RUSH

Optimizing Surgical Scars

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Disclosures

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No relevant disclosures

Overview

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1. Skin Closure Techniques
2. Postoperative Wound Care
3. Revision Procedures
4. Advanced Scar Revision Procedures

Skin Closure Techniques

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- Gold standard:
  - Tension-free skin apposition
  - Skin eversion
  - 6-0 nonabsorbable
  - Vertical mattress
- Absorbable vs. nonabsorbable
- Running vertical mattress

A systematic review and meta-analysis: Do absorbable or non-absorbable suture materials differ in cosmetic outcomes in patients requiring primary closure of facial wounds?

Sarah Louise Gillanders [1], Steven Anderson [2], Lisa Mellon [2], Leonie Heskin [2]

Patient and Observer Graded Rhinoplasty Scar Outcomes: A Randomized Controlled Trial of Fast Absorbing Versus Permanent Columellar Suture Closure

Rachel H Jonas [1], Krishna G Patel [2], Tyler M Rist [3], Elizabeth R Walker [3], Samuel L Oyer [4]

Comparison of scar outcomes of alar flare region using absorbable and non-absorbable sutures: a single-blind study

Mehmet Emrah Ceylan [1], Hasan Hüseyin Balıkçı [2]

3 2 | 1 4

2 3 | 4 1

3 2 | 1 4

2 3 | 4 1

Billing for Closure

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- Two-surgeon approach
  - Two surgeons, same procedure with closure included
    - Surgeon A performs neck dissection, Surgeon B closes the wound. Both surgeons bill 38724-62
  - If reconstructive procedures are performed, bill separately for these
    - Surgeon A performs neck dissection, which requires excision of involved skin, Surgeon B performs advancement flaps to close the skin. Surgeon A: 38724, Surgeon B 14040
    - The commonly-employed cutoff for this is whether skin is removed, as this requires tissue rearrangement by definition
- Pay attention to location, size, and vessels
  - CPT 14040: 8.6 RVU (cheek/neck/mouth)
  - CPT 14060: 9.3 RVU (nose/ears/lips)
  - CPT 15740: 11.8 RVU (melolabial, TPF, nasoseptal, angular)

Postoperative Incision Care

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- Okay to shower & pat dry
- Sun avoidance
- First 6 weeks:
  - Aquaphor ointment 2+ times per day
- After 6 weeks:
  - Scar massage nightly
  - Silicone-based scar gel (Biocorneum) 2x per day for 8 weeks

Topical Scar Treatment Products for Wounds: A Systematic Review

Benjamin Tran [1], Jashin J Wu [2], Desiree Ratner [3], George Han [4]

Revision Procedures

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- Steroid Injection
  - If known history of keloids:
    - Inject:
      - 6w prior to surgery
      - At the time of surgery
      - 6 weeks after surgery
      - 3 months after surgery
    - Non-dissolvable skin sutures
  - If surprise hypertrophic scarring occurs
    - Silicone sheeting immediately
    - Steroid injection immediately, 6 weeks, 3 months

Revision Procedures

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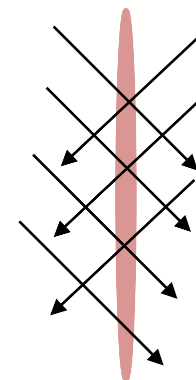
- Scratch pad dermabrasion
  - Excellent for raised scars, nodularity. Decent for pigment issues
  - Lidocaine without epinephrine
  - Diagonal to incision in crosshatch pattern
  - Endpoint: pinpoint dermal bleeding
  - 6 weeks, 12 weeks, 18 weeks
  - Lots of Aquaphor
  - Difficult but possible to get covered by insurance
    - CPT 15781



