# Saddle Noses and Laminations

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#### Overview of the discussion

- ✓ We started initially 40 years ago using various implants, then autographs rib, ear & illiac crest bone
- ✓ Then, in 1994 moved onto lyophylised, deproteinised homograph rib cartilage: first solid & then laminated
- ✓ This evolved to correcting tripod tip defects



#### Overview continued ...

#### **DISADVANTAGES** ...

- ✓ Ear cartilage too pliable
- ✓ Illiac crest too rigid: bone absorbed
- ✓ Autograph rib-cartilage harvesting caused unnecessary donor-site morbidity



### Disadvantages

✓ Both autograph and homograph cartilage tended to twist

✓ The longer, thicker & bigger the grafts, the greater the tendency to twist



#### Research

- ✓ Structural engineers use laminated beams to reinforce roof structures; gave us the idea to use laminated rib cartilage instead of mono-units
- ✓ Bone SA supplied pre-shaped 2-mm pliable strips
- ✓ We trimmed, shaped & sutured the strips into a laminated beam



#### Research results

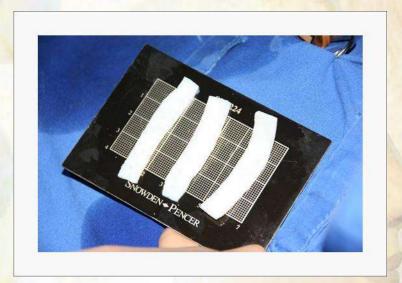
- ✓ Thicker strips re-introduce inherent tendency of graft to resume original shape
- ✓ Laminated rib cartilage counteracts twisting tendency of mono-units
- ✓ A lamination proved more resilient than a single layer of equal thickness



#### Breakthrough ...



**TEMPLATES** 



2-MM CARTILAGE STRIPS

- ✓ Designed soft solid silicone templates in various combinations
- ✓ Each set consists of five to seven templates/sizers of varying width & length



### Surgical technique

- ✓ Usually use 'Open Structure' approach
- ✓ Raise skin/soft tissue envelope (S/STE) to the level of radix using a retractor & Joseph scissors to 'skeletonize' S/STE envelope
- ✓ Level & roughen the base to create a suitable foundation



- ✓ Insert sizers under S/STE envelope, then mix & match' to gauge the required number of sizers needed to correct the depression
- ✓ Cross check new profile with preoperative 'Mirror' morphed photographs (projected on theatre wall)



#### Result



The result should invariably correspond to the pre-determined soft silicone sizer/template





- ✓ Position & Cottle clamp each pre-selected sizer onto a 2-mm strip of pre-cut rib cartilage mounted on a sterilized non-slip wooden-tongue spatula
- ✓ Trim the cartilage into shape with number 15-blade





- ✓ Repeat the trimming process with each successive sizer
- ✓ Each cartilage strip should conform to a corresponding sizer
- ✓ Place cartilage strips in layers that oppose & cancel the natural curvature of each strip





- ✓ Suture into position with 4-0 mono-filament polypropylene (Deklene)
- ✓ Position suture knot on the under-surface of the lamination away from skin



✓ Carefully bevel edges of top lamination prior to sliding lamination under the S/STE to prevent graft from curling or deforming





Sometimes cover graft with thin layer of Alloderm or lyophilized pericondrium to soften outline





#### Result

- ✓ Compare tentative result against patient's pre-operative appearance & the 'Mirror' morphed preview
- ✓ Surgery concluded in normal manner by closing the transcollamella incision with 6/0 fast absorbing plain cat gut



#### Summary

- ✓ Documented 172 Dorsal Beam procedures from the beginning of 2003 to July 2007
- ✓ Medical case history follow-ups and postoperative imagery show that laminations do not bend or revert to original shape of the rib
- ✓ One case of resorption



