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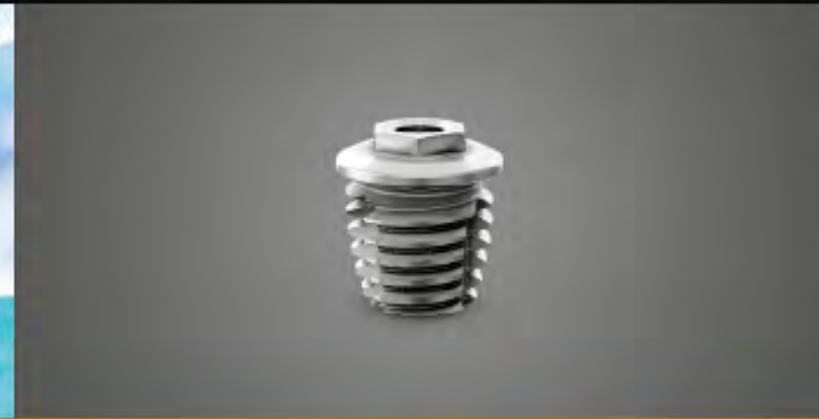
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March 29th, 2023

Path to Ponto: Modern Surgery and Counseling Techniques

Presented by: Dr. Daniel Coelho, MD, FACS and Daniel Lee, M.Sc



Introductions

- Dr. Daniel Coelho currently serves as the Director of otologic and neurotologic skull-based surgery at Virginia Commonwealth University. He also serves as a professor, educating the next generation of Neuro-otologists. Dr. Coelho has a passion for implantable hearing devices and works diligently to provide exceptional care to both pediatric and adult patients.
- Daniel Lee is the audiology clinical support and business manager for Canada with Oticon Medical. He specializes in supporting patients and Audiologists as they navigate through the candidacy process for Bone Anchored Hearing Systems (BAHS).



Agenda

Modern Counseling Techniques

- Start with the Basics
- Device Education
- Pursuing a Trial

Power for all!

- Ponto 5 family
- Benefits of direct sound transmission
- Artifact footprint

Ponto minimally invasive procedures

- The MONO procedure: Proven to deliver great outcomes
- Proven health economic benefits
- Why choose Ponto Minimally Invasive Procedures?

Learner Objectives

1. After this course, participants will be able to discuss the differences between processors and when one processor may be more appropriate than another.
2. After this course, participants will be able to explain the ways in which minimally invasive procedures can benefit their patients.
3. After this course, participants will be able to effectively identify why a percutaneous implant may be more appropriate for certain types of patients.

Financial Disclosure

- **Financial:** Daniel Lee is a paid employee of Oticon Medical, LLC. Dr. Daniel Coelho has received minimal financial incentive for supporting Oticon Medical research and his participation in this presentation.
- **Non-Financial:** Presenter has no non-financial relationships to disclose
- This presentation focuses on Oticon Medical Products and Services.
- This course has been approved for **0.10** CEUs by the following organizations:
 - American Academy of Audiology (AAA)*
 - American Speech, Language, and Hearing Association (ASHA)
 - *AAA and ASHA CEU approval does not imply endorsement of course content, specific products, or clinical procedures



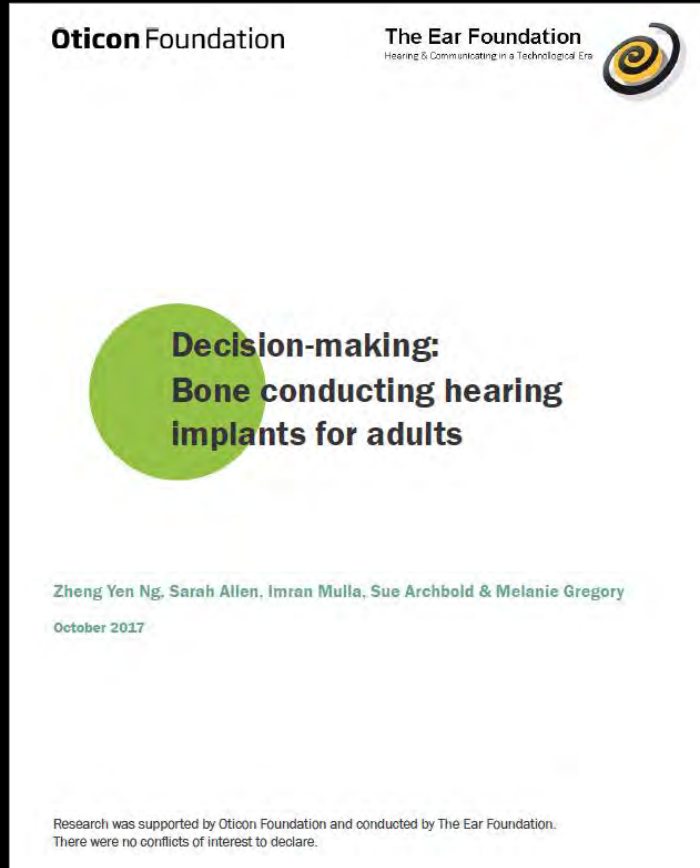
Modern Counseling Techniques

Daniel Lee, M.Sc, R. Aud



Why Is Pre-operative Counseling Important

What helped according to patients



- **Discussion Process**
 - Care, counselling and support builds confidence in the clinical team and the procedure and informs decision
- **Written Information**
 - Time for reflection and can read in their own time
 - Plain, easy to understand language
 - Visual aids help for those with low literacy levels
- **Meeting other implant recipients**
 - Meeting or hearing from someone else who can relate to your decision and discuss the pros and cons of life with a BAHS device
- **Trial with device***



Start with the Basics

Discussion Process



Hearing by Air Conduction



Types of Hearing Loss

Conductive Hearing Loss

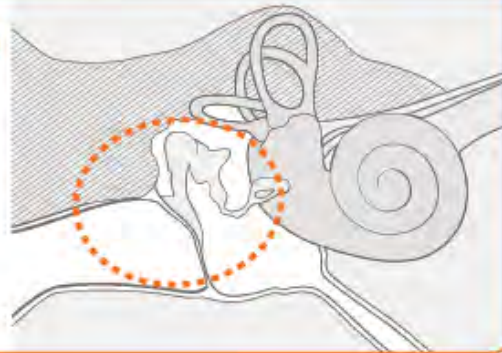
Bone conduction

Bone conduction

Bone conduction

Bone conduction

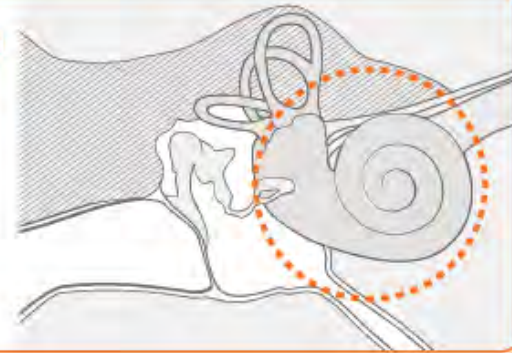
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Sensorineural Hearing Loss

Bone conduction

Bone conduction



Mixed Hearing Loss

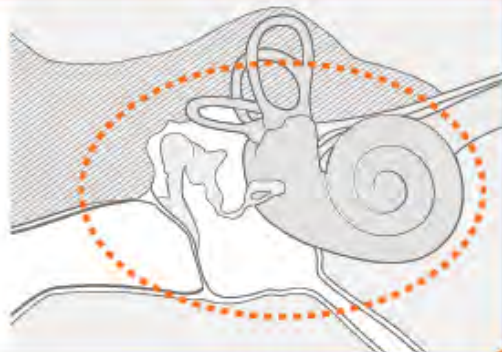
Bone conduction

Bone conduction

Bone conduction

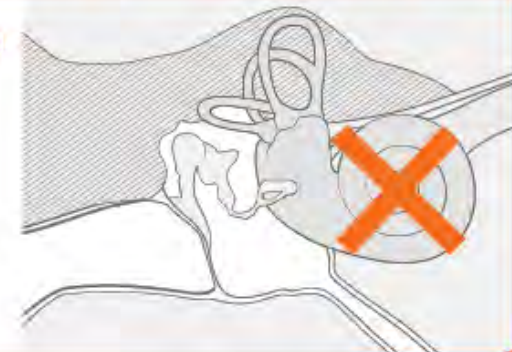
Bone conduction

Bone conduction



Single sided deafness (SSD)

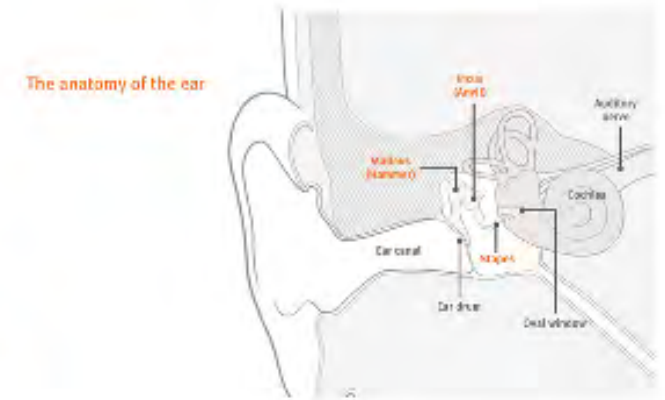
Bone conduction





Counseling Tool

Simple Visual Aids to Help
Clients Understand their
Journey



Overview – A Bone Anchored Hearing System



Process overview



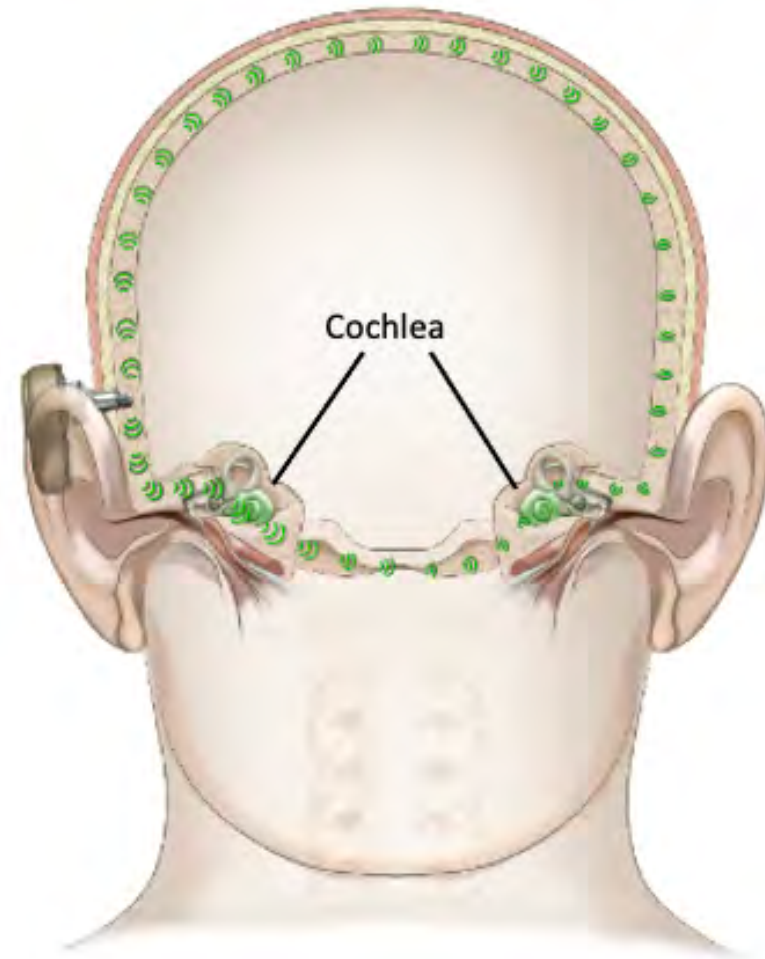


Device Education





How does a bone-anchored hearing system work?

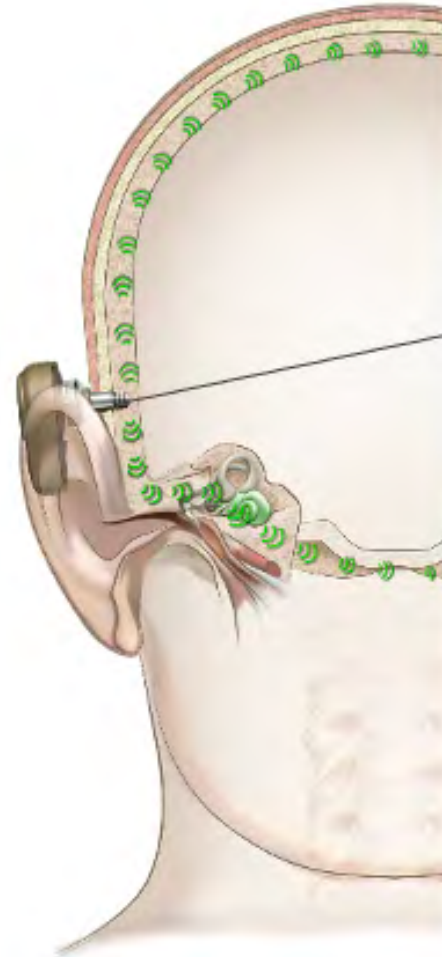
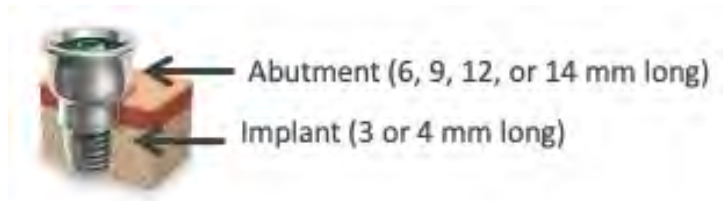


Sounds are converted to vibrations, which are transmitted directly to both inner ears.

