Reconstructive Transplant Research Program (RTRP)

Each year, the Department of Defense's office of the Congressionally Directed Medical Research Programs (CDMRP) assesses scientific opportunities to advance research in specific areas. The investigators supported by individual programs are making significant progress against targeted diseases, conditions, and injuries. This list is not intended to be a full representation of accomplishments, but rather a sampling of the broad portfolio of research and advances resulting from congressional appropriations.

Year	RTRP Research Contributions
2014	Drs. Michael Davis, Vijay Gorantla, and Jeff Karp have gathered preliminary data to support the encapsulation and delivery of immunosuppressive agents like tacrolimus through “intelligent” enzyme-responsive hydrogels, which release drug in the presence of biological mediators of graft rejection in vitro and provide a promising strategy for the prevention of graft failure following vascularized composite allotransplantation.
2014	Drs. Vijay Gorantla, Michael Davis, and David Mooney have conducted in vitro studies to characterize the pharmacological profiles of immunosuppressive agents when released through targeted ultrasound stimulation or by diffusion from alginate gels, which may offer potential benefit as an anti-rejection therapy following vascularized composite allotransplantation.
2014	Drs. Steven Little and Vijay Gorantla are developing a biomimetic microparticle system to deliver key chemokines, cytokines, and immunosuppressive agents and harness the body’s own population of regulatory T cells to promote long-term graft survival in animal models of composite tissue allotransplantation.