Barbed Sutures in Progressive Tension Suture Technique
Abdominoplasty

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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

Abdominoplasty With Progressive Tension Closure Using A Barbed Suture Technique

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

ASJ 2009

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
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**
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*PRS 2010*

**IN PRESS**
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?

Tummy Tucks and Drains

Thanks for your question. Tummy tucks create 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

Tummy Tuck drainage at surgeon’s discretion

To drain or not to drain is at the surgeon’s discretion as there is no consensus. The majority of surgeon’s drain, some for just a couple of days, some for weeks. Some try to assure 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
Public Reviewed Publications

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.

Tummy tuck can be done safely without a drain

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

Drainless works in experienced hands

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 comfortor. 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
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!!
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
with inverted T incision 6

TOTAL 145
Abdominal Complications

Seroma
- Drained by single needle aspiration: 2
- Drained by two needle aspirations: 1

Wound dehiscence
- Anterior & superficial (skin only): 2
- Posterior & superficial (skin only): 2
- Lateral & deep (Scarpa’s fascia): 1

Hematoma: 0
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
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)
BS-PTS Abdominoplasty (5 months)
BS-PTS Abdominoplasty (5 months)
BS-PTS Abdominoplasty (7 weeks)

Exposed #2 PDO Suture
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

No undermining = no PTS

Undermining = BS-PTS
BS-PTS “T-Incision” Abdominoplasty

After 2 weeks
BS-PTS “T-Incision” Abdominoplasty

After 4 weeks
BS-PTS “T-Incision” Abdominoplasty

After 3 months
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

Prevention of Seroma After Abdominoplasty

Gertrude M. Beer, MD; and Heinz W. Wiss, MD

Abstract

Background: Seroma is one of the most troubling complications following abdominoplasty surgery. In this study, the authors assess the association between various factors and seroma formation.

Objective: The authors aim to determine specific factors that may contribute to the development of seromas.

Methods: A retrospective study was conducted on 106 patients, with and without seromas. The data collected included demographic information, pre-operative factors, and surgical techniques.

Results: The study found that higher BMI, smoking status, and the use of mesh materials were associated with an increased risk of seroma formation.

Conclusions: The results suggest that certain factors may increase the risk of seroma formation after abdominoplasty.

Reducing Seroma in Outpatient Abdominoplasty: Analysis of 61 Consecutive Cases

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

Abstract

Background: Over the past 30 years, the number of outpatient abdominoplasty procedures has increased. The authors evaluate the outcomes and factors associated with seroma formation in this setting.

Objective: To determine the incidence and predictors of seroma formation in outpatient abdominoplasty.

Methods: A retrospective review of 61 consecutive outpatient abdominoplasty cases was conducted. Pre-operative and peri-operative factors were recorded.

Results: The overall incidence of seroma formation was 12.2%. Factors associated with seroma formation included higher BMI, smoking status, and the use of mesh.

Conclusions: The results indicate that certain factors may increase the risk of seroma formation in outpatient abdominoplasty.

Commentary

Karol A. Gutowski, MD, FACS

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