The Ponto Implant System



Direct Bone Conduction



Osseointegration





Pursuing a Trial



Importance of Trial Period

- More likely to proceed
- More confident with controls
- Had less concerns
- Had more realistic expectations



Length and types of trial period can be adjusted to client and clinical setting *

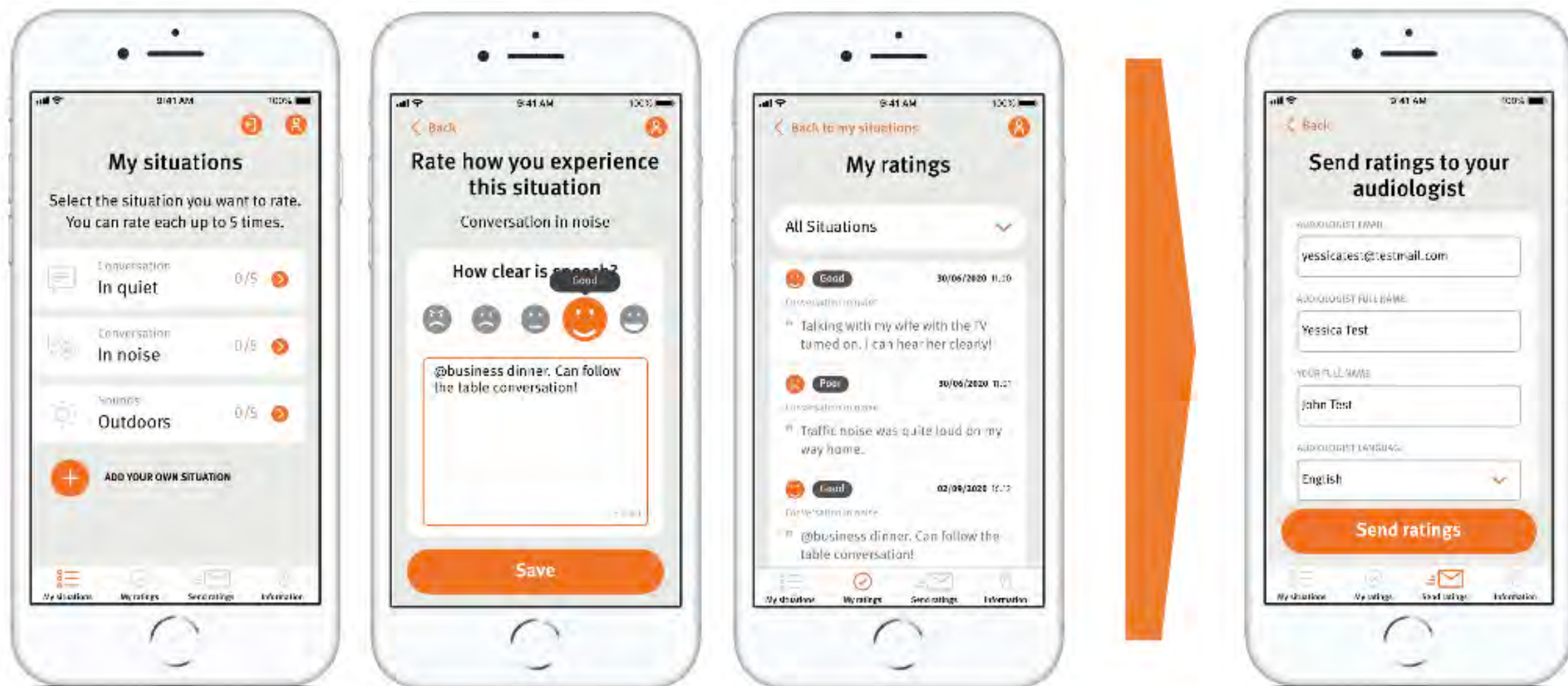


Trial Options

- Softband 5
- Headband
- Testband
- Test Rod
- SoundConnector



Ponto Trial Companion App



**Important: The app is not a medical device and has no medical purpose and shall not replace the ordinary contact with the patient.*

Patient Resources



The screenshot shows the Oticon Medical Friends website. At the top left is the Oticon Medical logo with the tagline "Because sound matters". The main header features a smiling man wearing a hearing aid. To his right, the text reads "Welcome to Oticon Medical Friends" followed by "Join us today!". Below this, it says "Sign up to Oticon Medical Friends and explore benefits like our Online Store and social community." and "Already a member? Just log in to your personal account here." with "Sign up" and "Log in" buttons. A section titled "Why join Oticon Medical Friends?" follows, containing four icons and their corresponding benefits: a community icon for joining the community, a warranty icon for checking status, a library icon for learning more, and a shopping cart icon for buying accessories.

oticon MEDICAL Because sound matters

Welcome to Oticon Medical Friends

Join us today!

Sign up to Oticon Medical Friends and explore benefits like our Online Store and social community.

Already a member? Just log in to your personal account here.

[Sign up](#) [Log in](#)

Why join Oticon Medical Friends?

- **Join our community**
Connect with fellow Oticon Medical users and caregivers, and share experiences in the Oticon Medical Friends Community
- **Check the warranty status**
Check the warranty status and information about your devices in your personalized Oticon Medical Friends account
- **Learn more in our Library**
Learn more about living with your hearing device, receive troubleshooting help, share tips and tricks and so much more!
- **Buy accessories in our Store**
Shop for Oticon Medical accessories and use the guides provided to find those made especially for your hearing device. Enjoy a secure payment process and fast delivery

Clinician Materials

Bone Anchored Hearing System



Ponto 5 Quick Fitting Guide

Programming device

Ponto 5 sound processors can be programmed wirelessly using the NQAlink Wireless or FittingLINK 3.0. Wired programming is also an option, using a standard programming device such as Hi-Pis 2 and a RS cable.



Selection



Fitting



Feedback Manager



BC In-situ Audiometry



End Fitting

How to program Ponto 5

1. Insert a battery into the instrument.
2. Connect the instrument.
3. Select Instrument: Click Detect and Continue.
4. Select type of hearing loss:
 - Conductive/mixed – if the sound processor is fitted to a patient with conductive or mixed hearing loss (default selected).
 - SSD – if the sound processor is fitted to stimulate the cochlear on the opposite side.
5. Select type of connection:
 - Abutment – if the patient is using the sound processor on an implant and an abutment (default selected).
 - Soft band – if the sound processor is fitted on a soft band or head band.

Note: if the Ponto requires it under the Fitting Settings will be available.

6. Select Fitting.
7. Connect the sound processor to the patient's abutment or softband. Mute the sound processor if necessary to avoid feedback. Unmute when the processor is attached.
8. Select Feedback Manager. OpenSound Optimizer is now incorporated into the Feedback Management system. To change the default parameters go to Automatics under More Tools.
9. Select Start to measure the individual feedback limit. If programming cable is used, please ensure that the cable does not pull the device and evoke feedback.
10. Select BC In-situ Audiometry.
11. Conduct the BC In-situ measurement.
12. Select Fine-Tuning and evaluate the setting and, if necessary, adjust the controls.
13. Verify OpenSound Navigator settings. For additional information reference page 2 of this guide.
14. Select End Fitting.

Genie™ Bone Anchored Hearing System

Candidacy Guide



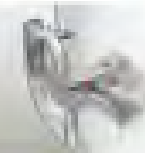
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Ponto 5 – The Bone Anchored Hearing System Identifying Candidates

Conductive or mixed hearing loss

How bone conduction hearing works

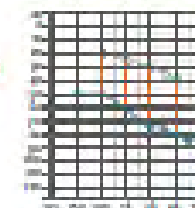
The Ponto 5 works with the body's natural ability to transmit sound through the bones and bypasses any damage to the cochlea, restoring hearing and communication.



Audiological Indications

Patients suffering from a conductive or mixed hearing loss (gap larger than 30 dB) or persistent significant sensorineural hearing loss (unaided median frequency of hearing level greater than 70 dB HL).

No significant hearing loss (median frequency of hearing level less than 70 dB HL) or hearing loss (median frequency of hearing level less than 70 dB HL) or hearing loss (median frequency of hearing level less than 70 dB HL).



Possible diagnosis:

- Chronic Otitis Media – Eustachian tube dysfunction – Eustachian tube dysfunction
- Enlarged middle ear muscles – Ossicular chain and ossicles
- Ossicular fixation – Ossicular fixation or ossicular chain ossification

Ponto treatment benefits

- The sound signal bypasses the cochlea and is transmitted directly to the cochlea, restoring hearing and communication.
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www.oticonmedical.com

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Ponto 5 SuperPower

Ponto 5 Mini

Ponto 5 Family

Proven to deliver better hearing

Ponto 5 MINI



Fits bone conduction average up to 45 dB HL: average of 500 Hz, 1000 Hz, 2000 Hz and 3000 Hz

Ponto 5 SuperPower



Fits bone conduction average up to 65 dB HL: average of 500 Hz, 1000 Hz, 2000 Hz and 3000 Hz

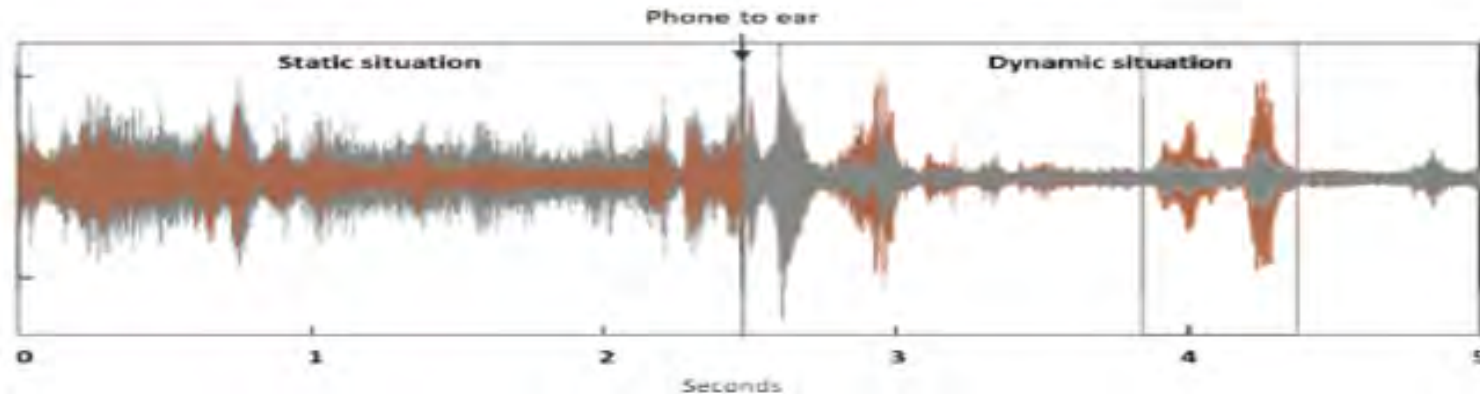
OpenSound Navigator & OpenSound Optimizer

