

12th Annual Otolaryngology Literature Update

Facial Plastic & Reconstructive Surgery

Krishna G. Patel, M.D., PhD

Professor

Director, Facial Plastic & Reconstructive Surgery

Director, Craniofacial Anomalies and Cleft Lip/Palate Team

Department of Otolaryngology - Head & Neck Surgery

Medical University of South Carolina

patelkg@musc.edu

Krishna G. Patel, M.D., Ph.D. joined the Department of Otolaryngology &- Head and Neck Surgery in August 2008. She is a native of Athens, Georgia and attended Columbia University in New York City for her undergraduate education. She then earned M.D. and Ph.D. degrees through the combined program at the Medical College of Georgia, where she was awarded the Excellence in Research Award.

Dr. Patel completed a residency in otolaryngology &- head and neck surgery at the University of North Carolina in Chapel Hill. Following residency, she pursued fellowship training in facial plastic and reconstructive surgery at the University of California, Davis. During both her residency and fellowship training, Dr. Patel participated in volunteer medical trips to countries to provide care to the medically underserved. Her recent trips to Ecuador and El Salvador involved surgically repairing children with cleft lips, cleft palates, and ear deformities.

She is board certified by the American Board of Otolaryngology and by the American Board of Facial Plastic and Reconstructive Surgery. As a member of the MUSC faculty, Dr. Patel's focus is in the areas of aesthetic facial plastic surgery, such as rhinoplasties, Botox, and blepharoplasties. Her practice also includes facial reconstructive surgery, facial trauma surgery, and reconstruction of Mohs defects.

Dr. Patel is the director of the Craniofacial Anomalies and Cleft Palate Center and participates in the repair of cleft lips and palates. She also serves on the Executive Board of Directors for the American Board of Otolaryngology-Head and Neck Surgery. Dr. Patel sees patients in Rutledge Tower on the main campus of MUSC, as well as at off-site locations in Mount Pleasant.

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Raghavan M, Carr M. Age and indication for pediatric septoplasty in the NSQIP-P database. *Int J Pediatr Otorhinolaryngol*. 2022 Mar;154:111046. doi: 10.1016/j.ijporl.2022.111046. Epub 2022 Jan 19. PMID: 35085873.

Sun Q, Lee W, Hu H, Ogawa T, De Leon S, Katehis I, Lim CH, Takeo M, Cammer M, Taketo MM, Gay DL, Millar SE, Ito M. Dedifferentiation maintains melanocyte stem cells in a dynamic niche. *Nature*. 2023 Apr;616(7958):774-782. doi: 10.1038/s41586-023-05960-6. Epub 2023 Apr 19. PMID: 37076619; PMCID: PMC10132989.

Toriumi DM. My First Twenty Rhinoplasties Using Dorsal Preservation Techniques. *Facial Plast Surg Clin North Am*. 2023 Feb;31(1):73-106. doi: 10.1016/j.fsc.2022.08.008. PMID: 36396290.

The Charleston Course
12th Annual Literature Update- 2023
Facial Plastic and Reconstructive Surgery



**Facial Plastic and Reconstructive
Surgery Team:**

- Krishna Patel, MD
- Michelle Hwang, MD
- Judith Skoner, MD

The Charleston Course
12th Annual Literature Update
Facial Plastic and Reconstructive Surgery

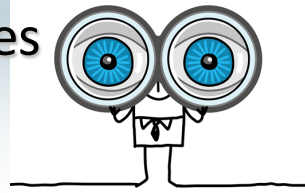
Krishna Patel, MD, PhD
Director of Facial Plastic and Reconstructive Surgery
2023



Disclosures- none



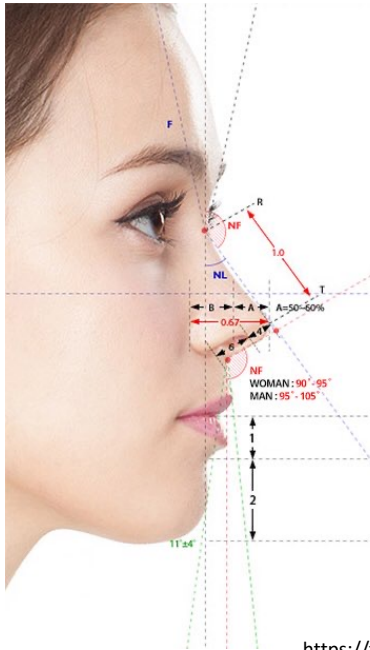
Selected Articles



- Reviewed Jan 2022-June 2023
- Chose from Facial Plastic literature
- Chose from most viewed/popular lists on:
 - Otolaryngology /Plastic Surgery/Dermatology journals
- Topics in the Section
 - Rhinoplasty
 - Pediatric Facial Plastic Surgery
 - Trends



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RHINOPLASTY

<https://twitter.com/drstephenlowe/status/949062420445659136>

My First Twenty Rhinoplasties Using Dorsal Preservation Techniques.