Revision Procedures

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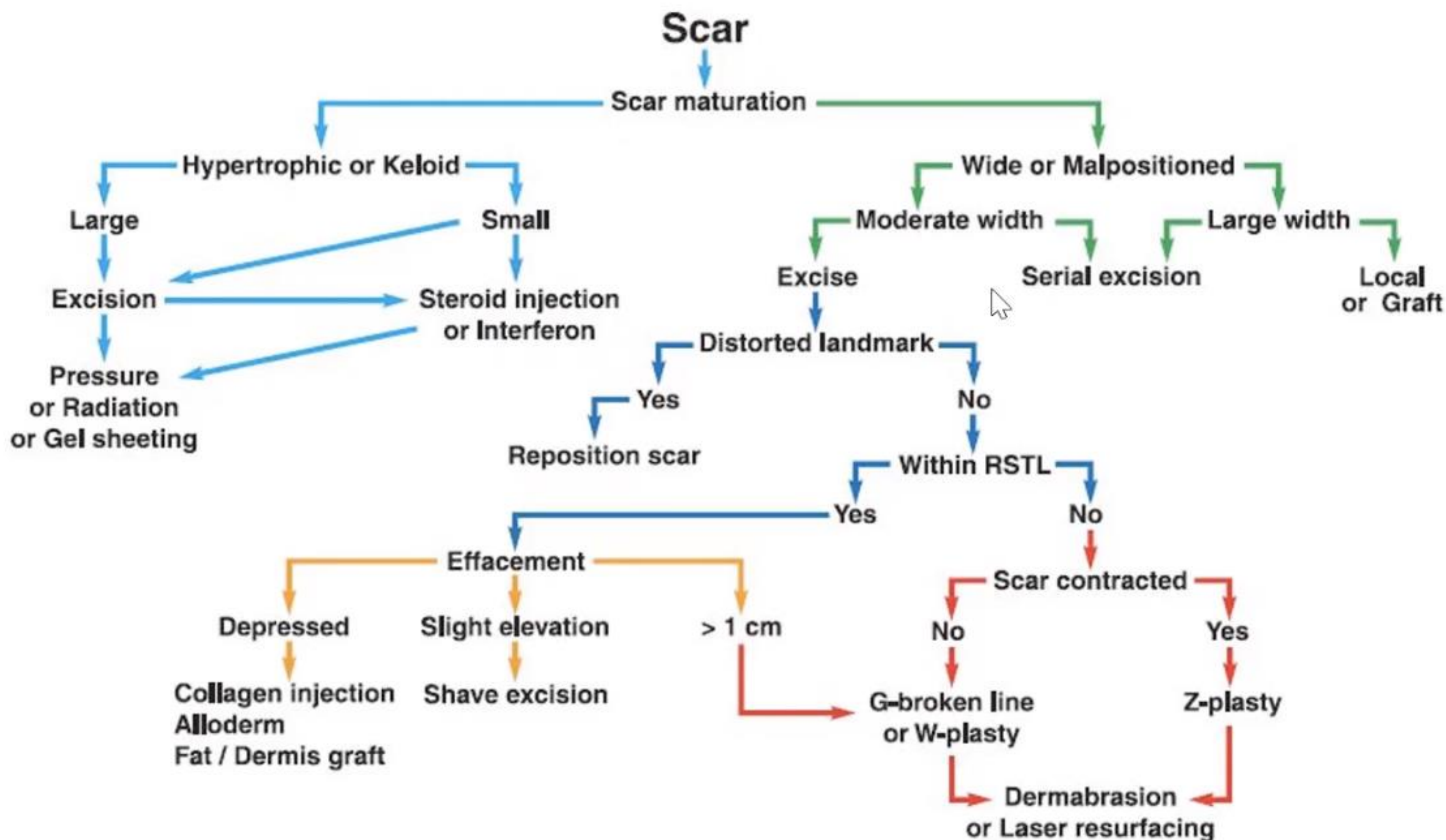
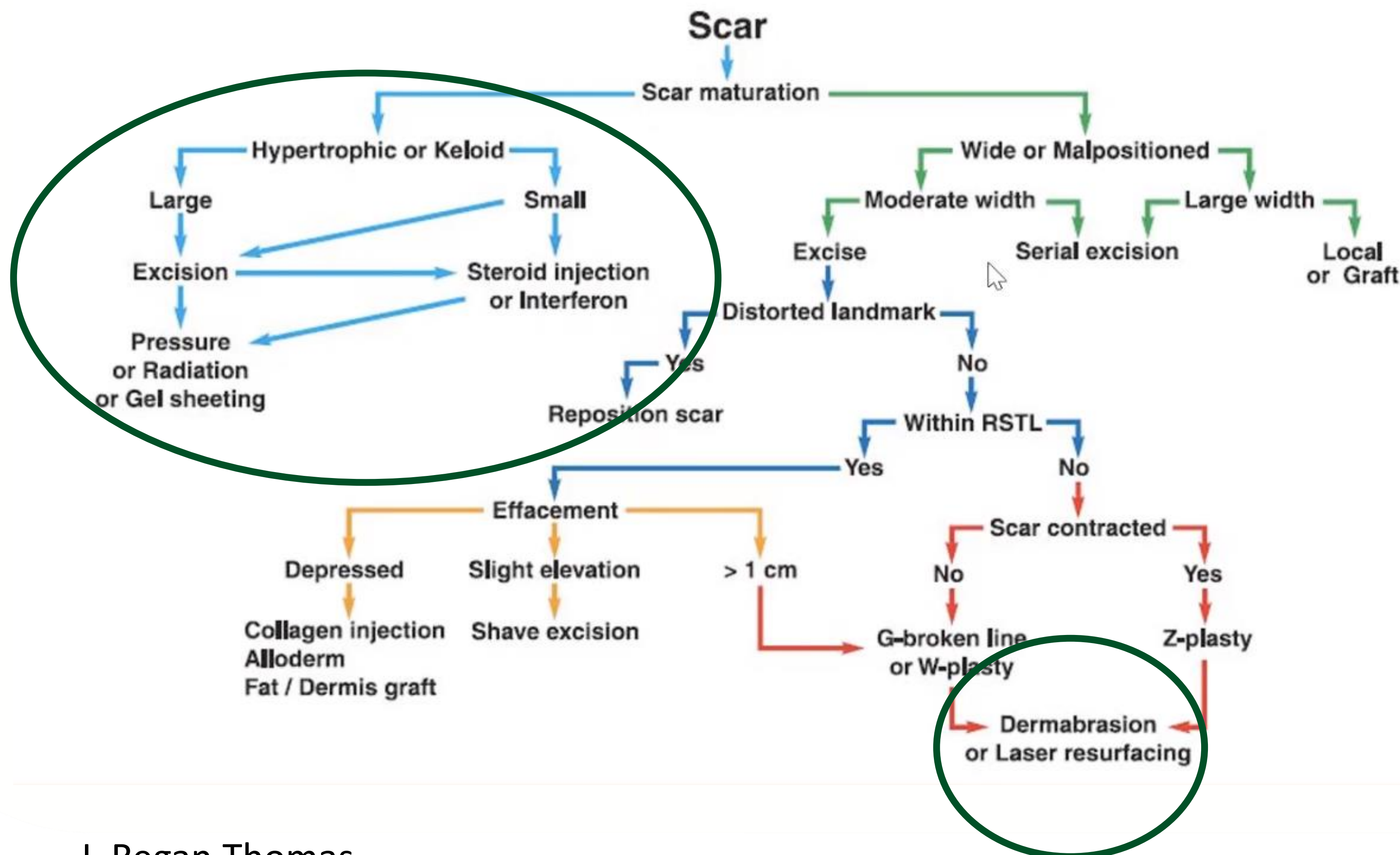