OpenSound Navigator

- Preserves speech, constantly adapting to the soundscape

OpenSound Optimizer

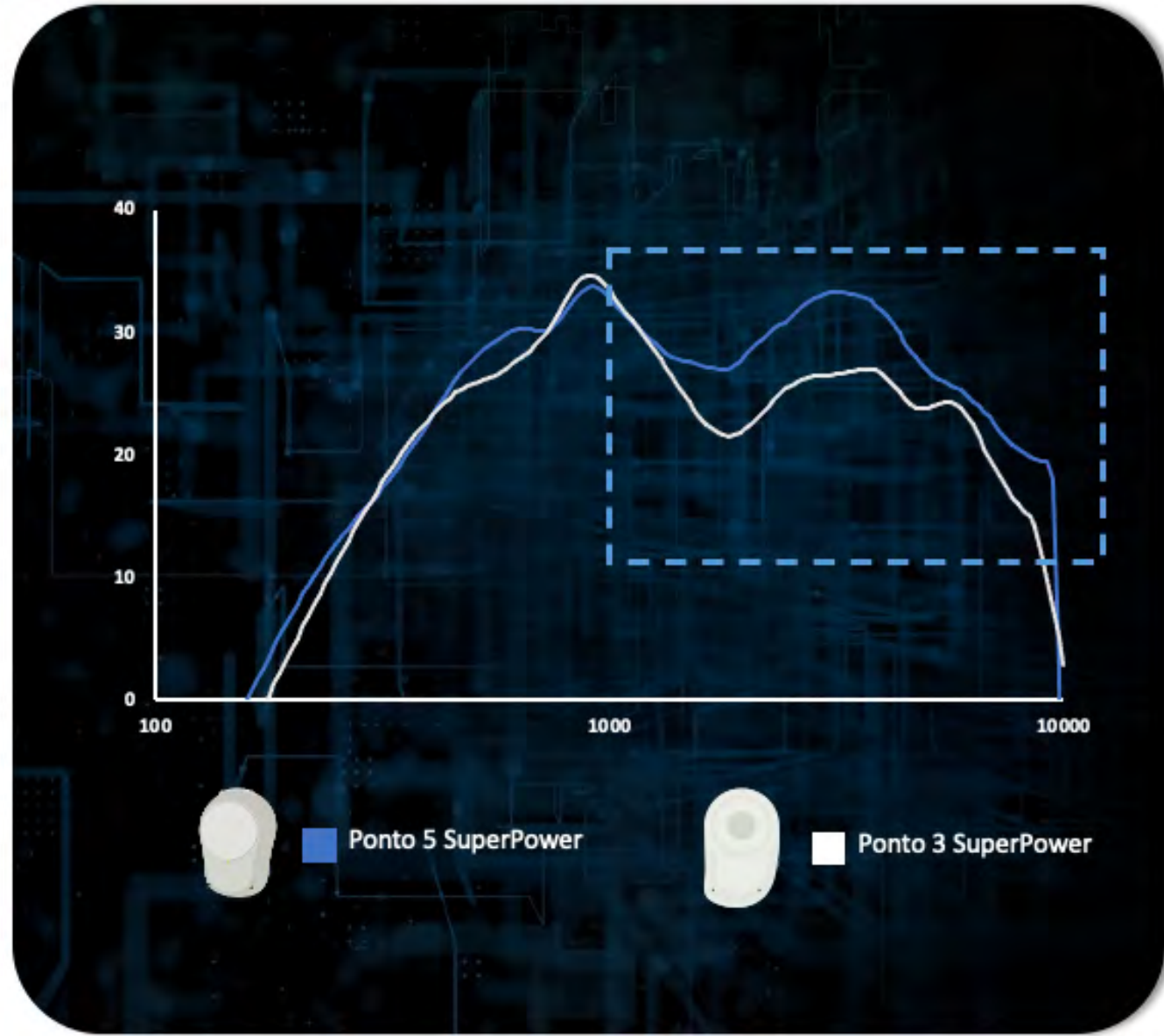
- Stops feedback and preserves gain; +6 dB additional stable gain*



Together they allow more access to sound in a wider range of scenarios

**Proven to:
Deliver more gain**

**Ponto 5 SuperPower
improves gain, ensuring
soft sounds can be heard.**

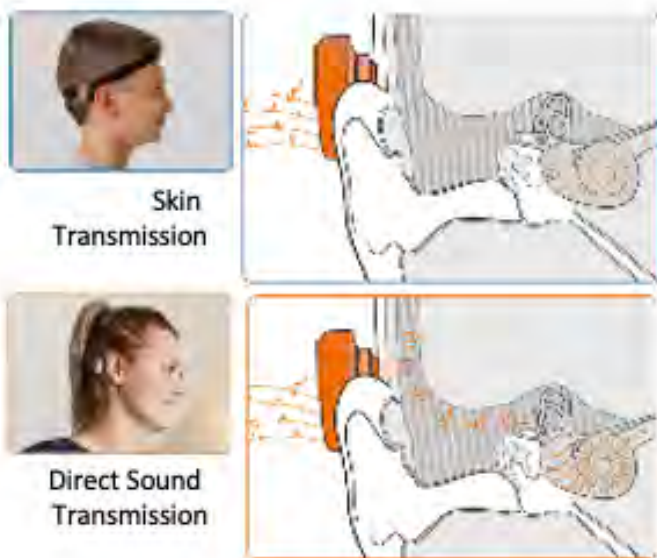




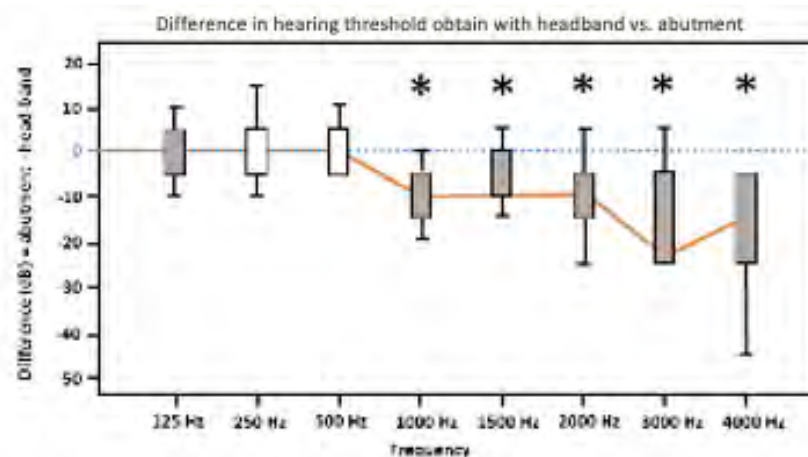
To implant or
not to implant?

Softband vs. Abutment

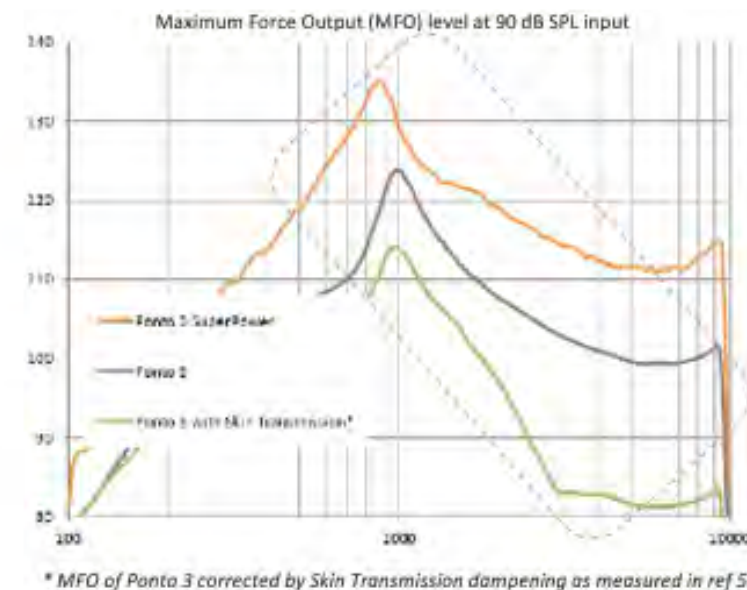
- Sounds are attenuated in Skin Transmission solutions – even with Softband correction.



- Direct Sound Transmission systems can provide up to 20 dB of output in the mid to high frequency range.*



- The mid to high frequency range contains the most important sound information for speech understanding.



Another Way to Look at it!



Benefits of Direct Sound Transmission



Improvement in
aided thresholds
and speech
perception testing



Better sound
quality and
performance



Increase in
learning speed



Enhanced working
memory



More high frequency
emphasis with surgical
transmission than with a
soft headband

Implant footprint*



*Implant footprint defined as implant dimensions

¹ Product Information Sheet, Oticon Medical 2022

² Bonebridge professionals_brochure2014

³ Datasheet Cochlear Osia 2 System OS1002 ISST Dec 19

Smallest MRI artifact size

BAHA 1.8 cm
Osia (magnet removed) 5.7 cm
BAHA Attract 11.5 cm
Osia (with magnet) 15 cm
Bonebridge 15 cm
Ponto 1.5 cm

At 1.5 cm, Ponto is the least prominent MRI artifact compared to other implants

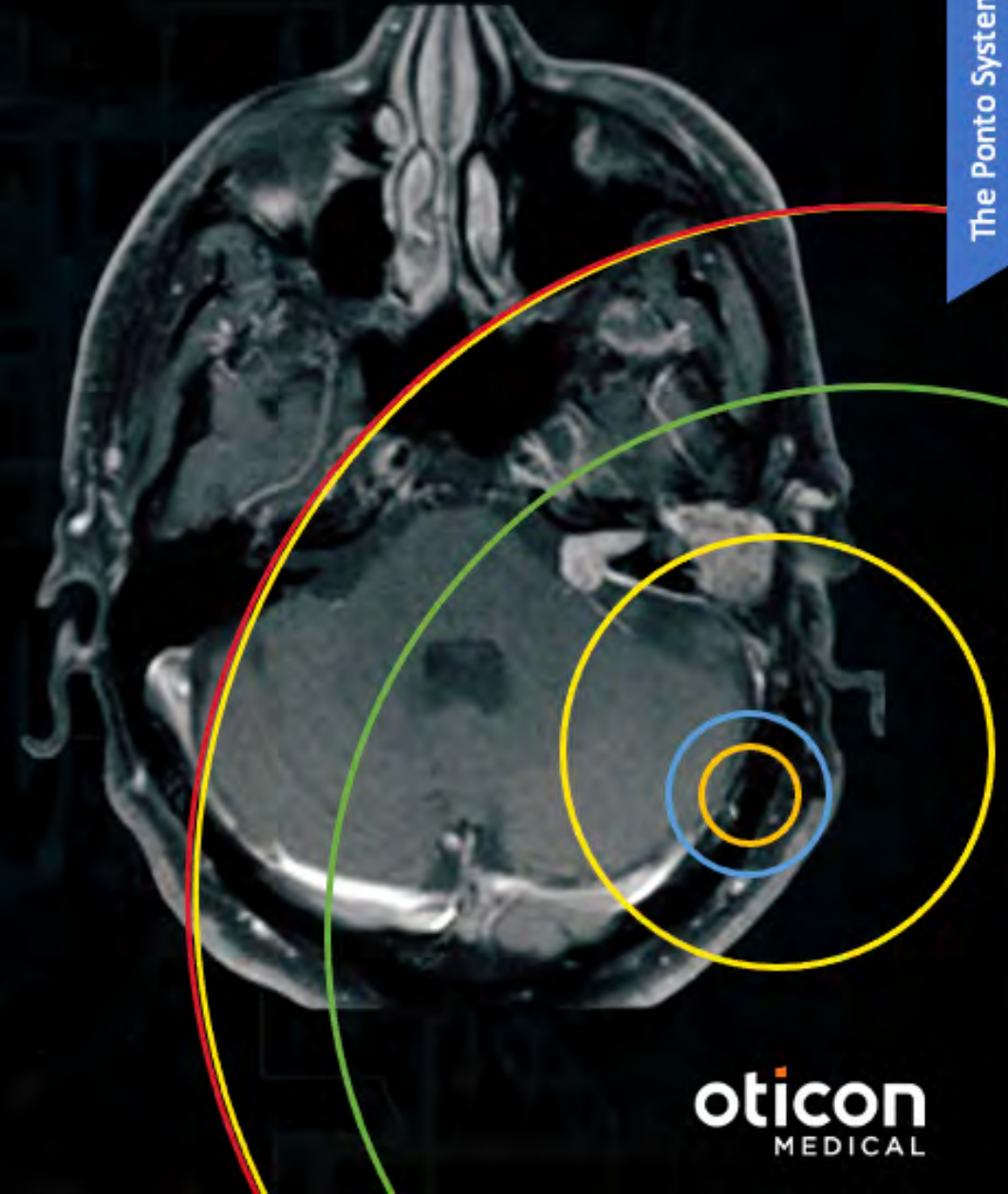
Osia MRI Guidelines Cochlear Ltd. 2022

Cochlear BAHA Connect Radiographers Instructions 2014

Cochlear BAHA Attract Radiographers Instructions 2015

⁴Medel www.medel.com/docs/default-source/isi-important-safety-information/

Ponto product information sheet Oticon Medical 2022



The Ponto System

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The Ponto System

The confident choice for your patients

Small

MRI conditional at 1.5T and 3T, with a shadow of less than 1.5cm

Non-restrictive

A Ponto procedure keeps future audiology choices open – leaving only a tiny scar if removed

Universal

Ponto System's universal abutment works with 100% of sound processors available today¹



Modern Surgical Counseling and Techniques

Dr. Daniel Coelho, MD, FACS

Evolution of Technique

- TWO STAGE
- ONE STAGE
 - FTSG/STSG
 - Small Flap vs. Large Flap
 - Pedicled Flap
 - Single (Linear) Incision
- SOFT TISSUE REDUCTION



Complaints/Complications

- Tedious Surgery
- Delayed healing
- Graft necrosis
- Sub-optimal positioning
- Skin reaction/infection
- Skin overgrowth
- Numbness
- Alopecia
- Cosmesis