Toriumi DM.

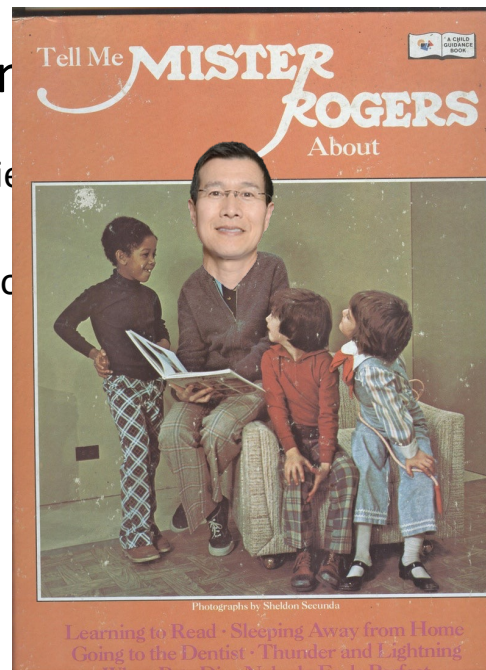
Facial Plast Surg Clin North Am.

2023 Feb;31(1):73-106. PMID: 36396290.

Preservation

- Coined by Rollin K Daniel
- Re-popularized today
- Means to control the dog

- Dean M Toriumi, MD chronicles first 20 cases
 - Honest
 - Analytical
 - Problem solves

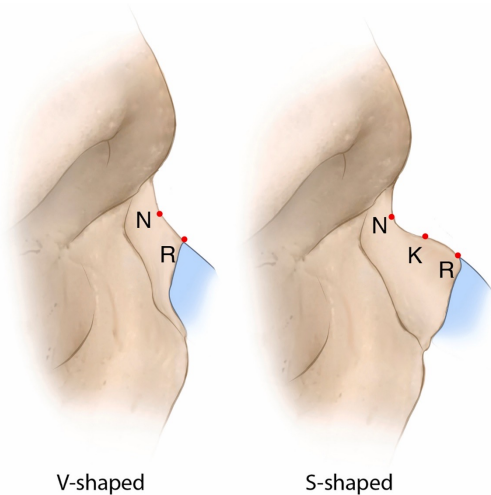


Dorsal Preservation

- Goals are to not create an open roof deformity
- Lessens risk of late dorsal irregularities
- Preservation refers to the dorsum

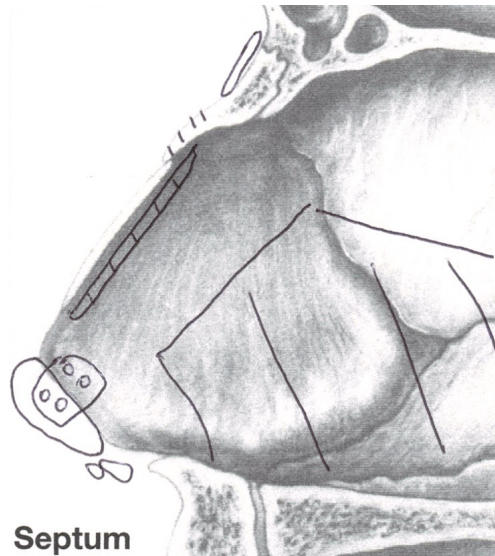
Technique is in contrast to a structural rhinoplasty

Ideal candidate:
V shape + high radix + narrow nose

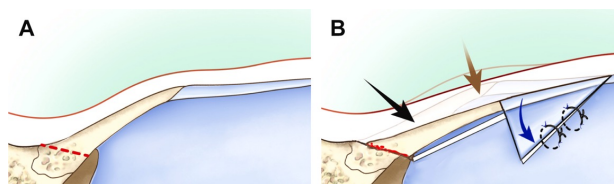


Subdorsal strip of septum

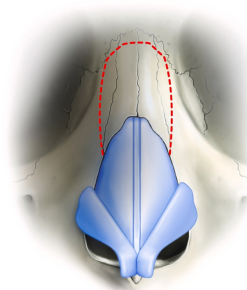
- Breaks the 1 cm dorsal strut rule
- 2mm strip
- Perform septal work first, Osteotomies second to protect skullbase
- Conservative septal resection
- Secure the dorsum down with suture



