

CHOP Research Institute Summer Scholars Program



William H. Peranteau, M.D.

General, Thoracic and Fetal Surgery

Translational Research: Research focused on bringing concepts in laboratory research directly into medical practice (may or may not involve human subjects)

Fetal Bone Marrow Transplants to Prevent Congenital Disease

We are interested in harnessing the normal developmental processes of the fetus to offer potential treatments for congenital diseases. Specifically, we perform bone marrow transplants in fetuses to take advantage of the developing immune system. By performing the transplant at this age, we avoid having to find a “matching donor” and the toxic/immunosuppressive treatments required for postnatal transplants. A target disease for this research is sickle cell anemia.

- **Potential summer research project:**
Research projects will involve studying ways to optimize donor cell engraftment following in utero bone marrow transplantation in the mouse model.
- **Students will learn the following techniques:**
(1) Bone marrow transplant in fetal and adult mice; (2) Flow cytometry to analyze and quantify the presence of donor cells in the blood of mice previously transplanted as a fetus; and (3) Analyzing fetal bone and liver on histology slides to assess for the presence of donor cells after in utero bone marrow transplantation.

Please click [here](#) to read more about Dr. Peranteau