



Mechanical Engineering Seminar Series

Impacting Healthcare Costs with a University of Michigan innovation – FlexDex

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2147 GG Brown

Abstract

Driven by minimally invasive procedures that require intensive suturing, the adoption of robotics in general surgery has accelerated dramatically in spite of high costs and steep learning curve. While big hospitals are able to absorb the cost of owning and maintaining multi-million dollar DaVinci surgical robots and associated infrastructure, small community hospitals face a difficult decision.

In this talk, I will present this dilemma faced by Cadillac Hospital, which serves the rural community of about 80,000 residents in seven counties in northern Michigan. A few years ago, we had to decide to either invest significant time, money, and personnel in creating and running a robotics program, or lose our patients and surgeons to bigger hospitals and medical centers. This would be a loss for the local community, economy, and quality of living. Instead, we looked for alternate options. There weren't many but the most promising one seemed to be a technology from our own state – FlexDex – created at the University of Michigan.

I will describe how I ended up adopting FlexDex and pioneering complex surgical procedures with it just as they would be performed on the DaVinci surgical robot but at much lower costs to the hospital. I have now performed over four hundred FlexDex procedures including hernia repair, colon resection, fundoplication, and hysterectomy. The savings from this decision and the “notoriety” that this brought us has expanded our surgical efficiency as well as capabilities.

FlexDex is now spreading all over the world and is being adopted in urology, gynecology, cardiothoracic, bariatric, and whipple procedures among others. I will discuss the future potential of this technology in providing greater access to minimally invasive surgery world-wide at an affordable cost. I will also discuss ongoing technology needs and challenges that remain in surgery that might inspire new research and innovation at universities.

Bio

Dr. Kent Bowden, D.O. is a General Surgeon at Cadillac Hospital, Munson Healthcare. He trained at the College of Osteopathic Medicine, Michigan State University and graduated in 2005. He completed his Residency at Ingham Regional Medical Center in Lansing, MI in 2010, and joined private practice in a rural hospital where he could have a broad-spectrum practice. His objective as a surgeon is to provide cost effective, personalized and world-class care to patients in his local community. In addition to pioneering cases with FlexDex, he enjoys coaching basketball at his children's school and spending time outdoors with his family. Dr. Bowden is a Fellow of the American College of Osteopathic Surgeons (FACOS).

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