MOHS RECONSTRUCTION-CONTOURS AND CARTILAGE

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Disclosures

KOL for Revision Skin Care.
Mohs Surgery

- Developed by Fred Mohs - 1930s
- Microscopically controlled cancer removal
- Evaluation of 100% of the tissue margin
- Goal of removing the entire tumor w/o healthy surrounding tissue

- Indications
  - Locations: H&N, acral, genital
  - Tumor histology: poor diff, BSQ, infil, morphecic, micro nod
  - Recurrent tumors
  - Adjacent tumors
  - Size: >2cm trunk
The Mohs process and sectioning

Clinical tumor is marked and removed with a 2mm margin

Removed with a reverse bevel creating a disk of skin

Tissue is sectioned and color coded

All edges and undersurface are examined microscopically

Remaining tumor is removed, repeated until margins are clear
Nasal Anatomy
Internal Nasal Valve

- Most narrow portion of the nasal airway
- Formed by the caudal border of the ULC, the nasal septum, the nasal sidewall, and the inferior turbinate.
- During inspiration, there is a drop in pressure due to an increased velocity of airflow (the Bernoulli Effect) this negative pressure may result in the collapse of the INV of a surgically compromised nose.
- The nasal sidewall is the only mobile surface and, therefore, the one most susceptible to collapse.
- **External Nasal Valve** - caudal to INV, entrance to the nose
Cartilage grafts

Figure 2: Overview over commonly placed structural grafts. a) from top to bottom: Vertical alar batten graft, horizontal alar batten graft, alar strut graft, alar rim graft, columellar strut graft. b) from top to bottom: Paired spreader grafts, cap graft, shield-type tip graft.
Male - 70s
S/P mohs, deep defect with loss of sidewall support
Melolabial transposition flap
1 week suture removal
6 weeks post op
16 months post op
Female- 60s
S/P mohs
with deep
alar defect,
needs
support of
nasal valve
and alar rim
Alar batten graft in place
Nasal valve and rim stabilized
Melolabial Interpolation Flap
3 Week F/U - before flap takedown
3 Week Flap Takedown
3 Week Flap Takedown
Female-50s, alar defect w/collapse of INV
Nasalis hinge flap - inferior base
Cartilage graft then nasalis to cover
1 week bolster removal
1 month post op
1 month post op
Cartilage Grafts

• Evaluate the defect for collapse and support
• Antihelix or conchal (posterior)
• May need more than one graft - nasal valve, rim
• Watch for donor site hematoma, chondritis
Female- 50s, deep defect with loss of support of lateral ala, medial cheek, isthmus of the upper cutaneous lip
1 week after bolster removal
4 weeks s/p surgery
6 weeks s/p surgery
Male 60s - s/p Mohs, loss of alar support, medial cheek, upper cutaneous lip
1 week bolster removal
9 Months
9 Months
Male 70s- S/P mohs, deep defect of the lateral nasal side wall, medial cheek
6 weeks post op
Use of Hinge Flaps

- Utilize local tissue
- Provides tissue volume/contour to the defect
- Cartilage and skin graft vascular supply
- Donor site contour change usually minimal
Male, 70s- S/P Mohs, deep defect of the sidewall and medial cheek
1 month postop
1 year post op
Female 80s- S/P Mohs, loss of alar rim, nasal tip, dorsum, sidewall
Does not want PFF - concern for wearing glasses.

- 3 Staged Melolabial flap
- Medial flap rotation
- Cartilage placed at 1st stage
- Lateral cheek-nasal lining
- Medial cheek-nasal cover
Stage 1- Flap Inset with Cartilage graft
1 week wound check
2 week wound ck
4 weeks - stage 2, flap elevation and debulking/contouring of the ala, alar rim, nasal tip
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1 week after stage 2
Stage 3- prox flap takedown (3wk s/p stg2, 7wk total)
Proximal flap debulking and contouring
Flap inset
1 week S/P flap takedown
1 month S/P flap takedown
5 month s/p flap takedown
Female, 50s - multiple and recurrent tumors (all BCCs)

- Presented with 3 Bx + BCCs for Mohs
- Exam showed multiple additional lesions of concern
- Previous IPF on nose
- Not marked - BCC of the nasal sill and upper FH near hairline
Female, 50s- multiple and recurrent tumors (all BCCs)

- Plan for regional tumor removal and reconstruction
- Lip and FH first- easier and smaller defects
- Nose/Nasal facial sulcus to follow and likely need a PFH flap
- Clear any tumors from donor site
- Staged over weeks/months
Female, 50s, multiple and recurrent tumors (all BCCs)

- FH tumor at hairline-granulation
- Lip x3- adv flap with granulation
• Adv Flap- incision carried just outside of NLF
• Allow for rotational restraint and prevent eclabion
• Guiding sutures placed horizontally in medial defect-prevent vertical scar contracture
SR at 1 wk. Allowed to heal for 1 mo before tx
the nose
• Mohs for 4 BCC on the nose
• All cleared in 1-3 stages
• Mold of nose made prior to removal- Paper tape
• PFF flap planned with replacement of the tip and Lt sidewall
• Small advancement of the check to recreate Nasofacial sulcus
Flap Inset
Flap take down at 3 weeks
S/P takedown, 2 months
• Have a plan, timeline - weeks and months
• Tumor removal/reconstruction by region and subunits
• Granulate where you can
Male 50s- s/p Mohs, alar rim defect
3 week flap takedown
3 week flap takedown
Interpolation Flaps

- Robust blood supply, less likely to have flap loss
- More Consistent results
- Allow for time of the repair,
- Make a good mold/template of defect
- Can stage- allows delayed cartilage grafts if needed or for flap revisions
1 week at SR
1 week SR
References

• Grabb and Smith’s Plastic Surgery 6th edition; chapter 51

• Nasal Reconstruction-Art and Practice; Fred Menick MD, 2009

• Two Suturing Techniques for the Prevention and Treatment of Nasal Valve Collapse After Mohs Micrographic Surgery; Miladi, Anis et al; Dermatologic Surgery: March 2017, vol 43 p407-414

• Three Staged Reconstruction of a Nasal Defect; Weyer, C et all; Dermatologic Surgery: accepted Jan 2018.
Thank you!

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