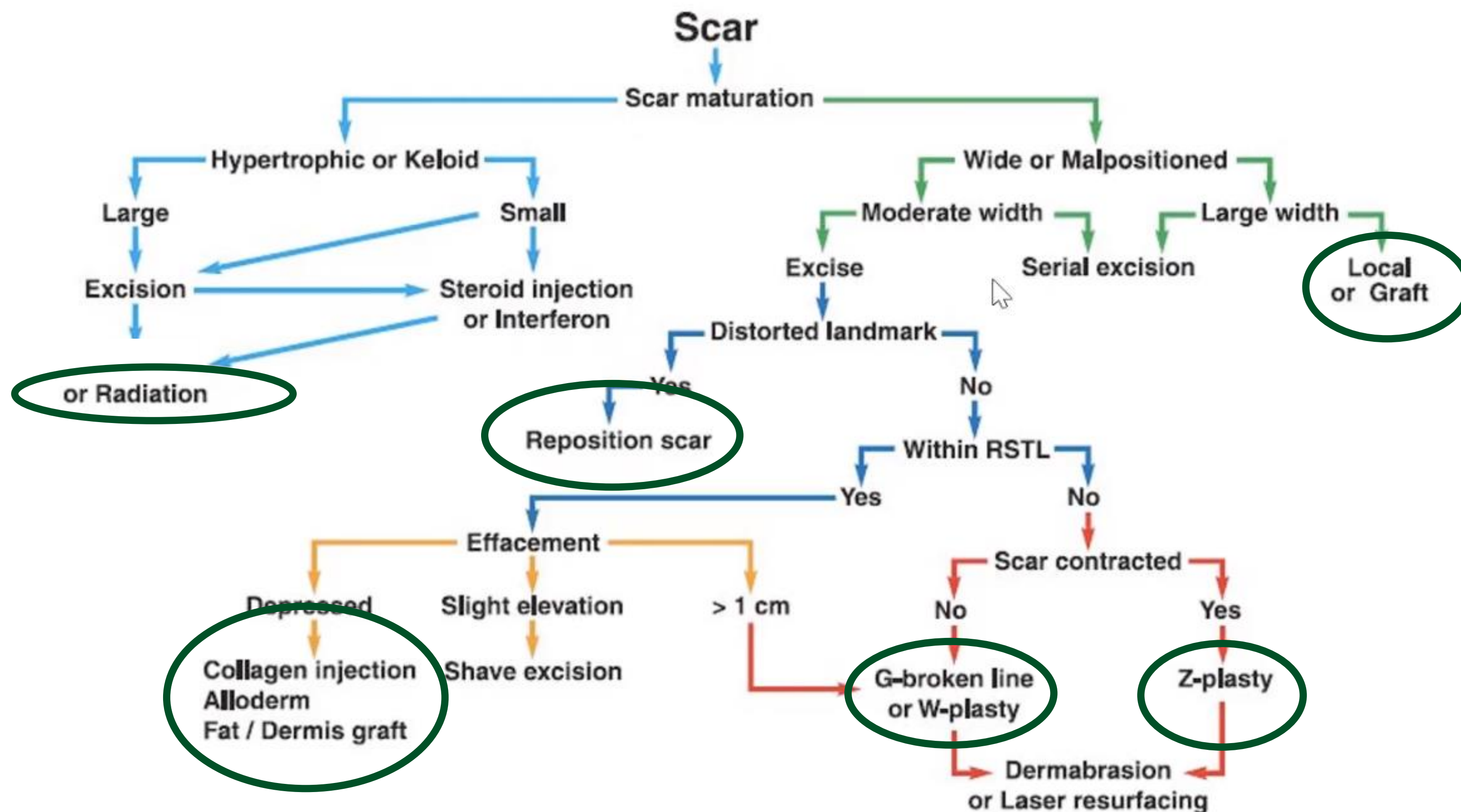
J. Regan Thomas

Revision Procedures



J. Regan Thomas

Revision Procedures



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Revision Procedures

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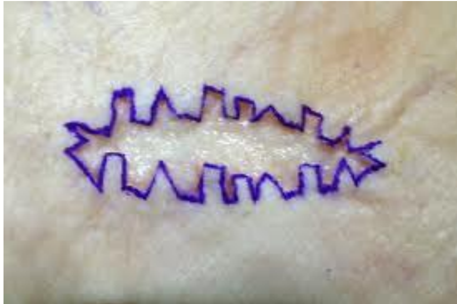

