

Barbed Sutures in Progressive Tension Suture Technique Abdominoplasty

Karol A Gutowski, MD



MAY 3-8, 2012

VANCOUVER
CANADA

Convention & Exhibition Centre



THE AESTHETIC
MEETING 2012

Disclosures

Speakers Bureau for AngioTech since April 2011
(Makers of Quill bi-directional barbed sutures)

Technique may be applicable to other brands of barbed sutures

NO financial interests in AngioTech

Will NOT discuss off-label use of products

Will NOT discuss non-FDA approved products



Objectives

- Offer a modification of progressive tension suture abdominoplasty using a continuous running barbed suture (BS)
- Discuss pitfalls and key points of modified technique



Peer Reviewed Publications

Body Contouring

Abdominoplasty With Progressive Tension Closure Using A Barbed Suture Technique

Jeremy P. Warner, MD; and Karol A. Gutowski, MD

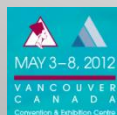
ASJ 2009

IDEAS AND INNOVATIONS

Use of Absorbable Running Barbed Suture and Progressive Tension Technique in Abdominoplasty: A Novel Approach

*Allen D. Rosen, M.D.
Montclair, N.J.*

PRS 2010



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Abdominoplasty With Progressive Tension Closure Using A Barbed Suture Technique

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IN PRESS

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Public Reviewed Publications

RealSelf [Ratings](#) [Ask a Doctor](#) [Doctor Finder](#)

[Tummy Tuck](#) : [Reviews](#) [Photos](#) [Q&A](#) [Forum](#) [Doctors](#)

Tummy Tuck Q&A

94%  **WORTH IT RATING**
2,218 Reviews

[Ask a Question](#)

[Average Tummy Tuck Cost](#): \$8,331
[Learn about Tummy Tuck](#)



[View Before and Afters](#)


Tummy Tuck Without Drainage Vs. with Drains?

Does it make a difference on swelling? I notice that people who have Tummy Tucks without drainage seem to be more swollen than tummy tucks done with. What is the difference?

Tags: [COMPARISON](#) | [DRAINAGE](#) | [SWELLING](#)


[Answer this question](#)

10 answers to Tummy Tuck Without Drainage Vs. with Drains?

 **+4** 

Tummy Tucks and Drains

Thanks for your question. Tummy tucks creates a large dead space above the belly button down to the incision. Fluid can accumulate in this space. In addition, incisions used to perform abdominoplasty divide small lymphatic vessels decreasing the body's ability to return fluid from tissue back into the circulation. Drains usually stay in from 4 days to two weeks. The drains are used to remove fluid that collects in the dead space created. When drain output is low enough (most surgeons... [more](#))

 **Steven H. Williams, MD** [Top](#)
San Francisco Plastic Surgeon

 **+2** 

Tummy Tuck drainage at surgeon's discretion

To drain or not to drain is at the surgeon's discretion as there is no concensus. The majority of surgeon's drain, some for just a couple of day, some for weeks. Some try to suture the cavity closed thus obviating the need for drainage. The main purpose is to prevent small hematomas or seromas from forming. It usually does not prevent large bleeds from occurring and the amount of swelling should be less as bruising (which contributes to swelling) should also be less. However, it may be that... [more](#)

 **Robin T.W. Yuan, MD** [Top](#)
Beverly Hills Plastic Surgeon



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Is Drainless Tummy Tuck a Safe Procedure?

After consulting a board certified plastic surgeon, I was told that some physicians do not do the drainless procedure because it takes additional time in the O.R. (hence higher cost) or that the same risks exist when using drains. Is it safe?

I have heard conflicting views and am a bit concerned/confused about this. I must admit, no drains sounds very appealing to me as a patient.

Tags: [ABDOMEN](#) [COSTS](#) [DRAINAGE](#) [PLASTIC SURGEON](#)

[Answer this question](#)

16 answers to Is Drainless Tummy Tuck a Safe Procedure?



Tummy tuck can be done safely without a drain

+4



According to answers posted on this site it seems that performing a tummy tuck without a drain is seldom recommended. There was a similar debate concerning drains after a facelift many years ago, and again surgeons divided into those that did drain and those that did not. Today very few surgeons consider using a drain in a facelift procedure, and my feeling is that in tummy tuck too in the future few surgeons will continue placing a drain. In our practice for the past nine years we have... [more](#)



Peter E. Johnson, MD
Chicago Plastic Surgeon



Drainless works in experienced hands

+4



Drain less Tummy Tuck operations are performed by Plastic Surgeons who use a quilting technique. In this procedure, multiple sutures are placed between the muscle and fat layer to quilt the skin like a down comforter. It requires a lot more time in the OR and needs an experienced physician. We perform more than 100 Tummy Tucks a year and still use drains. Our complication rate with drains is extremely low, so I see no reason to add the time to the procedure. While the idea of no drains... [more](#)

Public Reviewed Publications

RealSelf Ratings Ask a Doctor Doctor Finder

Tummy Tuck : Re

Tummy Tuck

94% WORTH IT RATING
2,218 Reviews

Ask a Question

Home > Tummy Tuck > Forum > Recovering MARCH Tummy Tuckers!

Tummy Tuck Forum

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Post to Forum

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View Before and Afters

Recovering MARCH Tummy Tuckers!

By 3boys 1princess on 07 Apr 2011

Thought I would start another thread for recovery questions and comments. Here goes the first one. How long have you had your drains or how long did you have them? I am 10 days out and still have both. NOT happy about that. Think that I am doing too much, but LIFE goes on. Was supposed to get 1 out tomorrow but drainage jumped back up to 40 today. YUCK!! Hope everyone is recovering nicely and if you have any questions or comments POST THEM HERE!!

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Thanks for y down to the perform abd return fluid f weeks. The drain output

To drain or i majority of s suture the c prevent sma bleeds from contributes

Beverly Hills Plastic Surgeon

Update on Experience Since 2009

Abdominal contouring patients 145

Tumescent technique + liposuction

Firm abdominal binder for 1-2 weeks

Autologous breast reconstruction 7

Implantable “pain pumps”

No abdominal binder first week

All cases used standard technique with bi-directional
barbed sutures without drains



Abdominal Contouring Procedures

Standard abdominoplasty	102
with inverted T incision	11
Circumferential abdominoplasty	26
<u>with inverted T incision</u>	<u>6</u>
TOTAL	145



Abdominal Complications

Seroma		3
Drained by single needle aspiration	2	
Drained by two needle aspirations	1	
Wound dehiscence		5
Anterior & superficial (skin only)	2	
Posterior & superficial (skin only)	2	
Lateral & deep (Scarpa's fascia)	1	
Hematoma		0

Breast Reconstruction Seroma

Bilateral DIEP breast reconstruction - Missing needle

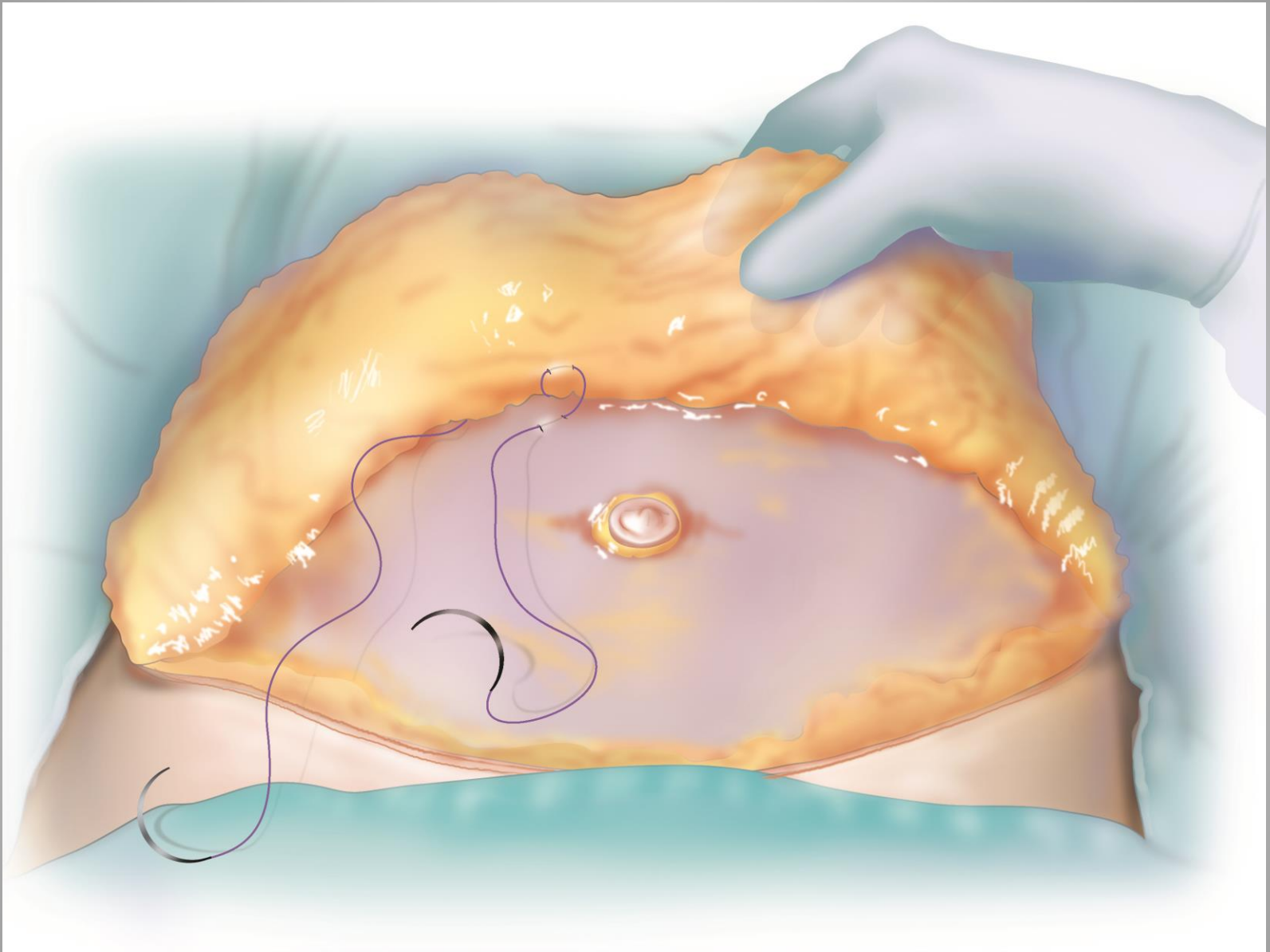
Large right abdominal seroma 1 week post-op

