AAO-HNSF ANNUAL MEETING & OTO EXPERIENCE 2018 OCTOBER 7-10 ATLANTA, GA

RECONSTRUCTION OF PARTIAL AURICULAR DEFECTS:
FROM TRAUMA TO CANCER

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FACULTY DISCLOSURE

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C.W. David Chang, MD
I have nothing to disclose

Gregory Renner, MD
I have nothing to disclose

Reconstruction of Partial Auricular Defects: From Trauma to Cancer

Gregory Renner, MD
CW David Chang, MD

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Summary

- Reconstruction of defects of the external ear can often be very challenging, due to the intricate and unique shape of the native pinna. This course will present a variety of reconstructive techniques that have proven very useful in restoration of various defects of the external ear. In this course, the pinna will be broken down to show defects of all principal parts and what reconstructions are best suited to provide good cosmetic and functional restoration of each part. Emphasis will be placed on those procedures that, in the instructors' experience, are most reliable for specific reconstructive situations. Illustrative examples will be shown, with explanation of how each is selected and designed. Techniques will include use of skin and cartilage grafting, local and regional flaps, and reshaping of the auricular cartilage.

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No disclosures

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Learning Objectives

At the conclusion of this course, the participant should be able to:

- 1) select local flap and tissue rearrangement options for repair of defects; and
- 2) incorporate cartilage grafting in the reconstructive armamentarium.

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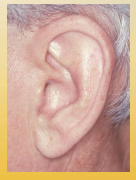
Challenge

- Intricate and complicated native contours
- Underlying cartilage resists movement



Reconstructive Goals

- Overall Shape: auricular height
- Symmetry
- Detail

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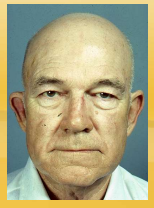
Both ears are appreciated with frontal and posterior views



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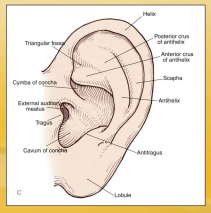
Defect sites

- Helix
  - <2.5 cm: advance adjacent tissue
  - >2.5 cm: Add tissue
- Antihelix/Scapha
  - Resurface, +/- support
- Concha
  - Resurface
- Lobule
  - Recreate
- Multiple sites:
  - Adding skin and cartilage grafting



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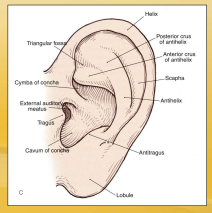

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Helical Rim Defects, <2.5 cm

- Advancement of adjacent tissue
  - Reduce scapha
    - Smaller sized ear
  - V-Y helical root advancement
    - Distortion of root
  - Borrow mobility from the lobule
    - Distortion of lobule

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Helical advance, scapha redux

5 months postop

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Beware of wedge excisions

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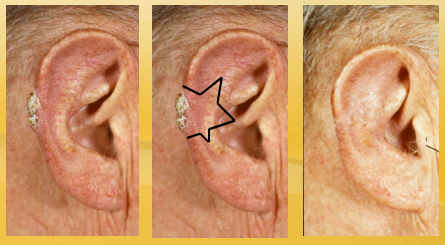
Star excision



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V-Y Advancement

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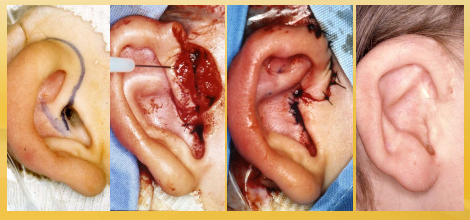
V-Y to increase upper pole height



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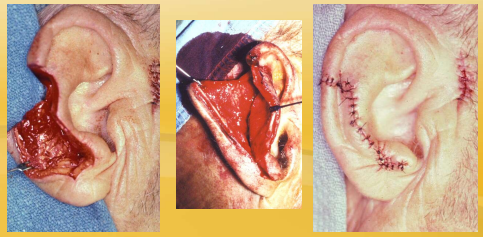
Borrow Lobule: Mid rim defect



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Limitation: Ear lobe distortion

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Borrow Lobule: Inferior rim defect

7 months postop

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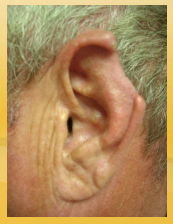
Borrow Lobule: Superior rim defect



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Borrow Lobule: Superior rim defect

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Defect sites

- Helix
  - <2.5 cm: advance adjacent tissue
  - >2.5 cm: Add tissue
- Antihelix/Scapha
  - Resurface, +/- support
- Concha
  - Resurface
- Lobule
  - Recreate
- Multiple sites:
  - Adding skin and cartilage grafting

