Upstate Medical University researcher awarded $50K grant for medical device: CNY Science

Gary Neoven, associate professor of surgery and senior research scientist at Upstate Medical University, is developing a medical device that removes harmful abdominal fluid buildup caused by trauma, sepsis or burns. (Courtesy of Upstate Medical University)

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Crime in Central NY
Gary Nieman, associate professor of surgery and senior research scientist at Upstate Medical University, has been awarded a $50,000 grant from the SUNY Technology Accelerator Fund to develop a minimally invasive infusion and suction therapy (MIST), a medical device that removes harmful abdominal fluid buildup caused by trauma, sepsis or burns.

Nieman's grant was one of five awarded to researchers at SUNY institutions to aid in the development of the next generation of life-saving technologies. The TAF accelerates the development and commercialization of innovations created by SUNY students, faculty and staff.

Nieman said the project addresses the lack of an effective treatment for both intra-abdominal hypertension and abdominal compartment syndrome, deadly conditions caused by blunt abdominal trauma, burns, shock from massive bleeding, massive fluid resuscitation or sepsis. In these patients, the body's response to the primary problem causes a buildup of inflammatory fluids in the abdomen, which causes organs to fail.

The device under development in Nieman's lab is a small plastic cylinder made from biocompatible materials to be inserted into the peritoneal cavity using laparoscopic surgery to remove the inflammatory fluids and to treat the organs with medication. The device, Nieman said, will allow early intervention to prevent buildup of fluids and pressure from developing into a potentially life-threatening situation.