Unresponsive to needle aspiration & drain placement

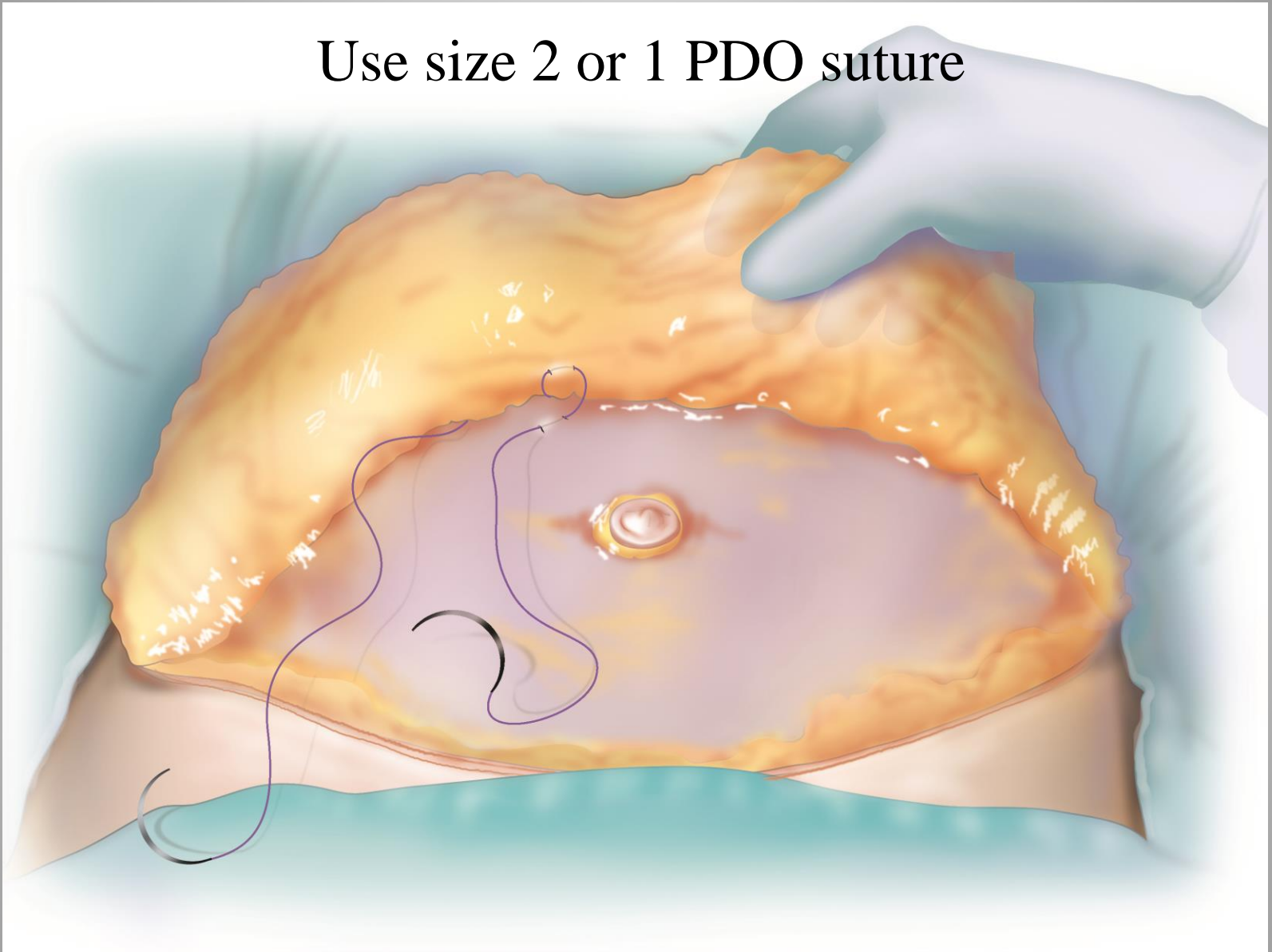
Required operative drainage and excision