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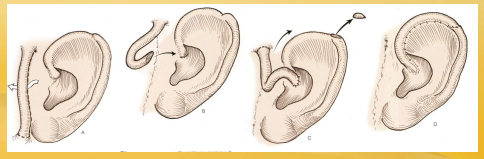
Interpolated tube flap



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Post auricular advancement flap

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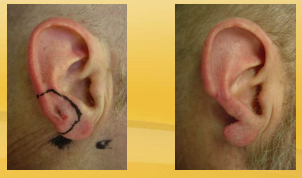
Post auricular advancement flap: Inferior helical defect



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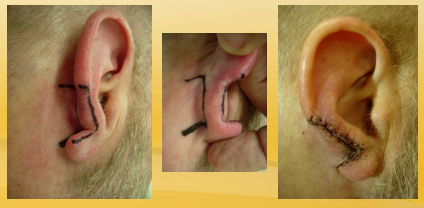

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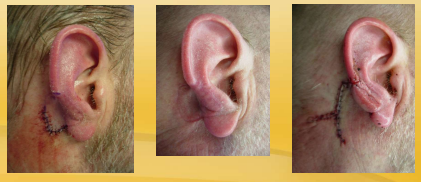

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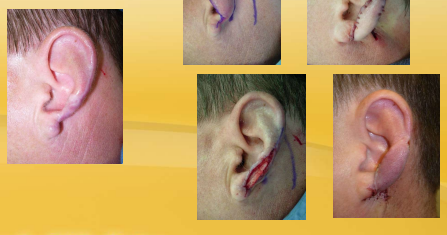
Pennant flap



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Defect sites

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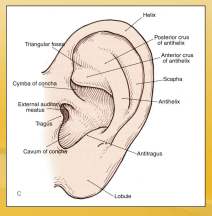
  - >2.5 cm: Add tissue
- Antihelix/Scapha
  - Resurface, +/- support
- Concha
  - Resurface
- Lobule
  - Recreate
- Multiple sites:
  - Adding skin and cartilage grafting



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Full thickness skin graft

Requires intact perichondrium

OR

Remove underlying cartilage (fossa triangularis, conchal bowl)

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Full thickness skin graft

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Rotation advancement w/ FTSG

Limited skin stretch, unless you can borrow from lobule

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Temporoparietal fascia flap

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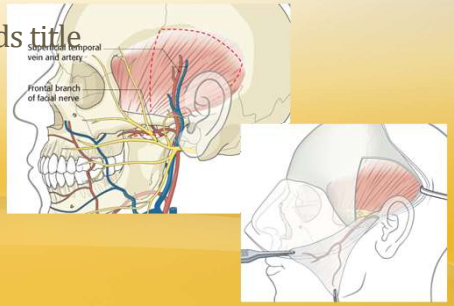
Needs title



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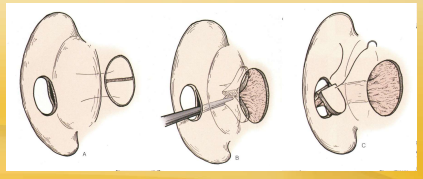
Island myocutaneous flap



Based on posterior auricular muscle and vessels
Bivalve option shown for medal and lateral defection closure

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Island flap for conchal defect

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Island flap for conchal defect

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Defect sites

- Helix
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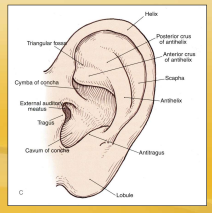
  - >2.5 cm: Add tissue
- Antihelix/Scapha
  - Resurface, +/- support
- Concha
  - Resurface
- Lobule
  - Local flap with cartilage
- Multiple sites:
  - Adding skin and cartilage grafting



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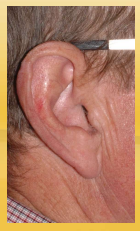
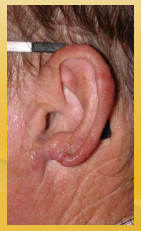
Lobule: "non-anatomic" cartilage



- 63 yo, whose family border collie was startled and nipped of the L ear lobe 2 weeks ago.
- Reattached initially in ED.
- Debrided 1 week later.