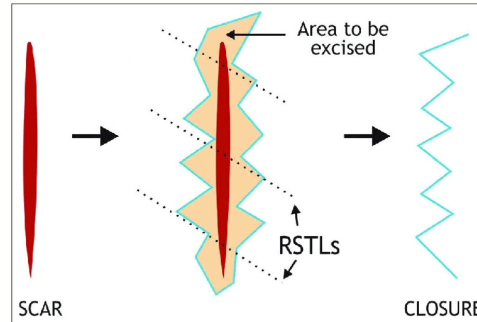

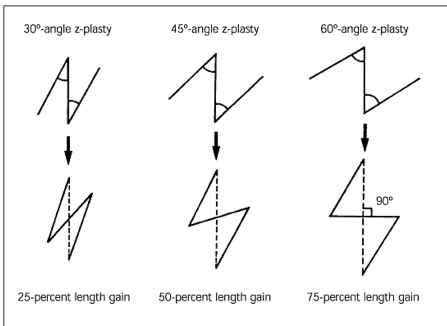

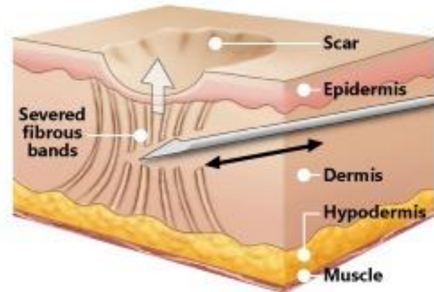

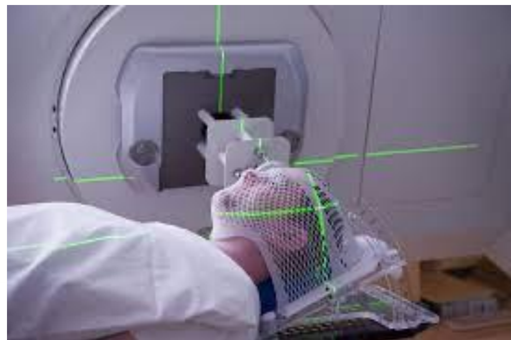

Questions?

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Septal Perforation Repair

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Overview

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1. Diagnostic Workup of SP
2. Medical Management of SP
3. Prevention of Iatrogenic SP
4. Surgical Techniques
5. Nonstandard Techniques

Diagnostic Workup

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- Iatrogenic
- Trauma
- Nose picking
- Nasal sprays
- Intranasal drug abuse
- GPA (Wegener's)
- EGPA
- Syphilis
- Leprosy
- Leishmaniasis
- Sarcoidosis
- NKT cell lymphoma
- Chronic IFS

- Thorough history
- ANCA panel
- Autoimmune panel
- RPR
- HIV
- ACE
- Biopsy

Prevention of Iatrogenic SP

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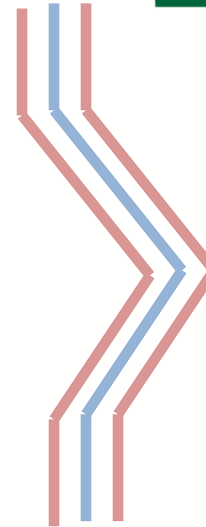
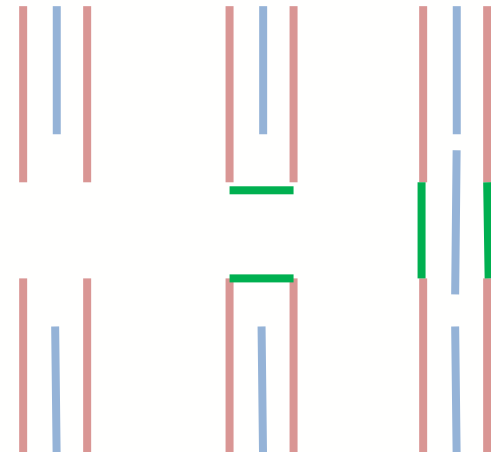
- Begin on concave side during septoplasty
- Apply a spacer if any concern
  - Temporalis fascia
  - TPF
  - Rectus fascia
  - Crushed cartilage
  - Whole cartilage
  - Biodesign





Symptoms

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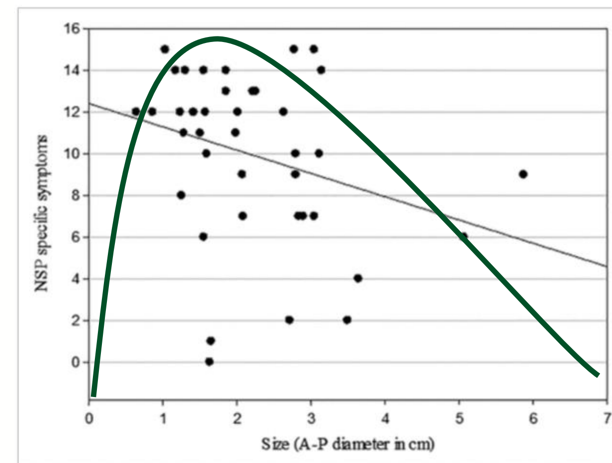
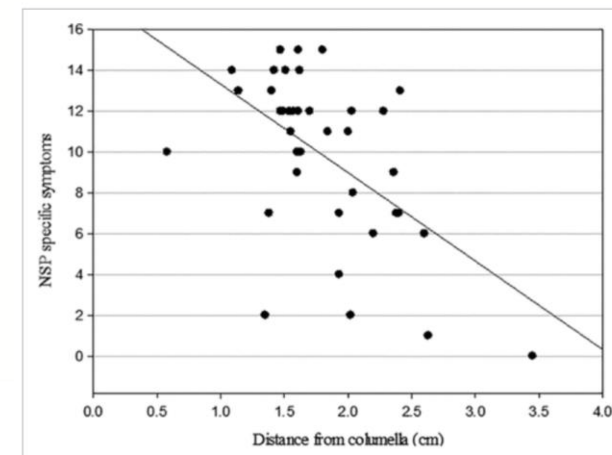
- Crusting, epistaxis, whistling, obstruction/congestion
- Attempt smaller before committing to bigger

