

Targeted Nerve Regeneration of the Nipple Areolar Complex in Chest Masculinization

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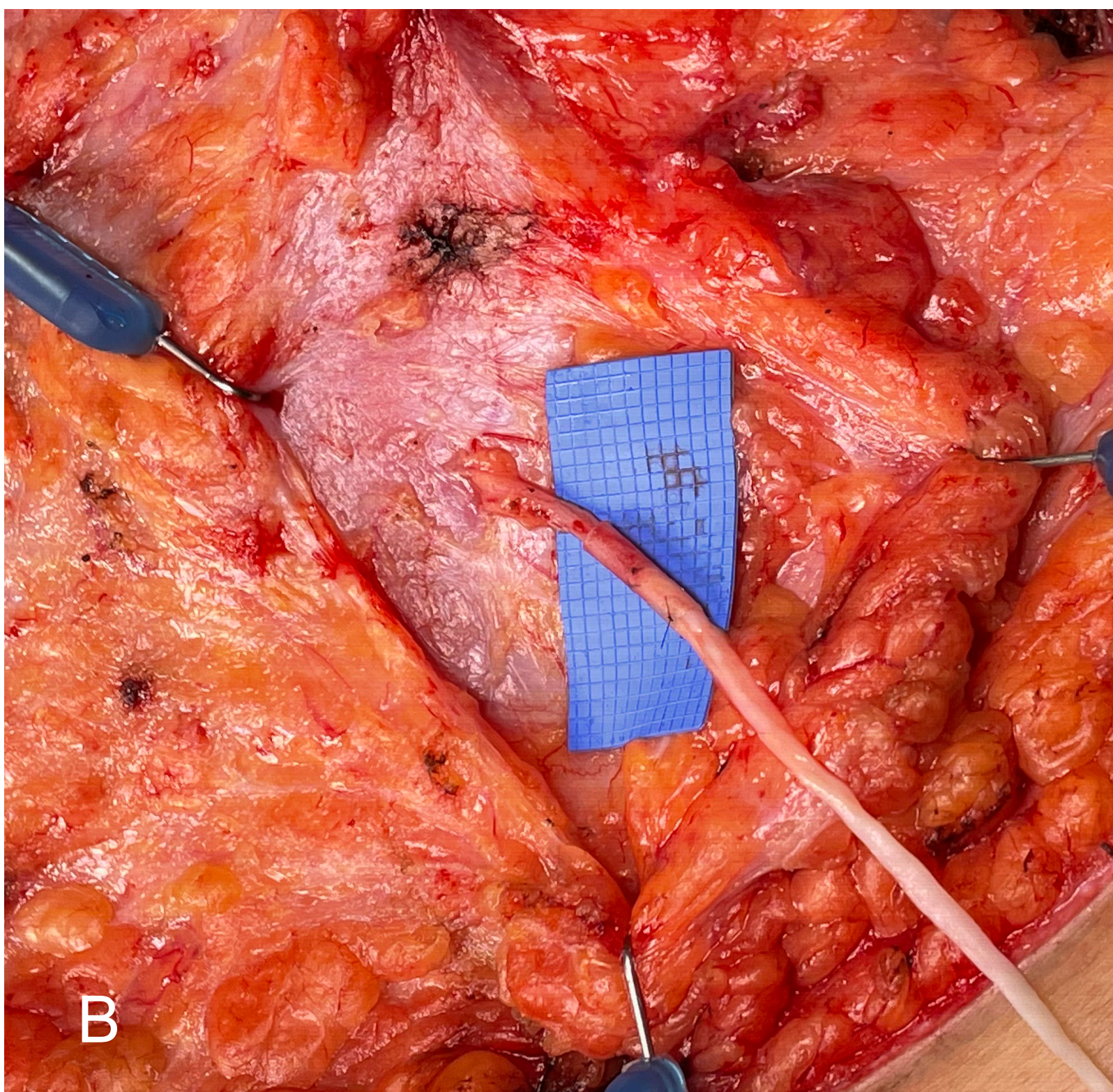
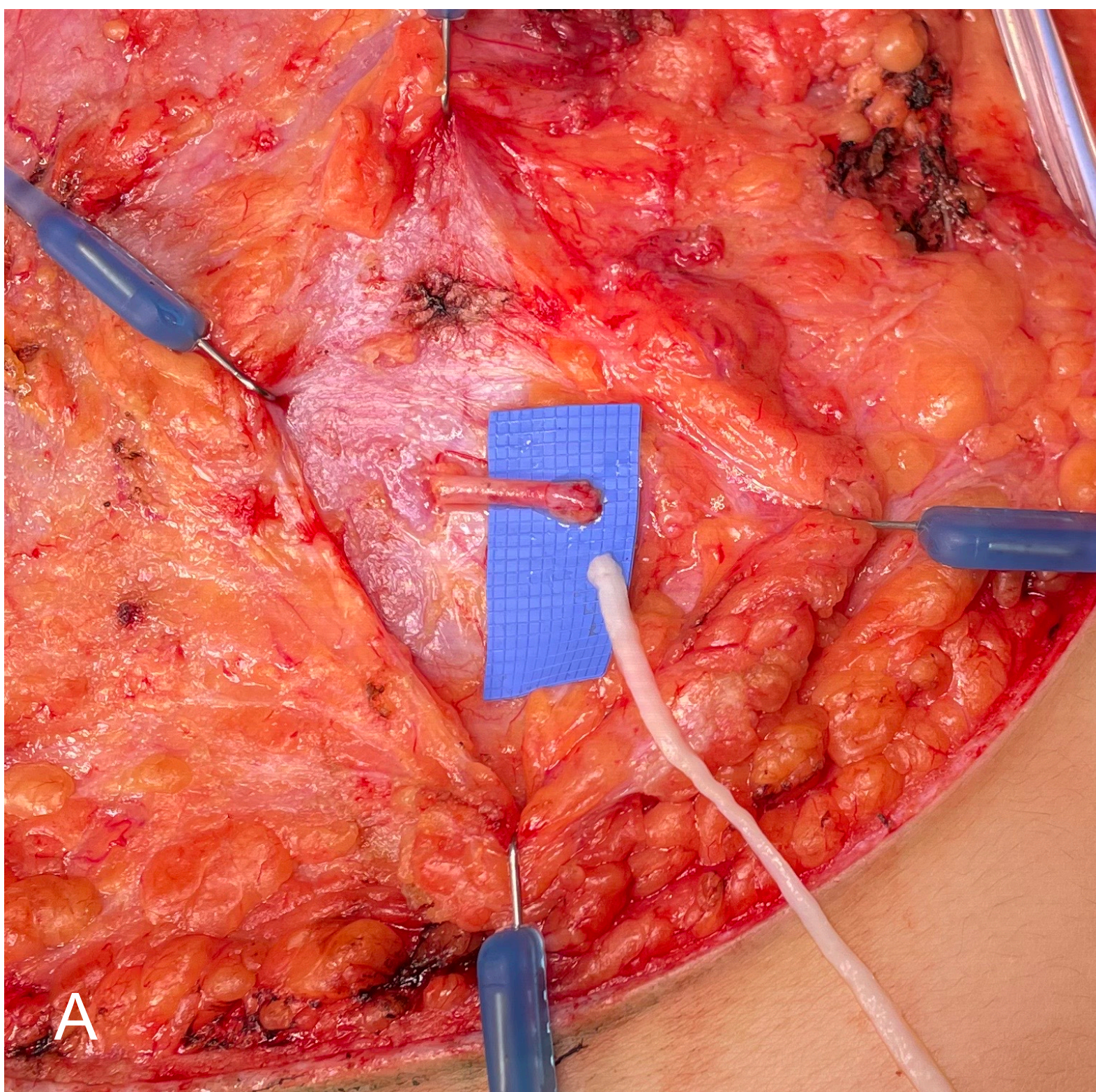
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Introduction

