASOUND CAN HELP WITH:

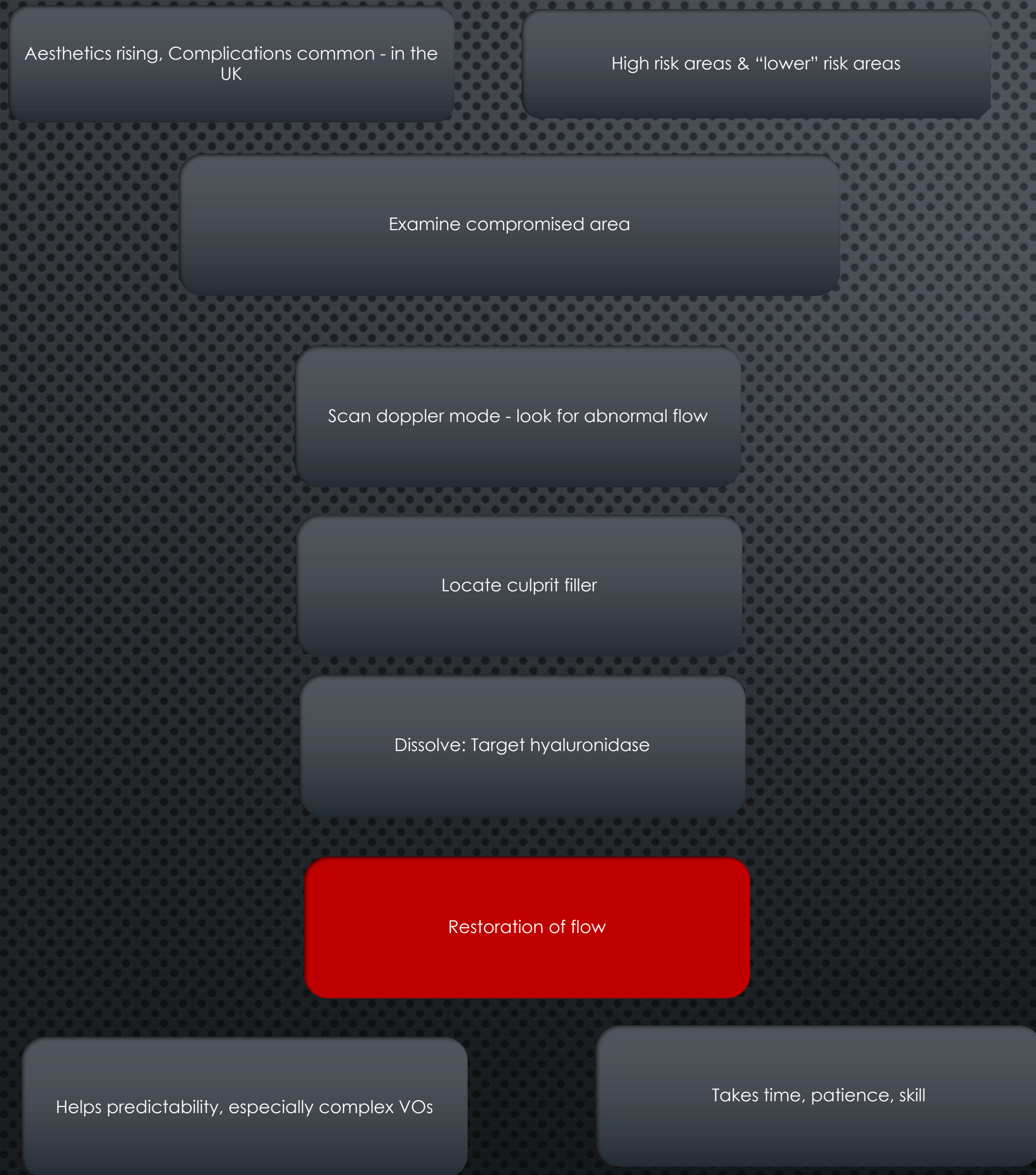
Diagnostic aid

Target unsightly  
filler/ lumps

Target & dissolve  
DONS (delayed  
onset nodules)