Due to unintentional omission of PTS on right side

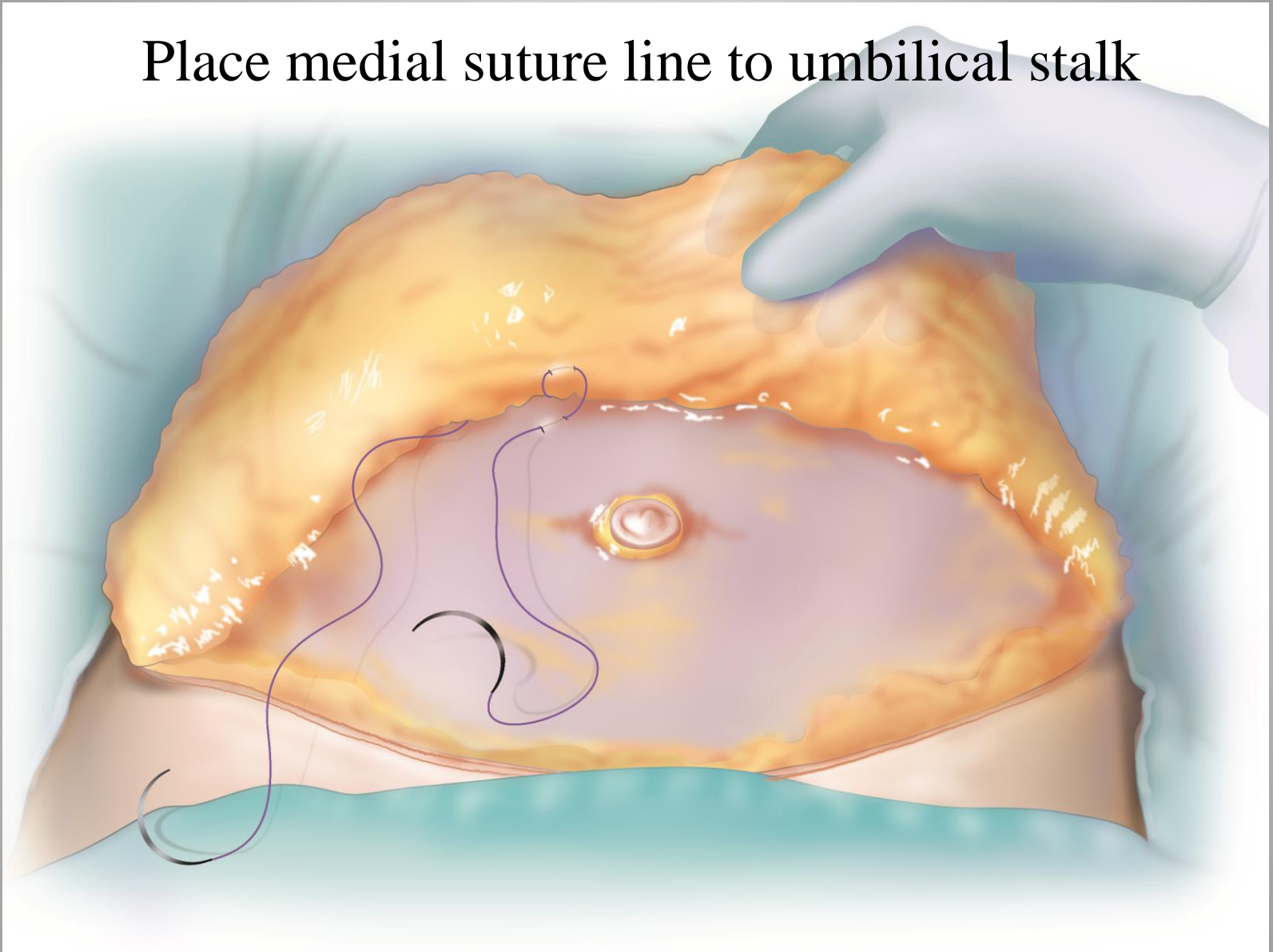




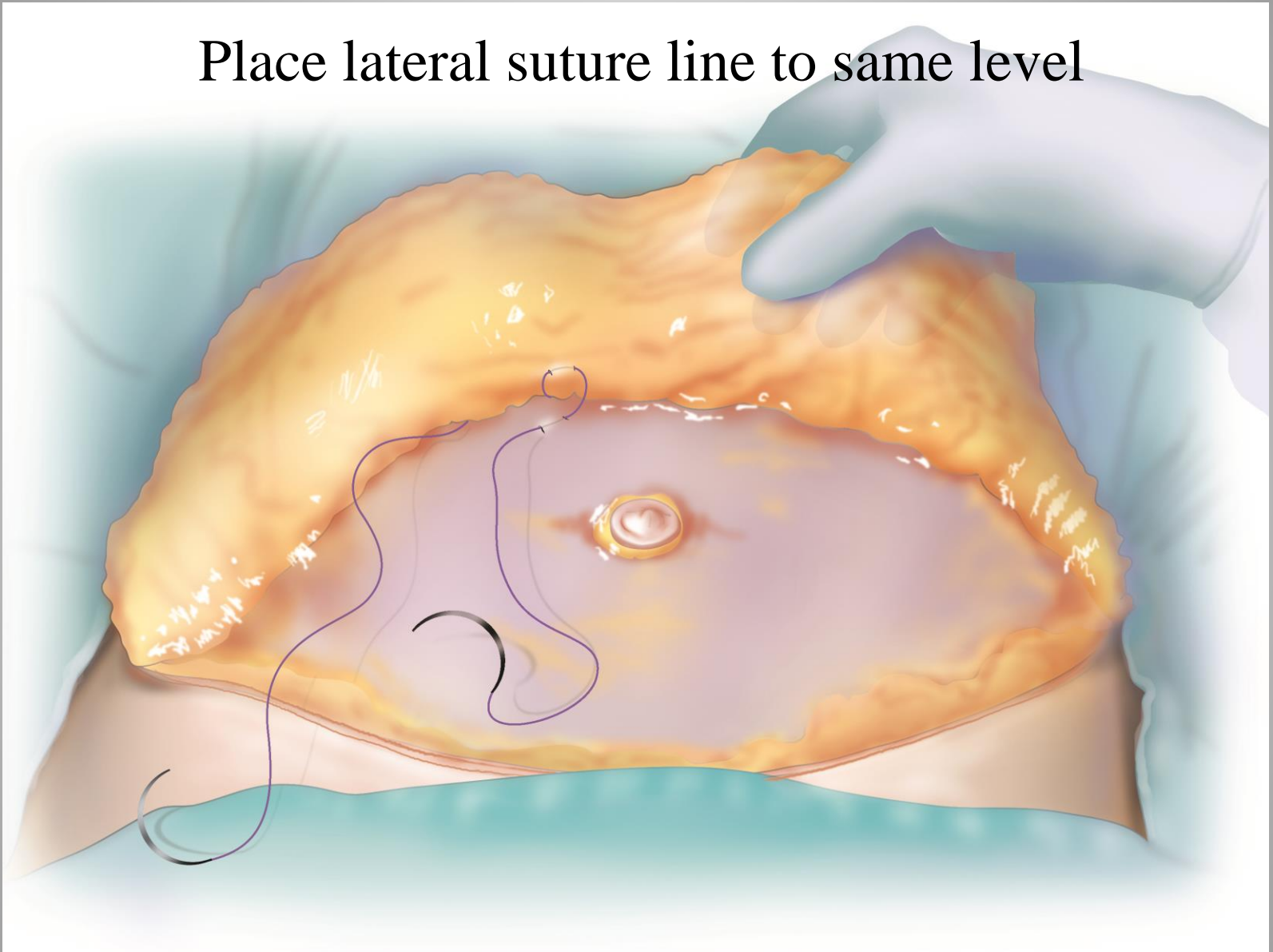
Use size 2 or 1 PDO suture



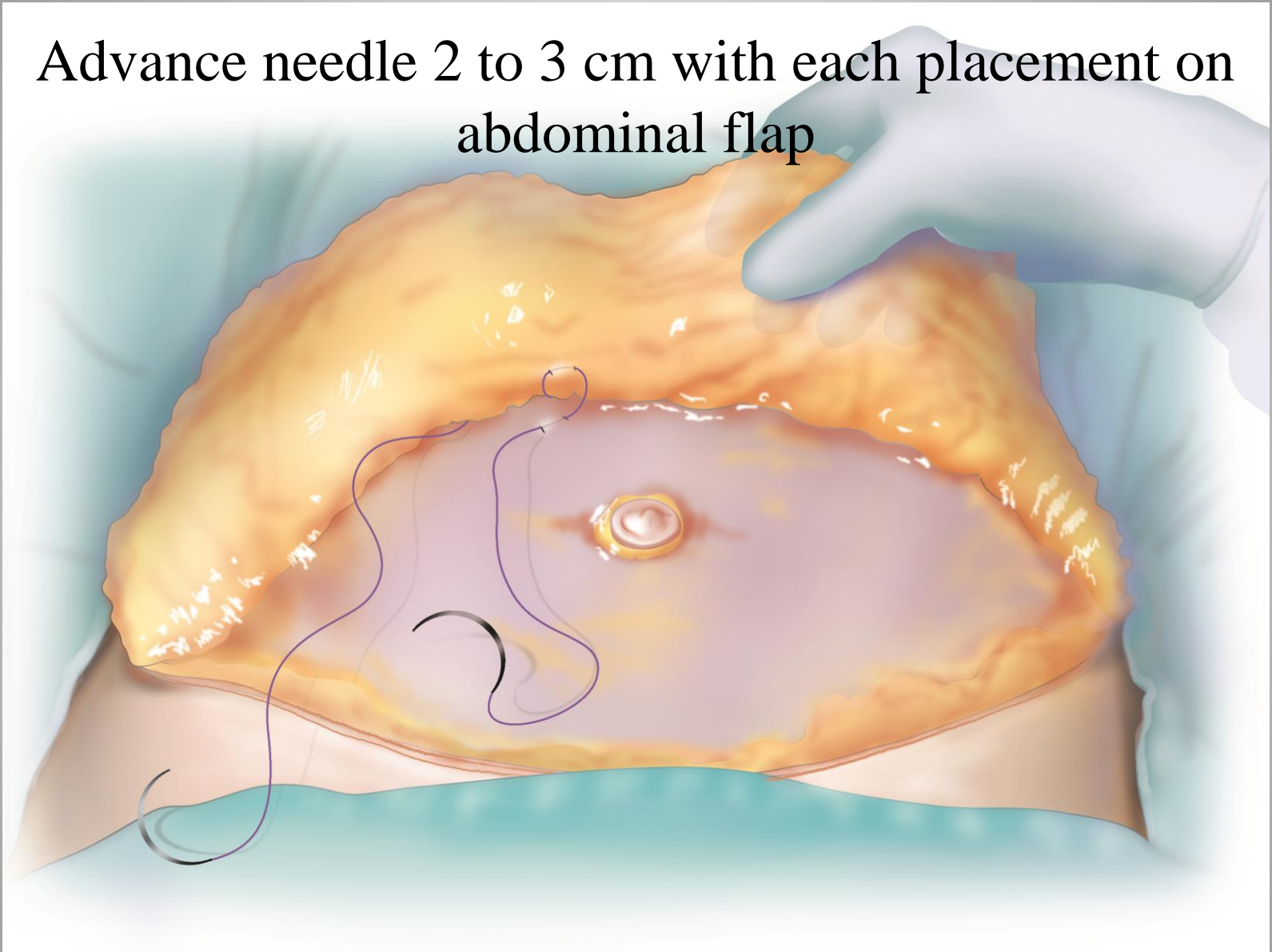
Place medial suture line to umbilical stalk



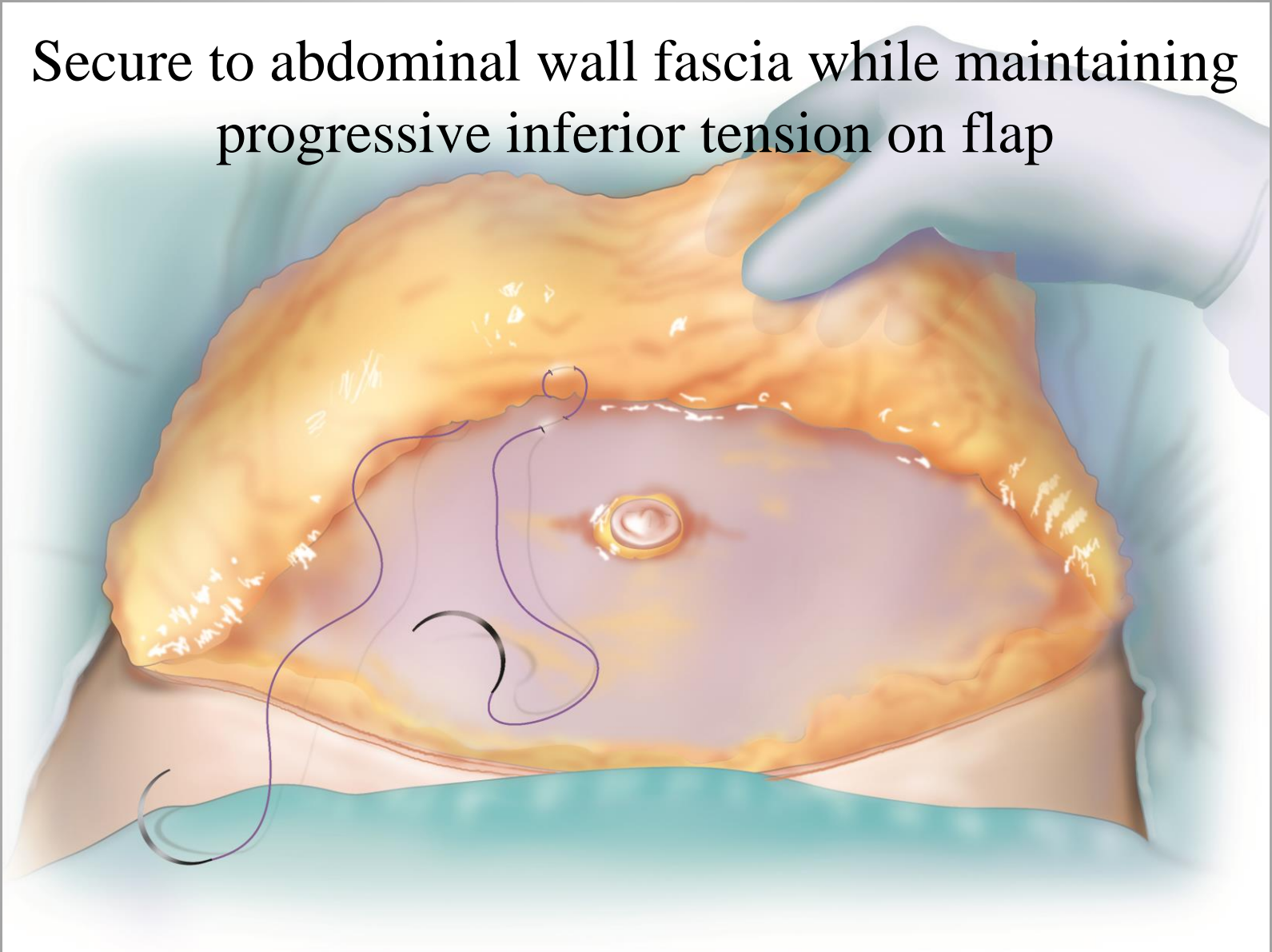
Place lateral suture line to same level



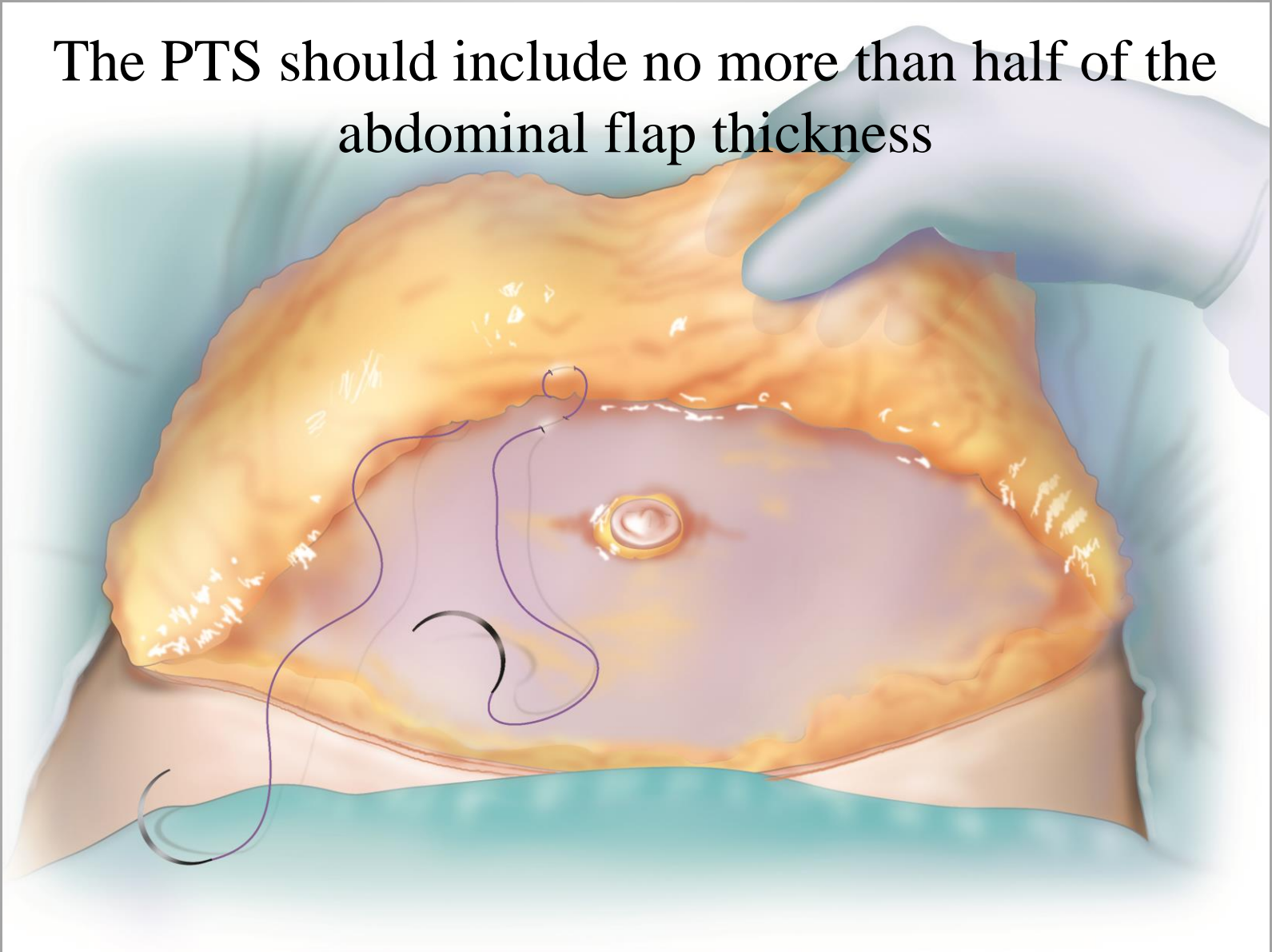
Advance needle 2 to 3 cm with each placement on abdominal flap



