WEBINAR

Ultrasound in Facial Aesthetics: Vascular Mapping, Evaluating Fillers and Complications

February 4, 2021

clarius

Your Host

Dr. Oron Frenkel, MD, MS

Emergency Physician & POCUS Educator

Chairman, Clarius Medical Advisory Board

clarius Ultrasound Anywhere

Challenges with Dermal Fillers

clarius

American Academy of Dermatology

"With non-surgical cosmetic treatments increasing in popularity, we've seen more patients in our practices who have experienced complications..."

clarius

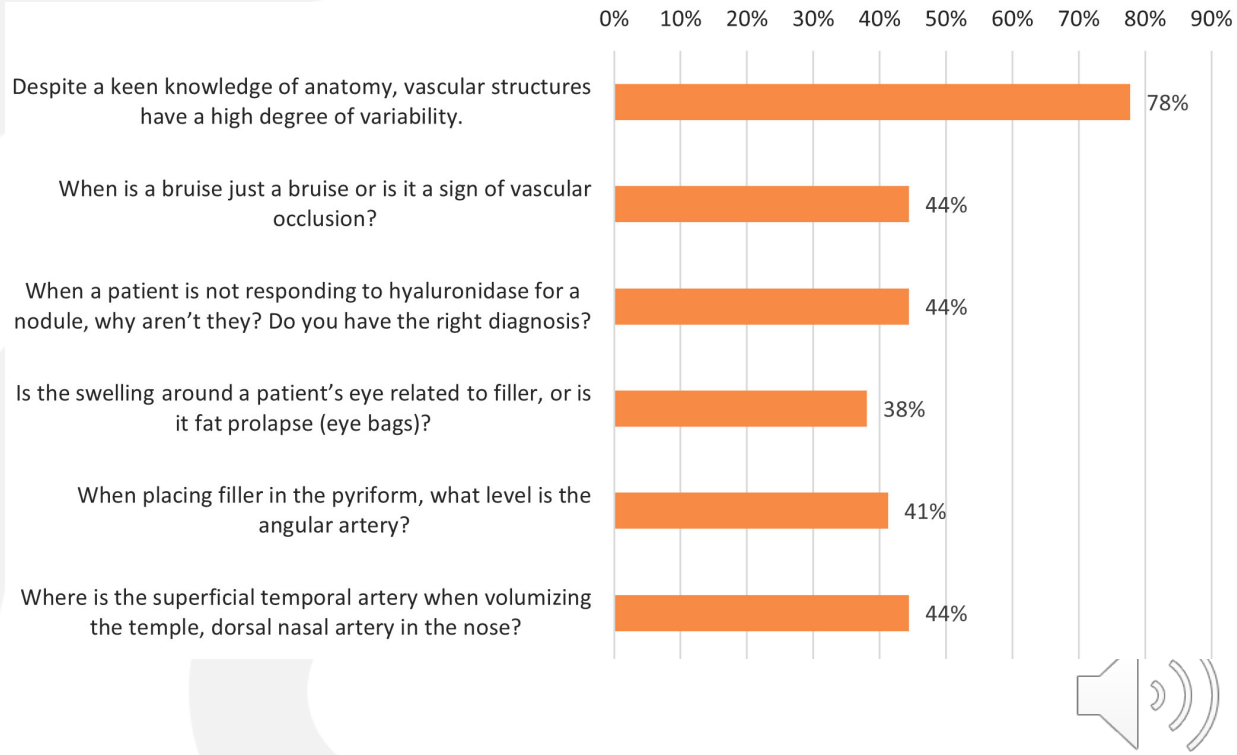
American Academy of Dermatology

"...include infection, scars, and swelling, while more severe cases can involve vascular occlusion, necrosis, blindness, stroke, and even death."

clarius

Poll

What challenges are most concerning when performing dermal fillers?



Beleznay et al, 2015

"Ninety-eight cases of vision changes from filler were identified. The sites that were high risk for complications were the glabella (38.8%), nasal region (25.5%), nasolabial fold (13.3%), and forehead (12.2%). Most cases of vision loss did not recover."

clarius

Beleznay K, Carruthers JD, Humphrey S, Jones D. Avoiding and Treating Blindness From Fillers: A Review of the World Literature. Dermatol Surg. 2015 Oct;41(10):1097-117. doi: 10.1097/DSS.0000000000000486. PMID: 26356847.
Source: https://pubmed.ncbi.nlm.nih.gov/26356847/

Update


National Library of Medicine
National Center for Biotechnology Information

PubMed.gov

Search PubMed

Advanced

Save Email

Review > Aesthet Surg J. 2019 May 16;39(6):662-674. doi: 10.1093/asj/sjz053.

Update on Avoiding and Treating Blindness From Fillers: A Recent Review of the World Literature

Katie Beleznay [1], Jean D A Carruthers [2], Shannon Humphrey [1], Alastair Carruthers [1,2], Derek Jones

Affiliations + expand

PMID: 30805636 DOI: 10.1093/asj/sjz053

Abstract

Background: Sudden loss of vision secondary to filler treatments is a rare but catastrophic complication.

Objectives: The aim of this study was to update the published cases of blindness after filler injection that have occurred since we published our review of 98 cases in 2015, and to discuss prevention and management strategies.

Methods: A literature review was performed to identify all cases of visual complications caused by filler injection identified between January 2015 and September 2018.

Results: Forty-eight new published cases of partial or complete vision loss after filler injection were identified. The sites that were highest risk were the nasal region (56.3%), glabella (27.1%), forehead (18.8%), and nasolabial fold (14.6%). Hyaluronic acid filler was the cause of this complication in 81.3% of cases. Vision loss, pain, ophthalmoplegia, and ptosis were the most common reported symptoms. Skin changes were seen in 43.8% of cases and central nervous system complications were seen in 18.8% of cases. Ten cases (20.8%) experienced complete recovery of vision, whereas 8 cases (16.7%) reported only partial recovery. Management strategies varied greatly and there were no treatments that were shown to be consistently successful.

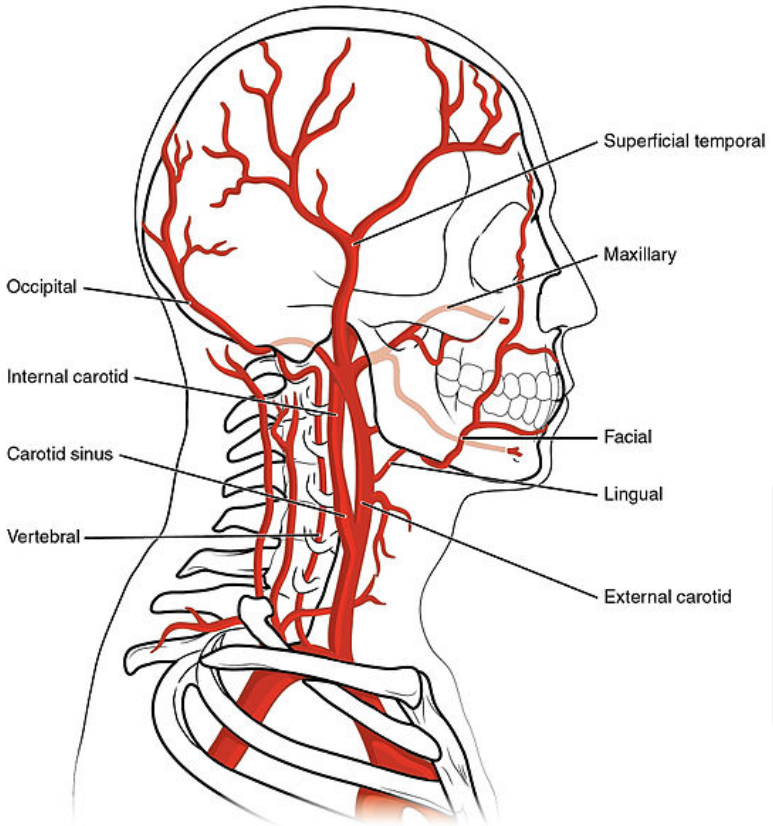
Conclusions: Although the risk of blindness from fillers is rare, practitioners who inject filler should have a thorough knowledge of this complication including prevention and management strategies.

