Research activity at Medical Informatics and Technology Application Consortium

Azhar Rafiq, MD EMBA
Ronald C. Merrell, MD, FACS
NASA Research Partnership Center
Department of Surgery
Virginia Commonwealth University

Conversion of operating room into an information matrix

Pre-op

Anesthesia Environment

Operative Environment

Surgical Patient

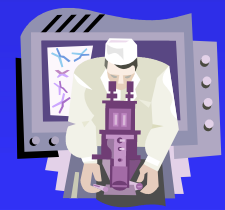
Electronic Health Record (EHR)

End Users

Education

Collaboration

Analysis

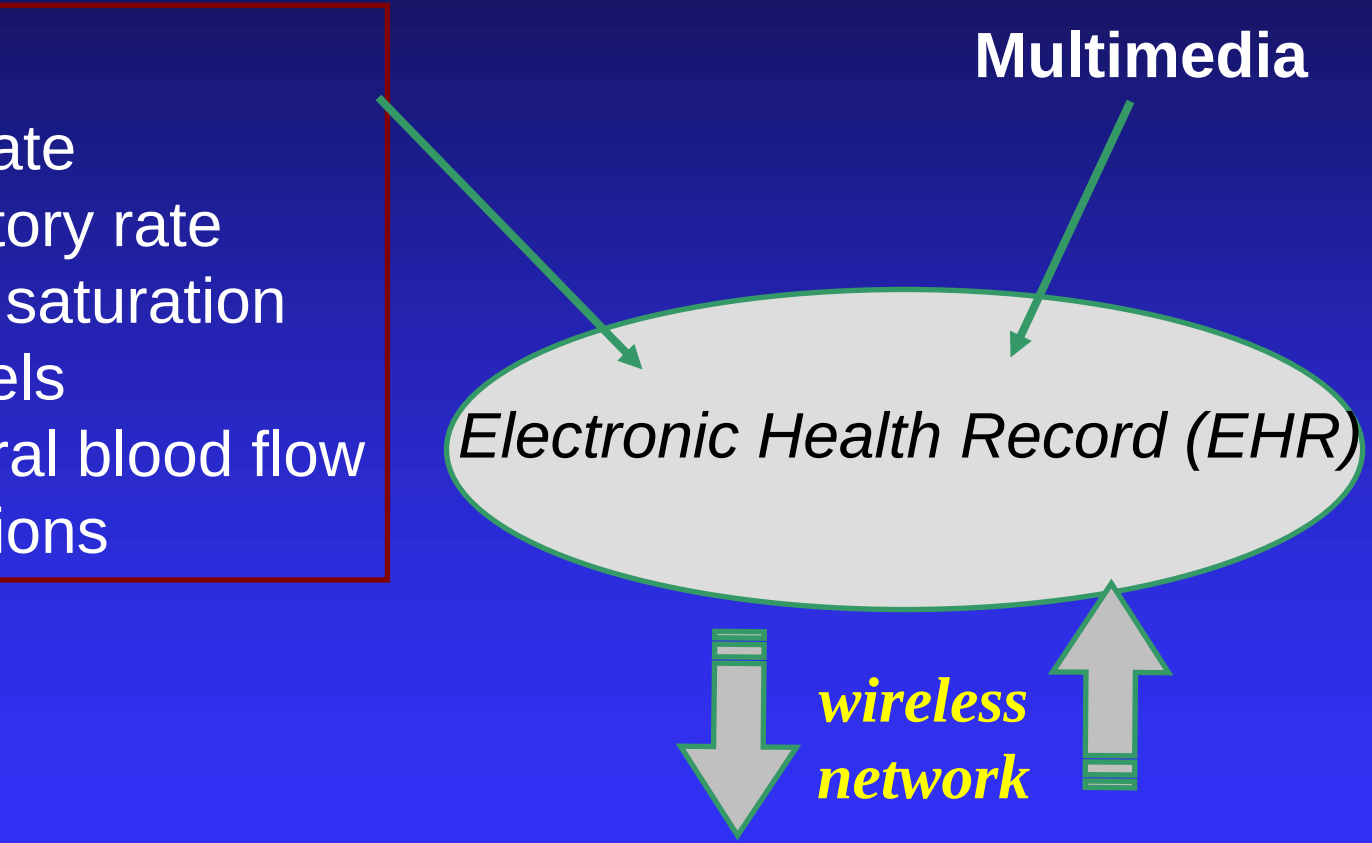


Surgical Procedure/ Pathology

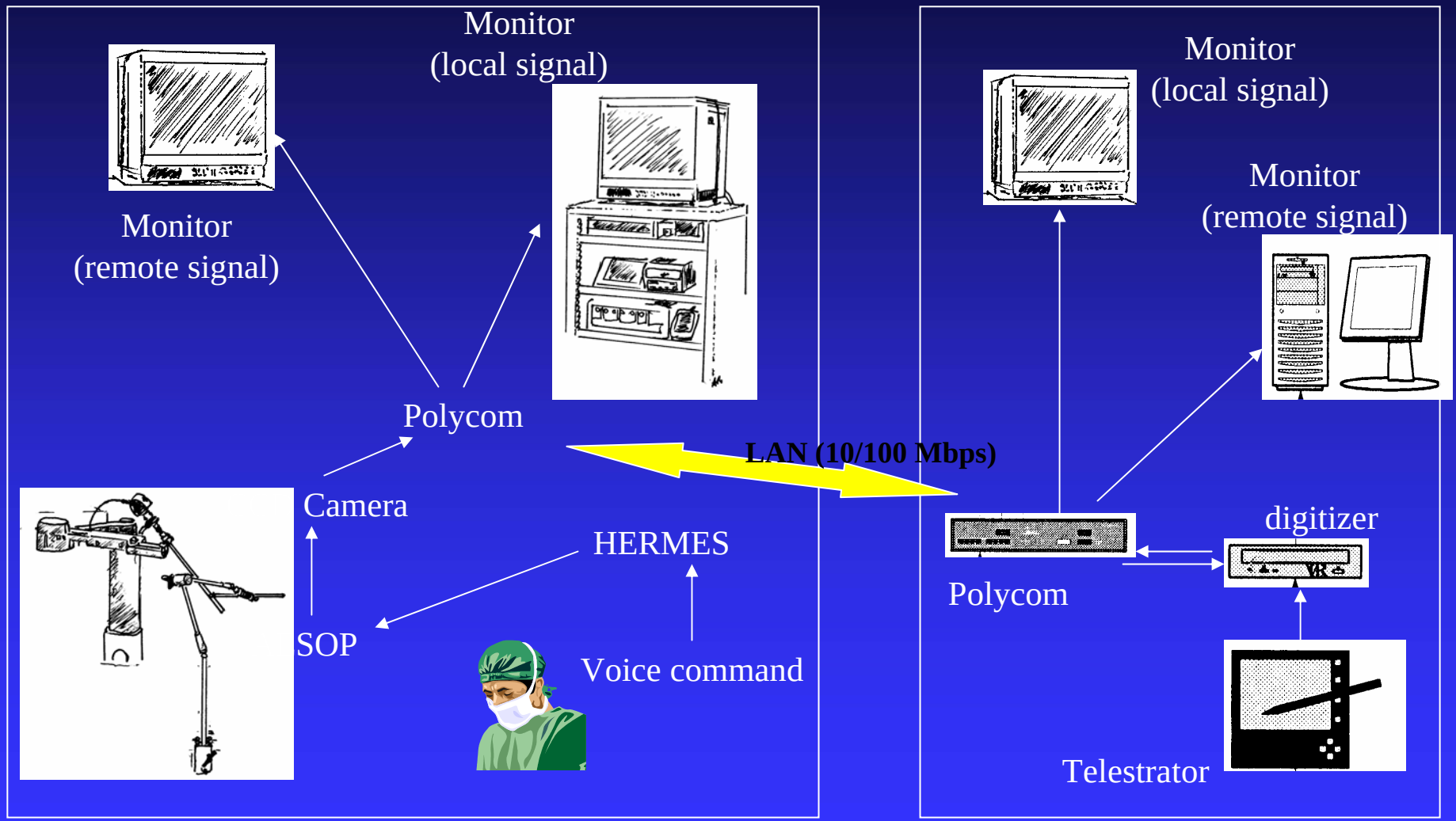
Dense data capture and processing with facilitated interaction

