More than 80% of surviving cardiac arrest patients experience poor neurological outcomes. Their cost of care and difficult-to-administer treatments are significantly greater and are a large burden on the patient, caregiver, and the insurance carrier. Therapeutic Hypothermia is currently the only therapy used in treating ischemic brain damage but demands considerable expertise, is not FDA approved for post-cardiac arrest care, and costs over $30K/patient. Traditional drug therapies are not proven to be clinically effective.

MCIRCC members are conducting trials using Mitovation’s technology called the MitoLUX device. It was discovered that unique therapeutic wavelengths of infrared light (IRL), directly and non-invasively modulate the mitochondrial activity and prevents generation of free radicals. MitoLUX treatment protects the mitochondria and reduces stress and oxidative brain injury, improving cell survival and neurological outcomes.

In a pre-clinical small animal model of cardiac arrest and resuscitation, the non-invasive Mitovation treatment resulted in an 83% reduction in brain injury. Since 2006, 16 grants totaling over $8M have been awarded. Several patents have been issued with others currently pending. Large animal models are in process and human clinical trials will soon follow to support FDA submission with approval forecasted in 2020.