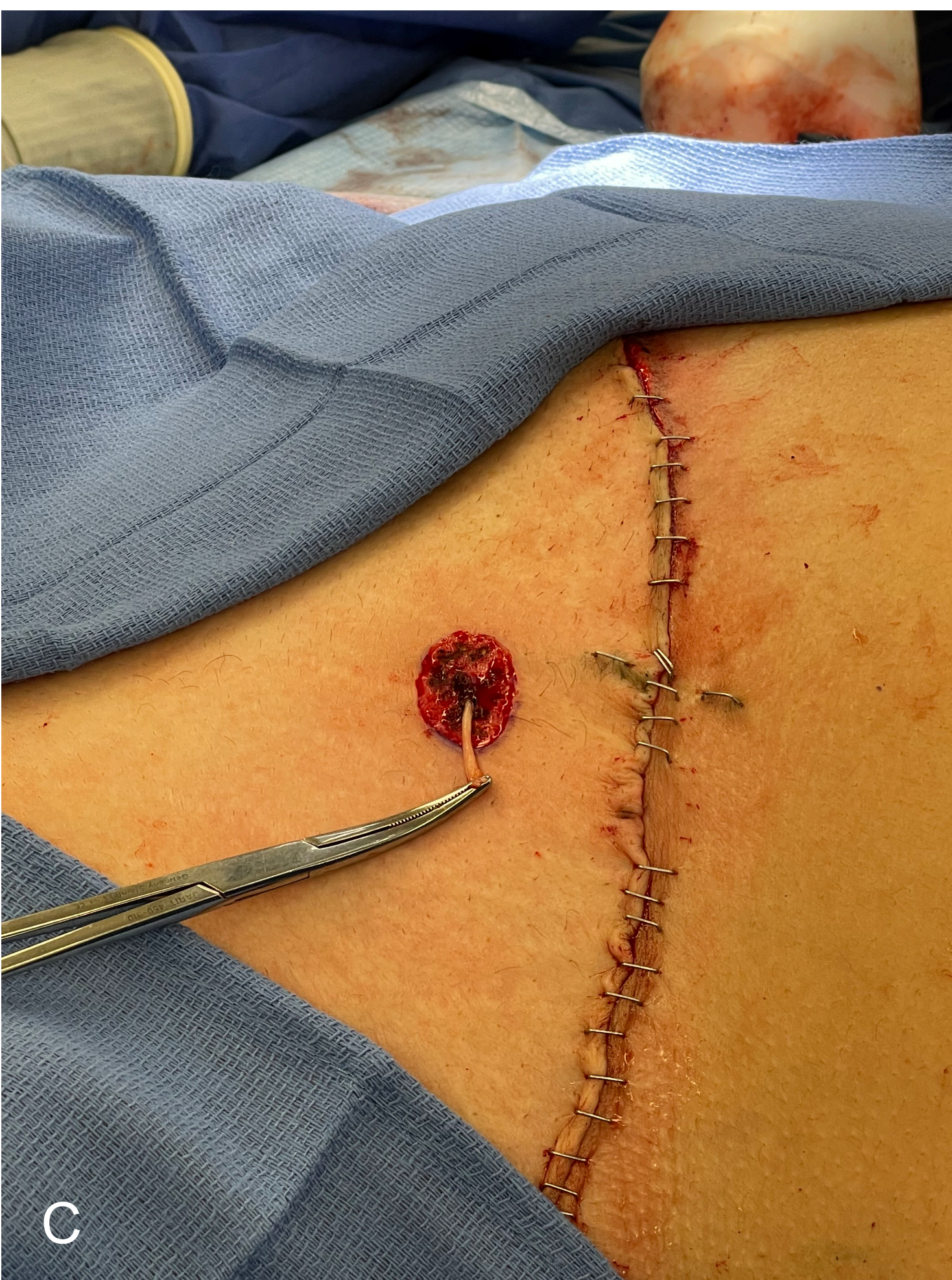
- A major drawback of the double-incision chest masculinization with free nipple grafting (FNG) technique is that nipple grafts lack innervation and sensation, which can affect patients’ overall satisfaction and quality-of-life.
- To address this issue, the authors describe using targeted nerve regeneration of the nipple areolar complex (NAC) using microsurgical nerve grafts.

