



The University of Michigan
Max Harry Weil Institute

Pre-clinical Critical Care Laboratory

weil institute.org/pre-clinical-critical-care-laboratory



Sepsis



Acute Respiratory
Distress Syndrome (ARDS)



Cardiac
Arrest



Traumatic
Brain Injury (TBI)



Polytrauma and
Hemorrhagic Shock

High-fidelity porcine models of multi-system disease and injury to advance scientific discovery and clinical translation.

Our porcine models faithfully recapitulate human disease and are used to investigate disease progression, diagnostics, therapeutics and biological mechanisms. They are also ideal for drug safety and efficacy studies and are excellent for validating small animal results before engaging in expensive human studies.

These models are developed and conducted by a team of Weil Institute and University of Michigan experts who collaborate with academic research teams as well as medical device, pharmaceutical and biotechnology groups. Both short-term and long-term survival models are available.

Our models enhance:

Biologic Discovery	Efficacy Testing
Identification of underlying disease mechanisms and processes	Repurposing assessment for new applications of existing drugs
Serial biospecimen collection and imaging capability	Derisking & efficacy testing of devices, diagnostics & preclinical drug candidates
Candidate drug target engagement identification	Strategy development for biomarker directed therapeutics
Pilot experiments to generate preliminary data or assess feasibility	Formulation of clinical trial design through use of predictive biomarkers
Testing & validation of candidate biomarkers including feasibility of point-of-care assays	Enrichment of pre-clinical data that complements rodent model data in advance of regulatory review

More Lab Capabilities

- Study Design
- Protocol Development
- Data Collection, Analysis and Storage
- Report & Manuscript Writing

To learn more, visit:

[weil institute.org
/pre-clinical-critical-care-laboratory](http://weil institute.org/pre-clinical-critical-care-laboratory)

Why Work With Us?

Industry & Clinical Leadership

- Our highly qualified and trained personnel include scientists, interventionalists, surgeons, technicians (anesthesia, laboratory, necropsy, histology, animal care) and study directors
- Studies carried out in our lab have been supported through federal agencies such as the National Institutes of Health (NIH), National Science Foundation (NSF) and the U.S. Department of Defense (DoD) as well as foundations and industry
- Results from our lab have been published in high impact journals such as the *Journal of Neurotrauma*, *Resuscitation*, *Journal of Trauma*, *Shock*, *PLOS One* and others

Extensive Collaborative Experience:

- Proven collaboration with multiple national and international companies

State-of-the-Art Technology & Facilities

- Our lab is equipped with high resolution physiologic and metabolic monitoring and analytic equipment, providing for unique “physiomic” monitoring and tissue banking and analysis
- Our technology matches that in leading hospitals and health systems to replicate actual clinical settings and enable complex operative and ICU-level care

8

Years in
Service

\$15+
MILLION

Total Funding
Received

OVER
35

Publications

Why the Weil Institute & the University of Michigan?

The Max Harry Weil Institute for Critical Care Research and Innovation is uniquely positioned within the research powerhouse that is the University of Michigan. With 19 top-ranked schools and colleges, U-M's research capabilities and accomplishments span nearly every field of science, engineering, medicine, social sciences and the humanities.

With access to this wealth of resources and expertise, the Weil Institute can mobilize a team unlike any other to fuel your project from idea to impact. Connect with us today!

For more information, contact:

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