"Forty-eight new published cases of partial or complete vision loss after filler injection were identified. Hyaluronic acid filler was the cause of this complication in 81.3% of cases. Ten cases (20.8%) experienced complete recovery of vision..."

clarius

Beleznay K, Carruthers JDA, Humphrey S, Carruthers A, Jones D. Update on Avoiding and Treating Blindness From Fillers: A Recent Review of the World Literature. Aesthet Surg J. 2019 May 16;39(6):662-674. doi: 10.1093/asj/sjz053. PMID: 30805636.
Source: https://pubmed.ncbi.nlm.nih.gov/30805636/

Update



"A clear understanding of vascular anatomy can minimize the risks of complications."

clarius

Beleznay K, Carruthers JDA, Humphrey S, Carruthers A, Jones D. Update on Avoiding and Treating Blindness From Fillers: A Recent Review of the World Literature. Aesthet Surg J. 2019 May 16;39(6):662-674. doi: 10.1093/asj/sjz053. PMID: 30805636.
Source: https://pubmed.ncbi.nlm.nih.gov/30805636/

Your Expert Guest Speaker

Dr. Steven F. Weiner, MD

Otolaryngology, Head and Neck Surgeon,
Specializing in Facial Plastic Surgery

aesthetic clinique

clarius Ultrasound Anywhere

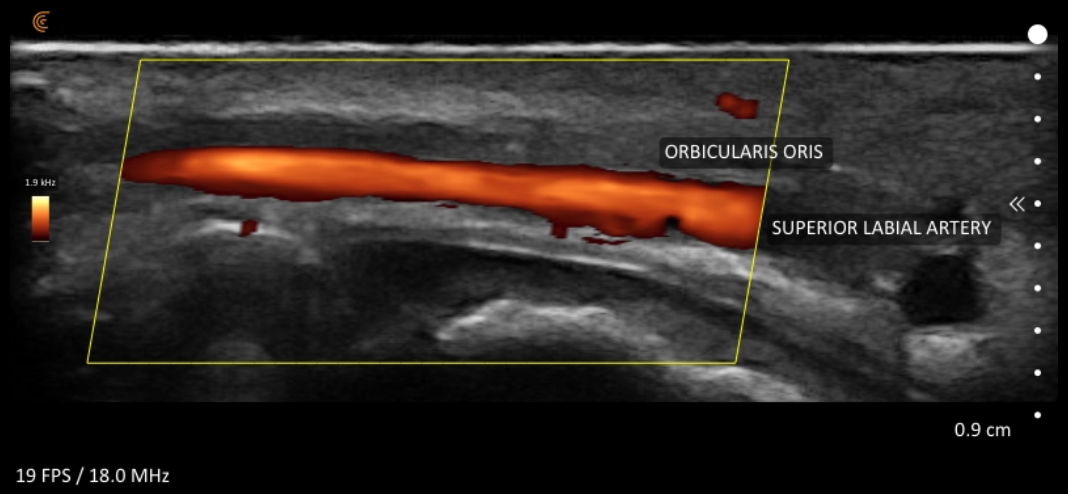
Vascular Mapping with the Clarius L20 HD

clarius Ultrasound Anywhere

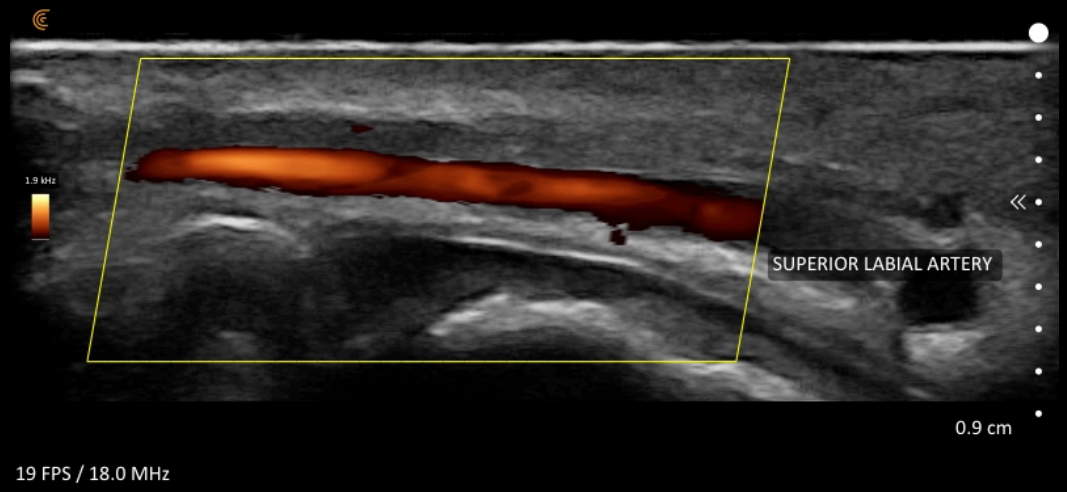
Echogenicity

clarius Ultrasound Anywhere

Exam of Lip (Power Doppler)