Correlation of sinonasal symptoms with the size and position of nasal septal perforations

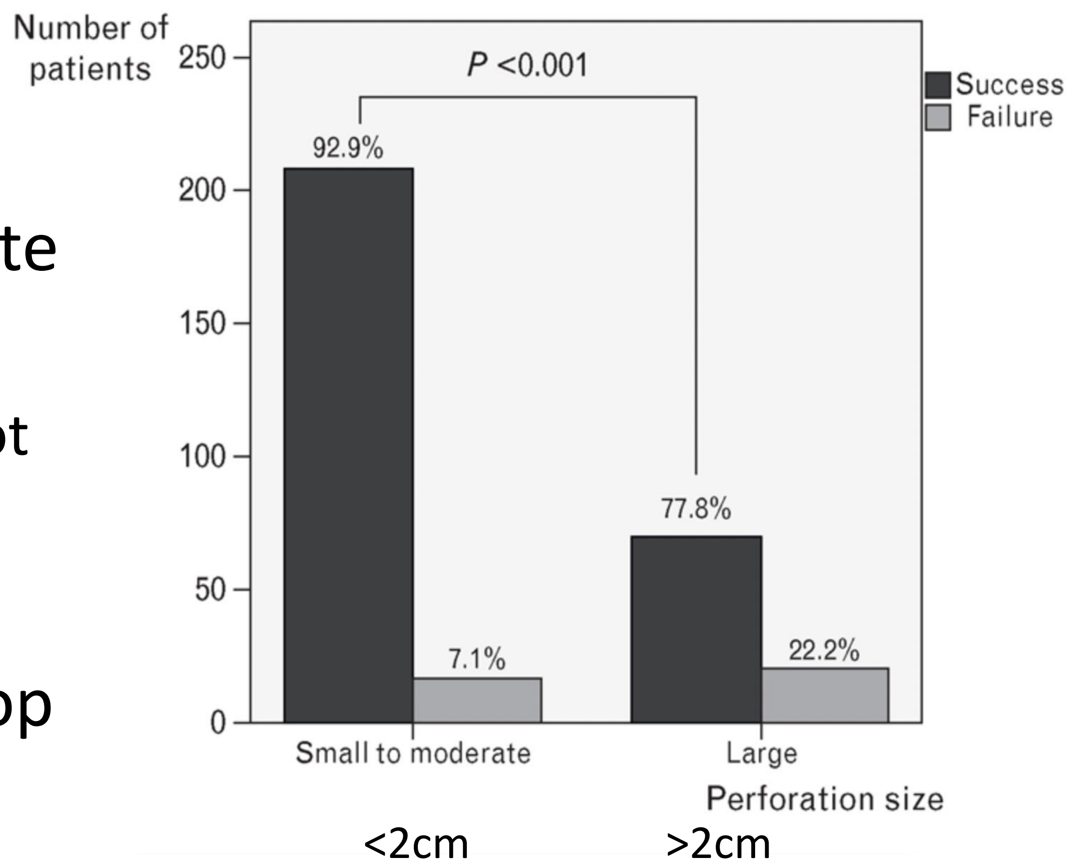
Grace C Khong [1], Samuel C Leong [1]





Preoperative Counseling

- Goal is symptom improvement, not complete closure
- Counsel on success rate by size
  - Relative to septum, not absolute size
- May still require medical therapy postop



Medical Management

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- Withdraw offending etiology
- Avoid digital trauma
- Quit smoking
- Nasal saline rinses
- Emolients
  - Ayr gel
  - Lanolin
- Septal button

Surgical Techniques

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- Perfoplasty
- Open vs. Closed
  - Visualization
  - Tissue laxity
- Spacer based on availability & other needs
  - Temporalis fascia
  - TPF
  - PDS plate
  - Rectus fascia
  - Crushed cartilage
  - Whole cartilage
  - Biodesign