#### Conclusions

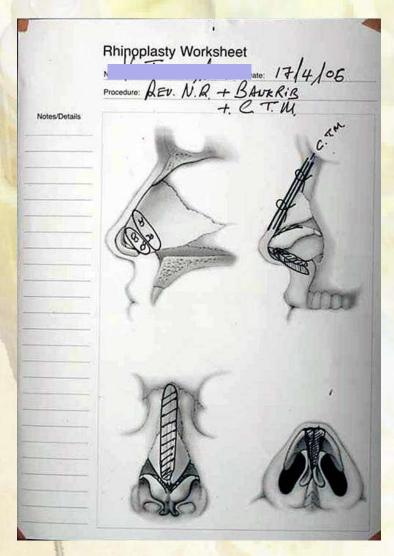
- ✓ Lyophilised rib cartilage lamination, forms a 'host' grid for growth of new tissue
- ✓ Laminations revascularise as does usual grafting material.
- ✓ Cases documented thus far, meet and conform to patient's pre-operative expectations



### Applications

- ✓ Use laminations for all revision Rhinoplasty operations where there is deficiency of Central, Septal Support System
- ✓ Specifically use technique for saddle nose depressions & lowered dorsal profiles in Asian and African noses

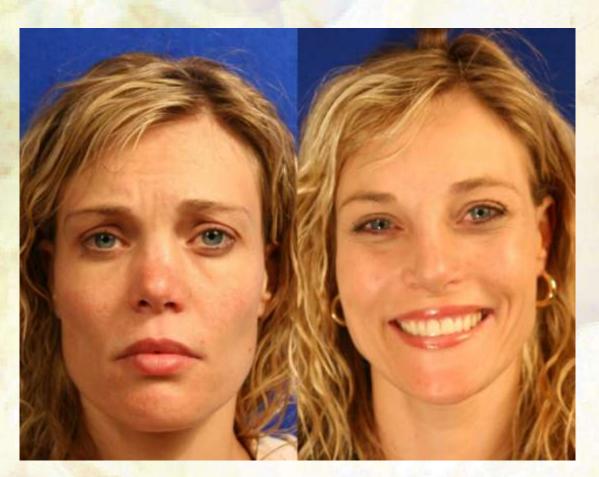




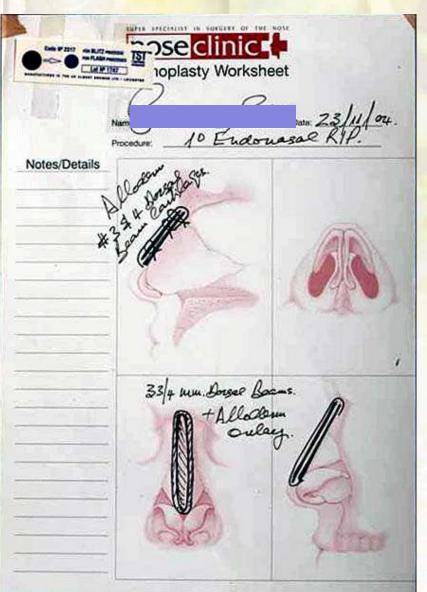