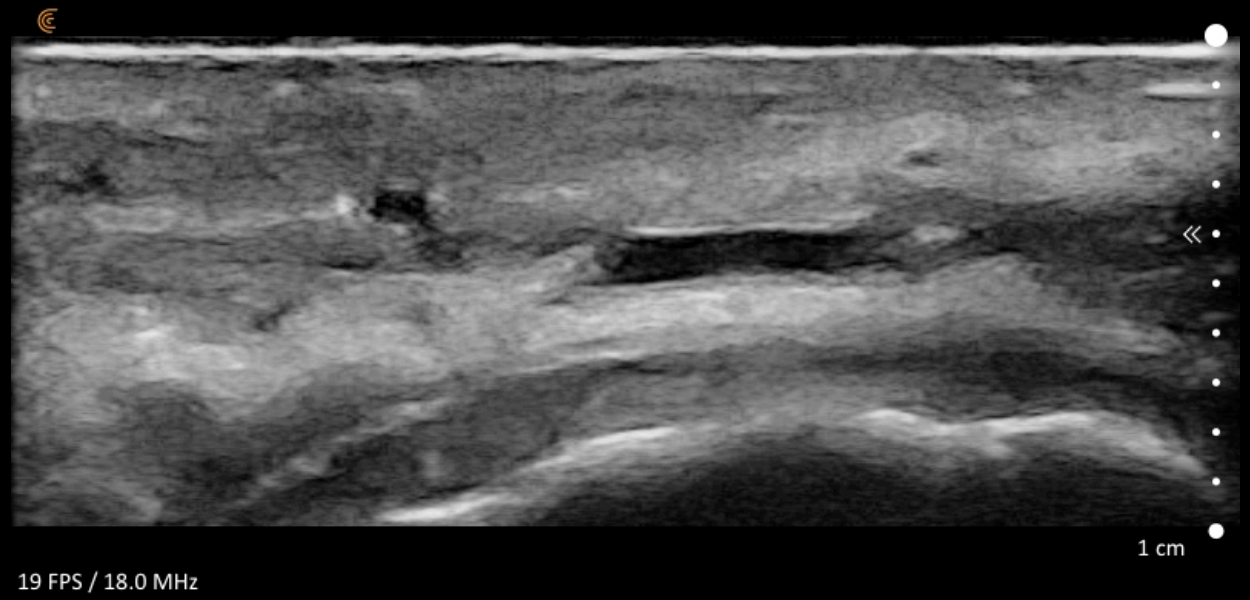
19 FPS / 18.0 MHz



19 FPS / 18.0 MHz

clarius Ultrasound Anywhere

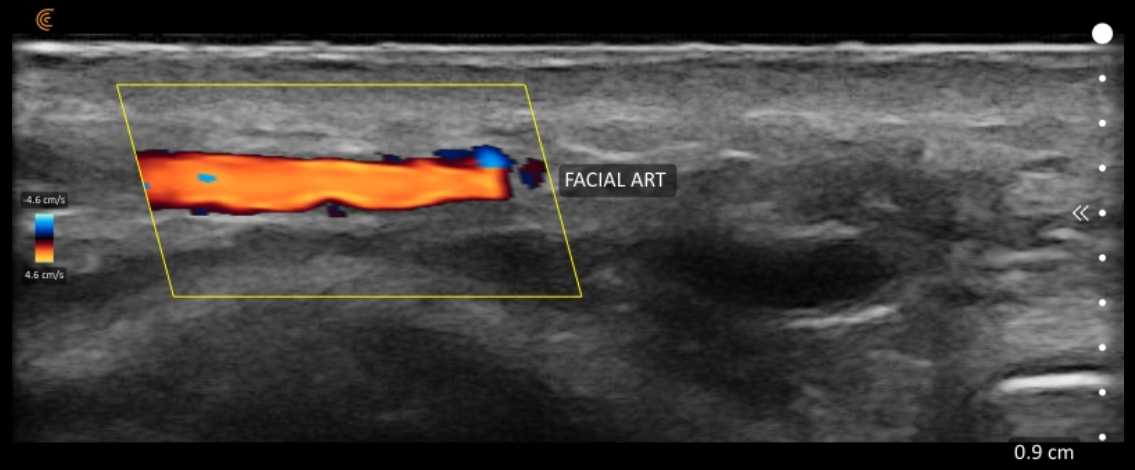
Lip – Superior Labial Artery – B Mode



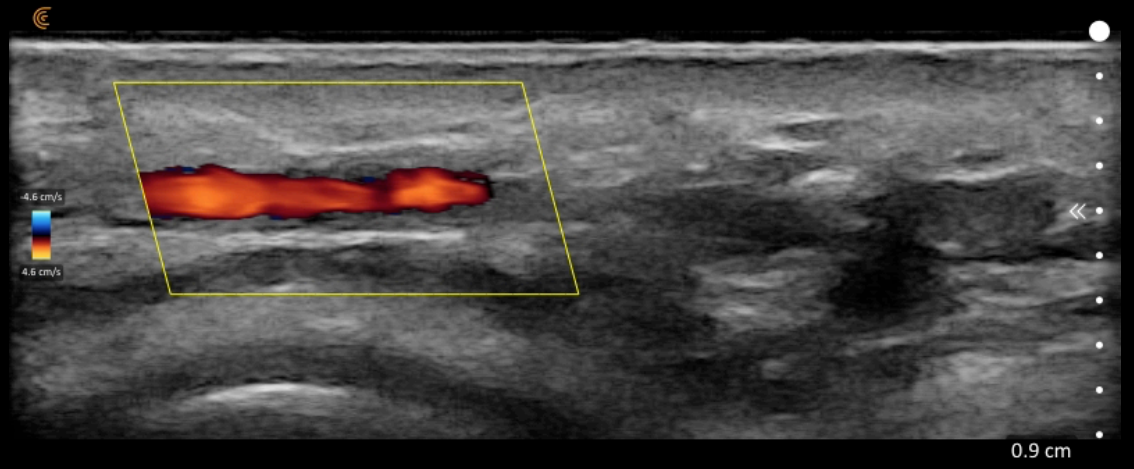
clarius Ultrasound Anywhere


2:06 PM Wed Jan 20
73%
Clarius HF Ultrasound
MSK
3.1 cm/s
-3.1 cm/s
15 FPS / 16.0 MHz
1.8 cm
CFI

Facial A. Below Commissure (Color Doppler)



19 FPS / 18.0 MHz

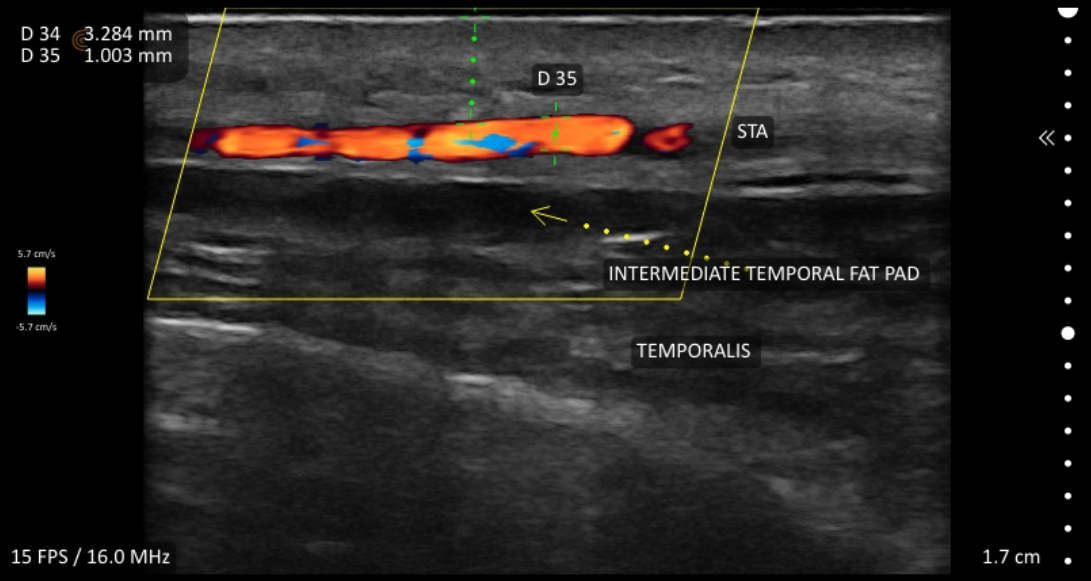


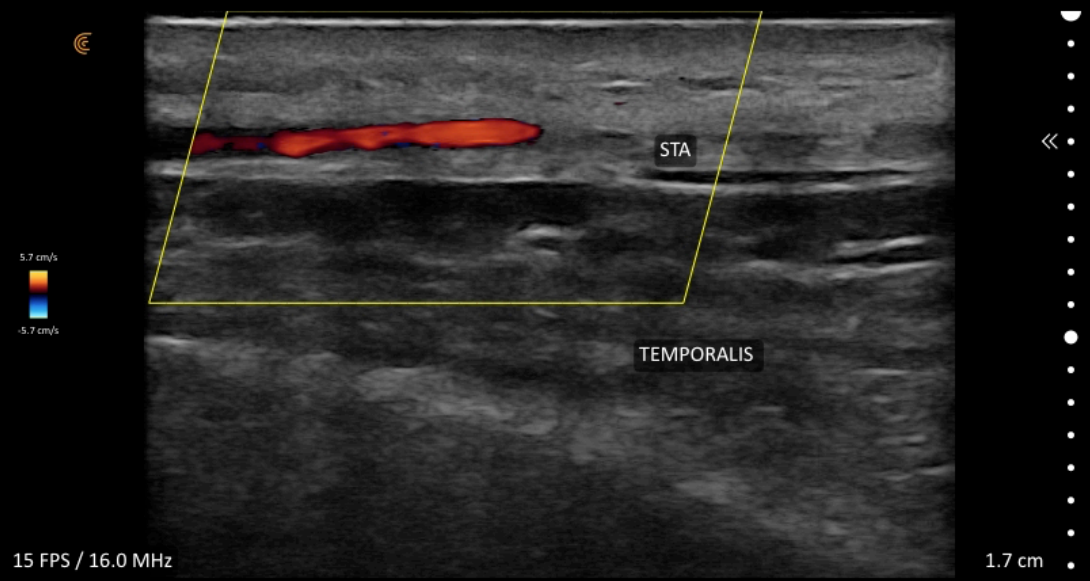
19 FPS / 18.0 MHz

clarius Ultrasound Anywhere


2:09 PM Wed Jan 20
72%
Clarius HF Ultrasound
MSK
3.1 cm/s
-3.1 cm/s
15 FPS / 16.0 MHz
1.8 cm
CFI

Superficial Temporal Art (Color Doppler)