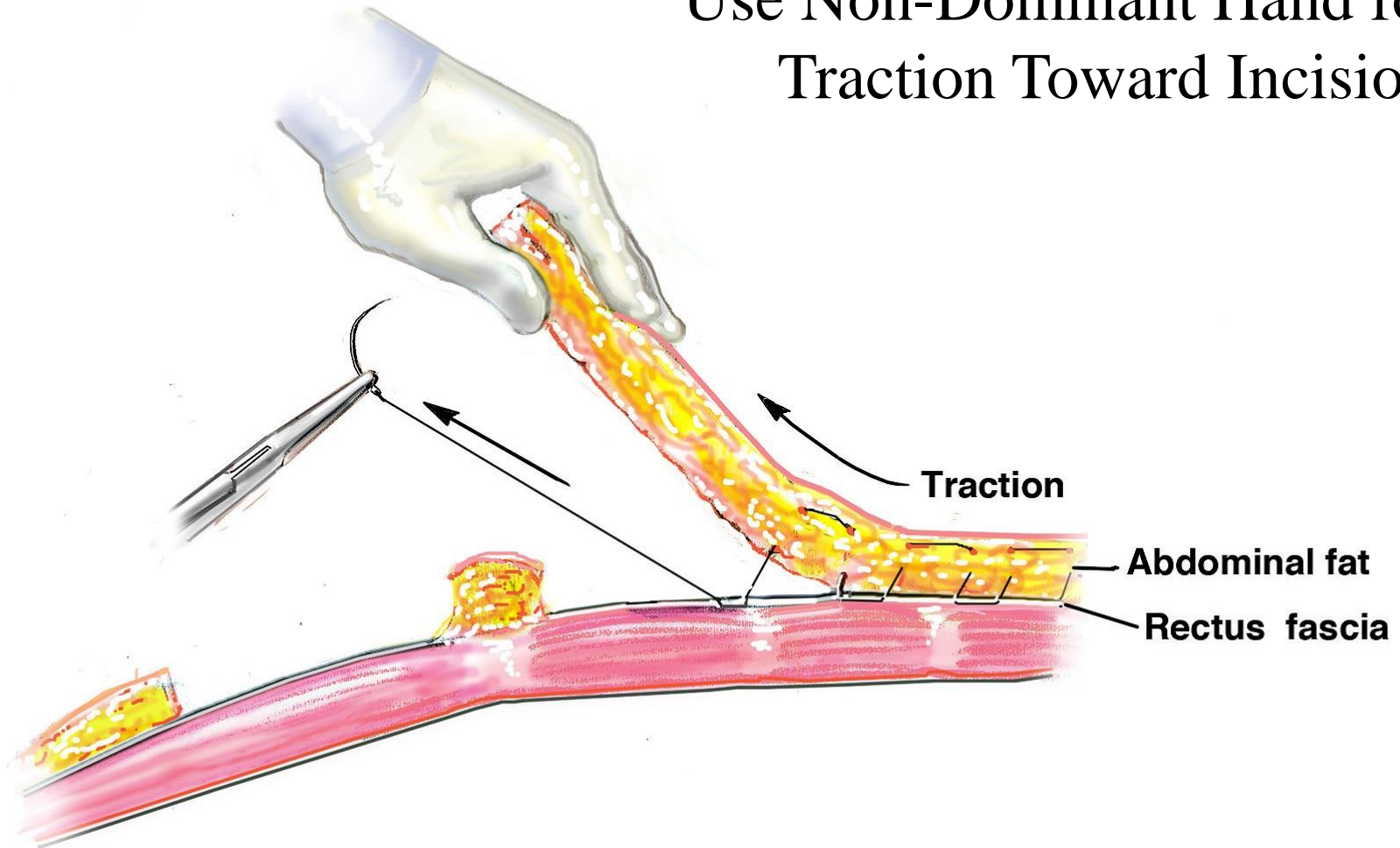
Secure to abdominal wall fascia while maintaining progressive inferior tension on flap



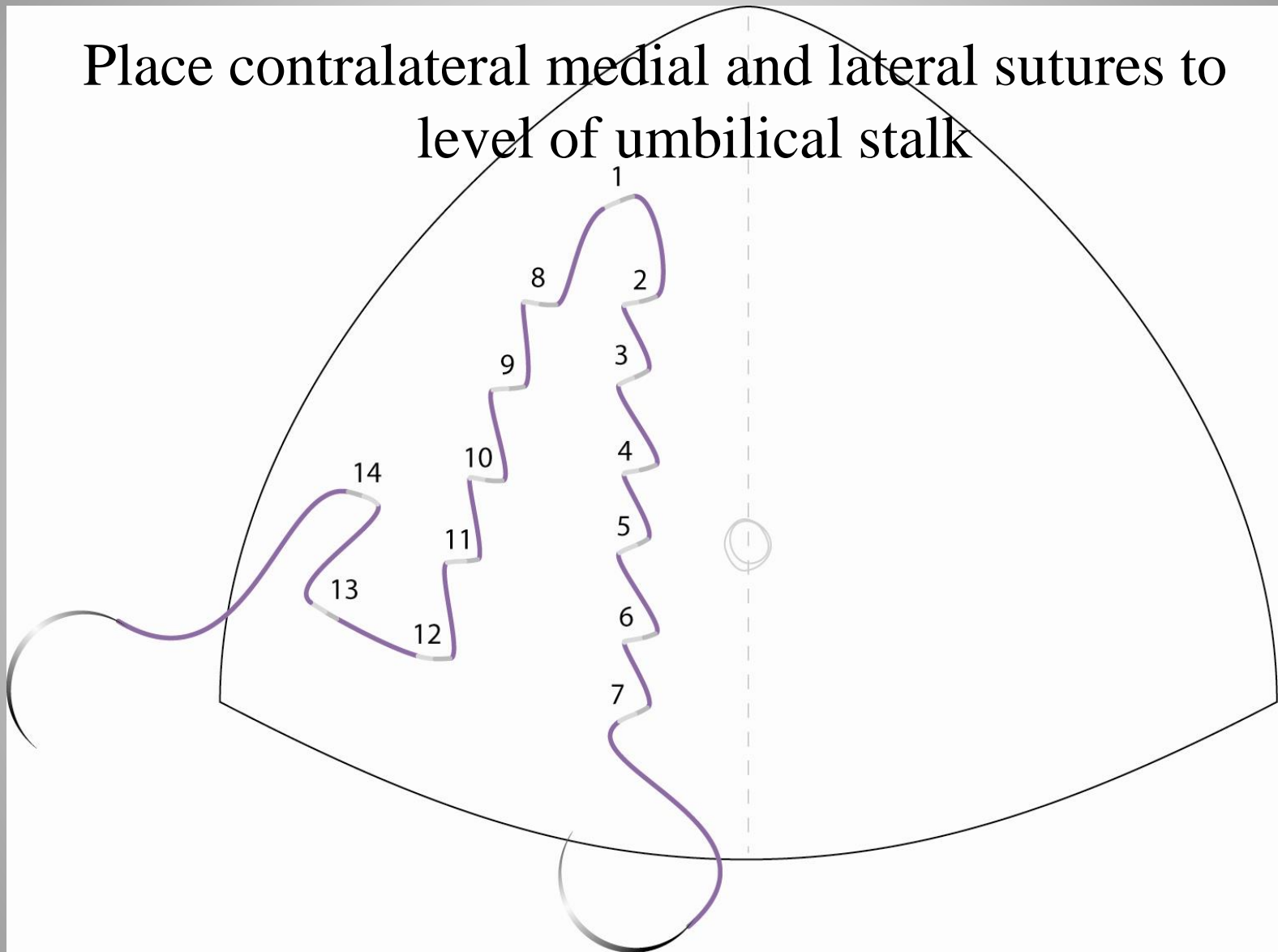
The PTS should include no more than half of the abdominal flap thickness