Sensors –

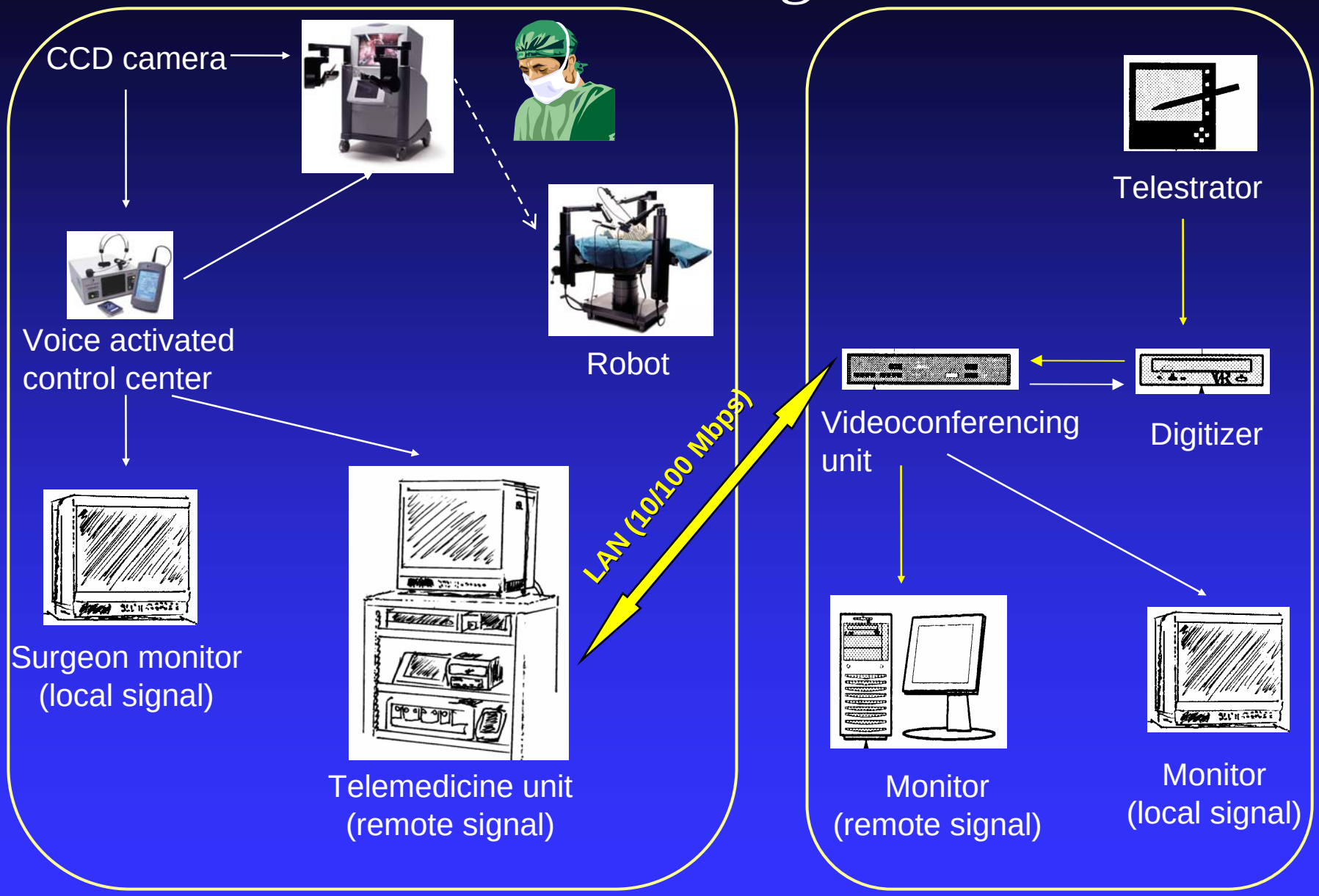
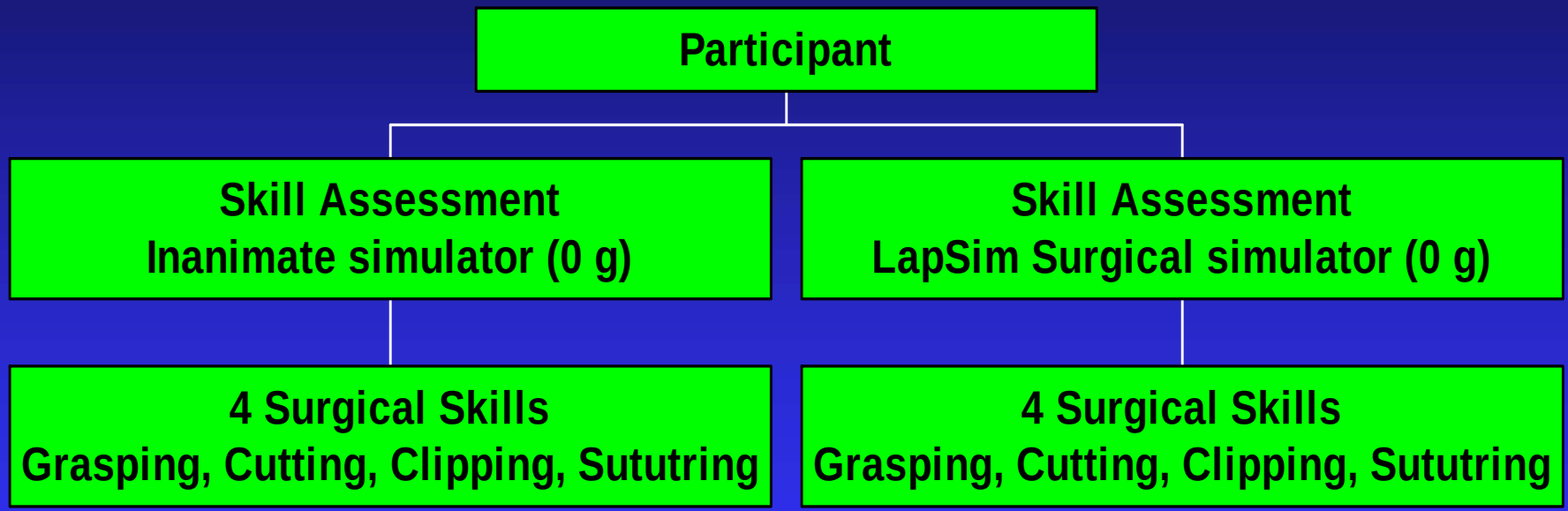
- Heart Rate
- Respiratory rate
- Oxygen saturation
- Co2 levels
- Peripheral blood flow
- Medications



Synchronous collaboration



Telementoring



Virtual Reality Coach