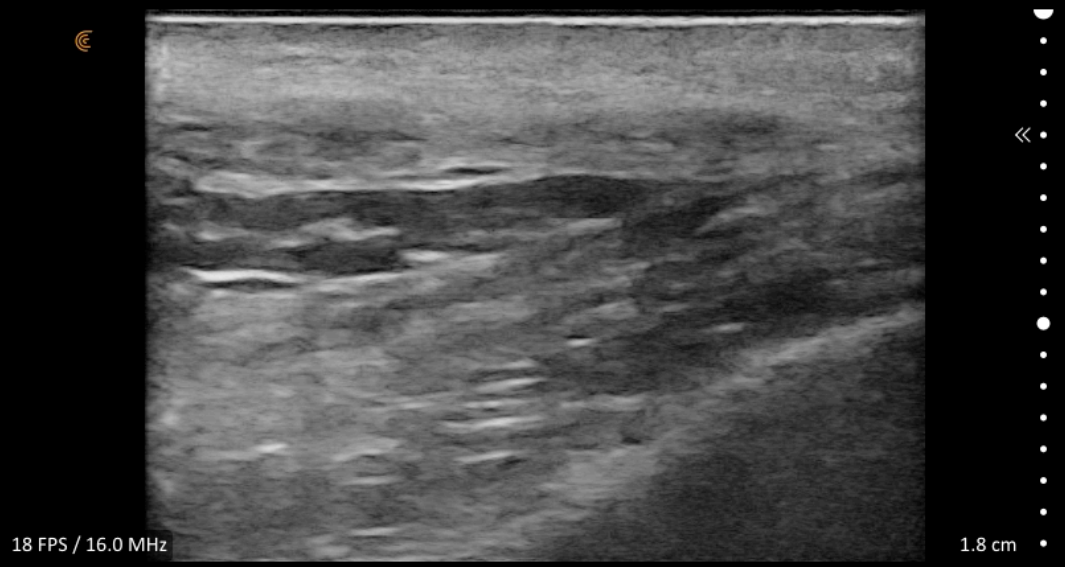




clarius Ultrasound Anywhere

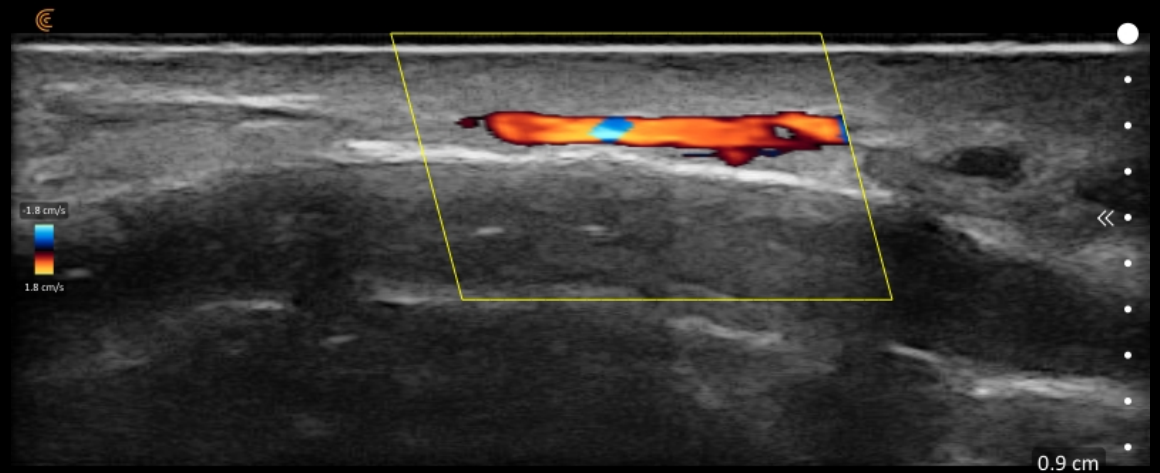

2:00 PM Wed Jan 20
76%
Clarius HF Ultrasound
MSK
0.4 kHz
16 FPS / 16.0 MHz
1.8 cm
PDI

Temporalis movement



clarius Ultrasound Anywhere

Dorsal Nasal Artery (Color Doppler)