Reverse vascular  
adverse events –  
more predictable  
outcome



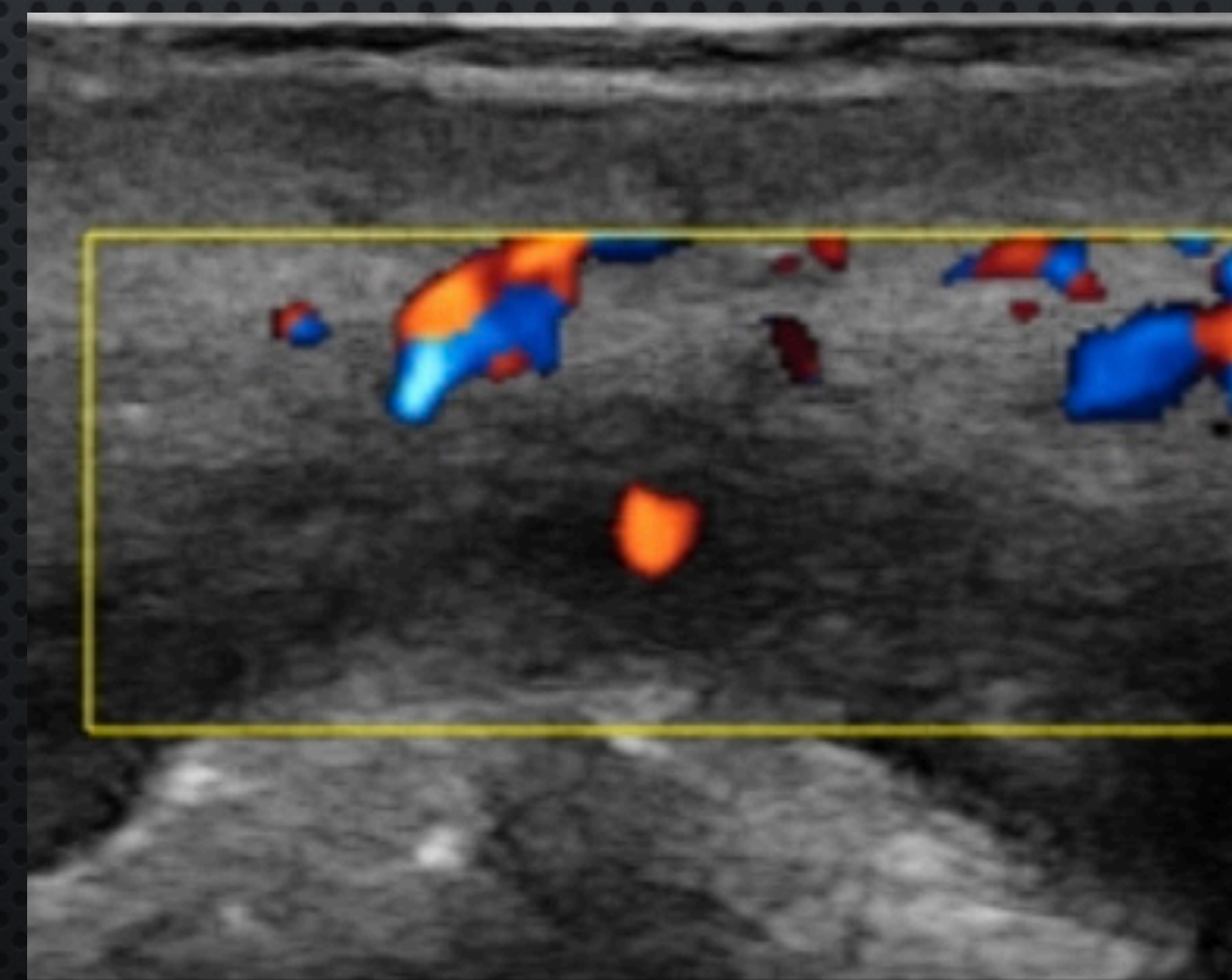
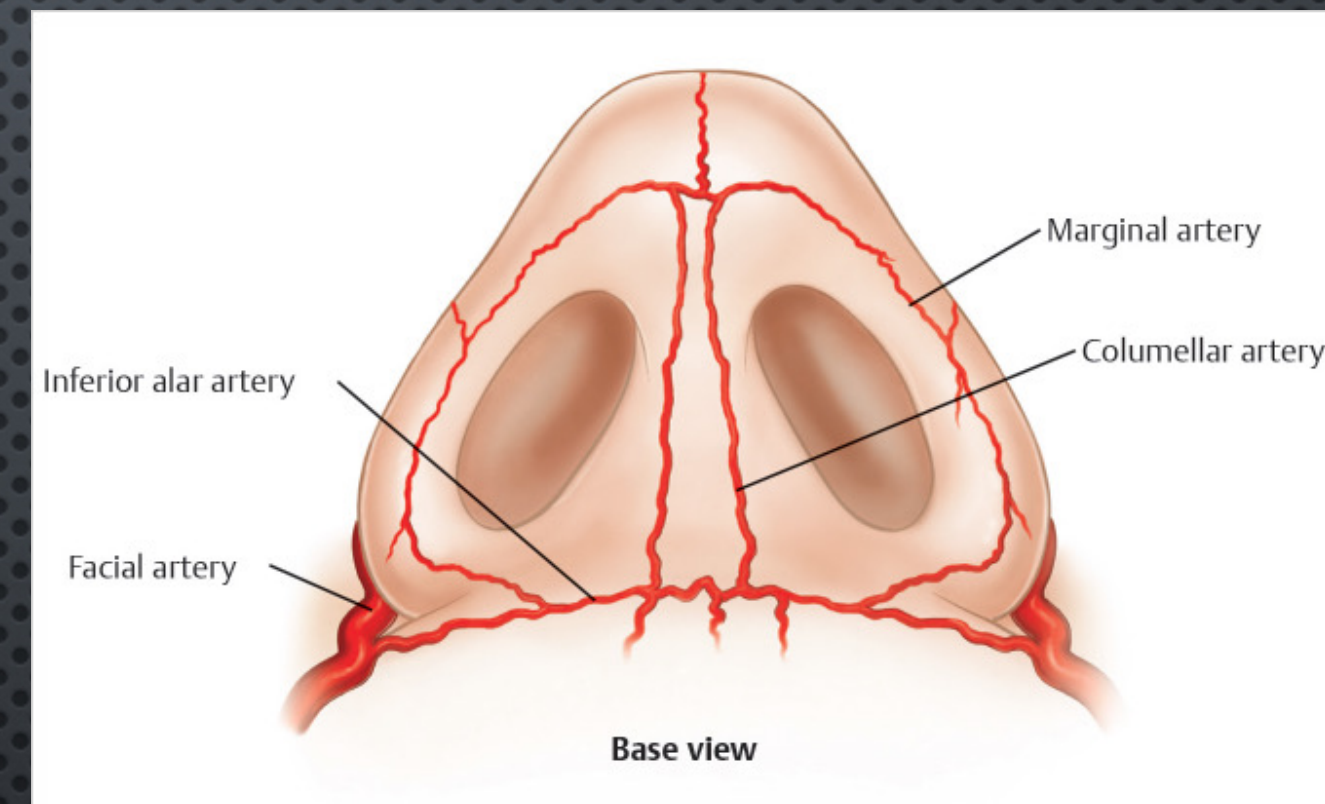