Methods

- Patient’s who met WPATH criteria for top surgery and had at least 3 months follow-up were included.
- The patient is marked, and the dissection is carried out in the usual manner.¹
- A transected branch of the lateral 4th intercostal nerve is identified and dissected out under magnification.
- Coaptation to the nerve end is performed using 8-0 nylon suture to a 70mm x 1-2mm decellularized nerve graft. A conduit is applied.
- Next, a fibrin sealant is used.
- The chest wall is de-epithelized at the location of the new NAC.
- The nerve graft is tunneled through the subcutaneous tissue and sutured to the nipple graft using 4-0 chromic suture
- The nipple graft is inset, and the incisions are closed in the usual manner.



A/B) Intercostal nerve coaptation to Axogen decellularized nerve graft



C/D) Nerve graft tunneled through the dermal window

Results

Patient Characteristics

<i>n</i> =32	<i>n</i>	(<i>range</i>)
Average Age	22.13	(16-42)
Average BMI	27.82	(19-47.2)
Number on Hormone (n)	23.00	
Average Length of Hormone use (years)	1.66	
Number Non-binary (n)	9.00	
Number Transmale (n)	23.00	
Binding History (n)	27.00	
Length of binding (years)	3.96	(1-20)

Outcomes

<i>n</i> =32	<i>n</i>	%
Hematoma	0	0.00%
Seroma	2	6.25%
Wound Dehiscence	0	0.00%
Relayed Wound Healing	0	0.00%
Hypertrophic or Keloid Scars	2	6.25%
Revision/Return to OR	1	3.13%

Conclusion

Neurotized chest masculinization is a safe procedure with a very low complication rate and has the potential to provide sensation to grafted nipples. With further study, we hope to quantify the character and rate of sensation return.

1. Naides AI, Schultz JJ, Shulzhenko NO, Keith JD. Chest Masculinization Technique and Outcomes in 72 Double-incision Chest-contouring Procedures with Free Nipple Grafting. Plast Reconstr Surg Glob Open. 2021 Mar 15;9(3):e3459