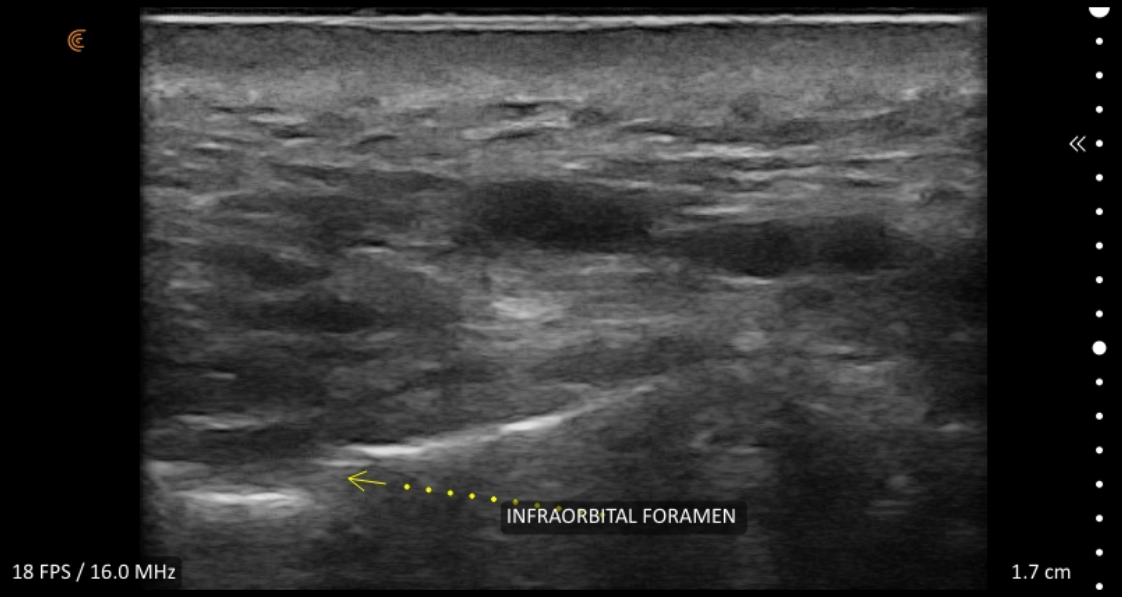
19 FPS / 18.0 MHz

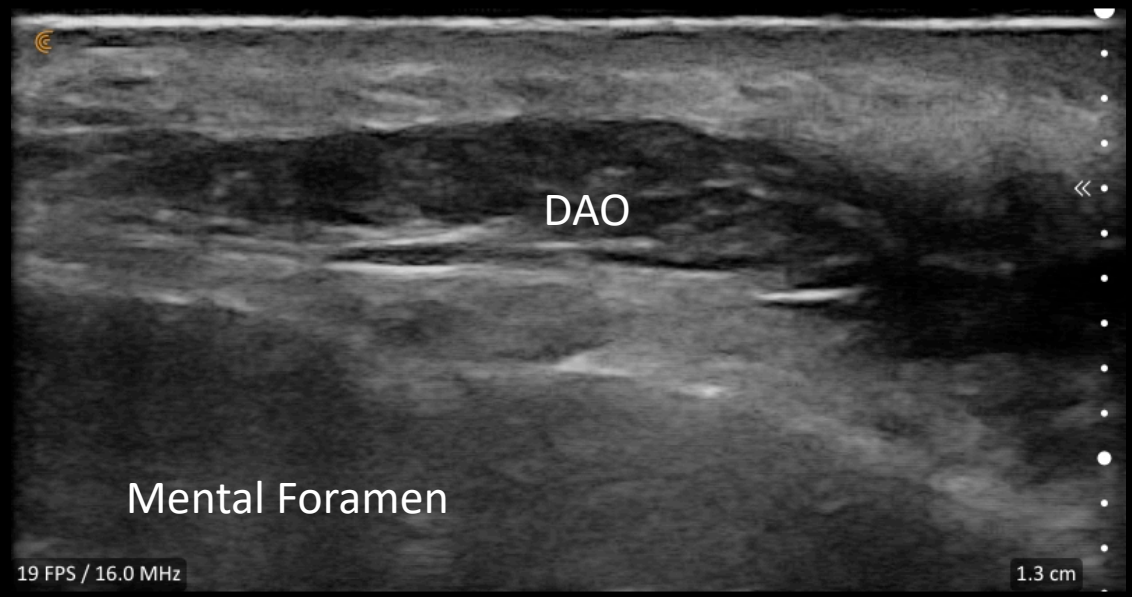
19 FPS / 18.0 MHz

clarius Ultrasound Anywhere

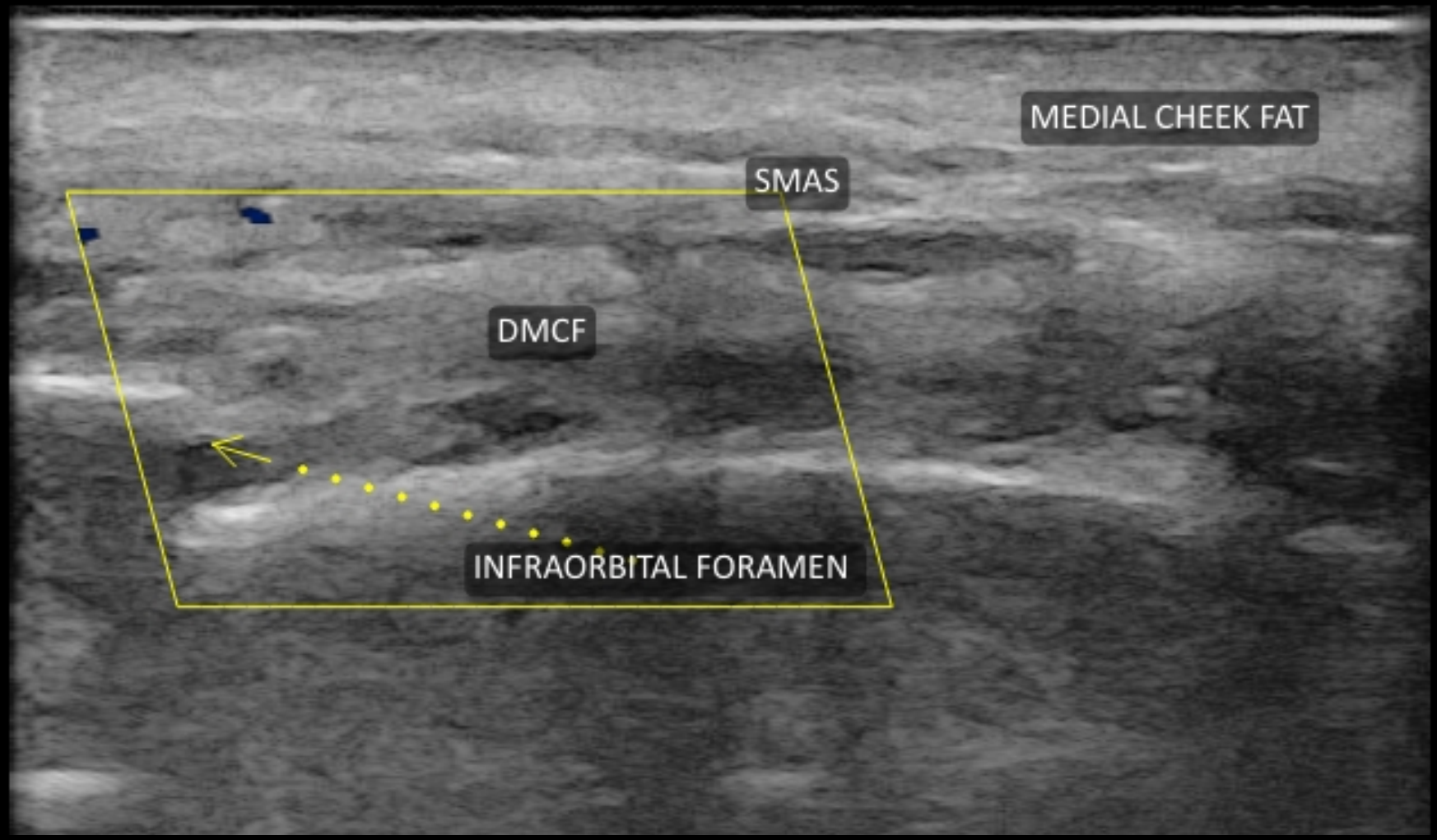

2:04 PM Wed Jan 20
74%
Clarius HF Ultrasound
MSK
3.1 cm/s
-3.1 cm/s
15 FPS / 16.0 MHz
1.8 cm
CFI