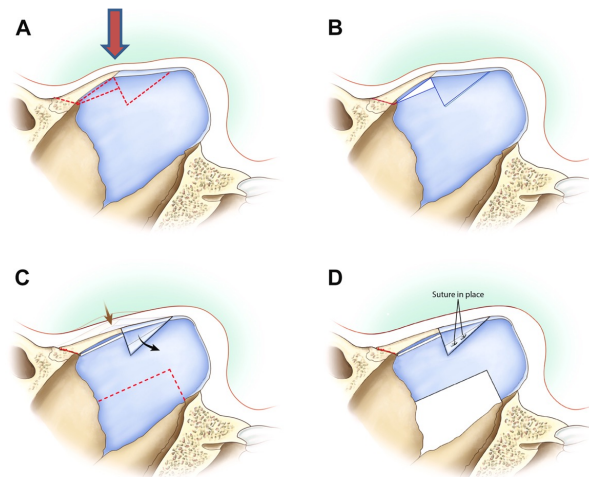
Lateral, transverse, radix osteotomies



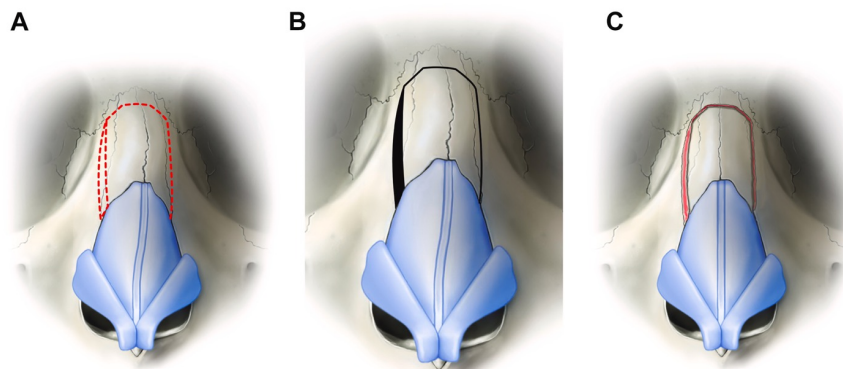
Oblique osteotomy at radix

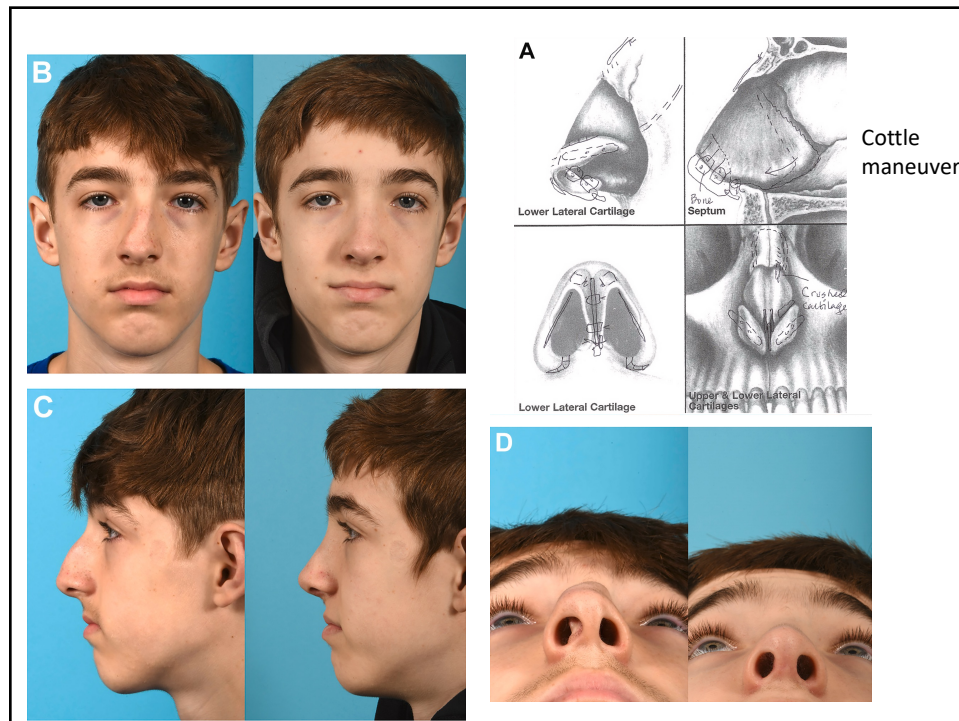


Kovacevic subdorsal Z flap-
flattening the handle and pulling it
posteriorly and caudally



Straightens the underlying septum as
well as the nasal bones





Take away

- Reviews all twenty cases
- Performed over 200 cases
- Uses a medley of techniques
- Still may have to do surface modifications
- Ideal candidate: V shaped, narrow, high radix
- Good read

Pediatric septoplasty



Age and indication for pediatric septoplasty in the NSQIP-P database.