### Psycho-surgery









Before & after

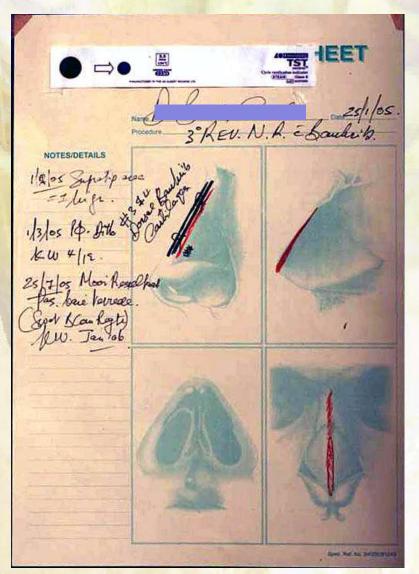


## Started using pre-cut strips for ...

#### TIP TRIPOD GRAFTS ...

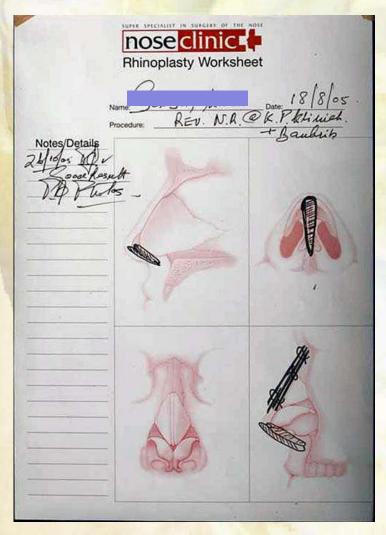
- ✓ Tip Shield grafts
- ✓ Medial Crural Strut grafts
- ✓ Lateral Crural Strut grafts
- ✓ Caudal Septal extension grafts
- ✓ Spreader grafts







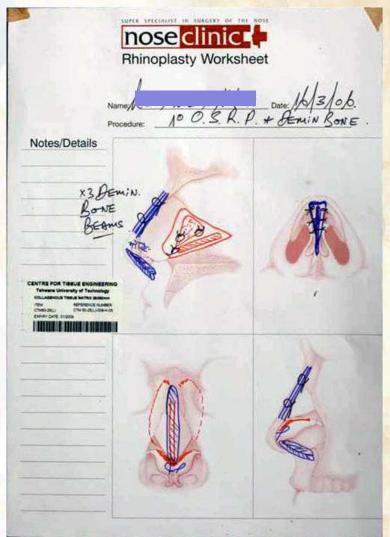




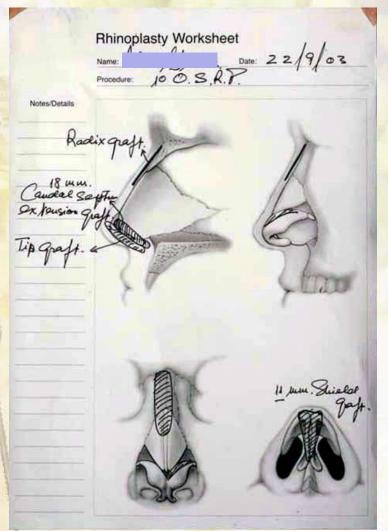








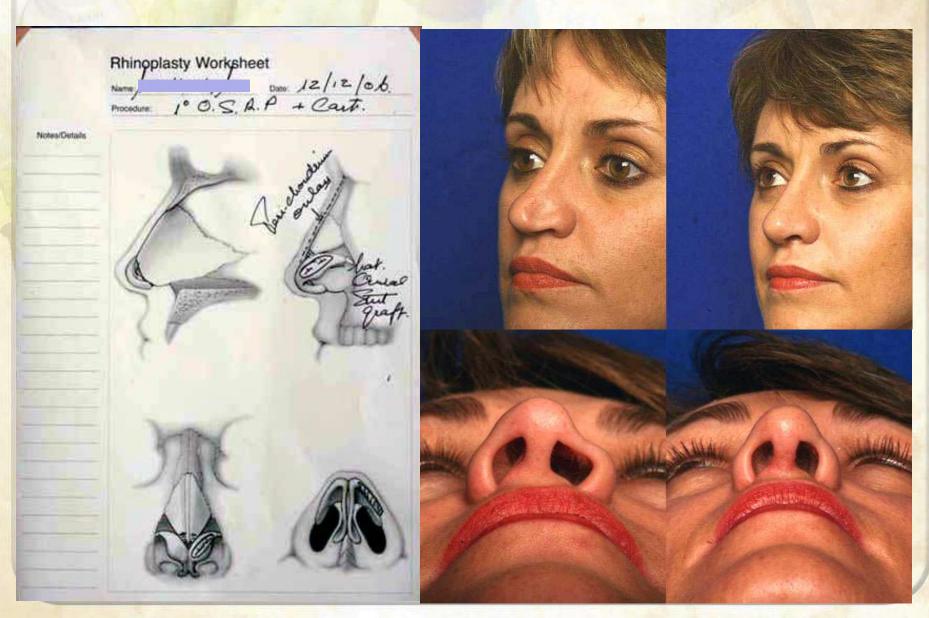












#### Hump noses





Future research



## Further information TheNoseClinic.com

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