Outcomes

Objective

- Audiologic: GREAT
- Skin Reactivity: NOT GREAT
- Cosmetic: NOT GREAT

Subjective

- Sound: GREAT
- HR Quality of Life: GREAT
- Skin/Cosmetic: NOT GREAT

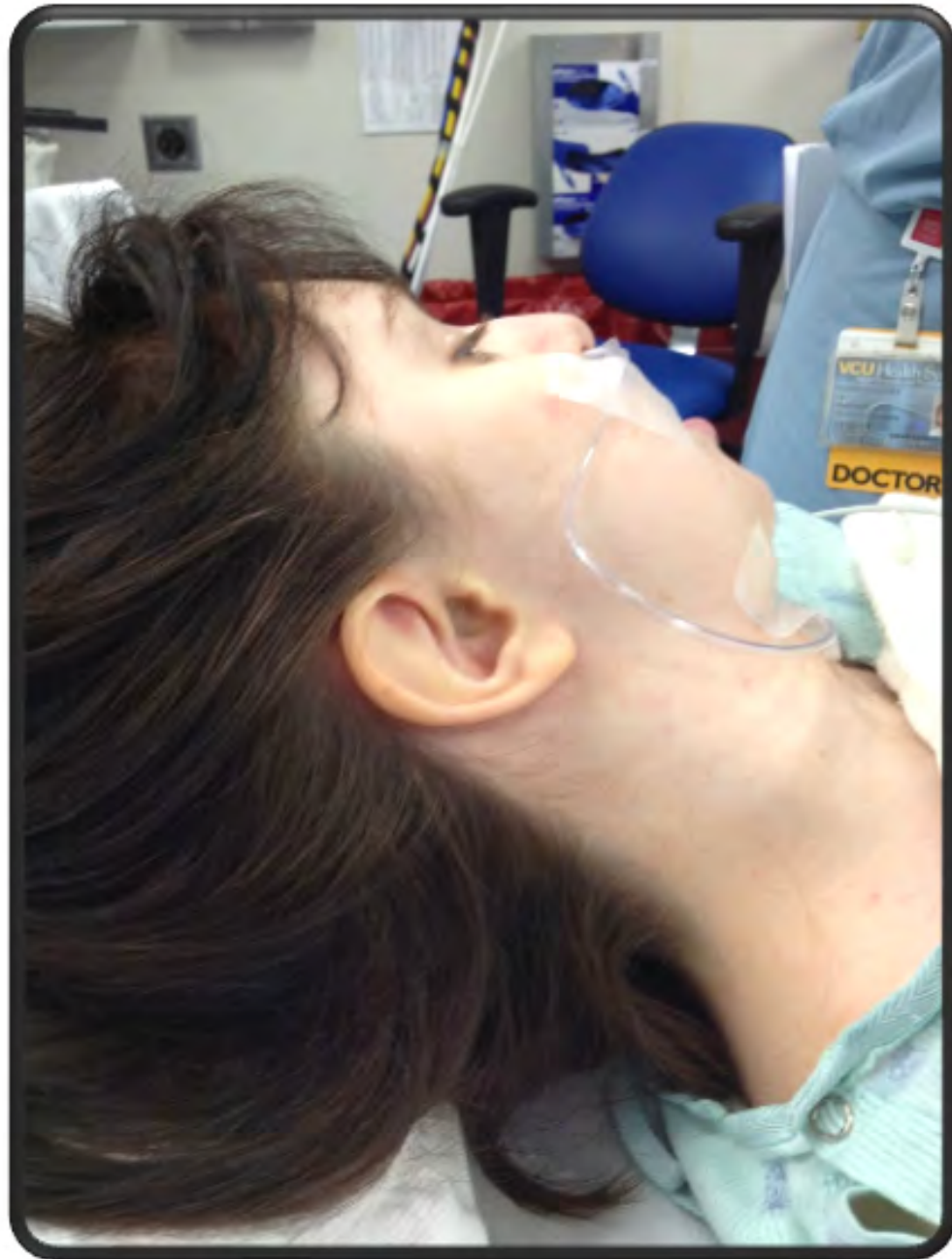
Evolution of Technique

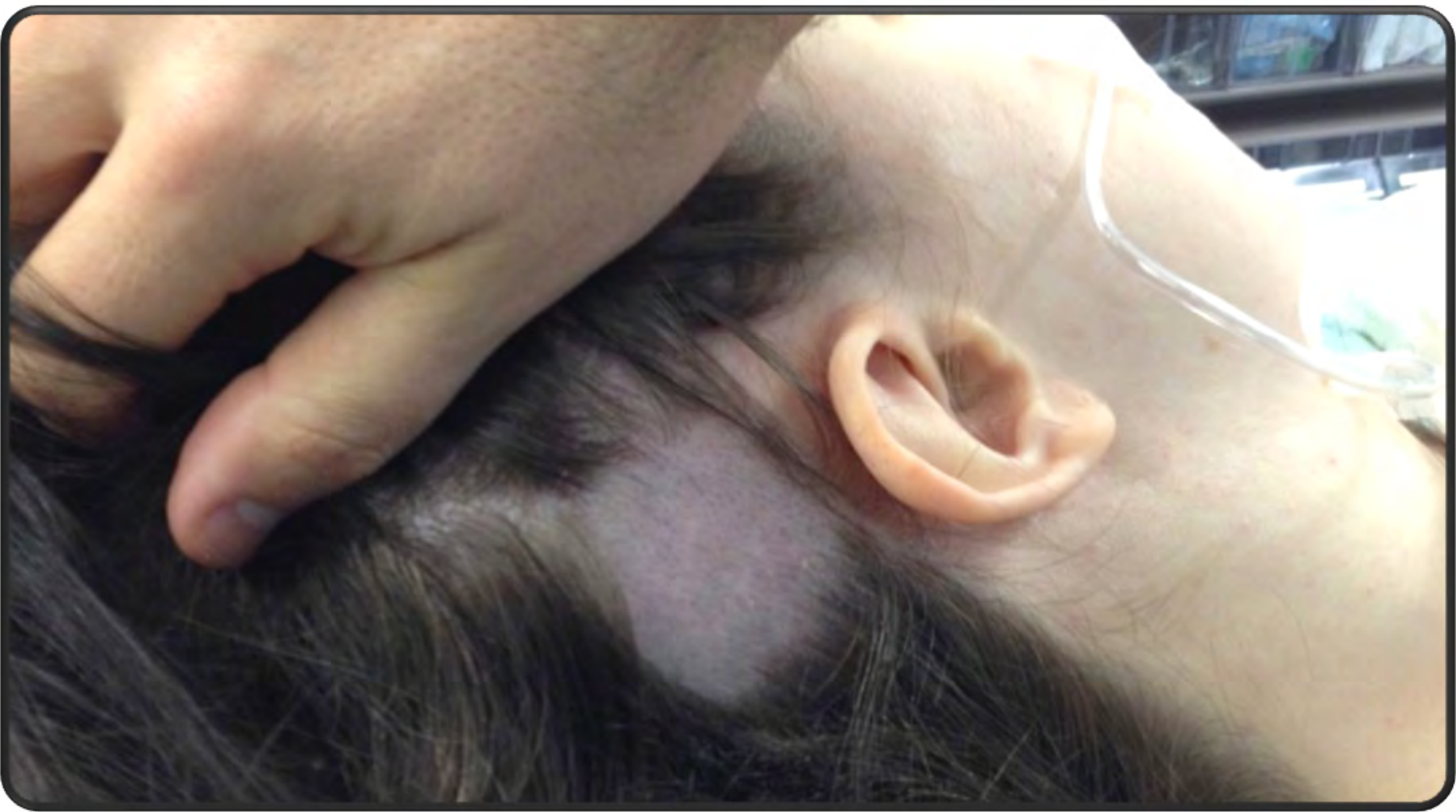
- TWO STAGE
- ONE STAGE
 - FTSG/STSG
 - Small Flap vs. Large Flap
 - Pedicled Flap
 - Single (Linear) Incision
- SOFT TISSUE REDUCTION
- -----
- MINIMALLY INVASIVE/PUNCH
 - MIPS
 - MONO