Surgical Techniques: Perfoplasty

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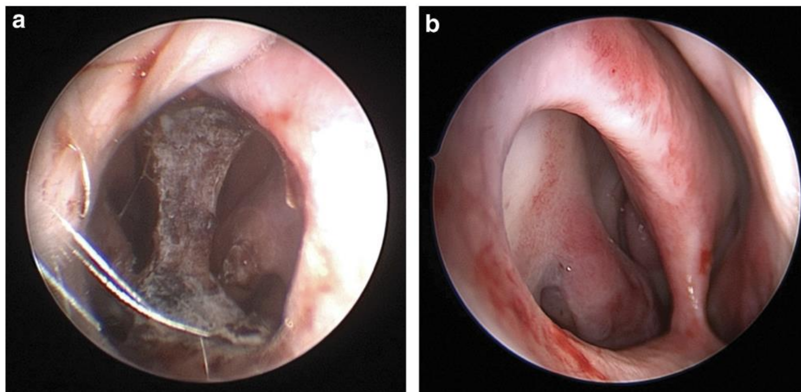
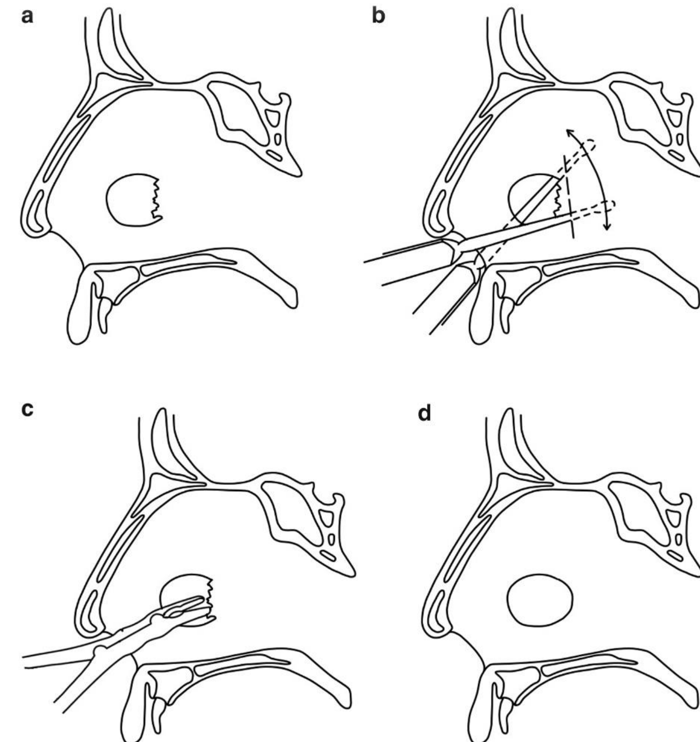
- Unfavorable perforation with exposed bone/cart
- Failed maximal medical therapy
- Concurrent ITR
  - Consider outfracture
- 18/20 had symptom resolution



Septal Perfoplasty for Management of Symptomatic Nasal Septal Perforation: An Alternative to Surgical Closure

Seth J Davis [1], Justin C Morse [1], Kyle S Kimura [1], Raj D Dedhia [1 2], Ashley M Bauer [1 3], Andrew D Beckler [4], Harry V Wright [5], Paul T Russell [1 3], Scott J Stephan [1 2]



Surgical Techniques: Rotational

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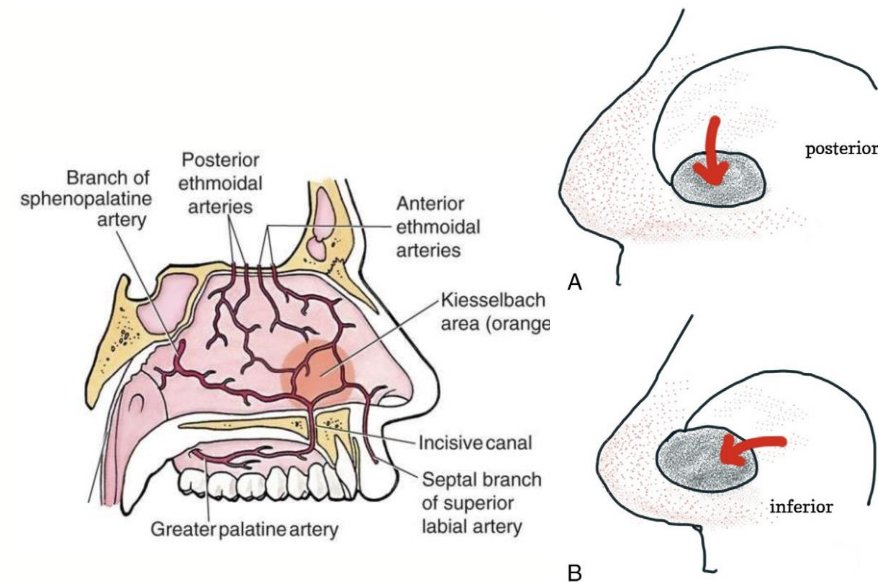
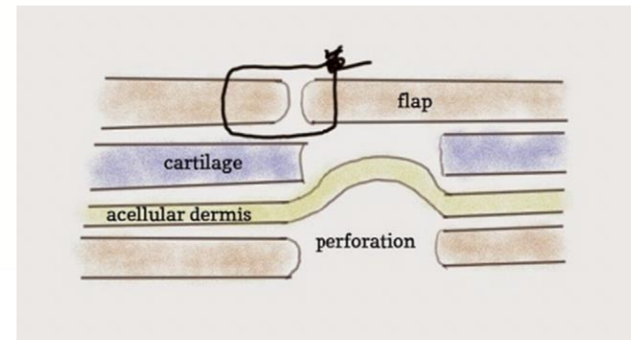
- Endoscopic endonasal closure
- Rotational flap of one side, Alloderm spacer
- 37 of 40 pts with complete closure
  - 7 with perforations >2cm

Endonasal septal perforation repair using posterior and inferiorly based mucosal rotation flaps

Steven Dayton [1], Nipun Chhabra [2], Steven Houser [3]