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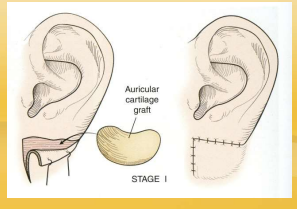
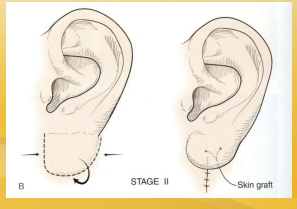
Lobule: "non-anatomic" cartilage





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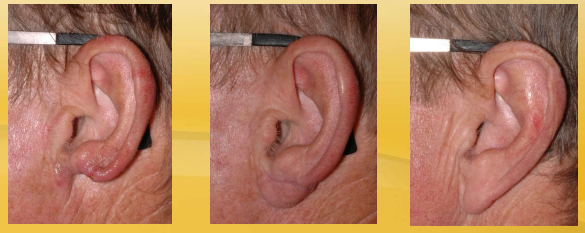
Lobule: "non-anatomic" cartilage



Mirror image of R ear

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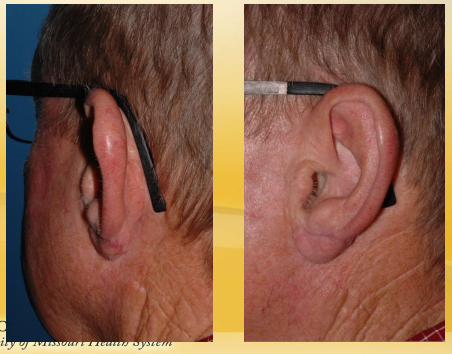

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Ear lobe recon sans cartilage

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Ear lobe tears

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- Multiple sites:
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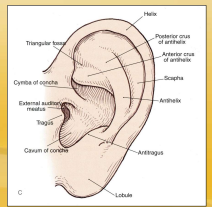

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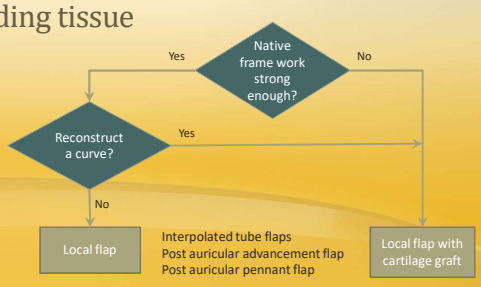
Adding tissue



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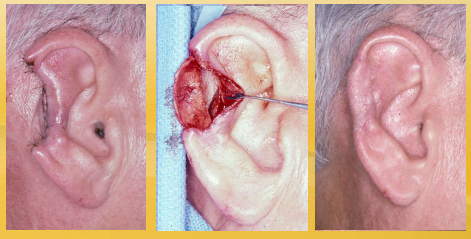
Post-auric pennant flap w/cartilage



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Composite graft from contralateral ear

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Bulky post-auricular flap

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Bulky post-auricular flap

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Multiple Step Reconstruction

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Acute ear amputation

- Replace as composite graft
- "Pocket Principle" Mladick and variations
- Microvascular reattachment
- Delayed reconstruction

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Acute ear amputation

- Replace as composite graft
- "Pocket Principle" Mladick and variations
- Microvascular reattachment
- Delayed reconstruction

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Mladick technique

12 days 15 days

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Acute ear amputation

- Replace as composite graft
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- Microvascular reattachment
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Acute ear amputation

- Replace as composite graft
- "Pocket Principle" Mladick and variations
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- Delayed reconstruction

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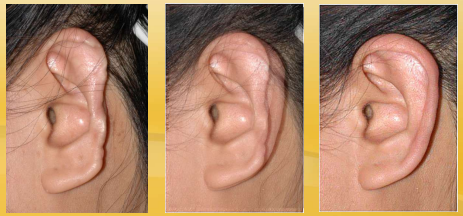
Partial amputation: dog bite



Mirror image R ear

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Skin flap

Pearl RA, Sabbagh, W. Reconstruction following traumatic partial amputation of the ear. *Plastic and reconstructive surgery*, 2011:*127*(2), 621–9.

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Costal cartilage reconstruction

- Unfurl skin from medial aspect of ear (bipedicled flap)
- Costal cartilage carved with exaggerated helix
- Suction drain, no compression dressing
- 2nd stage @ 4 months: FTSG from bikini line to posterior sulcus

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15 months postop (from 1st stage) Mirror image R ear

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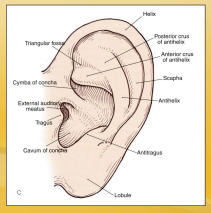

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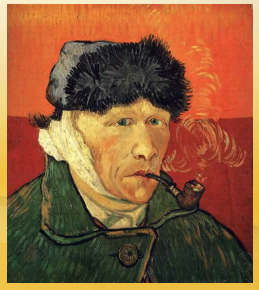

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