



NAVAL MEDICAL RESEARCH CENTER
Operational and Undersea Medicine Department
NeuroTrauma Department



The Naval Medical Research Center (NMRC) is located at the Forest Glen Annex in Silver Spring, MD, and shares the building with the Walter Reed Army Institute of Research (WRAIR). It is the flagship research center for the Navy and heads nine additional naval research institutes worldwide.

Research projects of the NeuroTrauma Department focus heavily on traumatic brain injury alone, or complicated by hemorrhagic shock or polytrauma. Current large animal studies in swine use a fluid percussion head injury model and uncontrolled hemorrhage from a Grade III liver crush/laceration to investigate the effects of fluid resuscitation (i.e. hemoglobin based oxygen carriers) on brain oxygenation, tissue perfusion, and survival in this rigorous polytrauma model. These research efforts are aimed at securing FDA approval for a blood substitute to treat severe trauma patients in the pre-hospital setting. In addition to the animal physiology studies, we have a state of the art hematology and immunology laboratory to analyze blood coagulation, platelet function and immune activation. Our studies are completed by histopathological examination of tissue samples. Small animal studies in rats investigate effects of blast induced traumatic brain injury, and possible early detection and treatment methods.

Other projects include testing of hemostatic dressings in femoral artery and vein transection and puncture models, feasibility studies on transport ventilators, training efficacy assessment of individual first aid kit usage in non-medical personnel and use of hemostatic agents such as recombinant Factor VIIa in incompressible hemorrhage models.

Students are invited to observe our activities and to gain research experience as part of our team for extended periods of time.

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