Surgical Techniques: Open Repair

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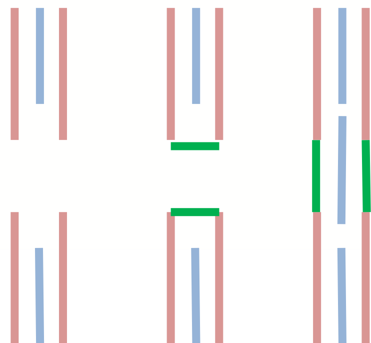
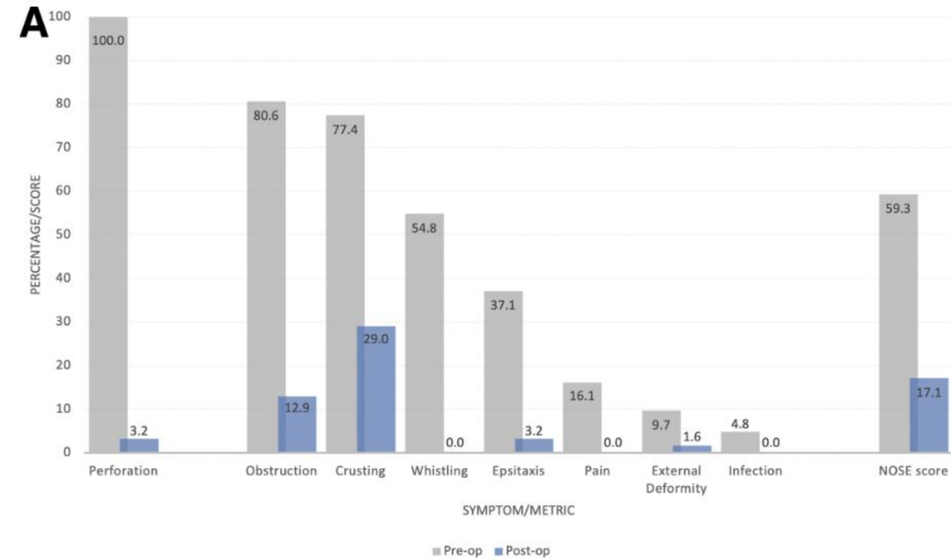
- Repair using TPF-PDS-TPF construct
- 7 institutions around US
- Mucosal apposition in only 45% of cases
- 60 of 62 pts with complete closure



Septal Perforation Repair Using a Temporoparietal Fascia and Polydioxanone Plate Construct: A Multi-Institutional Analysis

Seth J Davis [1], Monica Rossi Meyer [2], Emily Misch [3], Megan McLeod [4], Jessica Occhiogrosso [5], Jenny Yau [6], Marc Mims [7], Raj D Dedhia [8], Justin C Sowder [9, 10], Ross Shockley [3], Eric Cerrati [11], David Shaye [6, 12], William Shockley [13], Scott Owen [2, 14], Scott J Stephan [1, 15]



Surgical Techniques: Open Repair

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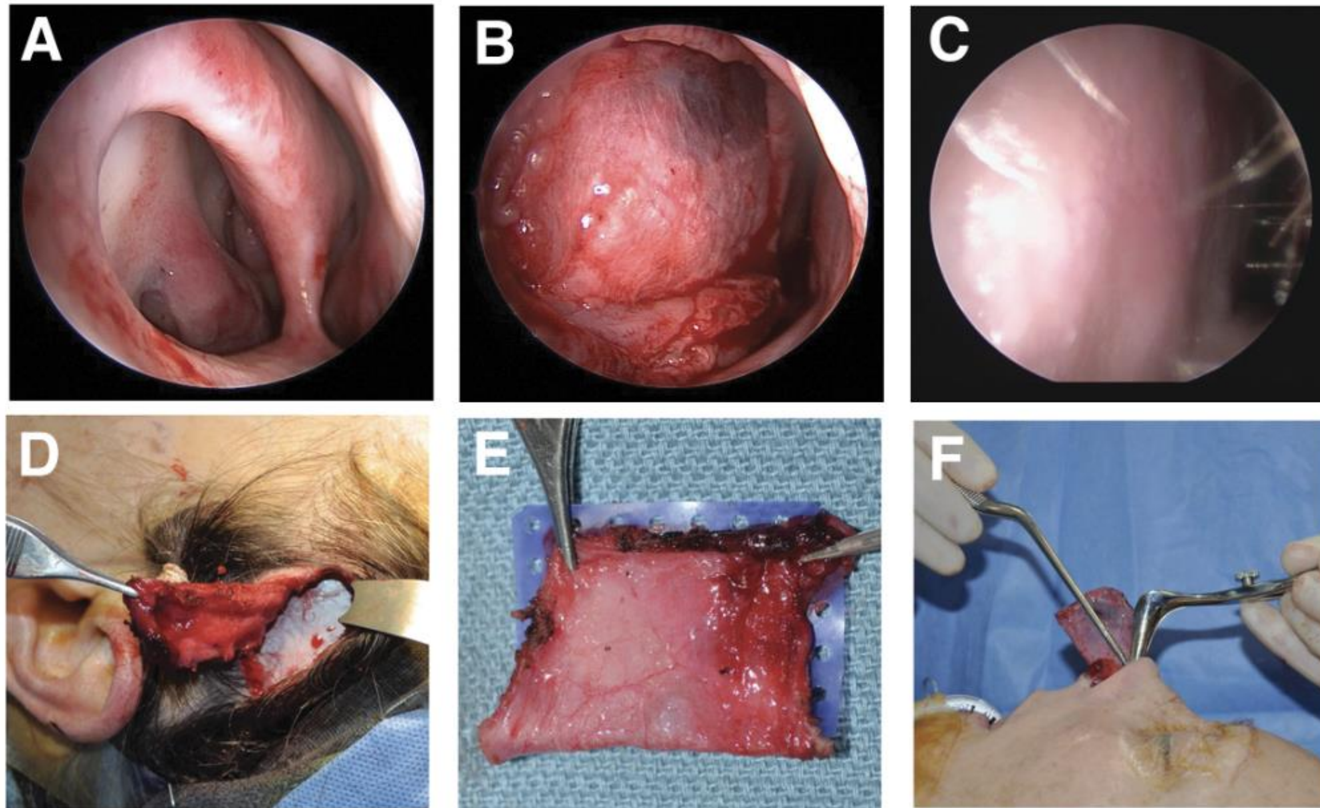