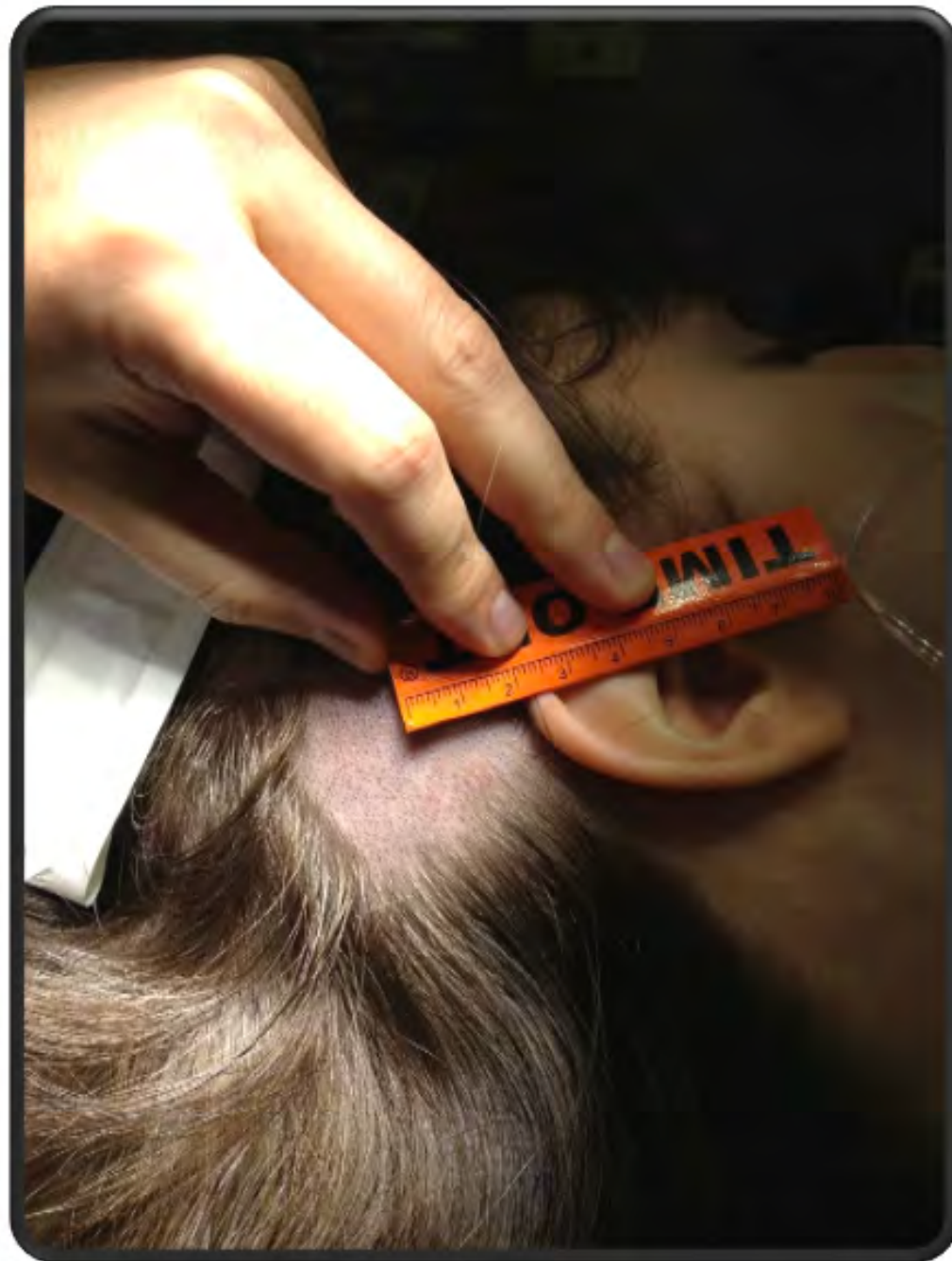


Technique

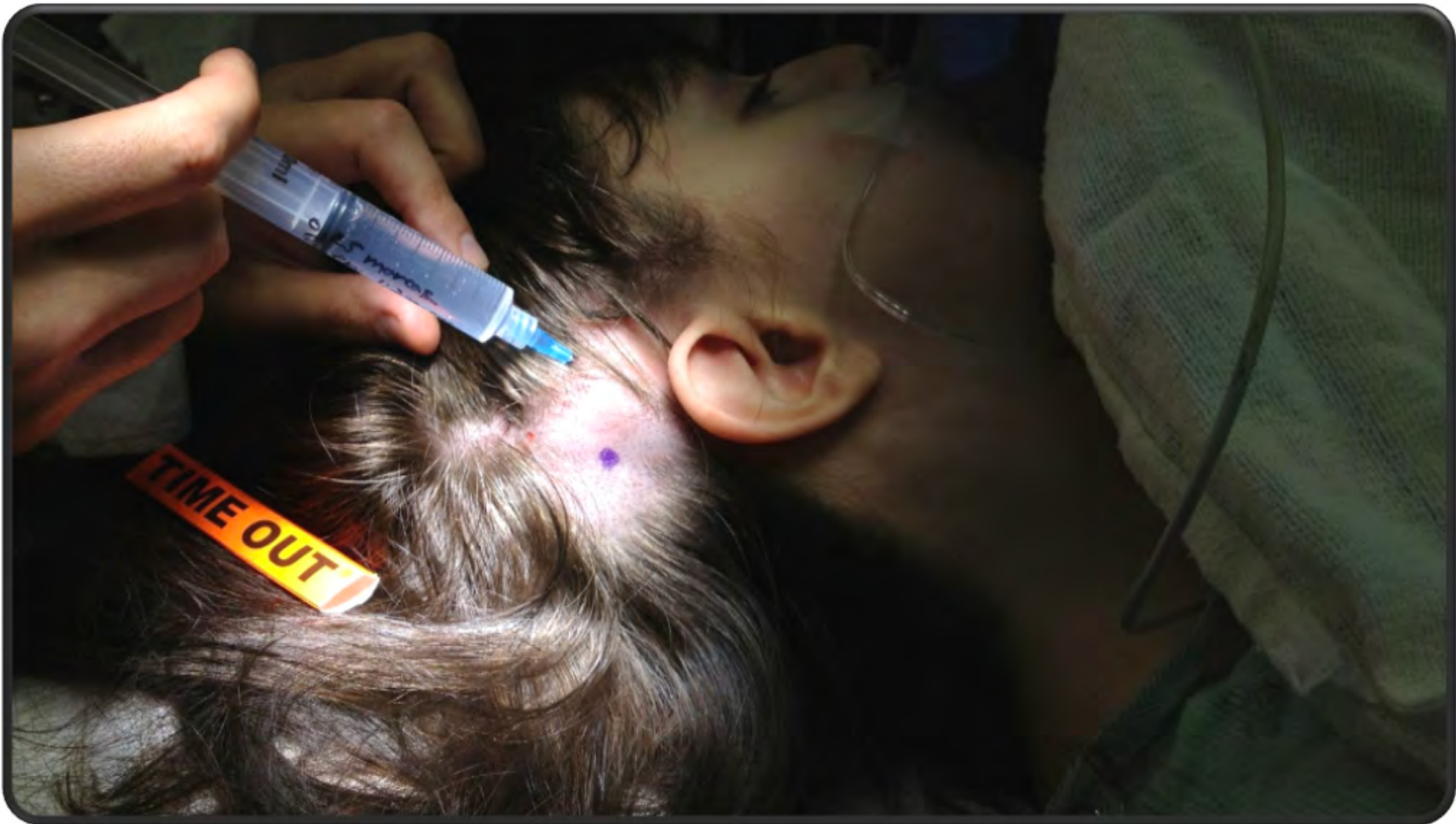


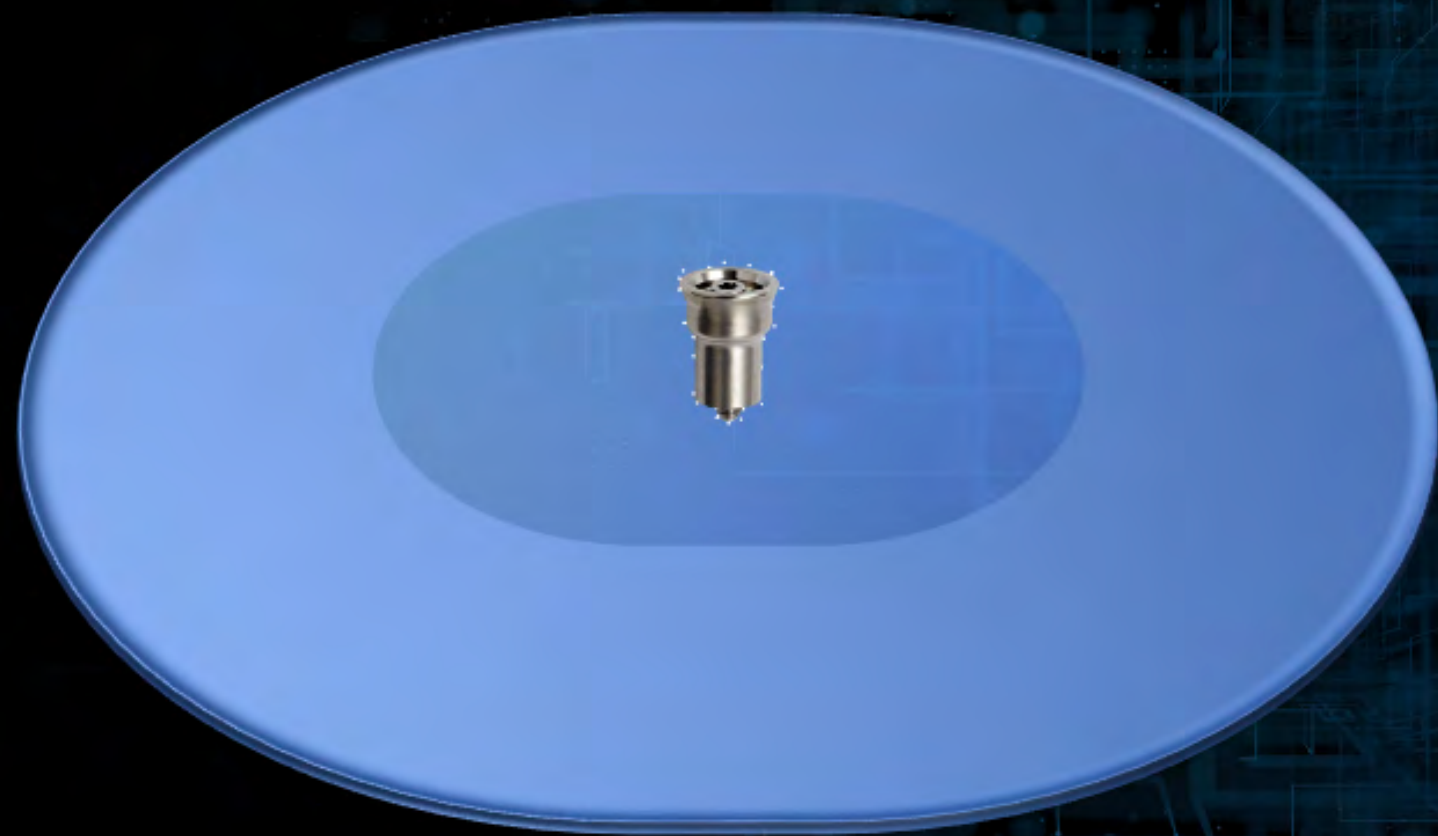






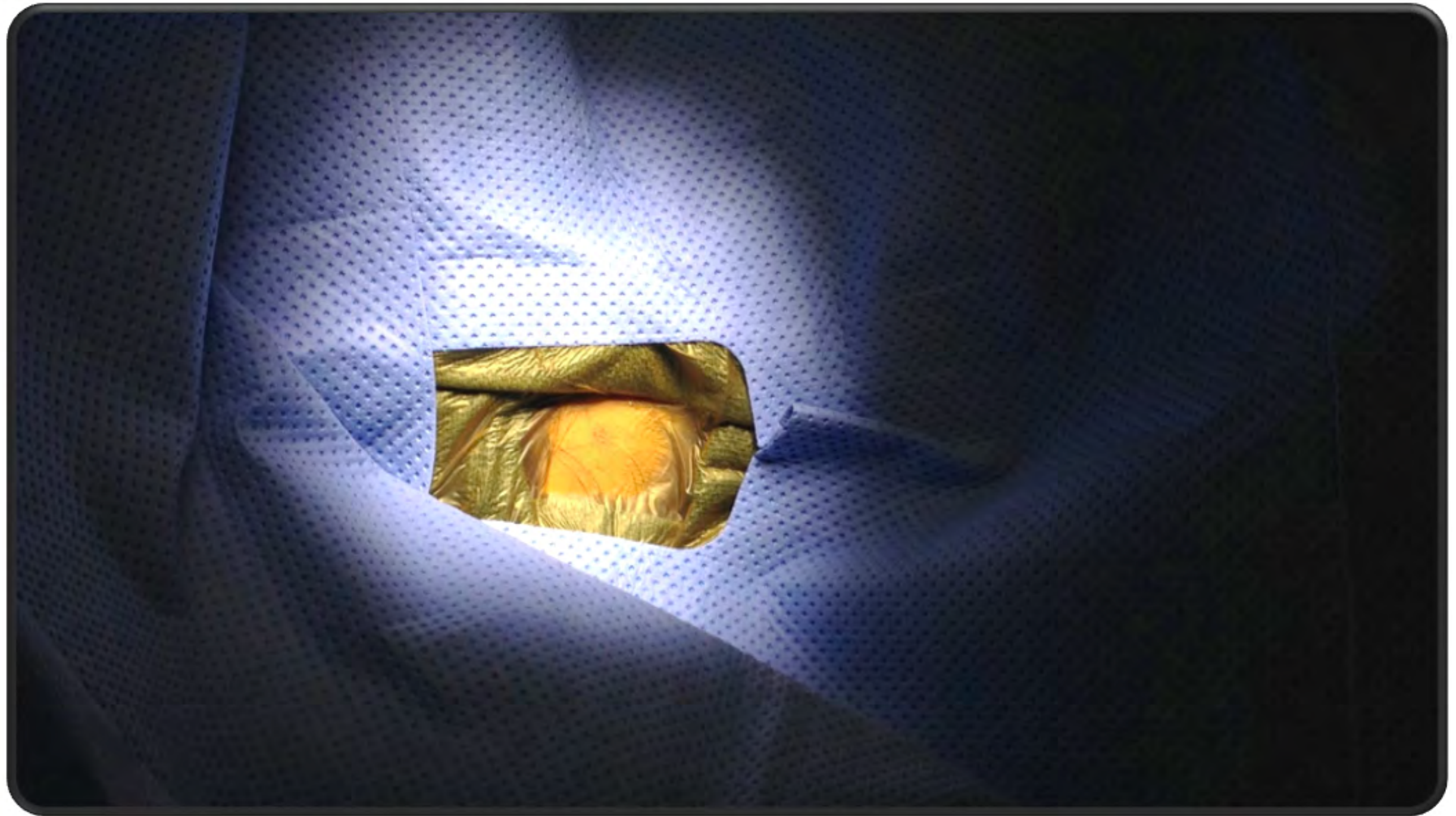


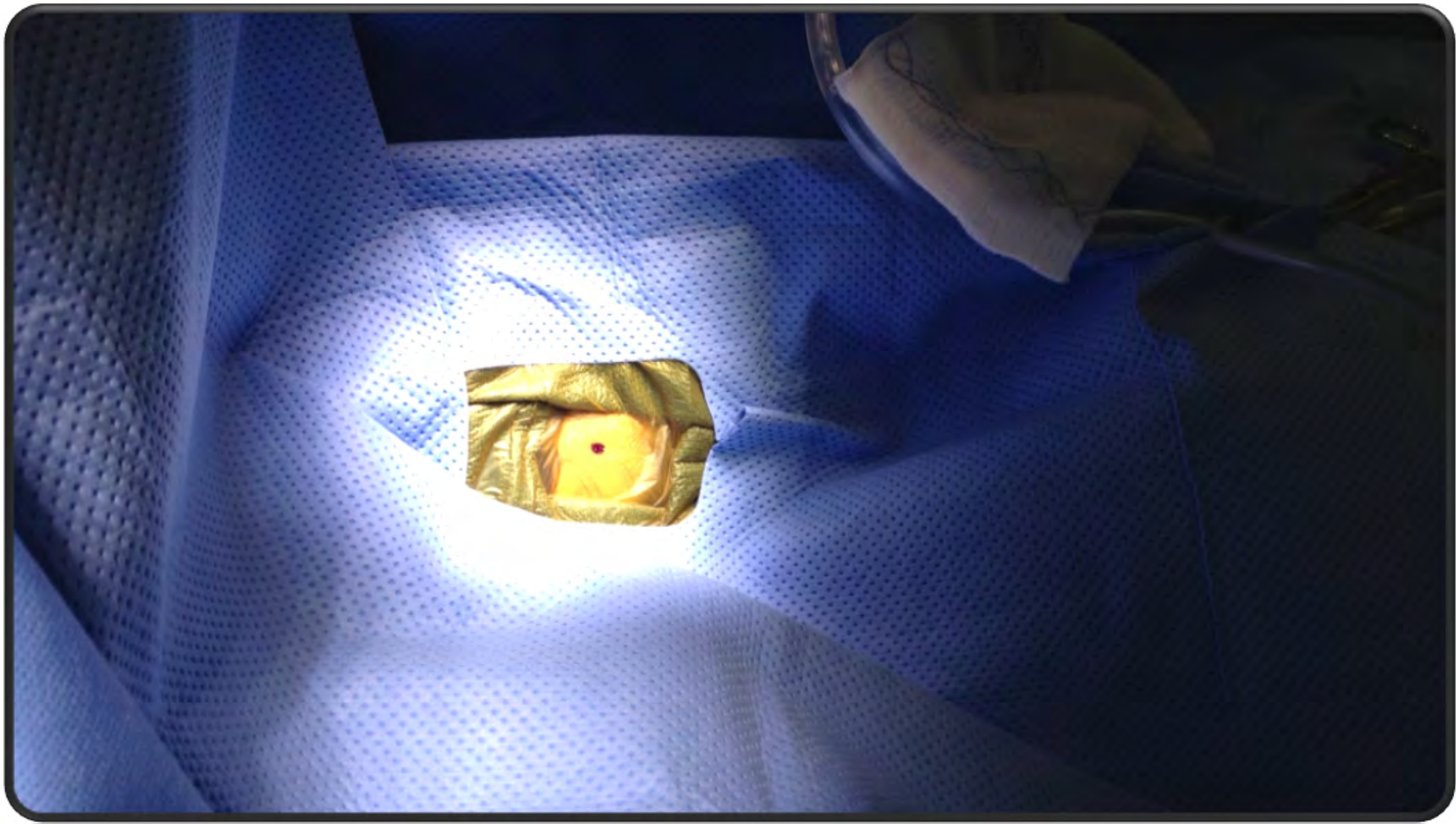


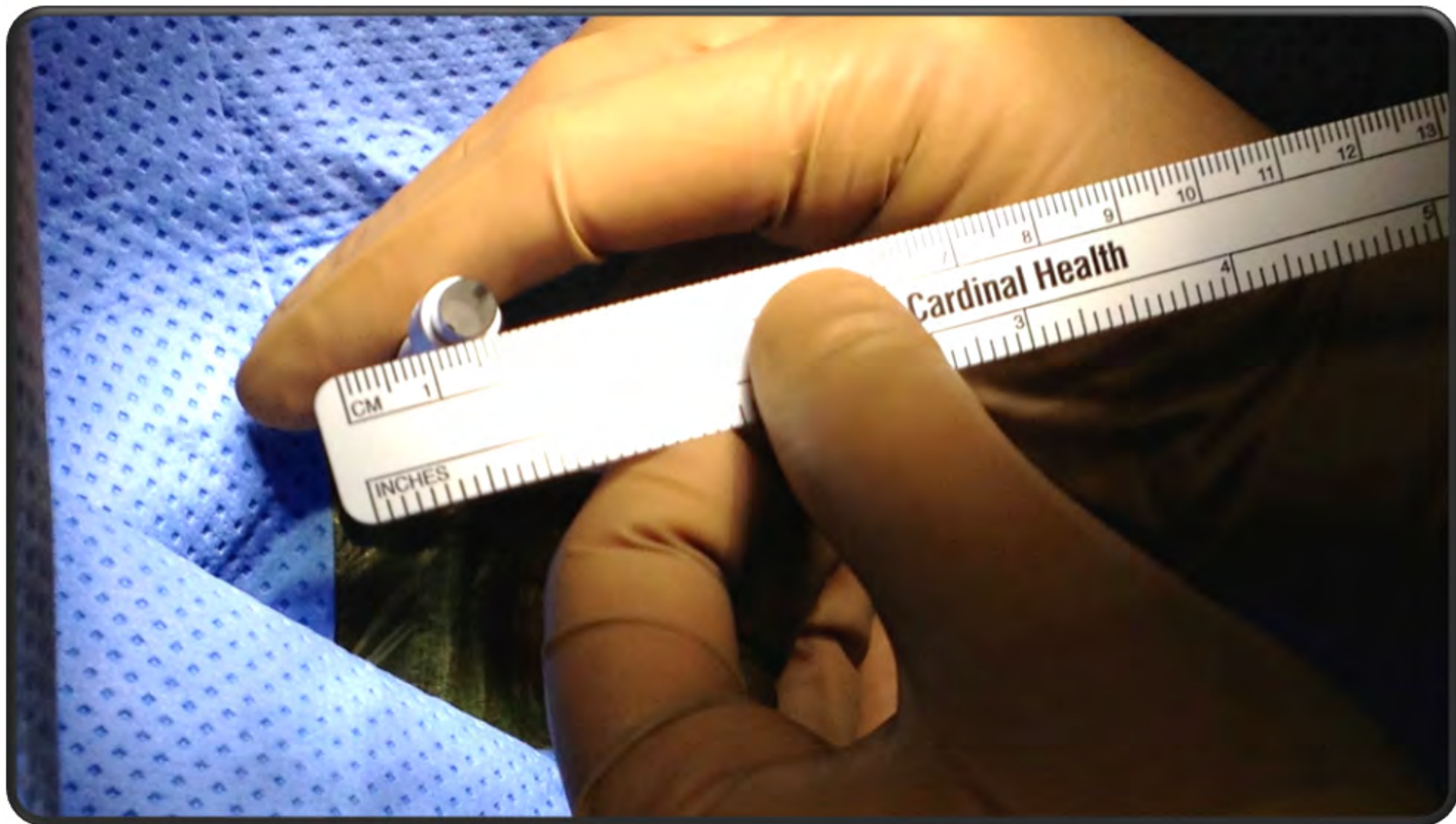




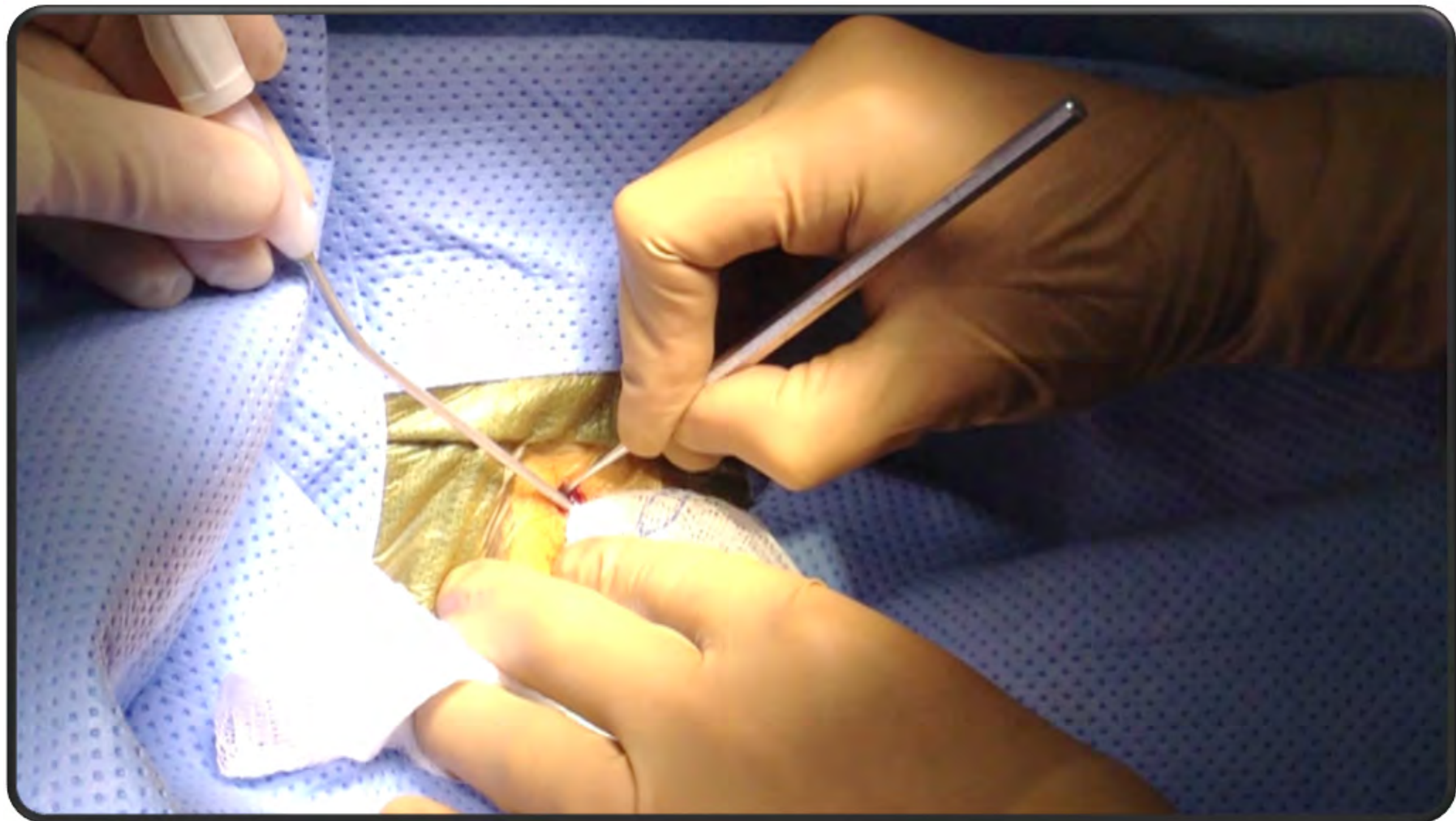


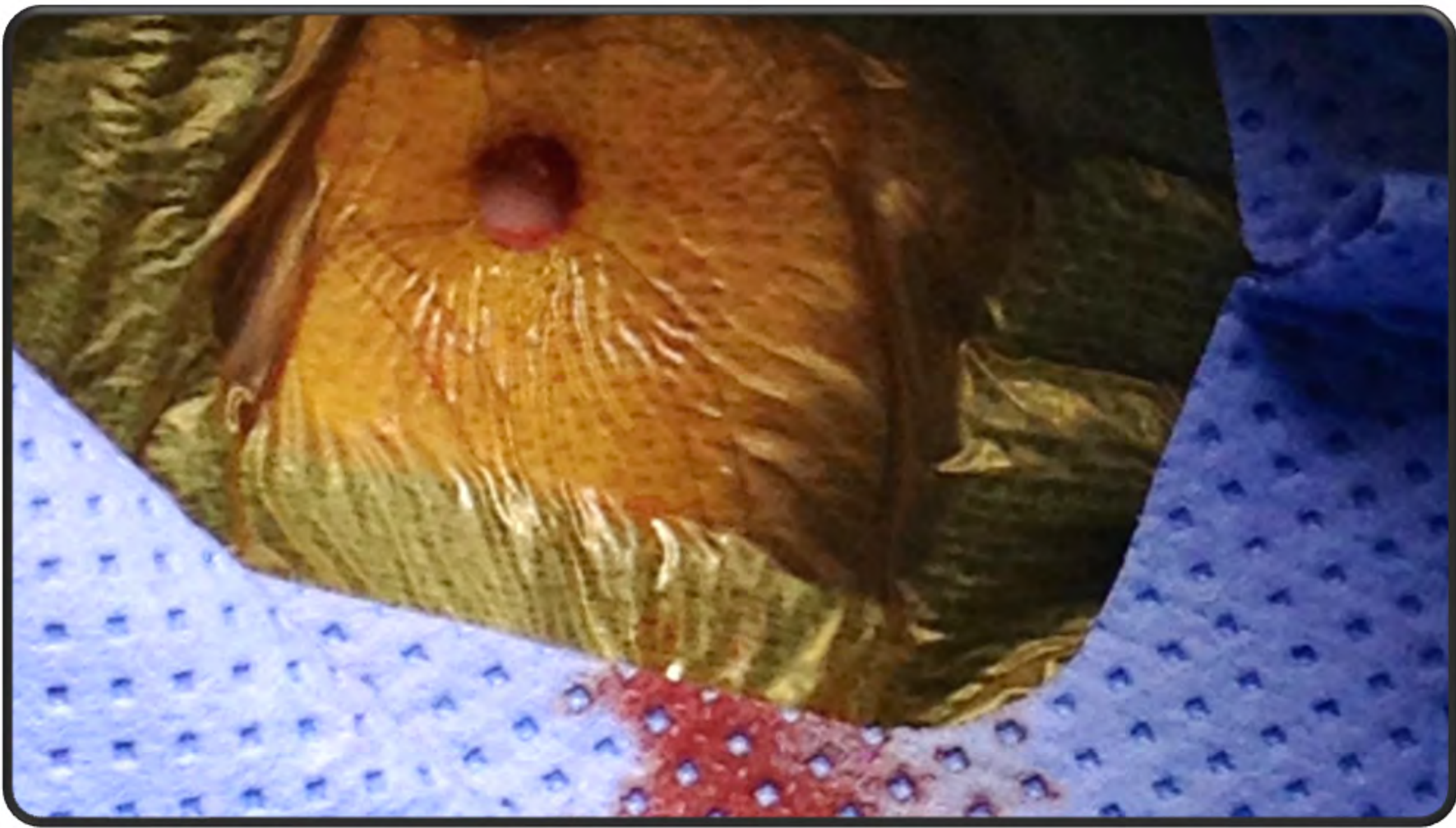


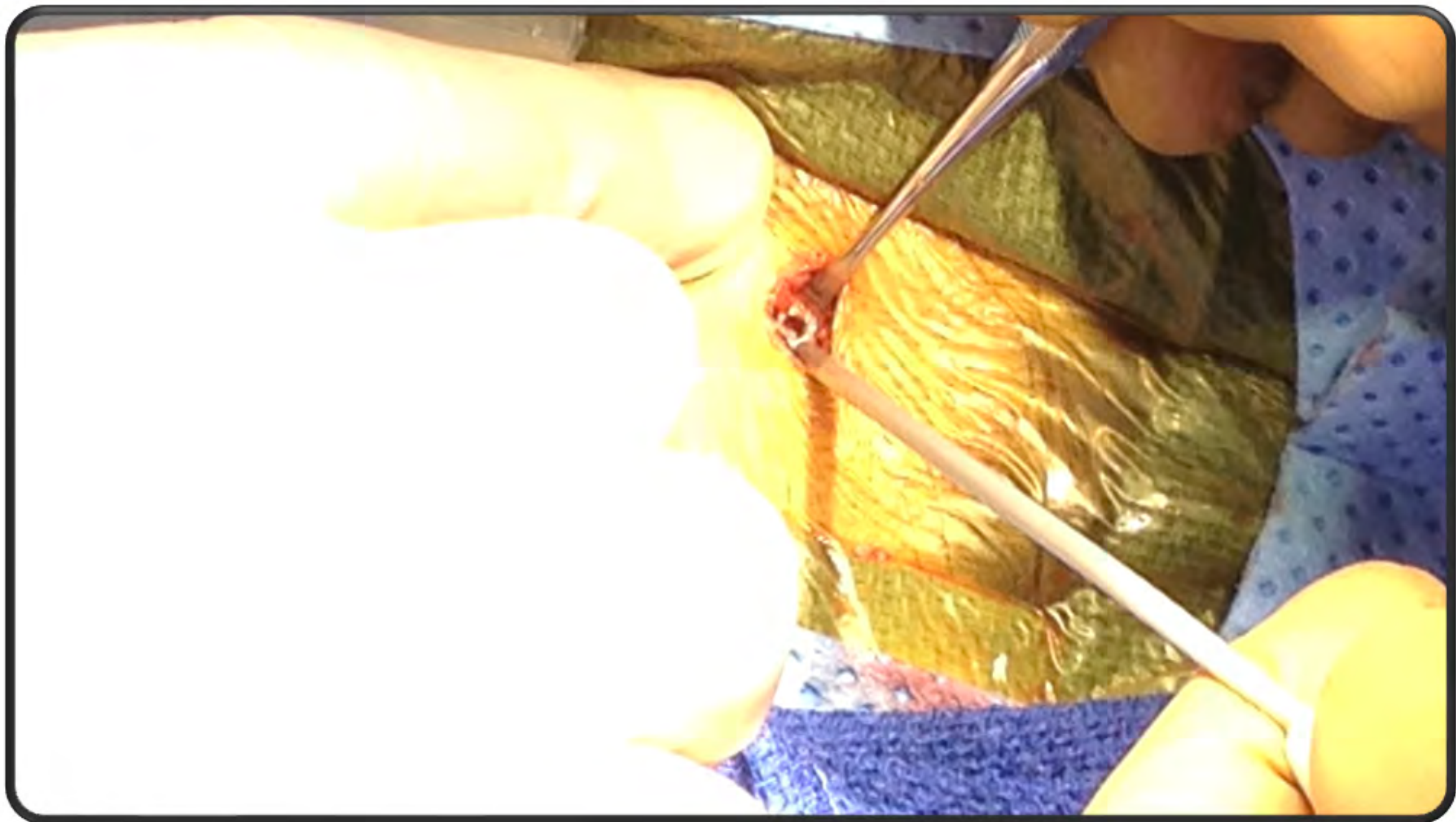


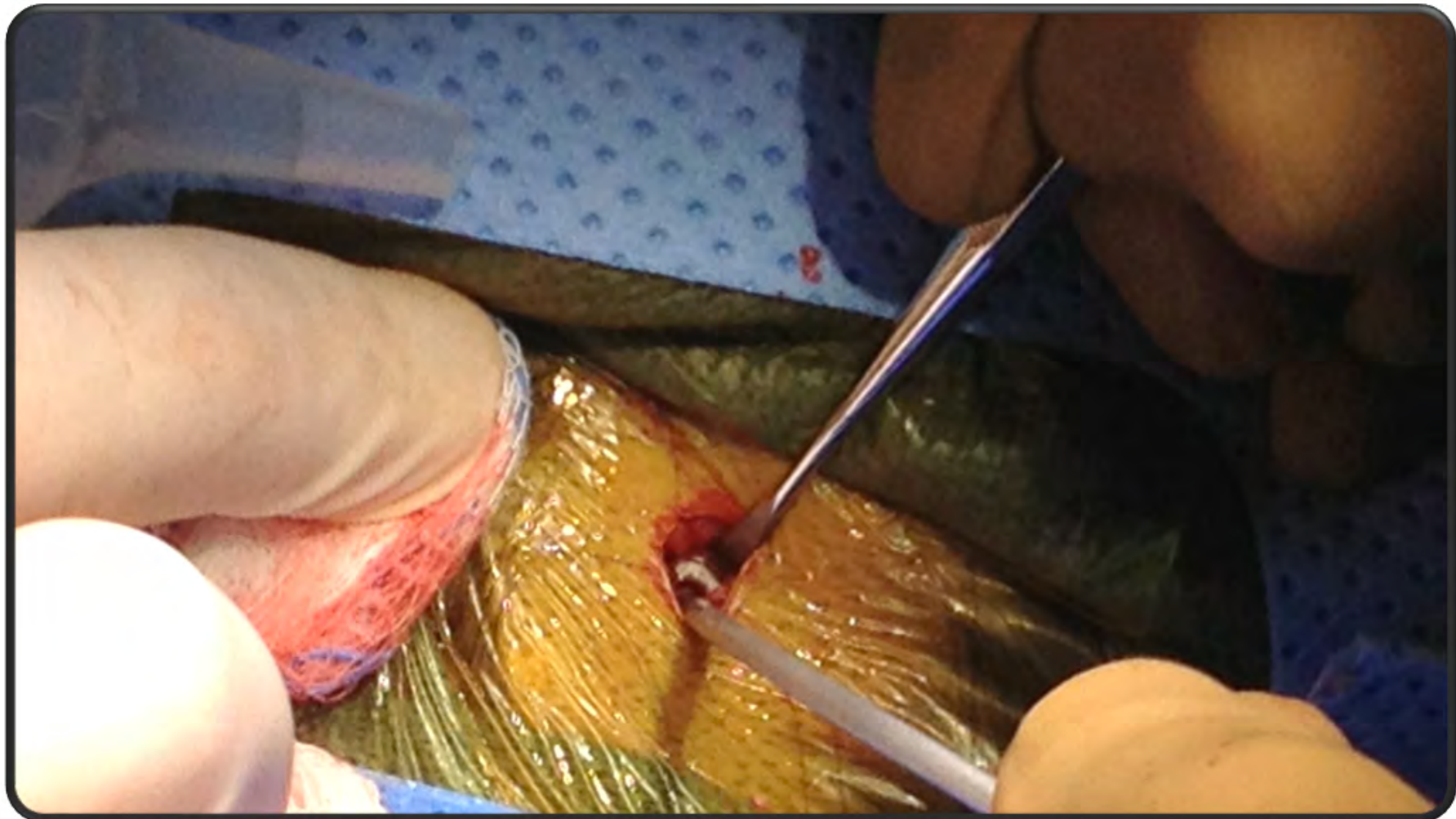


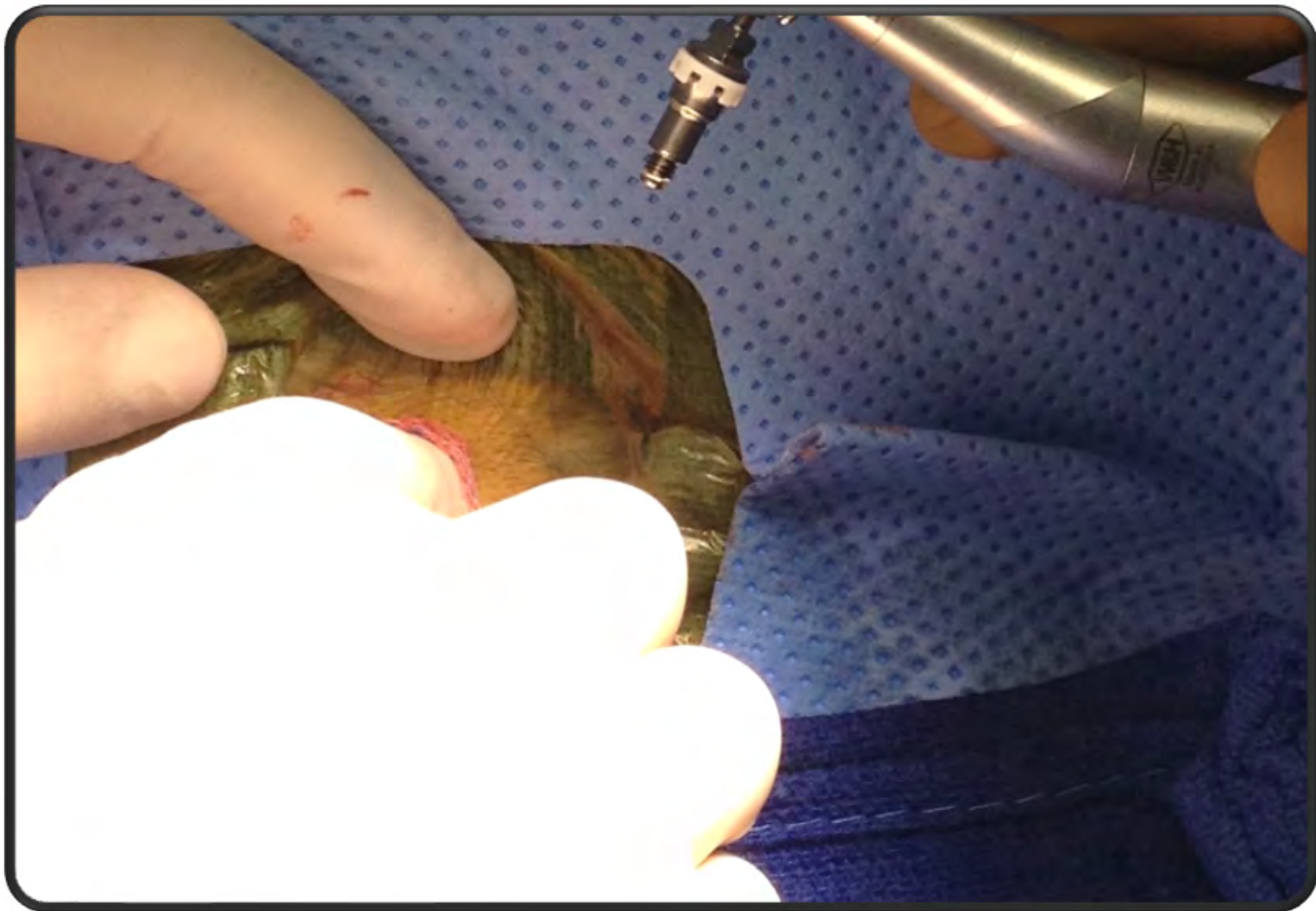






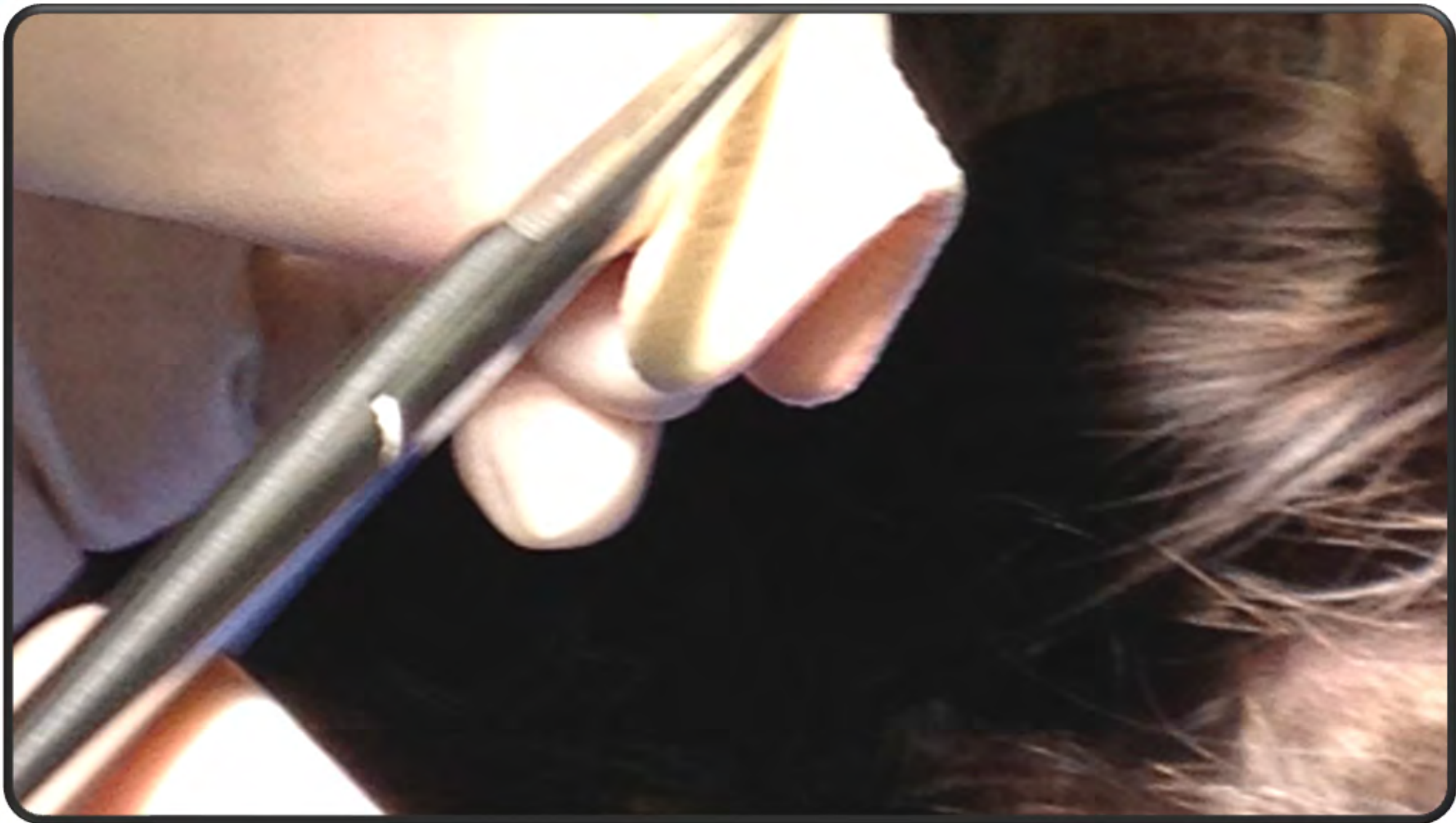


