Treatment of sickle cell disease by induction of mixed chimerism and immune tolerance using CD4+ T-depleted haploidentical blood stem cell transplant

**Disease Area:** Sickle Cell Disease

**Investigator:** Joseph Rosenthal

**Institution:** City of Hope, Beckman Research Institute

**CIRM Grant:** CLIN2-10847

**Award Value:** $5,742,180

**Trial Sponsor:** Beckman Research Institute of City of Hope

**Trial Stage:** Phase 1

**Trial Status:** Recruiting

**Targeted Enrollment:** 6

**ClinicalTrials.gov ID:** NCT03249831

**Details:**
Scientists at the City of Hope are conducting a Phase 1 clinical trial testing a stem cell-based therapy for adult patients with severe sickle cell disease (SCD) - a chronic, debilitating blood disease. The therapy involves transplanting blood-forming stem cells from a donor into a patient who has received a milder, less toxic chemotherapy treatment that removes some but not all of the patient’s diseased bone marrow stem cells. This allows the donor stem cells to engraft and create a healthy supply of non-diseased blood cells without causing an immune reaction in the patient. The hope is that this treatment will cure patients with more severe forms of SCD who aren’t able to benefit from currently available blood stem cell transplants that require the administration of more toxic chemotherapy drugs.

**Goal:**
Safety and efficacy.

**News about this clinical trial:**
California’s Stem Cell Agency Invests in Stem Cell-Based Therapies Targeting Sickle Cell Disease and Cancer

**Source URL:** https://www.cirm.ca.gov/clinical-trial/treatment-sickle-cell-disease-induction-mixed-chimerism-and-immune-tolerance-using