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BSL affiliates join collaborative effort to investigate new area of cellular therapy

Blood Systems and Blood Systems Research Institute (BSRI) are part of a new collaborative group that is studying whether certain stem cells might be useful in helping people recover from trauma .

Trauma is the leading cause of death and disability in adults according to The National Center for Injury Prevention and Control, eclipsing heart disease, cerebrovascular disease, cancer and HIV/AIDS. While great strides have been made in pre-hospital and in-hospital resuscitation, few if any effective therapies exist to directly treat the underlying mechanisms of trauma-associated conditions and, most importantly, the long term consequences of these injuries.

Mesenchymal stem cell (MSC) transplantation has shown promise in the treatment of several disorders characterized by inflammation and injury such as heart attacks and heart disease. MSCs are stem cells found throughout the body that can differentiate into a broad array of tissues such as bone, cartilage and fat. They have been shown to move to areas of injured tissue and promote repair. Researchers want to know whether MSC transplantation can regenerate healthy tissue or restore damaged tissue in trauma patients. Although much data has been collected on MSC use, questions remain regarding efficacy and safety, feasibility of use, large scale expansion and storage, and exact mechanism(s) of action.

Blood Systems, BSRI, the University of California San Francisco (UCSF), Terumo BCT, and the Department of Defense have formed a collaborative group to further investigate this area of study. This group is unique in its ability to carry out pre-clinical basic science investigations, to produce clinical grade MSCs on a large scale, and to carry out clinical trials at a world class Level 1 trauma center (at San Francisco General Hospital).

The collective effort is led by BSRI Assistant Investigator Dr. Shibani Pati's lab at BSRI, Drs. Michael Matthay and Mitchell Cohen at UCSF, Drs. Ray Goodrich and Kim Nguyen of Terumo BCT, and Blood Systems VP of Clinical Services Dr. Frank Nizzi. The main goals of this 3- to 4-year effort are to translate cell therapies from "bench to bedside" for trauma patients and to develop the infrastructure and know-how necessary to produce MSCs for commercial use in the future. Basic science investigations and clinical efforts will be conducted at BSRI and UCSF in San Francisco. Efforts relating to cell production, storage and regulatory compliance issues will be conducted both at BSRI and Blood Systems Laboratories in Arizona.