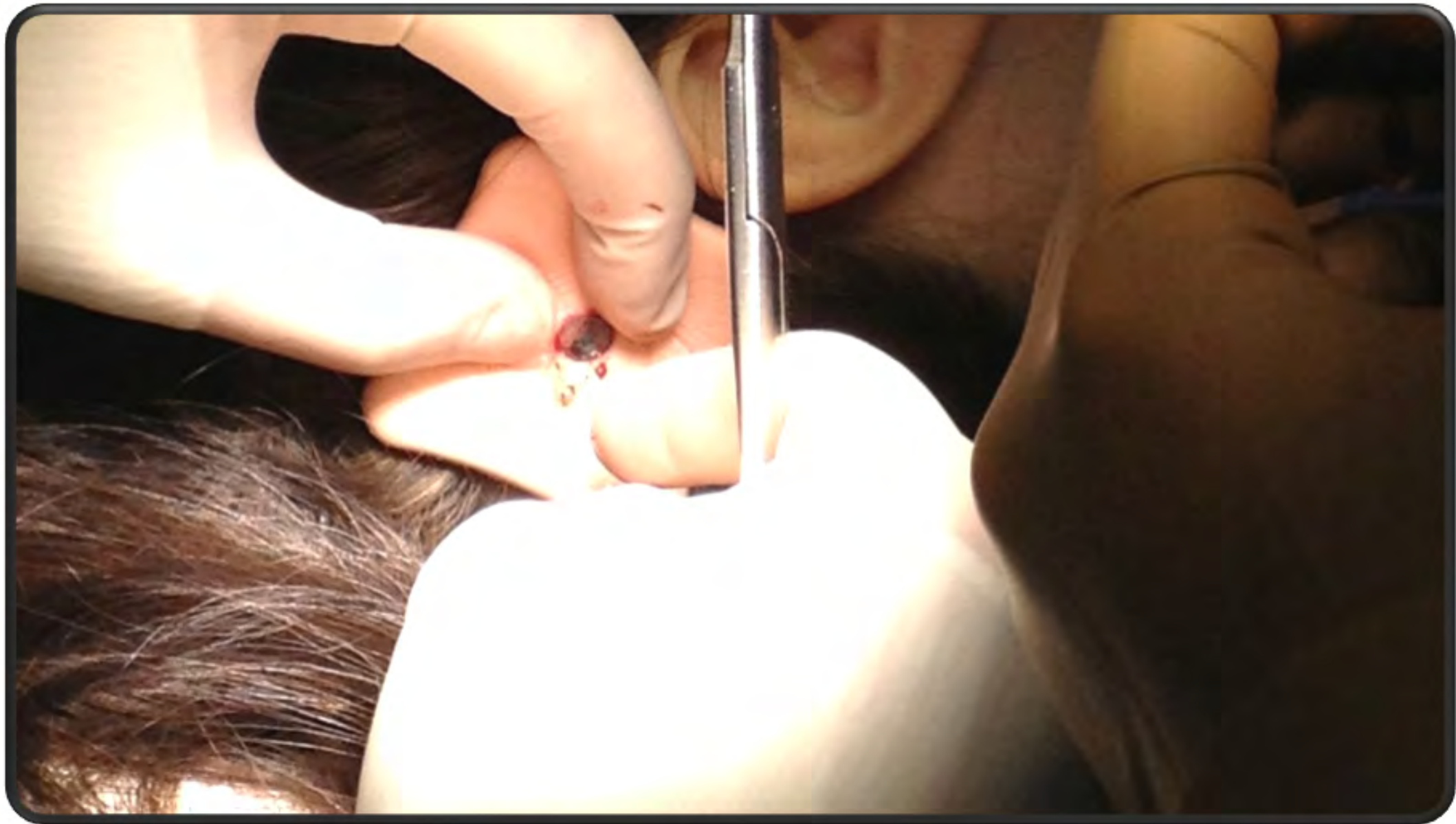




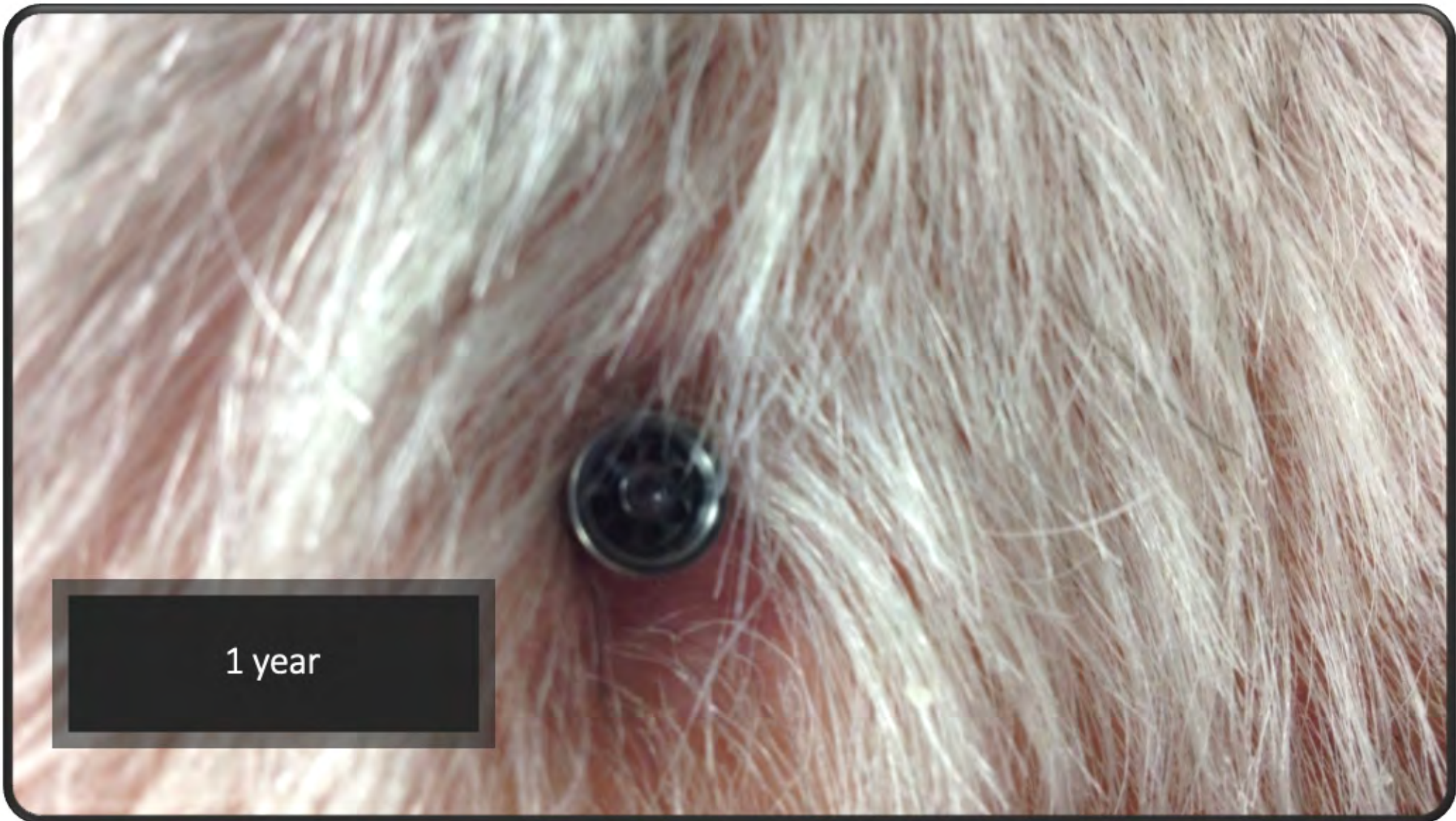












1 year







Ponto Minimally Invasive Procedures: Proven to offer great outcomes



10 min

average procedure time
(± 5.5 min)



97%

of all visits had no or
minor skin reactions



95%

of all patients
increased quality of life

Cost Benefit

Minimally invasive procedures were **proven to cost less overall** in a 2023 randomized control trial, which followed patients for two years after the procedure.