# VASCULAR ADVERSE EVENTS



# NASAL SEPTAL NECROSIS

- In complex VO - CRT not enough
- Ultrasound can have a significant role in concluding difficult cases.





# DOES ULTRASOUND PRE SCANNING MAKE TREATMENTS SAFE?

- SAFER
- CHANGES CLINICAL DECISION = HUGE VALUE
- ADDING A LAYER OF PRECAUTION
- YOU CAN STILL HAVE AN ACCIDENT BUT YOU ARE USING THE PRECAUTIONS YOU HAVE AVAILABLE
- SEATBELT ANALOGY





# THE VALUE OF ULTRASOUND... CONTINUES



Research tool



Safety

High risk areas, screening tool.



Evaluate

Changes over time:  
Filler behaviour / longevity.  
Fat pads (ageing?)



Improve aesthetic outcomes  
with more predictable filler  
placement



Learn real time dynamic  
anatomy!



THANK YOU FOR LISTENING



@Dr.Zainab.Almukhtar  
@Harrowonthehillclinic



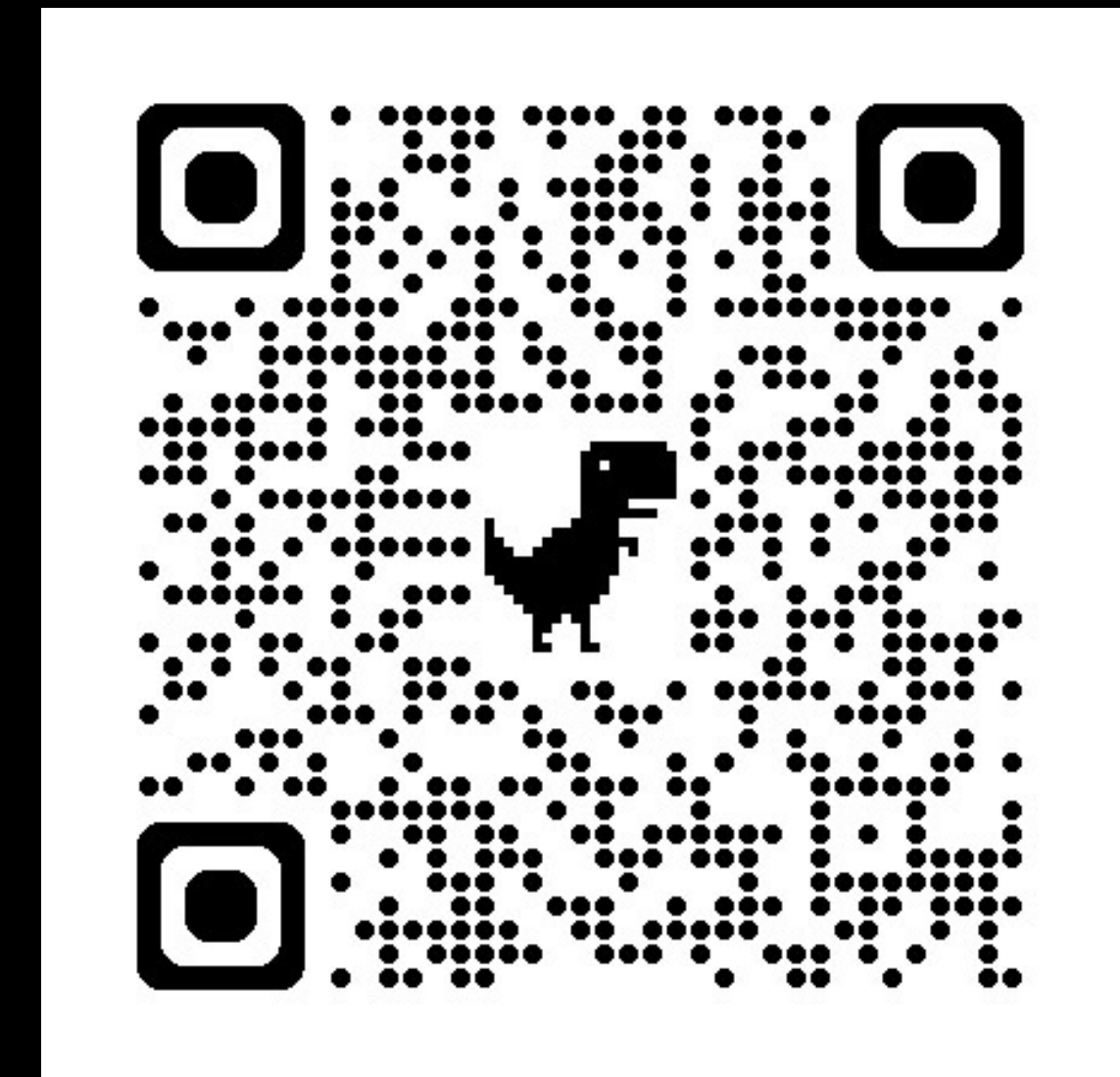
# Master Aesthetic Medicine

Facial Ultrasound Course



Dr Yusra Al-Mukhtar Dr Zainab Al-Mukhtar

Register Your  
Interest



DISCOUNT CODE: CLARIUSWEBINAR



@Dr.Zainab.Almukhtar  
@Harrowonthehillclinic



# Live Demonstration



**Shelley Guenther, CRGS, CRCS**

Sonographer | Clinical Marketing Manager





What additional  
information would  
you like?