Foramen



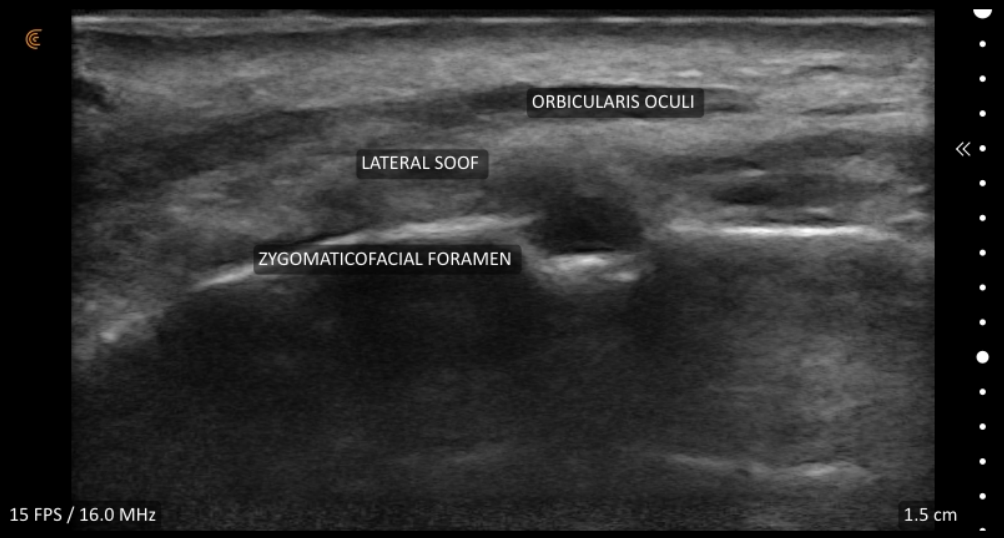


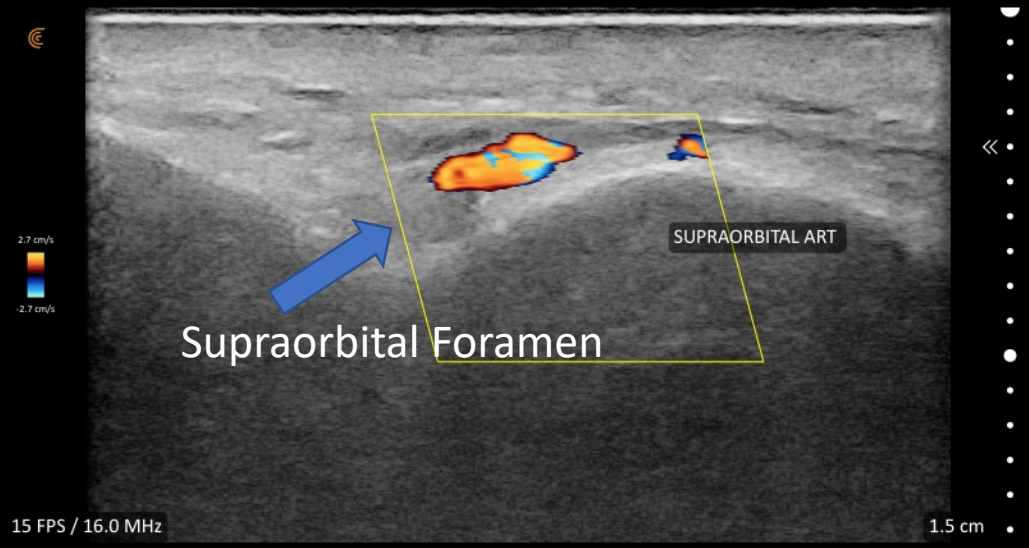
clarius Ultrasound Anywhere



clarius Ultrasound Anywhere

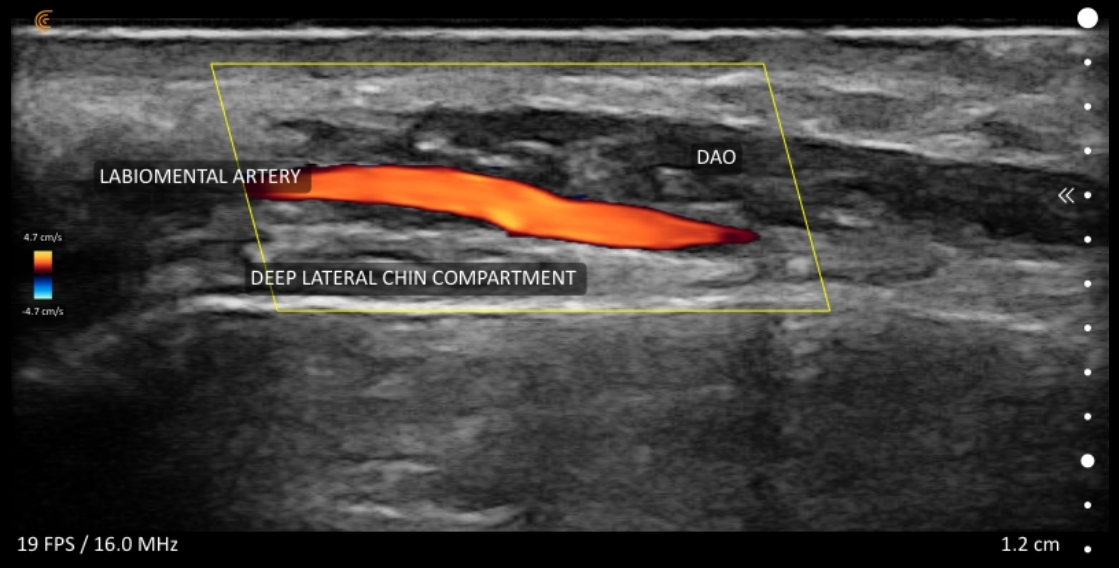
Foramen





clarius Ultrasound Anywhere

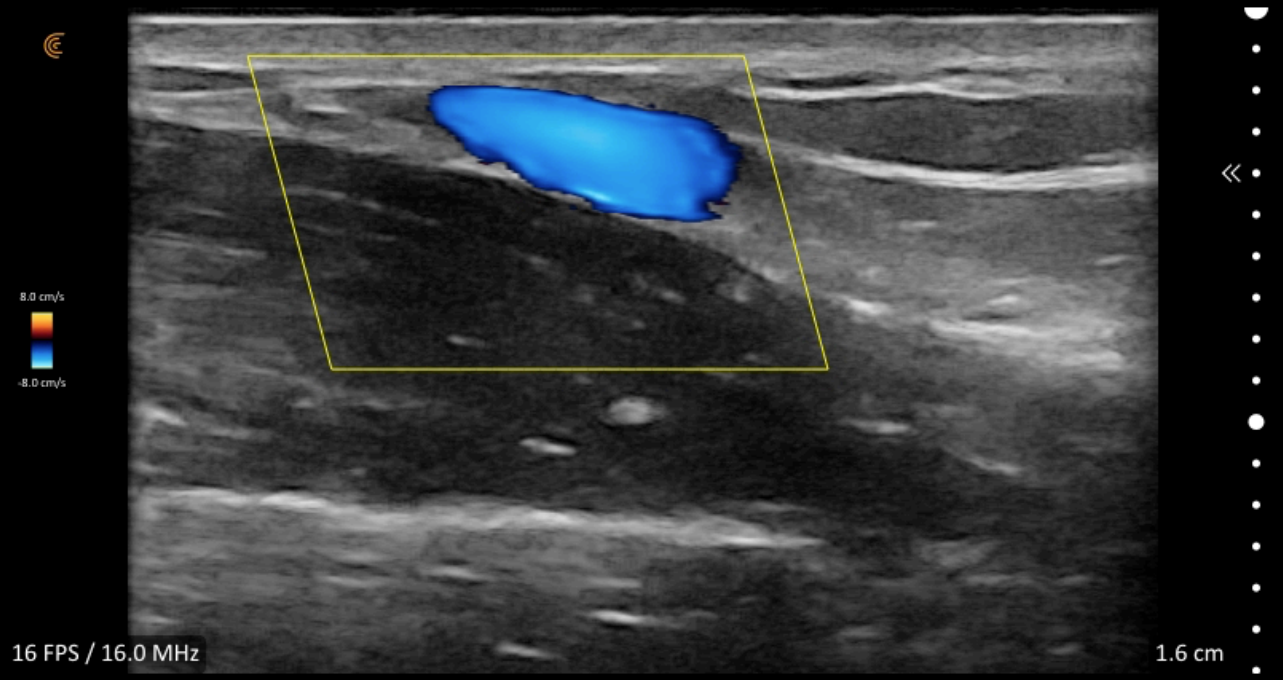
Labiomental Artery (Color Doppler)



clarius Ultrasound Anywhere

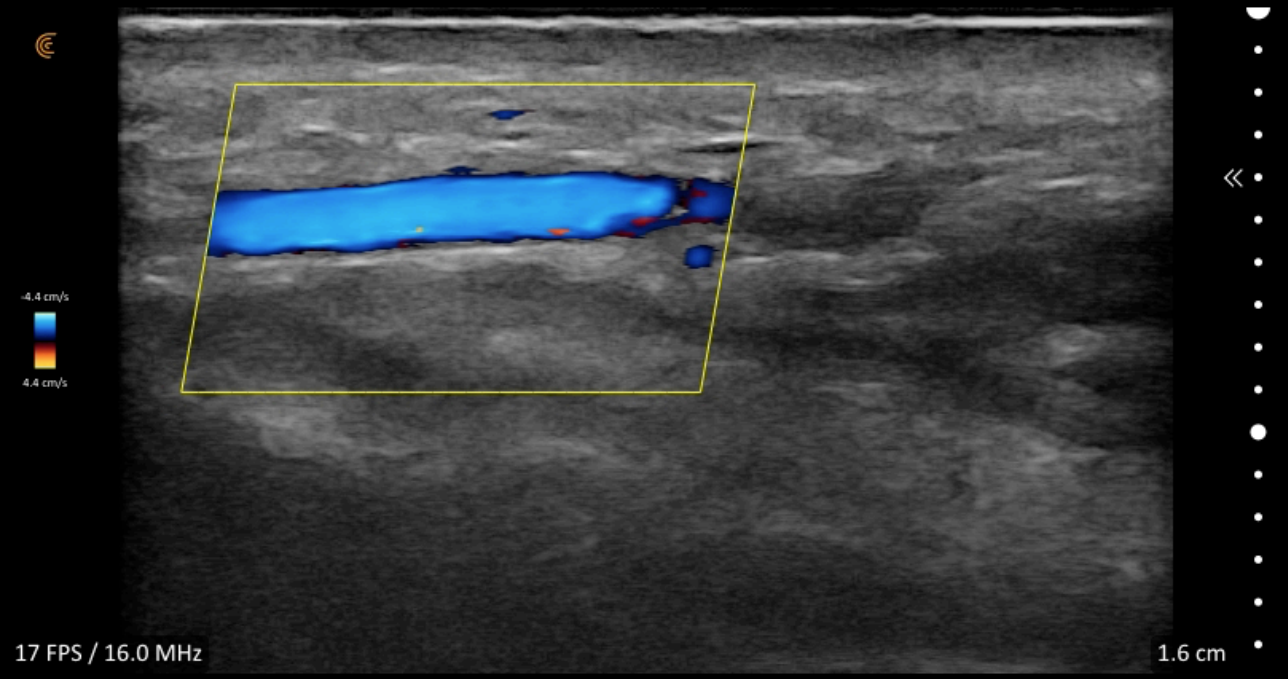

2:06 PM Wed Jan 20
73%
Clarius HF Ultrasound
MSK
MI 0.56
TIS 0.04
TIB 0.06
3.1 cm/s
-3.1 cm/s
15 FPS / 16.0 MHz
1.8 cm
CFI

Compression of Vein with Transducer



