Author	Year	Title	Study Design	Subjects	Summary
Liao et al. (19)	2019	Auricle Shaping Using 3D Printing and Autologous Diced Cartilage	Experimental animal study	Animal (lapine)	3D-printed porous pinna moulds seeded with diced rabbit cartilage and PRP and implanted into backs of rabbits subcutaneously for in vivo auricular regeneration
Zhou et al. (22)	2018	In Vitro Regeneration of Patient-specific Ear-shaped Cartilage and Its First Clinical Application for Auricular Reconstruction	Non-randomised Controlled Trial	Human	3D-printed scaffolds seeded with human microtia chondrocytes, in vitro auricular regeneration followed by implantation into human subjects
Zopf et al. (57)	2018	Pore Architecture Effects on Chondrogenic Potential of Patient-Specific 3-Dimensionally Printed Porous Tissue Bioscaffolds for Auricular Tissue Engineering	Experimental animal study	Animal (murine)	3D-printed scaffold seeded with porcine auricular chondrocytes and implanted subcutaneously into rats for in vivo auricular regeneration
Pomerantseva et al. (58)	2016	Ear-Shaped Stable Auricular Cartilage Engineered from Extensively Expanded Chondrocytes in an Immunocompetent Experimental Animal Model	Experimental animal study	Animal (ovine)	Autologous ovine auricular chondrocytes were expanded with or without bFGF and implanted onto porous collagen scaffolds containing a titanium wire. Scaffolds cultured in-vitro for 2 weeks followed by subcutaneous implantation into the necks of immunocompetent sheep
Zopf et al. (59)	2015	Computer Aided-Designed, 3-Dimensionally Printed Porous Tissue Bioscaffolds for Craniofacial Soft Tissue Reconstruction	Experimental animal study	Animal (porcine)	3D-printed bioabsorbable scaffolds impregnated with porcine chondrocytes and cultured in vitro. Auricular scaffolds also implanted post-auricularly in pigs
Bichara et al. (60)	2014	Successful Creation of Tissue-Engineered Autologous Auricular Cartilage in an Immunocompetent Large Animal Model	Experimental animal study	Animal (ovine)	Auricular chondrocytes harvested from 8 sheep, expanded in vitro and seeded onto scaffolds. Cultured in vitro for 2, 6 or 12 weeks prior to subcutaneous implantation into the necks of immunocompetent sheep or the backs of control nude mice for 6 and 12 weeks
Sterodimas et al. (61)	2013	Human Auricular Tissue Engineering in an Immunocompetent Animal Model	Experimental animal study	Animal (lapine)	First successful implantation at the time of a bioengineered ear into immunocompetent animals (rabbits). Implanted subcutaneously on dorsum
Yanaga et al. (21)	2009	Generating Ears from Cultured Autologous Auricular Chondrocytes by Using Two-Stage Implantation in Treatment of Microtia	Non-randomised Controlled Trial	Human	Developed two-stage implementation: 1) autologous chondrocytes from microtia ear inserted subcutaneously into human abdomen for 6 months 2) neocartilage harvested and sculpted into auricle for 4 children

Table II: Results of Literature Review

Abbreviations: 3D 3-dimensional; PRP platelet rich plasma; bFGF (FGF-2) basic fibroblastic growth factor