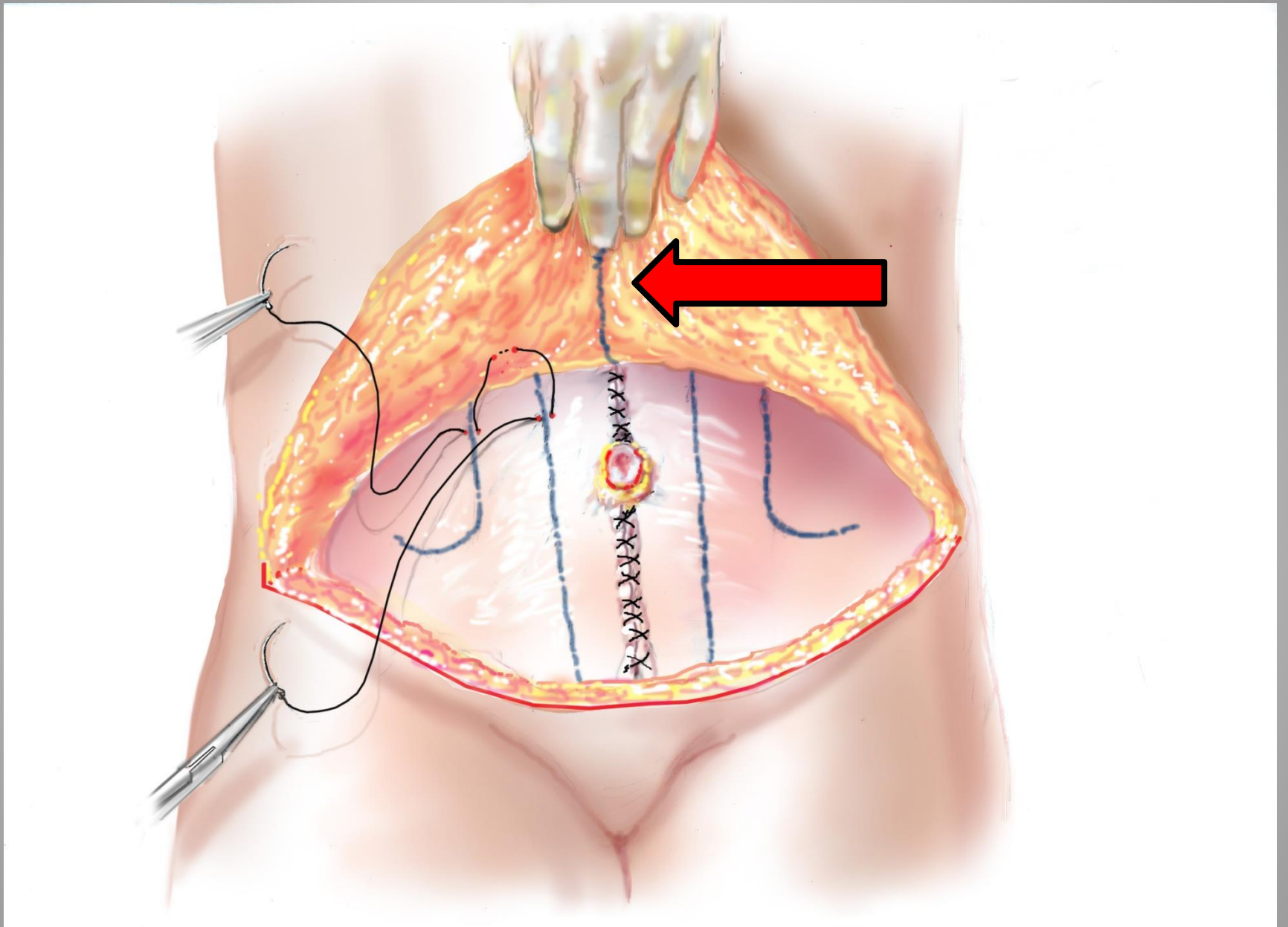


Use Non-Dominant Hand for Traction Toward Incision



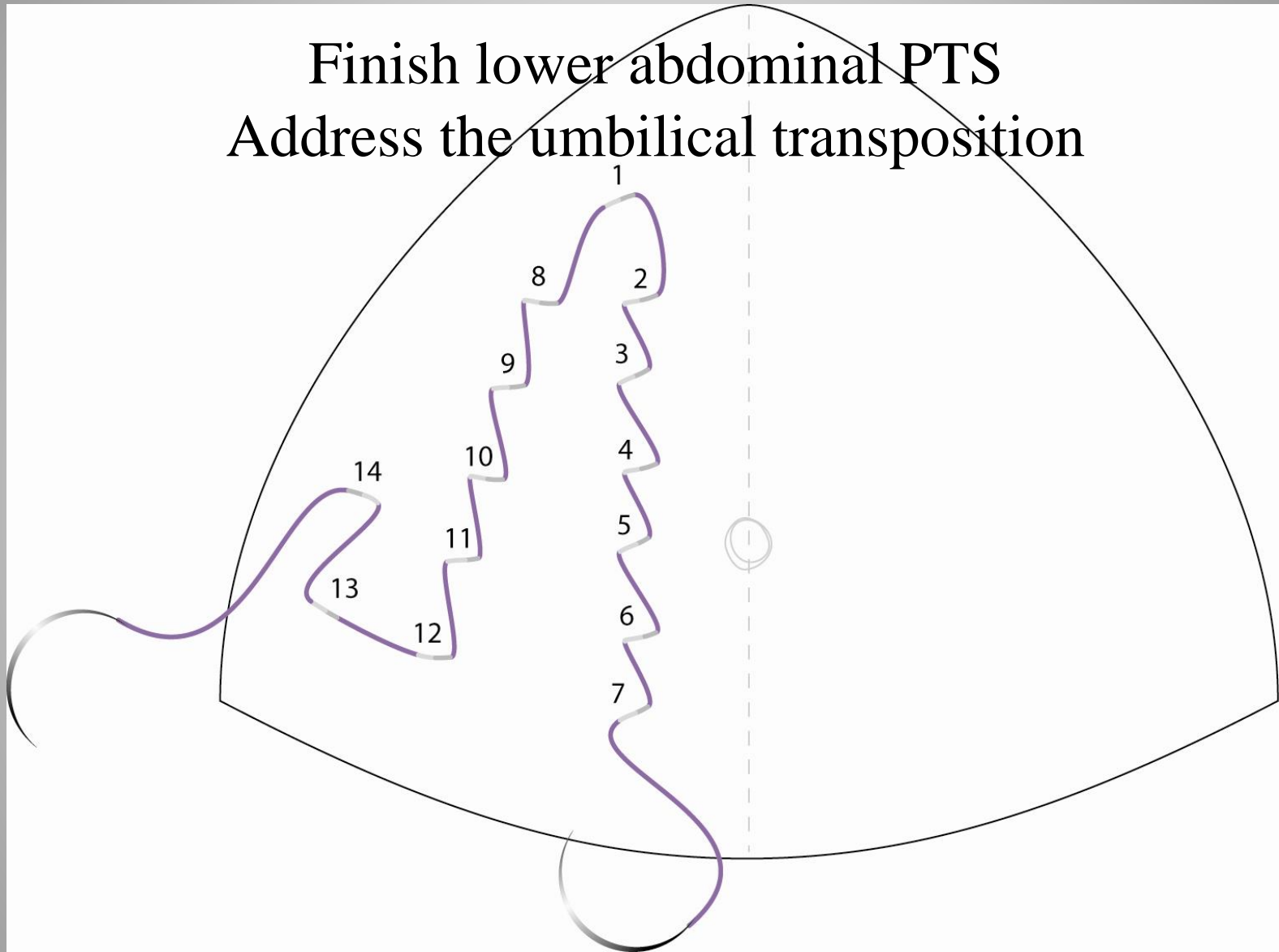
Place contralateral medial and lateral sutures to level of umbilical stalk