Fig. 1. Septal perforation repair using a TPF and PDS plate construct. **(A)** Large stable septal perforation (~2 cm). **(B)** Intraoperative view of inset TPF–PDS interposition graft. **(C)** Intact septal mucosa 6 months after repair. **(D)** TPF harvest. **(E)** TPF–PDS construct formation. **(F)** TPF–PDS construct placement through external approach. PDS, polydioxanone; TPF, temporoparietal fascia.

Surgical Techniques: Open Repair

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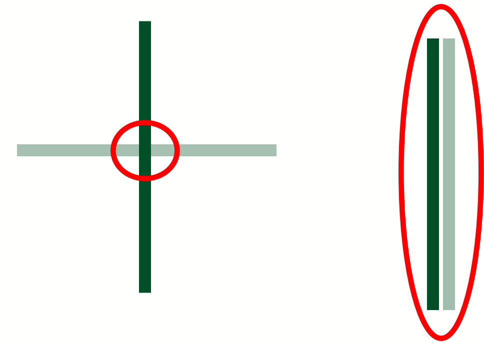
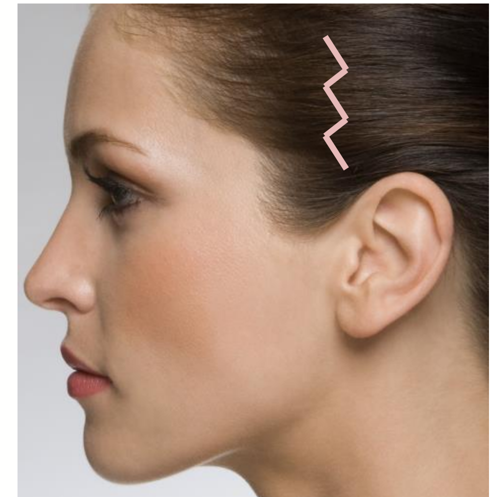
- Opposing closure dimensions when possible
- Elevate underside of ULC and onto nasal floor
- TPF wraparound or TPF-PDS-TF construct
- Perforated 0.15mm thickness PDS plateTPF/TF Harvest site
  - Directly superior to EAC
  - Watch for STA branch
  - Dissolvable sutures





Postoperative Care

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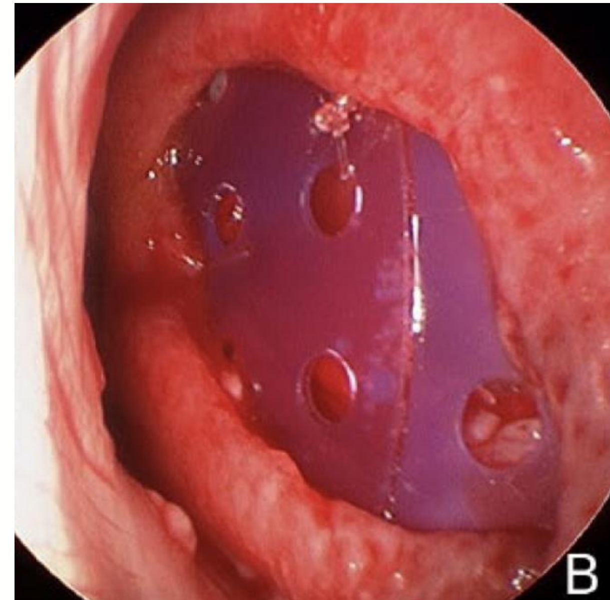
- 0.51mm silastic sheets in place for 6 weeks
- F/u at 1w and 6w
- Saline spray, no nasal rinses
- 1 week of abx
- If PDS becomes exposed, monitor & abx as needed



Nonstandard Techniques

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Computational fluid dynamics evaluation of posterior septectomy as a viable treatment option for large septal perforations

Bradley A Otto [1], Chengyu Li [1], Alexander A Farag [1], Benjamin Bush [1], Jillian P Krebs [1], Ryan D Hutcheson [1], Kanghyun Kim [1], Bhakthi Deshpande [1], Kai Zhao [1]

Temporoparietal Fascia Free Flap for Nasoseptal Perforation Repair

Samuel Helman [1], Sameep Kadakia [2], Ashley Guthrie [1], Moustafa Mourad [2], Grigoriy Mashkevich [1]

Total septal perforation repair with a pericranial flap: Radio-anatomical and clinical findings

Isam Alobid [1 2 3], Cristóbal Langdon [1 2 3], Mauricio López-Chacon [1 2 3], Joaquim Enseñat [4], Ricardo Carrau [3 5], Manuel Bernal-Sprekelsen [1 2 3], Alfonso Santamaría [1 2 3]

Repair of a large septal perforation with a radial forearm free flap: brief report of a case

S R Mobley [1], J B Boyd, F C Astor

Revisiting the Labial-Buccal Sulcus Flap for Septal Perforation Closure: Review at a Single Institution

Jacob Feldman [1], Benjamin Marcus [1]

Questions?