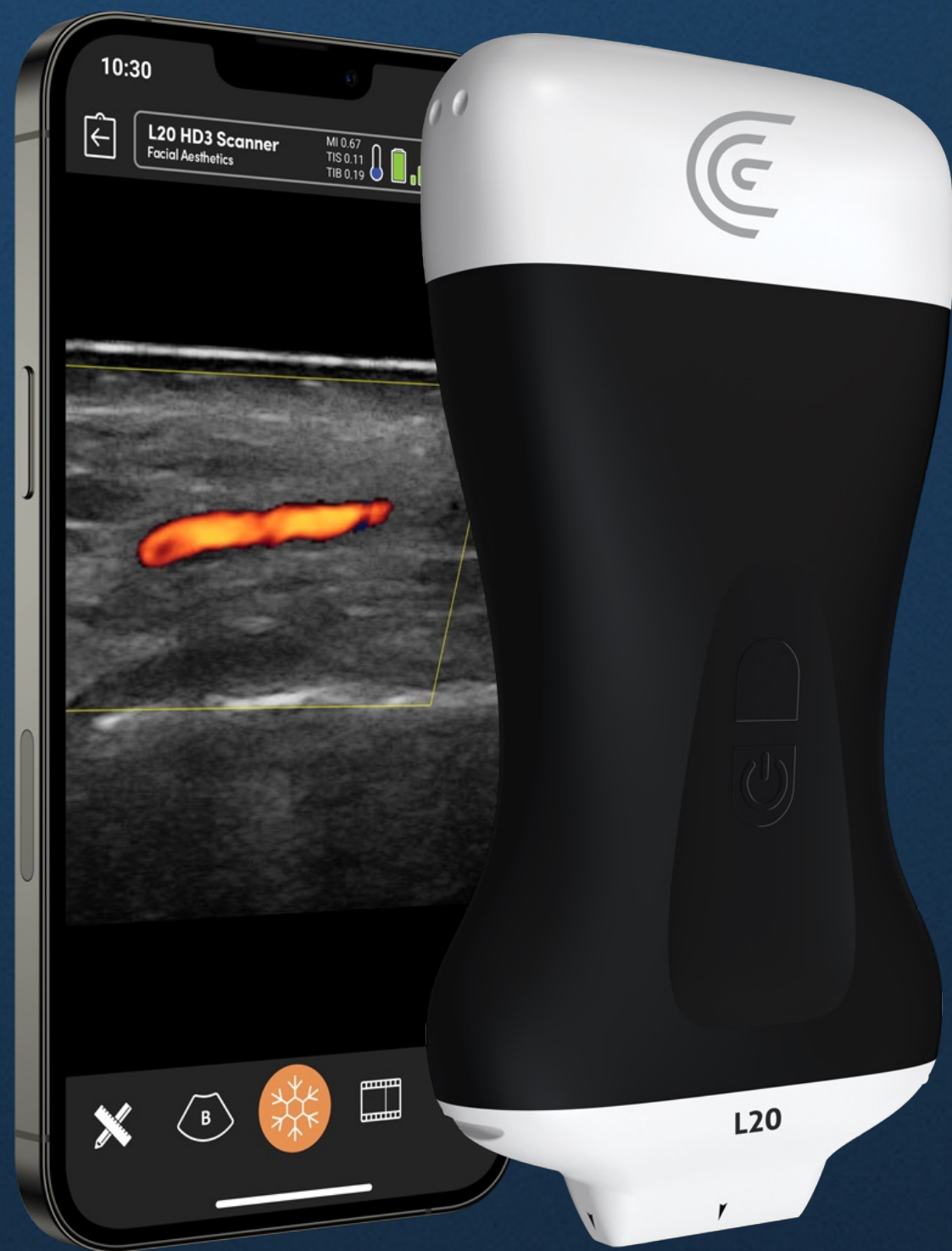
Interactive Poll

[www.clarius.com/aesthetics](http://www.clarius.com/aesthetics)

[www.clarius.com/demo](http://www.clarius.com/demo)

[www.clarius.com/classroom](http://www.clarius.com/classroom)