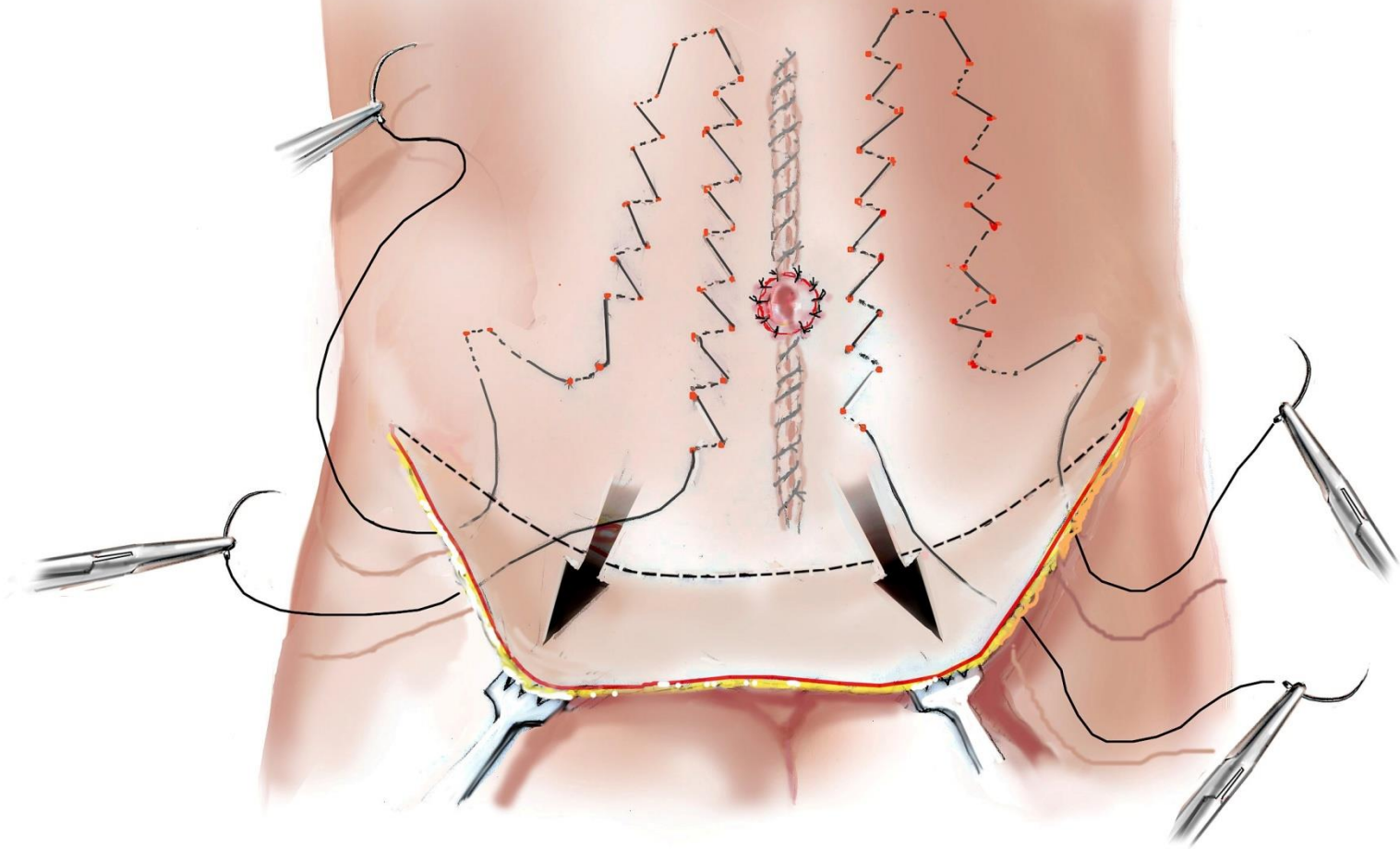
Finish lower abdominal PTS

Address the umbilical transposition

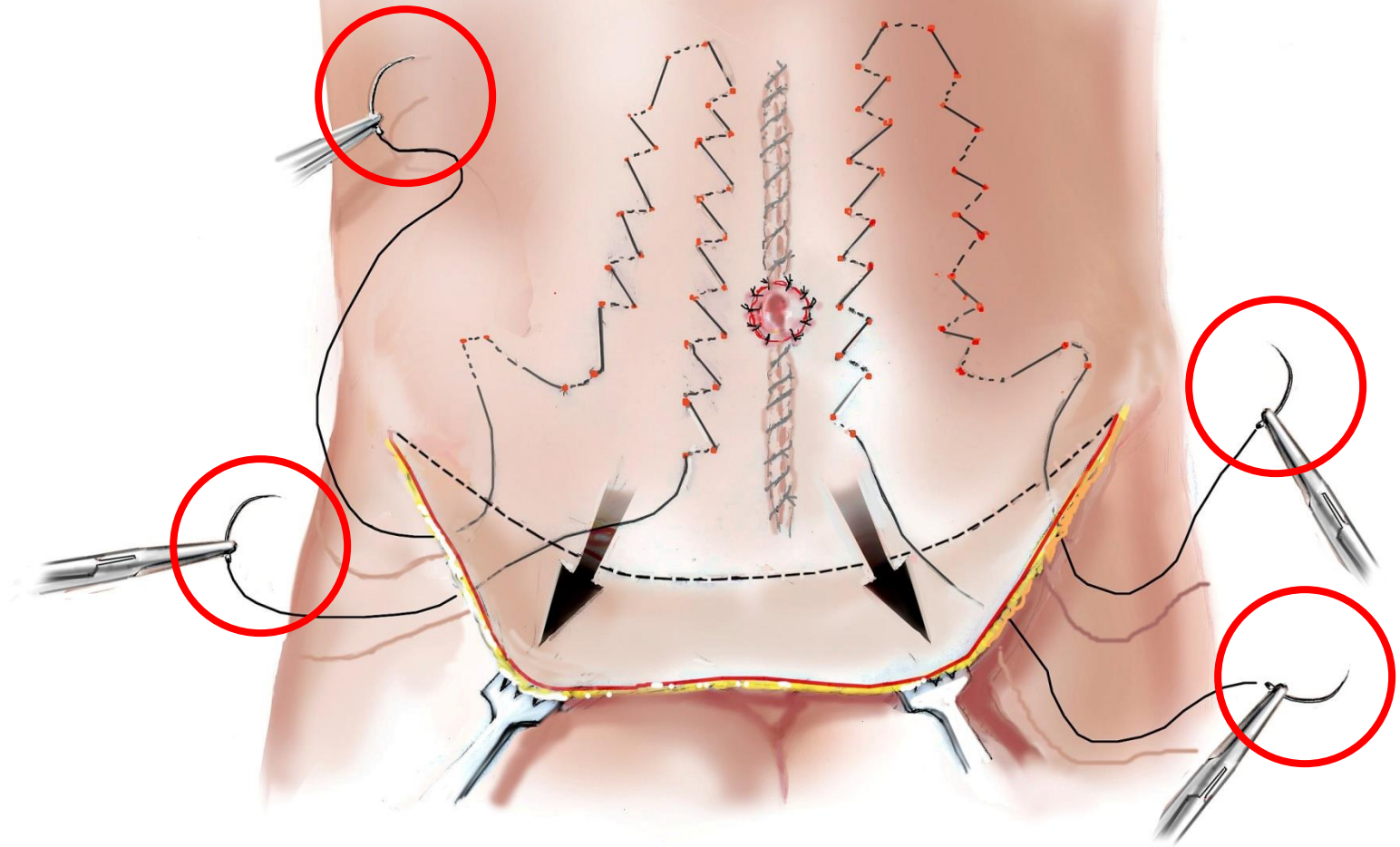


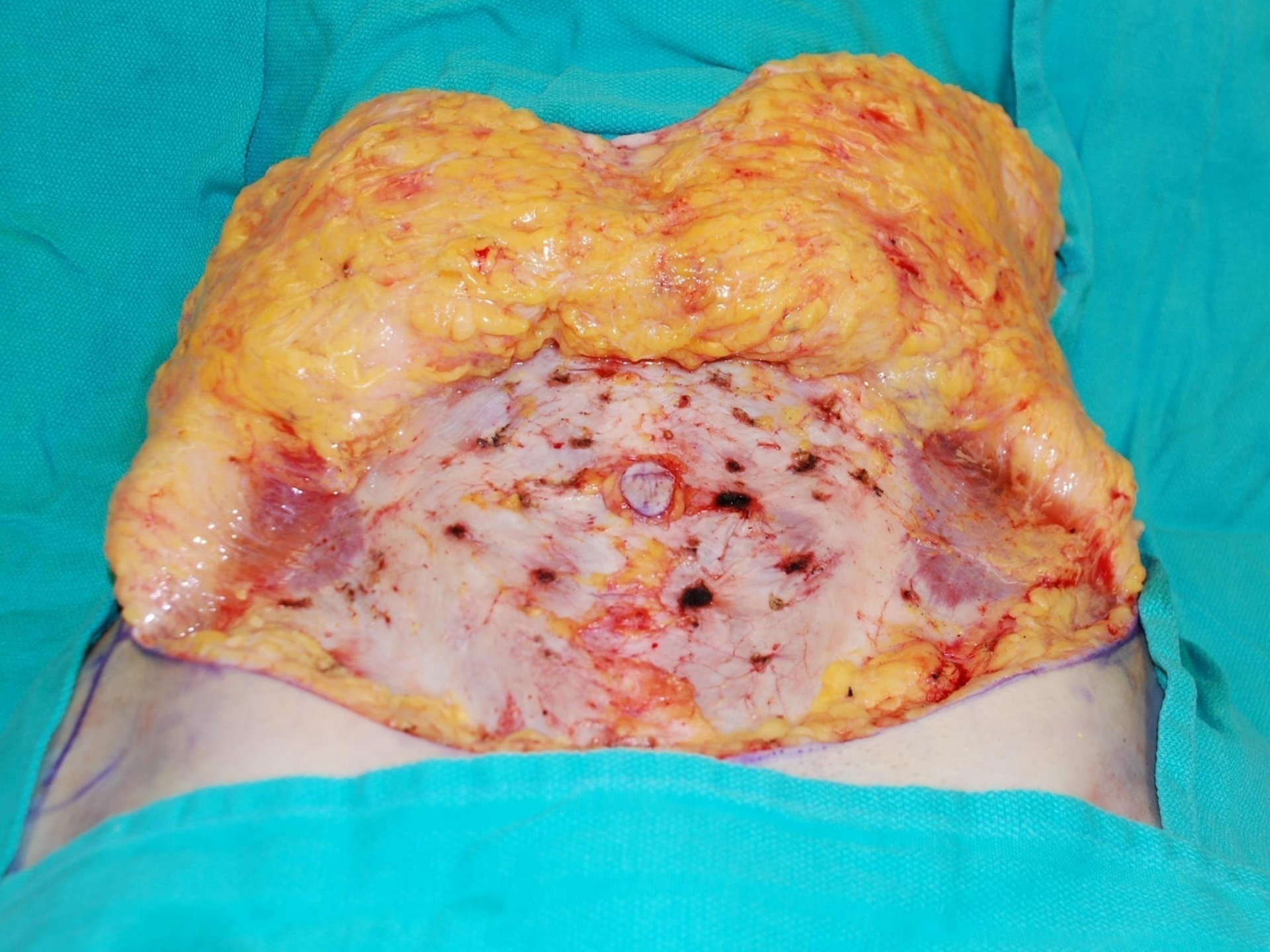
Finish lower abdominal PTS

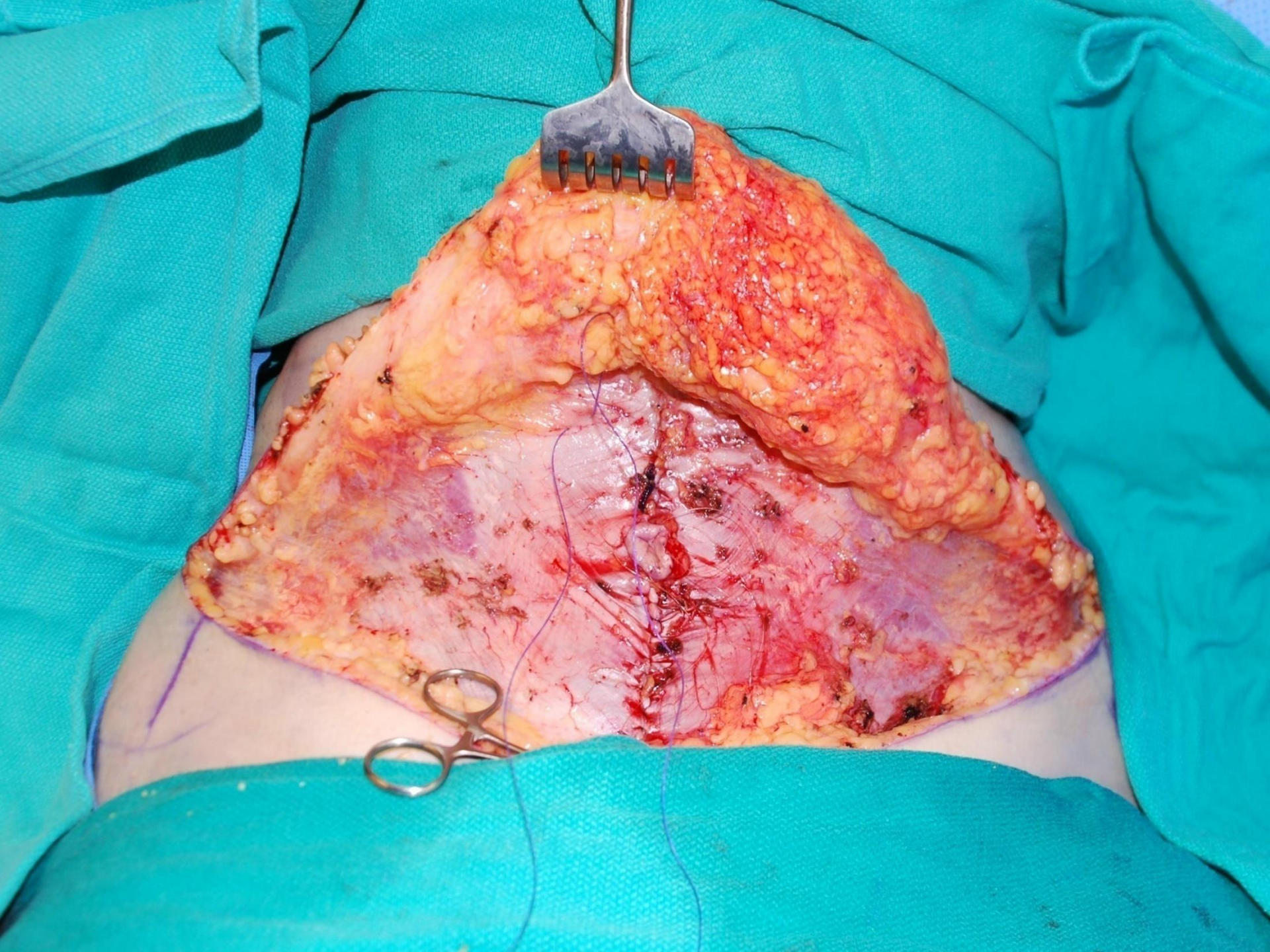
Address the umbilical transposition

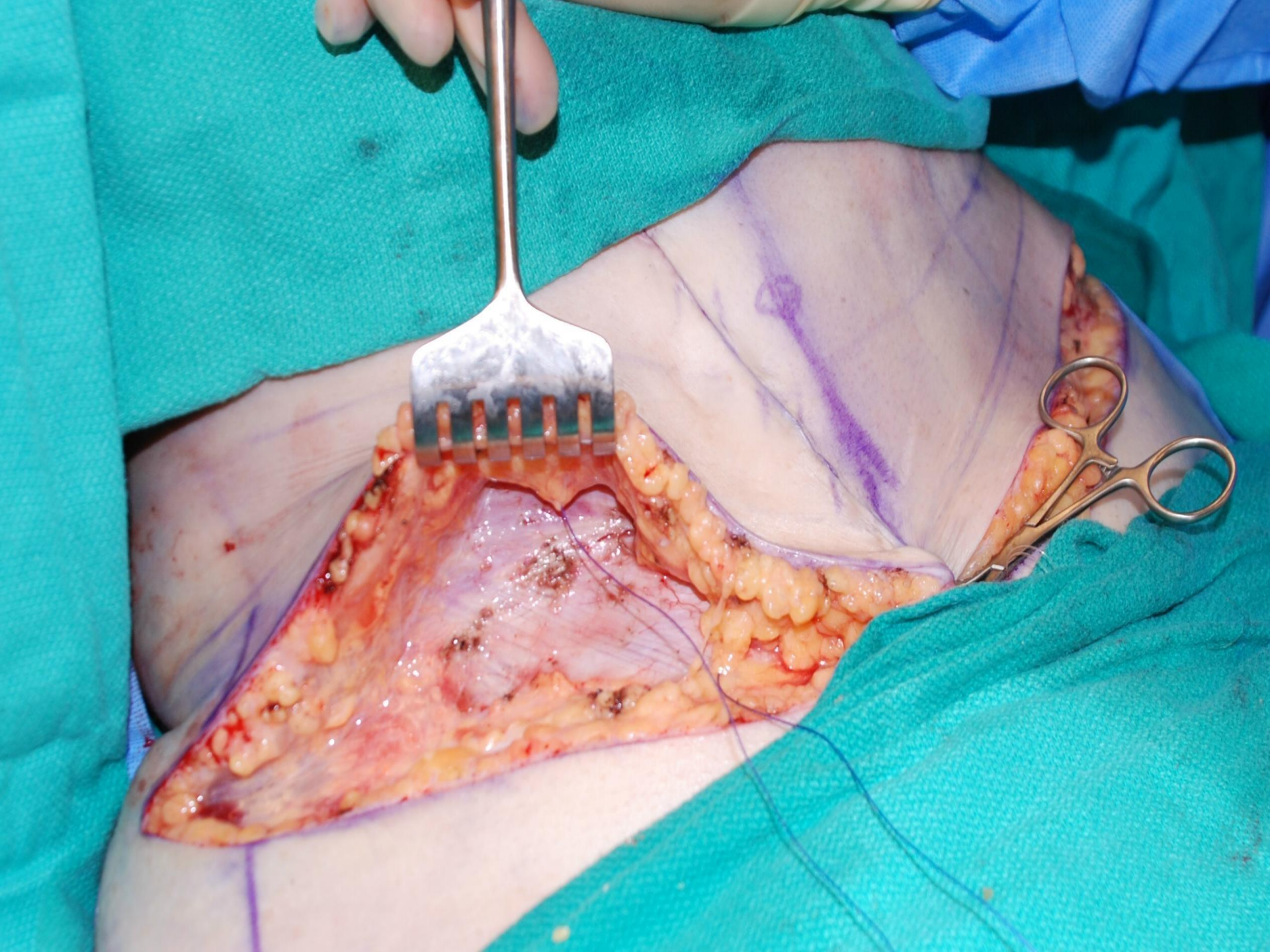


Protect the Needles









Practical Tips

- Instruct assistants on principals of this technology
 - More familiarity = faster incorporation it into your practice
 - Don't cut off one of the two needles of the bidirectional sutures
- Suture is more firm
 - Gentle stretching prevents loop and knot formation
- Avoid contact with gauze, lap sponges & similar materials
 - Barbs may attract lint-like material onto the suture
- Two needles on operative field with each suture
 - Protect the needle not in use with a needle holder
- If a barbed suture breaks
