Kidney stones can be extremely painful. Larger stones can get stuck, potentially leading to loss of the kidney, sepsis and even death. So in 700,000 procedures a year, kidney stones are shattered with sound waves or laser beams into smaller pieces that can naturally be flushed from the system. But pieces left behind often grow again, requiring an additional 100,000 operations a year at a cost totaling up to $1 billion.

Researcher Mike Bailey at the University of Washington’s Center for Industrial and Medical Ultrasound (CIMU) led a team that developed a system that can avoid those additional surgical procedures by using long pulses of sound waves to push the smaller stones from the kidney safely and without anesthesia. The technology has been licensed to SonoMotion, a Washington company that will develop commercial applications. Bailey, SonoMotion’s CTO, says the system uses off-the-shelf components.

“We have an opportunity to have a great impact on patient care,” Bailey says, “and maybe save the health care system a lot of money.”

The system took only six years and $6 million to go from idea to clinical trial at CIMU. This setting, says Bailey, is “far cheaper and faster than a company could do.” Patents for the technology have been filed in Japan, Europe and the United States.