clarius Ultrasound Anywhere

Using Color Inversion



clarius Ultrasound Anywhere

Live Demonstration: Vascular Mapping with the Clarius L20 HD

clarius Ultrasound Anywhere

How to Characterize Existing Fillers

clarius Ultrasound Anywhere

Filler Ultrasound Characteristics

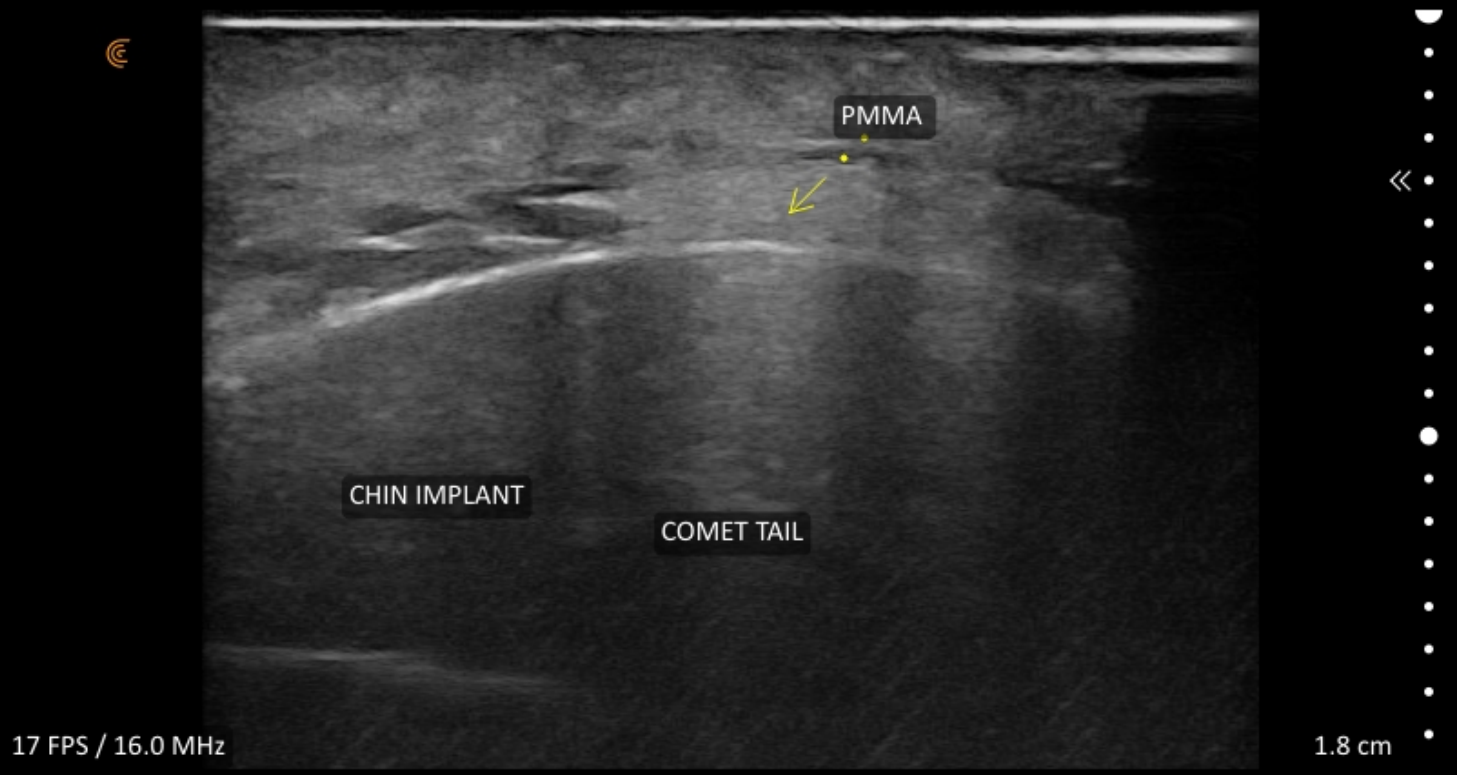
- ✓ Hyaluronic Acid (HA)
  - Anechoic spheres or angled ovals, becomes hypoechoic after several months
  - Posterior enhancement
- ✓ Calcium Hydroxyapatite (CaHa)
  - Hyperechoic spheres with surrounding collagen (hyperechoic)
  - Posterior shadowing