Raghavan M, Carr M.

Int J Pediatr Otorhinolaryngol.

2022 Mar;154:111046. Epub 2022 Jan 19.

PMID: 35085873.

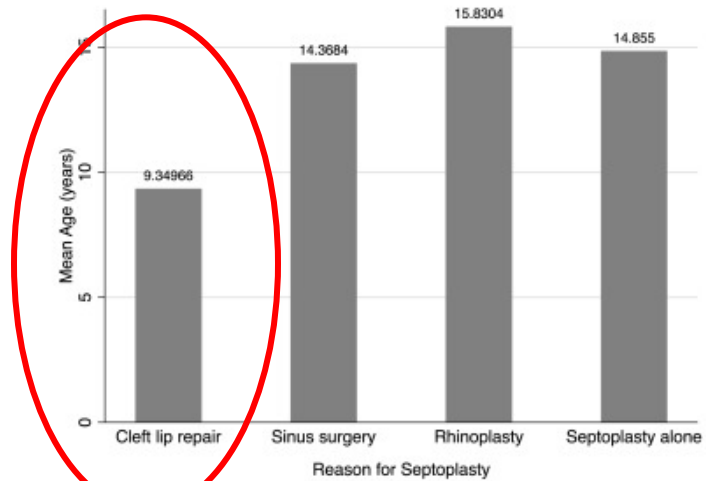
Age and indication for pediatric septoplasty in the NSQIP-P database

- Retrospective
- Database
- <18yrs
- 2290 total patients
- CPT code 30520 (septoplasty)
- Longer hospital stay linked to younger age, female, other co-morbidities
- 0.3% readmitted within 30 days

Conclusions

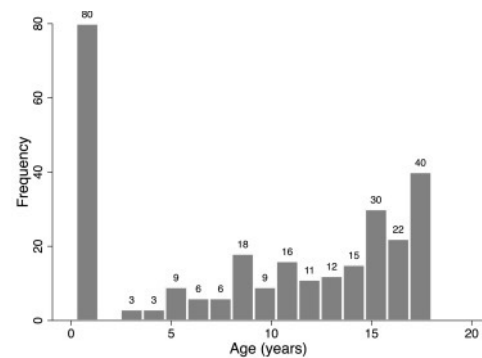
- Need more information
- Shift toward early septoplasty
however...
- Increased revision rates with pediatric versus adult septoplasty
 - Why?
 - More conservative surgery
 - Growing structures

Reason for septoplasty



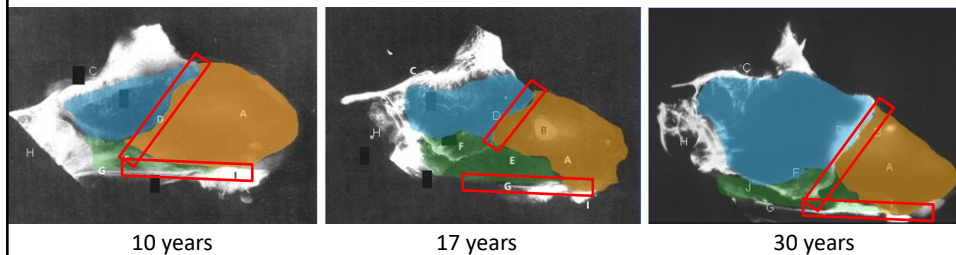
Age demographics

- Mean age- 14.2 yrs
- 2290 patients
- Cleft lip: 78% <5 years of total
- SKEWS THE DATA!



TERMINOLOGY

- Septoplasty
 - Resection
 - Repositioning- cartilage sparing
- Growth plates
 - **spheno-ethmoido-dorsal zone** and the **septospinal ligament**



Modified image from: Verwoerd CDA et. al,
Rhinoplasty in children: developmental and surgical aspects of the growing nose. GMS Growing Topics in Oto, 2010; vol 9:1-29.