 - Start a new suture with 3-4 cm of overlap with the old suture



More Practical Tips

- Keep abdominal flap aligned
 - Mark undersurface & avoid tendency to pull flap to one side
- Avoid excess tension as fat necrosis may result
- May apply techniques to circumferential abdominoplasty
 - Use posterior “3-point” tissue fixation to close dead space
- Advise patients
 - Small abdominal contour irregularities resolve in 1 to 2 weeks
 - May feel “popping” sensation in 2 to 6 weeks



Technique Advantages

- Fast closure
 - 8 to 10 minutes additional time for PTS
- Can do without an assistant
- Maintains tissue approximation
 - Less tissue pull-through
- Eliminate abdominal drains
- Need for abdominal binder?





BS-PTS Abdominoplasty (1 year)



BS-PTS Abdominoplasty (1 year)



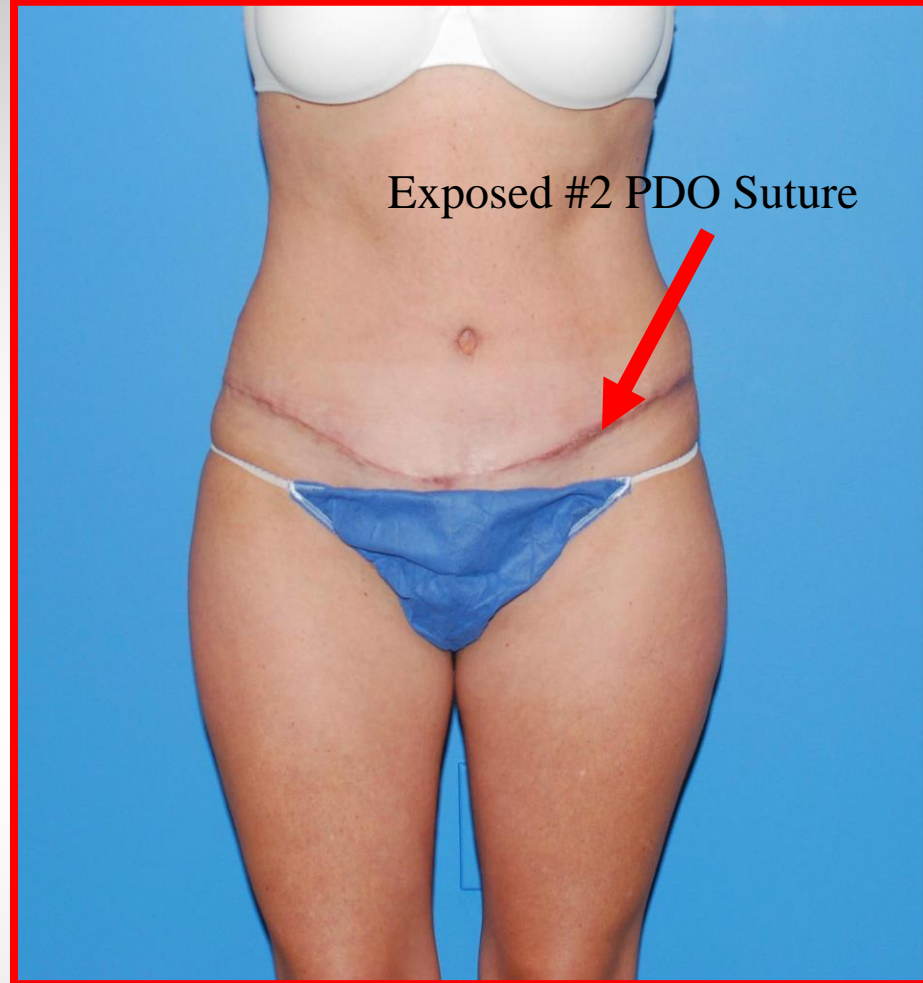
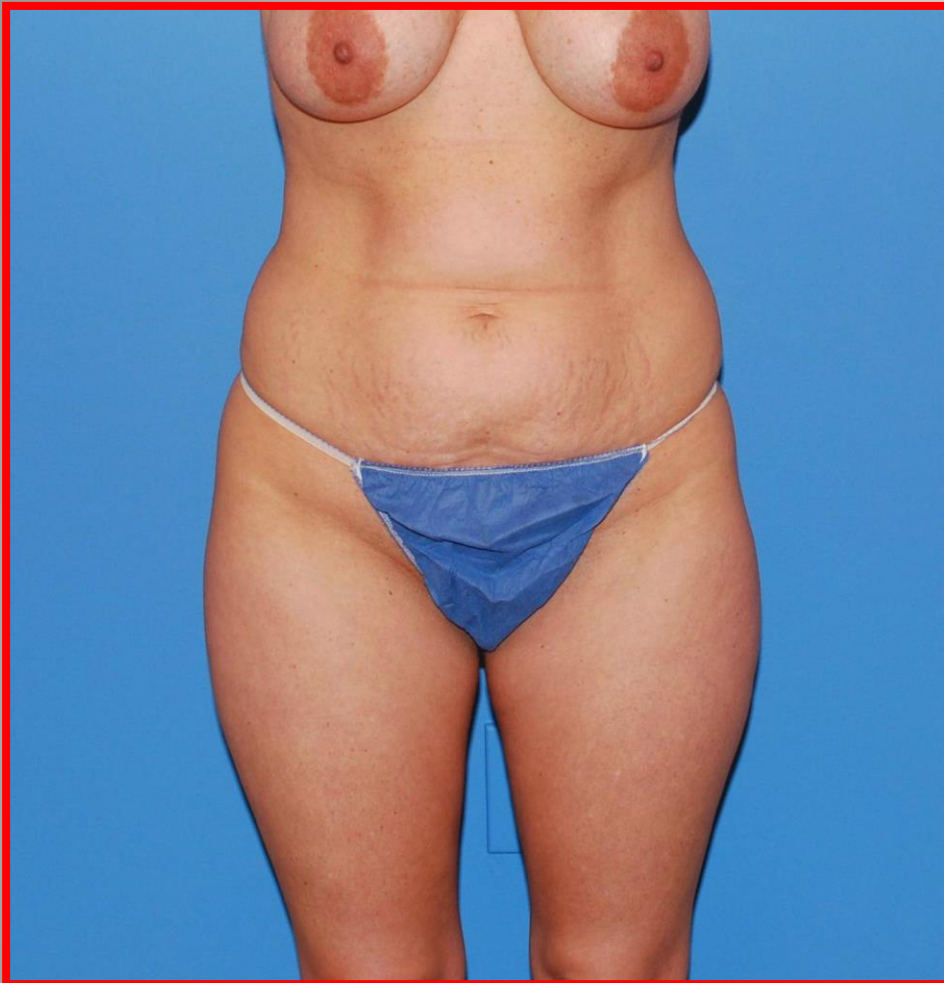
BS-PTS Abdominoplasty (5 months)



