

Microtia Repairs Comparisons

		Synthetic Plastic Grafts				vs..	Natural Rib Cartilage Grafts		
		External Prosthesis Glue Attached	External Prosthesis Dental Implant Attached	Silicon with TP Flap Endoscopic Reduces Hairloss at Scalp Seam	Medpor with TP Flap Endoscopic Reduces Hairloss at Scalp Seam	Brent/Mark M. Jones Classic 3-4 Stages	Japanese Nagata/Firmin Two-Stage	Griffiths TP One-Stage Ribgraft/Medpor (prefers rib graft)	
Before Surgery	Age to begin	5-6	5-6	5-6	5-6	5-6	10	3+, 5 for hearing	
	Opening ear canal for hearing	No	No	No	Option before, not after	Option, prefer after	Option, prefer after	Possible in some cases	
	MR Argiogram or equivalent	No	No	Yes	Yes	No	No	Yes	
	Anesthesia and duration	Yes, 1-2 hours	Yes, 2-3 hours	Yes, 3-5 hours	Yes, 3-5 hours	Yes, 3-4 hours	Yes, 4-6 hours	Yes, 10-20 hours	
	Major complications	No	Infection, drainage	Flap loss	Flap loss	Minimum rib loss	More rib loss	Flap compromised	
	Natural materials	None	None	None	None	All	All	Yes/No	
	Artificial materials	Yes	Yes	Yes	Yes	No	No	Sometimes	
	Time in surgery	1-2 hours	2-3 hours	3-5 hours	3-5 hours	2.5-3.5 hours, 1 h, 2-3 hrs	4-6 hours, 3-5 hours	10-20 hours	
	Hospitalizations (total)	1	1	2	2	2-4	2	1-3	
	Outpatient	1	1	1	1	1-3	1	1-2	
	Inpatient (overnight)			1	1	1	1	1	
	Infection	Low risk	High risk	High risk	Medium risk	Low risk	Low risk	Low/Medium risk	
	Exposure	Low risk	Low risk	High risk	Medium risk	Low risk	Medium risk (14%)	Medium/High risk	
	Chest scar	No	No	No	No	One incision	Two incisions	One incision/None	
	Scar on scalp	No	No	Yes	Yes, usually	No	Yes, 2nd stage	Yes	
Hair cutting for surgery	No	No	Yes	Yes, usually	No	Yes, 2nd stage	Yes		
Skin grafting	No	No	Yes, in front of/over ear	Yes, in front of/over ear	Yes, behind ear	Yes, behind ear	Yes, front of/over ear		
Vasc. compr. & major tissue loss	No	No	High risk	Medium risk	Low risk	Medium risk	Medium/High risk		
Time span over surgeries	N/A	N/A	6 months	6 months	2-8 months	4-6 months	N/A		
After Surgery (Longterm)	Ear flexibility	No	No	Some	Stiff	Some	Some	Some	
	Sensation	No	No	Decreased to numb	Decreased to numb	Decreased to normal	Decreased to numb	Decreased to numb	
	Convenience	Daily application	Daily application	Normal bathing	Normal bathing	Normal bathing	Normal bathing	Normal bathing	
	Longevity	5 years	5 years	All removed eventually	Unknown	Lifelong	Lifelong	Unknown	
	Ear skin color	Changes daily	Changes daily	Some difference	Some difference	Same as skin	Same as skin	Some difference	
	Ear skin texture	Major difference	Major difference	Shiny-like skingraft	Shiny/like skingraft	Normal skin	Normal skin	Shiny-like skingraft	
	Rejection	No	No	Lifelong risk	Lifelong risk	No	No	No/Lifelong risk	
	Infection	None	Lifelong risk	Lifelong risk	Lifelong risk	Normal	Normal	Normal/Mild	
	Implant fracture	N/A	N/A	Unknown	>3%	None	None	None/>3%	
	Nerve risk to frontal facial nerve	None	None	Yes	Yes	None	None	Yes/Yes	
	Exposure/extrusion	No	No	Lifelong risk	7% after 12 years	<1%	Some 8%	Mild risk/7%	
	Ear detachment	Yes	Yes	No	No	No	No	No	
	Trauma resilience/durability	Falls off	Falls off	Poor resistance	Moderate resistance	Normal ear	Normal ear	Normal/Moderate	
	Chest scar	No	No	Yes	Yes, usually	One, no phys. limitations	Two	One/No	
	Scar on scalp	No	No	Yes	Yes, usually	No	No	Sometimes	
	Permanent hair loss	No	No	Moderate Risk	Moderate Risk	No	Yes	Moderate Risk	
	Options for repair of damaged ear	Yes	Compromised	Compromised	Compromised	TP flap available	Compromised	Compromised (occipital flap)	
	Worry of future complications								
	Insect bites	No	No	High risk	Medium risk	Normal ear	Normal ear	Normal ear/Medium risk	
	Playground trauma	Falls off	Falls off	High risk	Medium risk	Normal ear	Normal ear	Normal ear/Medium risk	
	Other blunt trauma	Falls off	Falls off	High risk	Medium risk	Normal ear	Normal ear	Normal ear/Medium risk	
	Infections	None	Medium risk	High risk	Medium risk	Normal ear	Normal ear	Normal ear/Medium risk	
Sports limitations	Yes	Yes	Yes	Yes	No	No	No/Yes		
Time post-op in town	1 day	1 day	2-3 weeks	2-3 weeks with cup	1st 7-10 days, others 1 day	2-3 weeks	2-3 weeks		
Retain normal ear components	Yes	Sometimes	No	No	Yes	Compromised	Unknown		
Time post op. ear swelling	None	1 week	6 months	6 months	4-6 weeks	6 months	6 months		
Time post op. to wear protective dress	None	1 week	3 weeks	3 weeks	9-10 days	Weeks to months	Weeks to months		

Bibliography

1. Dr. Mark Mitchell Jones website www.atlantaeear.com
2. Dr. Francoise Firmin website
3. Dr. Burt Brent. The Art of Plastic Surgery.
4. Dr. Satory Nagata website www.microtia.jp
5. Dr. John Reinisch website www.drjohnreinisch.com
6. Dr. Sheryl Lewin website www.microtiaearsurgery.com
7. Mr. Andrew Greensmith website www.microtiaexpert.com

8. Dr. Arturo Banilla website www.microtia.net
9. Boston Children's Hospital website www.childrenshospital.org
10. Reinisch J, Lewin S. Ear Reconstruction with Porous Polyethylene Implant. *Facial Plastic Surgery*, 2009 Aug 25 (3), pp. 181-9.
11. Bauer B. Reconstruction of Microtia. *Online at Plast Reconstr Surg* . 2009; 124: 14e-26e.
12. Dr. Russell Griffiths website www.earreconstructionspecialist.com
13. Shen J, Quinn F. Microtia Reconstruction. Presentation at The University of Texas Department of Otolaryngology, October 2004.