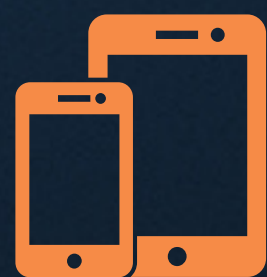


# Clarius L20 HD3

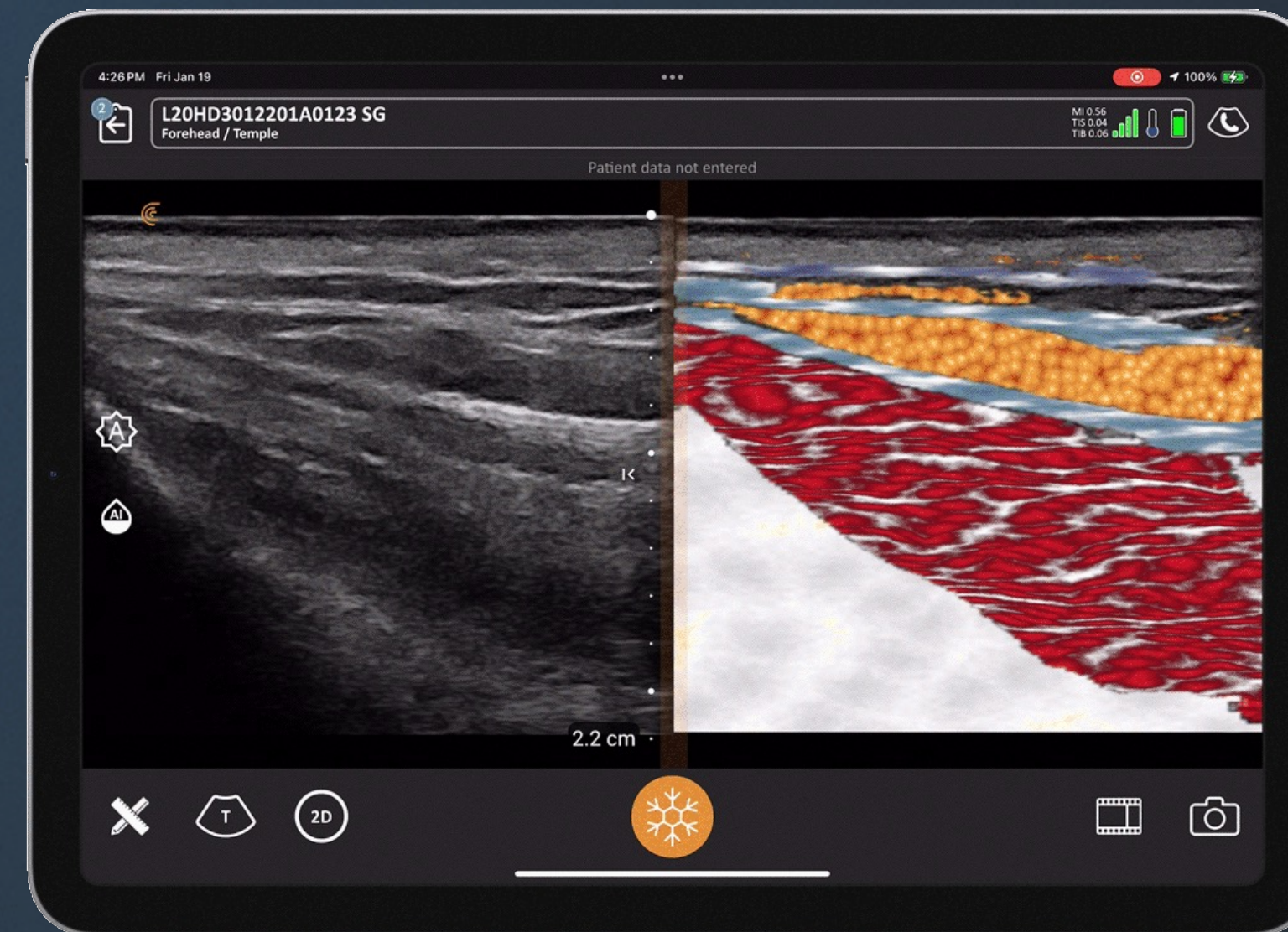
World's only 20 MHz  
wireless scanner for  
imaging to 4 cm



Specialized AI-powered  
workflows for aesthetics



Works on iOS and Android  
and connects to the cloud



## Finally, Ultrasound Made Easy

T-Mode™ AI  
powered by Clarius



# Questions



**Dr. Zainab Al-Mukhtar**

Aesthetic Medicine & Dentistry

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**Shelley Guenther**

Sonographer & Clinical Marketing  
Manager

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Thank you!