Reference: Strijbos, et al. (submitted). Health economic cost analysis for percutaneous bone conduction devices: the Minimally Invasive Ponto Surgery versus Linear Incision Technique with Tissue Preservation, Otol & Neurotol.

Why choose Ponto Minimally Invasive Procedures for your patients?

- **No scarring**

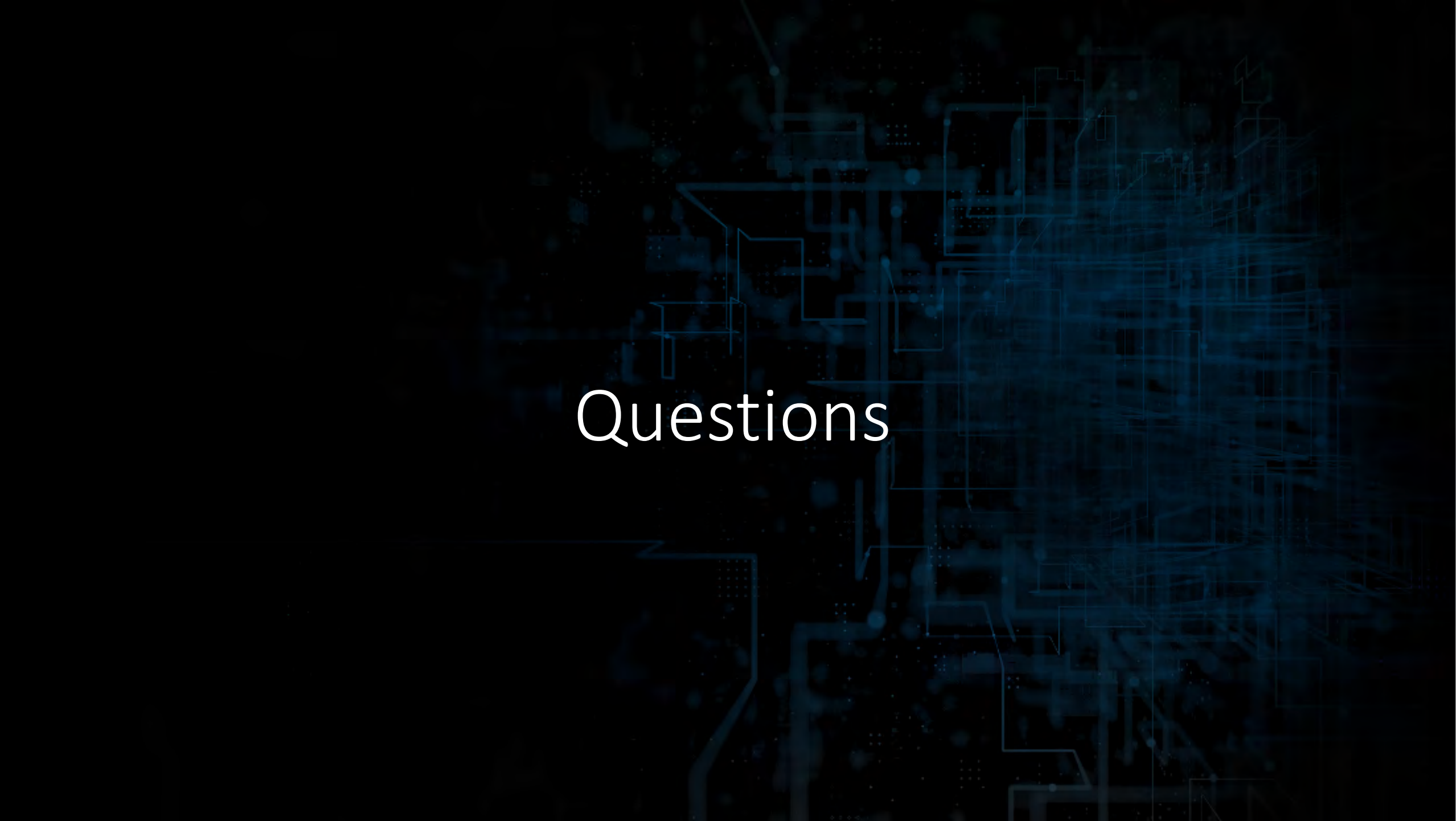
The risk of scarring is kept to a minimum.

- **Improved cosmetic appearance**

By making the smallest possible incision, hair follicles are left intact around the abutment, providing a discreet result.

- **Minimized post-op complications**

MIPS leaves the soft tissue around the abutment with a full blood supply and the microcirculation and nerves intact. This is required for healthy skin.

The background is a dark blue gradient with a complex pattern of glowing blue lines and dots. The lines are thin and form a network-like structure, with some lines being thicker and more prominent. The dots are small and scattered throughout the background, creating a sense of depth and complexity.

Questions