

OBJECTIVES

- To explore how, and under what circumstances, robot-assisted surgery becomes embedded into practice, so that it is used routinely and successfully for operations where it offers advantages to the patient;
- To explore how, and under what circumstances, robot-assisted surgery impacts on communication, teamwork and decision making, and how this is affected by the process through which the technology is introduced;
- To explore how, and under what circumstances, the process through which the technology is introduced and differences in communication, teamwork and decision making impact on outcomes such as operation duration, conversion to open surgery, and complications.
- To gather data on the different ways in which robot-assisted surgery has been implemented, in terms of components of the intervention.

INTRODUCTION

- Introduce self; introduce study and interview; go over key points from information and sheet; obtain and record verbal consent.

1 ROLE AND EXPERIENCE

- Role and responsibilities
- Years in role
- Number of operations using robot

2 HOW ROBOT-ASSISTED SURGERY BECOMES EMBEDDED INTO PRACTICE

Probes for theory questions

- Does this fit with your experience?

- If yes, could you explain a bit more? Why do you think it's important? How do you think this makes a difference?

- If no, what does make a difference?

- Introduction of robot
 - Introduction of robot into Trust (who was involved in the decision, motivation, money)
 - Robot for colorectal surgery (who was involved in the decision, motivation)
 - *Robot-assisted surgery more likely to become embedded if supported by hospital administration and nursing management*
 - Training (who, what, why, consequences)
- Current use of robot
 - Model of robot (upgraded?)
 - Hybrid versus totally robotic (why)
 - How use has changed with experience (how, why – e.g. shorter duration, better positioning, fewer collisions)
- Barriers
 - Duration (your experience, why, consequences)
 - [for surgeons] *Lack of haptic feedback so drawing on visual cues, so move more slowly* (your experience, how this changes over time)
 - Other barriers

- Team
 - Who's on the team
 - Dedicated team versus rotation (why)
 - [if dedicated team] *Dedicated team can learn together and develop strategies*
 - Team's attitude to robot-assisted surgery (why, consequences)
 - [if team involved in decision] *Team more likely to have positive attitude if involved in decision*
 - *Robot-assisted surgery more likely to become embedded if team has a positive attitude*
 - *Robot-assisted surgery more likely to become embedded if team has clear understanding of why it's being used*

3 HOW ROBOT-ASSISTED SURGERY IMPACTS ON COMMUNICATION, TEAMWORK AND DECISION MAKING

- Communication
 - Difference in communication
 - *Communication is worse with robot-assisted surgery, due to distance between surgeon and rest of team (in what way, consequences)*
 - *Team is less aware of surgeon's actions, making it more difficult to coordinate their actions (your experience)*
 - Strategies (what, how they were developed, what they achieve and how)
- Teamwork (generally)
 - Specific tasks for each member of team (what tasks, why, what that achieves and how)
- Teamwork [for surgeon and assistant]
 - Difference in teamwork between surgeon and assistant
 - *Surgeon is less dependent because in control of camera and can be in control of retraction (your experience)*
 - *Close communication and coordination is necessary for safe instrument exchanges (your experience)*
- Training [for surgeon and trainee]
 - Difference in training
 - *Different views of surgical site, harder for surgeon to explain and monitor trainee's understanding, so that trainee doesn't learn as much (your experience)*
 - [if dual console] How dual console facilitates training
- Decision making [for surgeon]
 - *Sense of immersion means that more focused, resulting in better outcomes (your experience)*
 - Difference in situation awareness (in what way, consequences, how, strategies)
 - *Ergonomics mean less stressed and tired, resulting in better decision making and reduced conversion to open surgery (your experience)*

4 ENDING

- Additional comments; other people to speak to; thank you.