"Septoplasty" Performed at Primary Cleft Rhinoplasty: A Systematic Review of Techniques and Call for Accurate Terminology.

Park JJ, Rodriguez Colon R, Arias FD, Laspro M, Chaya BF, Rochlin DH, Staffenberg DA, Flores RL.
Cleft Palate Craniofac J.

2022 Jul 15:10556656221113997. Epub ahead of print. PMID: 35837698.

Conclusion: Primary cleft septoplasty is distinct from septoplasty performed on facially mature patients. More specifically, septal dissection and detachment are limited to the anterior caudal area during primary lip repair, with rare removal of cartilage or bone. Given these differences, the authors suggest the term "septal reset" to describe septoplasty performed during primary cleft nasal repair.

- Please be cautious



Trends: Gray hair

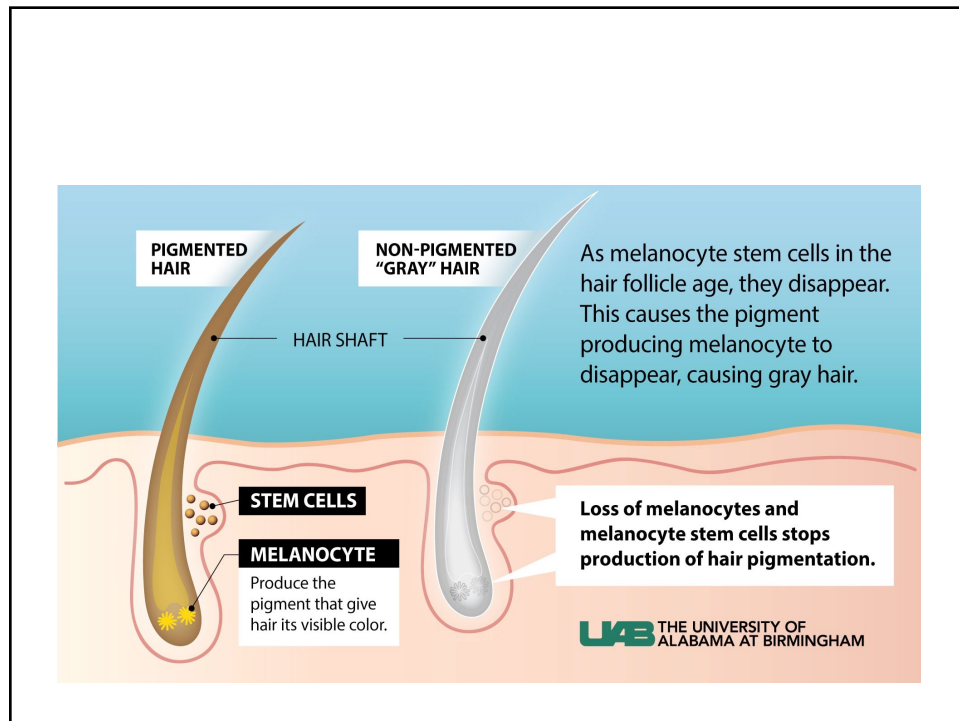


Dedifferentiation maintains melanocyte stem cells in a dynamic niche.

Sun, Q., Lee, W., Hu, H. *et al.*

Nature **616**, 774–782 (2023).

<https://doi.org/10.1038/s41586-023-05960-6>



Abstract

For unknown reasons, the melanocyte stem cell (McSC) system fails earlier than other adult stem cell populations¹, which leads to hair greying in most humans and mice^{2,3}. Current dogma states that McSCs are reserved in an undifferentiated state in the hair follicle niche, physically segregated from differentiated progeny that migrate away following cues of regenerative stimuli^{4,5,6,7,8}. Here we show that most McSCs toggle between transit-amplifying and stem cell states for both self-renewal and generation of mature progeny, a mechanism fundamentally distinct from those of other self-renewing systems. Live imaging and single-cell RNA sequencing revealed that McSCs are mobile, translocating between hair follicle stem cell and transit-amplifying compartments where they reversibly enter distinct differentiation states governed by local microenvironmental cues (for example, WNT). Long-term lineage tracing demonstrated that the McSC system is maintained by reverted McSCs rather than by reserved stem cells inherently exempt from reversible changes. During ageing, there is accumulation of stranded McSCs that do not contribute to the regeneration of melanocyte progeny. These results identify a new model whereby dedifferentiation is integral to homeostatic stem cell maintenance and suggest that modulating McSC mobility may represent a new approach for the prevention of hair greying.

Thank you!

patelkg@musc.edu



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