

## News Release – POCsparc Grant Recipient

Daniel DeArmond, MD, assistant professor of cardiothoracic surgery at UTHSCSA invented a device intended to detect leaks following a surgical anastomosis. Anastomoses are performed when surgeons need to join of the viable ends of one or more hollow organs. Examples of procedures in which the formation of a surgical anastomosis would be required include bowel reconstruction following colon cancer resection and a stomach/small intestine anastomosis as part of a bariatric gastric bypass operation. The incidence of anastomotic leaks is quite low, but complications from GI contents leaking into an otherwise sterile body cavity can be severe, even life threatening. Dr. DeArmond conceived of a device that would detect a leaking GI anastomosis by the detection of changes in electrical conductivity at the anastomotic site by a modified surgical drain tube placed at the anastomotic site just prior to surgical closure. At some reasonable time following their GI surgery, patients would drink a small amount of a hypertonic solution such as normal saline. Because saline is a good conductor of electricity, if the anastomosis were not completely closed, the electrical conductivity at the anastomosis would improve.

Dr. DeArmond mocked up and ran some bench-top experiments in an attempt to achieve proof of concept. Those experiments were successful. Armed with these data, Dr. DeArmond successfully applied to OTV (the predecessor to STTM) to have his device patented. Like so many other University inventions, development of the invention stalled after that point. The next logical step would be for a medical device company to license the invention from the University, further develop and refine the device and market it for use in patients. Unfortunately, the bench-top proof of concept data Dr. DeArmond generated were not enough to motivate a medical device company to seek a license; medical device companies generally want to see pre-clinical (animal) proof of concept data. Said Dr Armond; “The POCsparc funds have really been helpful in moving this project along. We used the POCsparc grant we received last spring to generate some very encouraging animal data. We are not completely finished, but so far we have been able to detect leaks far better in test animals than in the control animals.”