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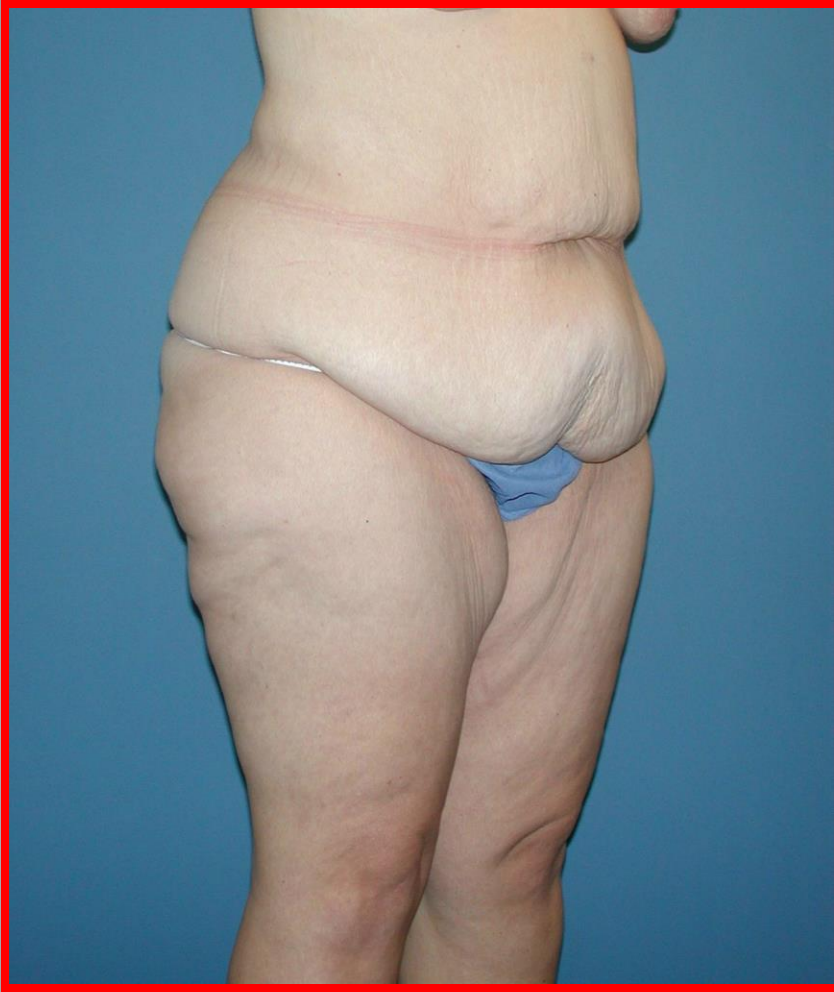
BS-PTS Abdominoplasty (7 weeks)



BS-PTS Abdominoplasty (7 weeks)



MWL BS-PTS Abdominoplasty & liposuction (4 months)



MWL BS-PTS Abdominoplasty & liposuction (4 months)

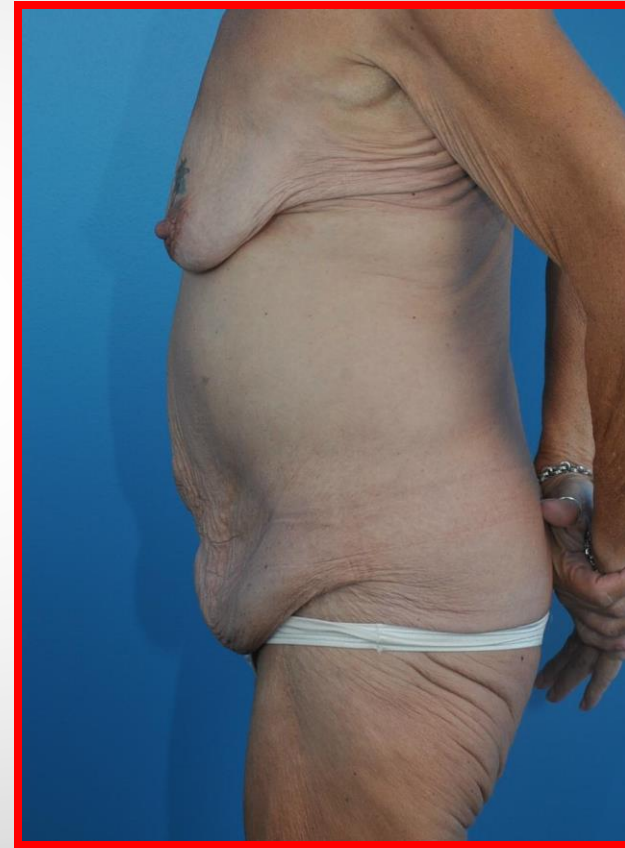


MWL BS-PTS Abdominoplasty & liposuction (4 months)



MWL BS-PTS Abdominoplasty & liposuction (4 months)

BS-PTS “T-Incision” Abdominoplasty



BS-PTS “T-Incision” Abdominoplasty



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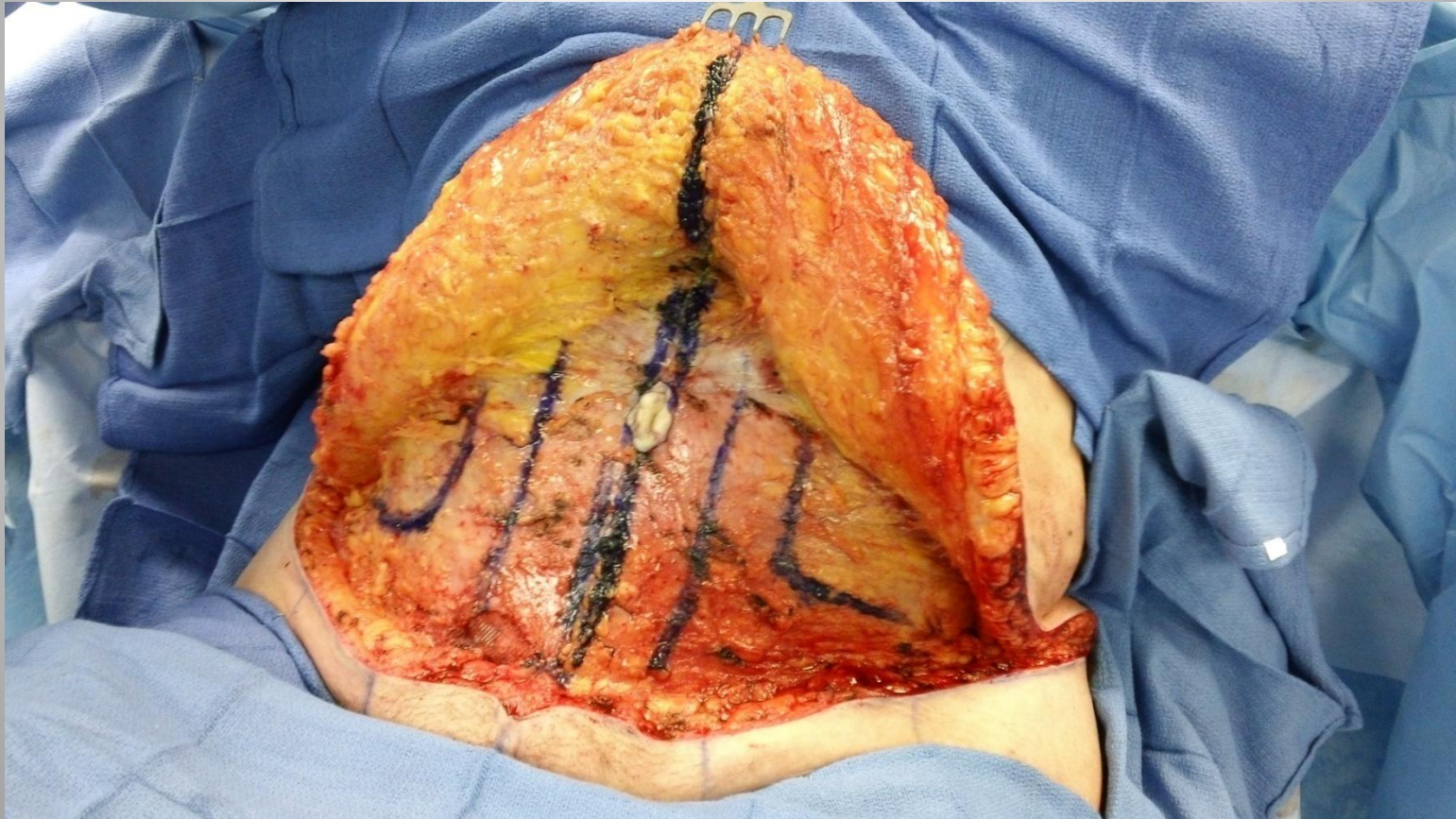


Lessons Learned

- Progressive tension sutures work
- Favorable learning curve
- Try it on a TRAM
- Resist temptation to advance PTS too far
- Teach your OR team



Video Presentation



More Information & Discussion

Body Contouring

Prevention of Seroma After Abdominoplasty

Aesthetic Surgery Journal
30(3) 414-417
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Aesthetic Plastic Surgery, Inc.
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<http://www.sagepub.com/>

Gertrude M. Beer, MD; and Heinz Wa

Body Contouring

Abstract

Background: Seroma is one of the most troubling complications that shearing forces between the two separated abdominal patient until the layers are sufficiently adhered may be a solution. **Objective:** The authors examine the association between 1 **Methods:** This retrospective study included 60 patients; ha 48 hours (group 2). For thromboembolism prophylaxis, all follow-up for detection of seroma continued for at least three **Results:** Mobilization after 24 hours led to a seroma rate o **Conclusions:** For abdominoplasty patients with a low or with chemical and mechanical thromboembolism prophylaxis

Reducing Seroma in Outpatient Abdominoplasty: Analysis of 516 Consecutive Cases

John W. Antonetti, MD, and Alfred R. Antonetti, MD

Aesthetic Surgery Journal
30(3) 418-427
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DOI: 10.1177/1090820X10372048
www.aestheticsurgeryjournal.com



426

Aesthetic Surgery Journal 30(3)

Abstract

Background: Over the past 30 years, the preference regarding the surgical and postoperative approaches **Objective:** The authors evaluate their 28-year experience of drains) for reducing the overall complication rate, **Methods:** A retrospective review was conducted of groups based on operative setting, postoperative can **Results:** The authors found that the last group of patients as an outpatient procedure, had the lowest incidence (9.6% in early groups, when abdominoplasty was performed without the placement of progressive tension sutures, **Conclusions:** Abdominoplasty can be safely performed surgical time is limited. Despite controversy in the past sutures without drains dramatically decreases overall

Commentary

Karol A. Gutowski, MD, FACS

DOI: 10.1177/1090820X10371752

Although seroma after abdominoplasty is rarely a cause of significant morbidity or reoperation, its presence does result in increased patient visits and occasional discomfort due to percutaneous aspirations or additional drain placement. Rarely, a seroma may contribute to infection, inci-

Are other options available to minimize seroma formation without the additional cost and risk of prolonged immobilization? Starting with Pollock and Pollock's first patient series,² reports have been published supporting the role of internal progressive tension sutures in not only minimizing seroma formation, but also eliminating the need for drain placement.^{3,4,11} This technique is simple and

Contact Information

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**Everything presented will be in a special topic
issue of the *Aesthetic Surgery Journal***



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