Filler Ultrasound Characteristics

- ✓ Polymethylmethacrylate (PMMA)
  - Hyperechoic clumps w/ surrounding collagen (hyperechoic)
  - Comet-tail artifact
- ✓ Poly L Lactic Acid (PLLA)
  - Diffuse hyperechoic densities with hyperechoic “cloud”
- ✓ Silicone Oil
  - Ill defined hyperechoic mass deposit with obscuring of all anatomic structures
  - Snow Storm artifact (pathognomonic)

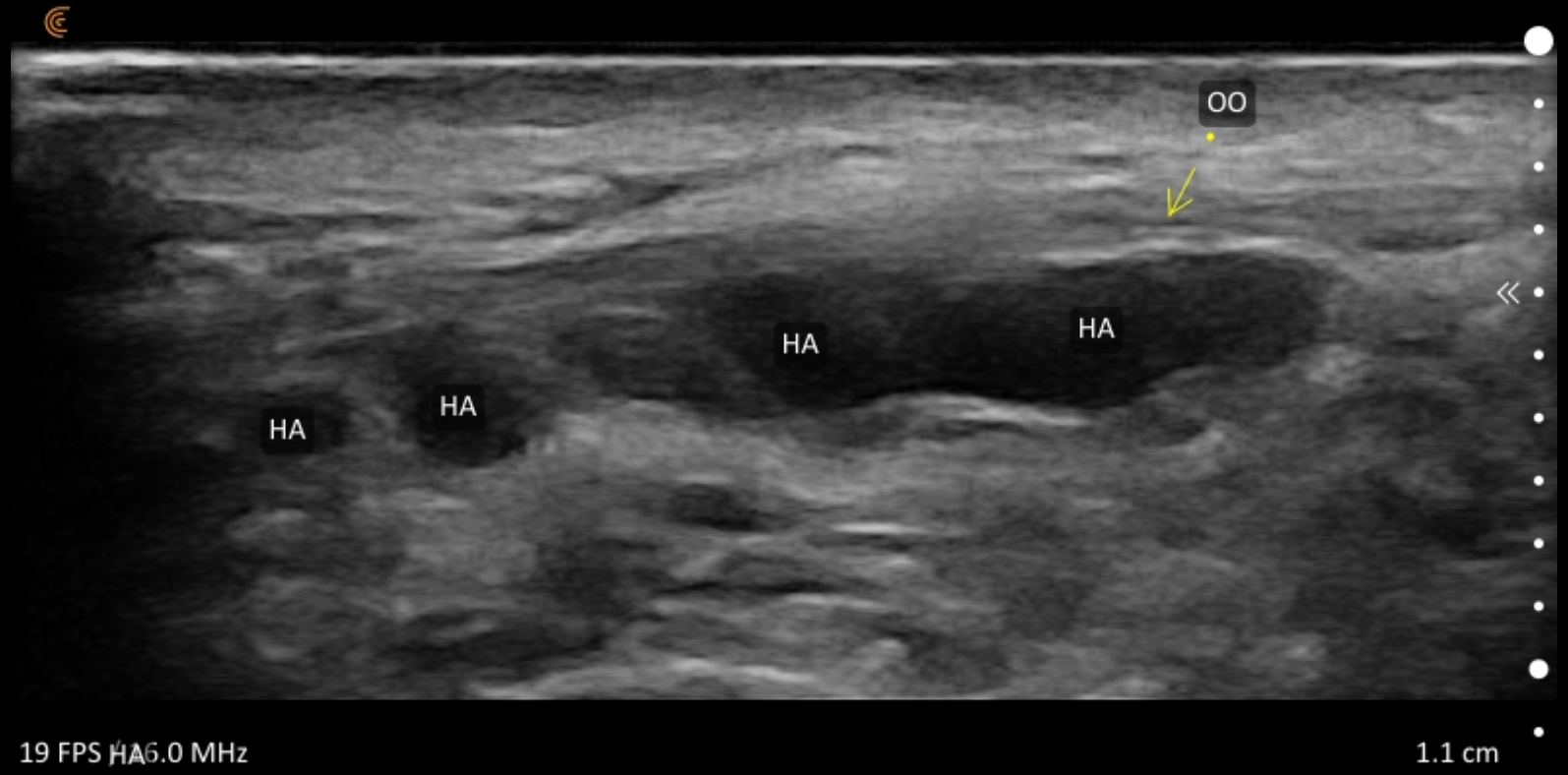

2:24 PM Wed Jan 20
Clarius HF Ultrasound
MSK
17 FPS / 16.0 MHz
1.8 cm

PMMA w Comet-Tail Artifact



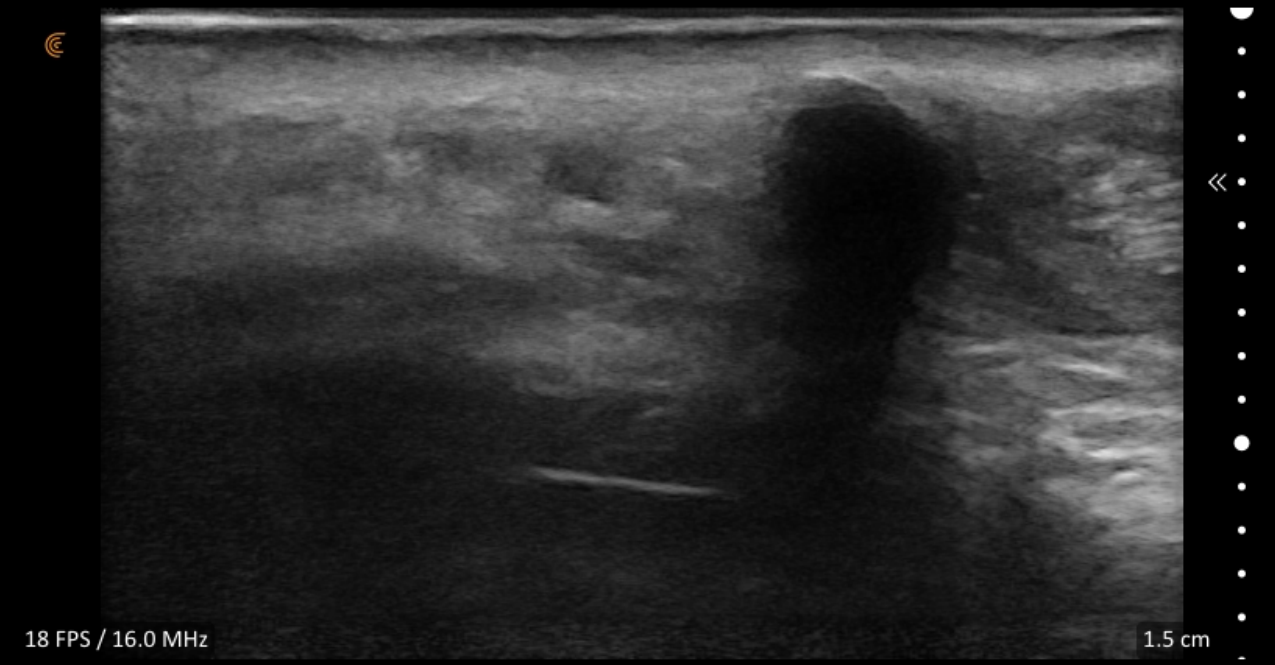
clarius Ultrasound Anywhere

7-year-old HA filler around eye



clarius Ultrasound Anywhere

Calcium Hydroxyapatite with posterior shadowing using L20



clarius Ultrasound Anywhere

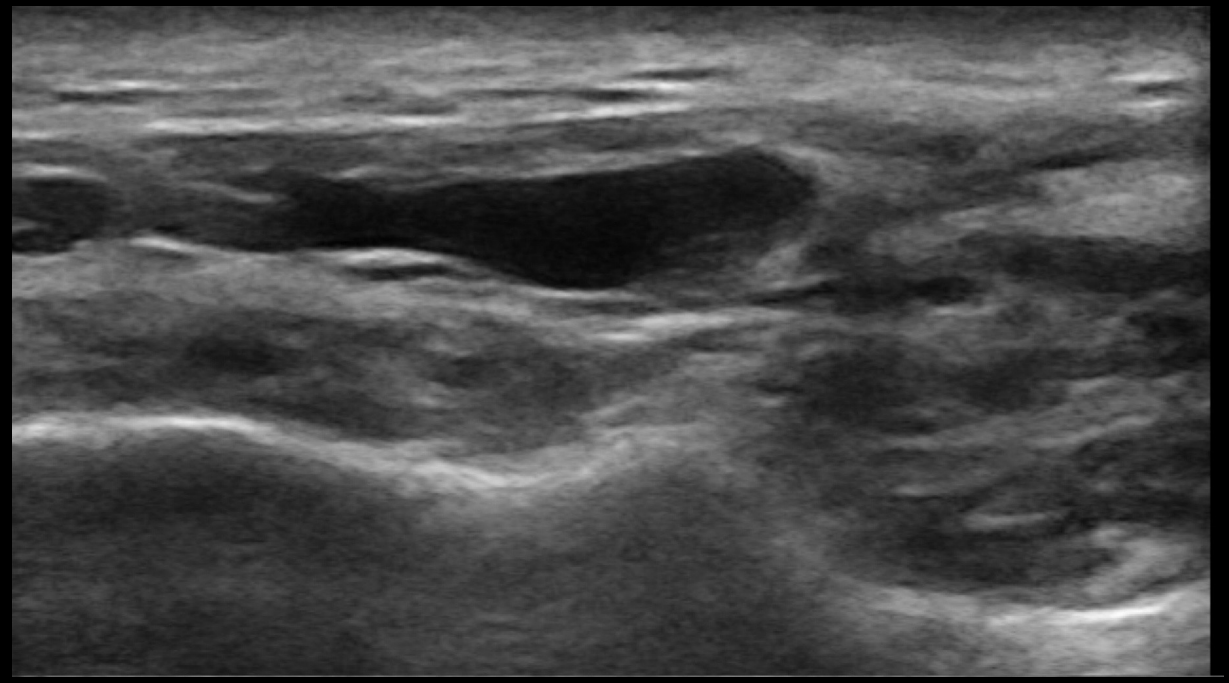
Live Demonstration: Characterizing Fillers

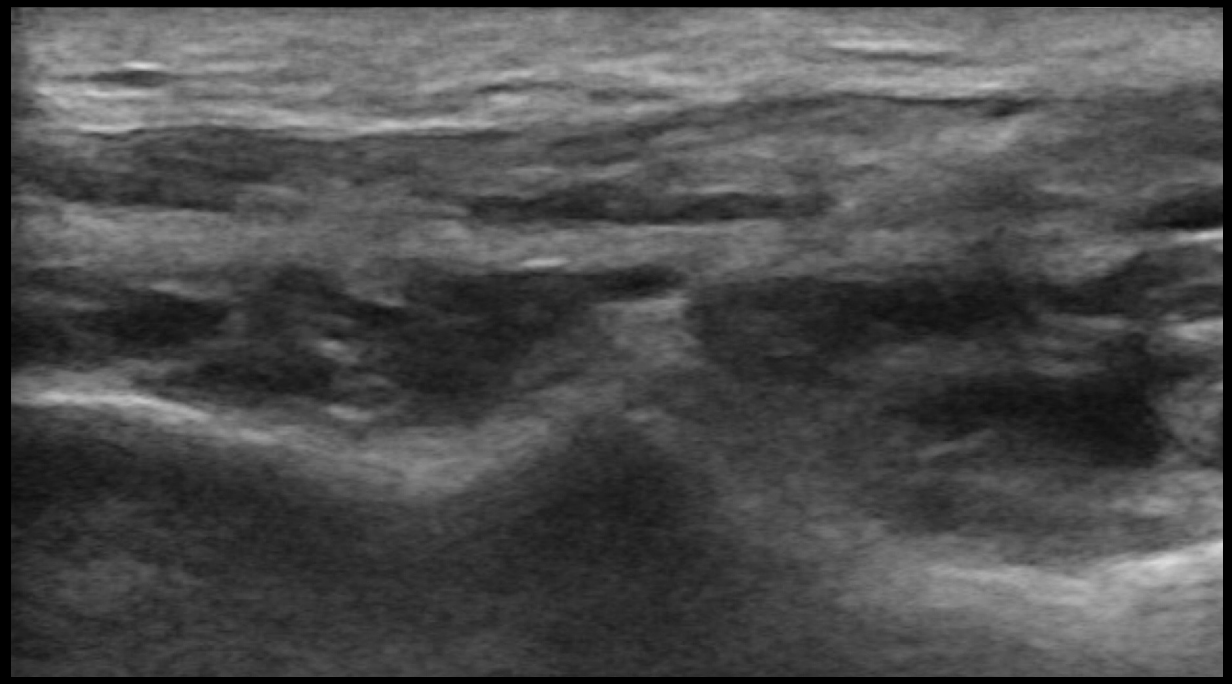
clarius Ultrasound Anywhere

Dissolving HA Fillers & Placing Steroids in Granulomas

clarius Ultrasound Anywhere

Dissolving HA Fillers





clarius Ultrasound Anywhere


3:45 PM Mon Feb 1
99%
Clarius HF Ultrasound
MSK
19 FPS / 16.0 MHz
1.5 cm
B

5 Ways Ultrasound Can Help Your Practice

1. Improving patient safety with vascular mapping.
2. Mitigate the risk of filler complications.
3. Solve complications with real-time imaging.
4. Increase patient confidence with high-definition imaging.
5. Increased referrals with patient satisfaction.

clarius Ultrasound Anywhere

@aestheticclinique

@ultrasoundfacialanatomy

info@theclinique.net

aesthetic clinique

theclinique.com

Academy for Injection Anatomy℠

Powered by AmSpa

"The Fear of Injections... is the Fear of Anatomy"®

Spring Dates

February 13-14th – SOLD OUT
March 13-14th – ALMOST Sold Out
April 17-18th – ALMOST Sold Out
May 15-16th – SOLD OUT

Full Face Comprehensive Injection Training Course

Anatomy, Technique, Rheology, Toxin Science, Complications & Ultrasound

Featuring Course Chairman

Dr. Christopher C. Surek, DO

Co-Faculty & Ultrasound Chairman:

Dr. Steven F. Weiner, MD

Co-Faculty:

George Baxter-Holder, DNP

Hermine Warren, DNP

Kevin Harrington, APRN

Contact Us At: tiffany@americanmedspa.org or @injection_anatomy

www.americanmedspa.org

Dr. Kenneth Fan, MD

MedStar Georgetown University Hospital

“ The thing that I most appreciate about the Clarius L20 ultrasound is that it is highly portable, which is absolutely important for plastic surgeons. We go from floor to clinic to OR. To be able to have something that you can just throw in your bag, pull up the iPad and just see what you need to see – I mean, it’s an absolute game-changer. Even though I’m new to ultrasound, the app and device is phenomenally easy to use. ”

clarius Ultrasound Anywhere

Poll

What additional information would you like?

Questions?

Dr. Steven F. Weiner

Dr. Oron Frenkel

clarius

clarius

Thank you!