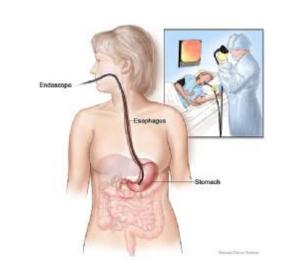


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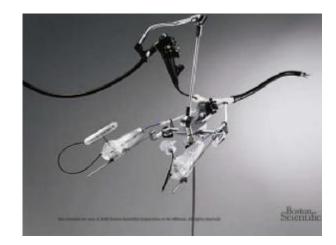
Design of Master for Telemanipulation System for Endo-/Transluminal Endoscopic Surgery



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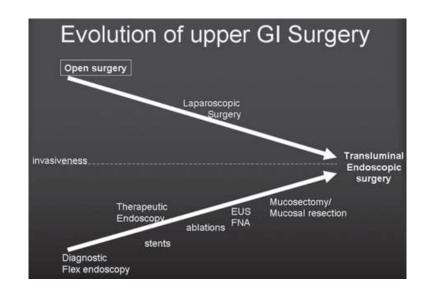




Convergence of technologies

- Minimal Invasive Surgery (MIS) is becoming less invasive
- Endoscopy is becoming more invasive













Requirements

- Stability
- Triangulation
- Maneuverability







Development of a multi-tasking platform













Available Masters

Master System



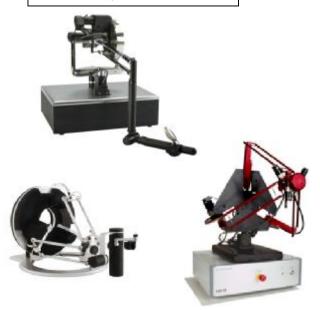
Link manipulators







Joysticks



Exoskeletons







What Next ???

Goal:

Design of Master for Tele-manipulation System for Endo-/Transluminal Endoscopic Surgery

Approach:

Research on Mechanical Design Aspects of Surgical Robotic Systems

Research areas:

- **∨** Kinematic Design
- **∨** *Transmission and Drives*
- **v**Dynamics
- **∨** Dexterity and Working Space



Thanks for your attention !!!

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