SITM: Robotic Assisted Gynaecological Surgery (RAGS)

SECTION 1: CAPABILITIES IN PRACTICE

RAGS CiP 1: The doctor can be an effective assistant within the multidisciplinary robotic surgical team	
Key Skills	**Descriptors**
Familiarity with robotic components, instrumentation, mechanics, ergonomics and fundamental techniques	• Knowledge of the operative room setup for the robotic system. • Can correctly position the patient for robotic surgery. • Undertakes vaginal preparation for a robotic procedure. • Aware of principles of the robotic system and the fundamentals of the robotic system components and instrumentation. • Able to drape the robot. • Able to respond to system errors. • Able to drive the robot. • Can maintain a clear image by cleaning/changing the camera. • Able to insert, change and remove robotic instruments. • Can trouble shoot and re-dock the robotic system. • Able to undertake port placement. • Understand different docking positions and able to dock the robot in different positions. • Demonstrates use of suction and maintaining clear operative field • Able to introduce and present loaded needle. • Understands and can demonstrate use of different methods of maintaining pneumoperitoneum. • Can safely retrieve needle/ swabs/specimen.
Safely uses energy sources as part of robotic surgery	• Uses correct energy type and setting for each procedure. • Takes steps to prevent diathermy related complications Is aware of mechanism of using various energy modalities. • Is aware of mechanism of using various energy modalities.
Works effectively as part of the multidisciplinary team	• Appreciates the impact of human factors on the functioning of the team and the safety of the surgery. • Provides leadership within the team. • Communicates clearly with the theatre and anaesthetic team • Demonstrates understanding of specimen handling and histology/cytology requests. • Demonstrate skills of communication with recovery and ward staff.

	• Instructs nursing staff on postoperative care and pain management. • Ensure thromboprophylaxis type, dose and duration is communicated to postoperative teams and patient.

Evidence to inform decision	
• Reflective practice • TO2 • Direct observation by senior colleagues • Attendance at Local, Deanery and National teaching • Completed online training module for robotic system • Attendance at a local, regional, national robotic courses	• Confirmed participation in multidisciplinary team meetings and clinics • Leads critical incident review • OSATS: ○ Docking/Undocking • CbD • Mini-CEX • TO2 (including SO)

Knowledge criteria

- Demonstrates understanding fundamentals of the robotic system components and instrumentation
- Understanding of the use of energy sources in robotic surgery and its potential complications if used inappropriately
- Demonstrate understanding of communication with scrub team and needle/swab count
- Relevant anatomy and robotic interferences
- Understands indications for robotic surgery including:
- Informed consent
- Effects of pneumoperitoneum
- Be able to understand reasons for robot arm clashing and adjust the arm positions
- Understand the appropriate use of assistant port
- Understands neurological conditions that could be due to poor positioning during prolong procedure
- Objective methods for assessing port placement and pneumoperitoneum

RAGS CiP 2: The doctor provides high quality surgery for pelvic pathology using robotic assistance.	
Key Skills	**Descriptors**
Demonstrates safe surgical practice	• Selects patient appropriately for robotic surgery with emphasis on complex patients, high BMI and those with deep pelvic pathology where robotic assistance will enhance surgery and recovery. • Demonstrate skills to overcome 'Lack of Haptic feedback' with current robotic surgery. • Demonstrate micro dissection and atraumatic tissue handling with the robotic system.

	• Maintains safety of the operative field. • Ale to perform ovarian or uterine artery ligation. • Able to independently perform laparoscopic /robotic adhesiolysis. • Able to independently perform a robotic hysterectomy. • Has appropriate suture handling and knot tying skills for robotic surgery.

Evidence to inform decision

• Reflective practice
• NOTSS
• Attendance at Risk Management meetings
• Attendance at skills drill events
• Completion of online system training
• Completions of 30hours simulation console training
• Attendance at robotic course/s
	• OSATS:
	  ○ Docking and undocking
	  ○ Hysterectomy
	• NOTSS
	• CbD
	• Feedback from trainer
	• TO2
	• Mini-CEX

Knowledge criteria

- The necessary robotic equipment and theatre set-up
- Potential surgical complications
- How to manage major haemorrhage
- The indications and complications of robotic procedures:
- Robotic port placement
- Surgical anatomy of pelvis
- Alternative treatment options, indications, complications, informed consent
- Demonstrates understanding fundamentals of the robotic system components and instrumentation
- Understanding of the use of energy sources in robotic surgery and its potential complications if used inappropriately
- Demonstrate understanding of communication with scrub team and needle/swab count
- Ability to prevent excessive blood loss during surgical procedure
- Able to undertake robotic assisted suturing
- Surgical management of complications & appropriate referral
- Involvement of another specialist and asking for help as required.
- Able to perform an emergency undocking procedure
- Able to convert to laparoscopy or laparotomy as appropriate
- Demonstrate understanding of specimen handling and histology/cytology requests
  Effective communication with recovery and ward staff

RAGS CiP 3: The doctor is competent in recognising, assessing, and managing complications and emergencies in robotic theatre.

Key Skills	Descriptors
Recognises, minimises, and manages harm from complications	• Recognises surgical complications (bowel/urinary/vascular injuries) and involves appropriate specialists. • Recognises potential intra-operative risks and makes appropriate operative decisions to mitigate harm. • Recognises role of other specialists in the management of surgical complications. • Recognises the potential effect of a prolonged pneumoperitoneum. • Understands indications for conversion to laparoscopic or open surgery. • Demonstrate situational awareness and estimation of blood loss. • Demonstrates assessment and management of unstable patient. • Able to perform an emergency undocking procedure. • Ability to recognises early warning signs in patients on postoperative pathway. • Manages postoperative complications and can determine the need for HDU care.
Can lead and manage robotic theatre in an emergency	• Understands the importance of 'Human Factors' in the context of the robotic theatre environment. • Manages any complication calmly and requesting early help as and when needed as part of a multidisciplinary team. • Implements and directs safe ergonomic positioning in theatre for patient safety. • Able to communicate clearly during an emergency with the scrub team, anaesthetic team, and assistants. • Safely removes instrument under direct vision.

Evidence to inform decision	
• Evidence of setting up local robotic teaching programme • Reflective practice • Feedback from trainees and theatre staff • Attend theatre team briefing and WHO check list • Attend risk management meetings	• NOTSS • CbD • Mini-CEX • Feedback from trainees • TO2 • Local and Deanery Teaching

Knowledge criteria
• Understands importance of communication with scrub team and assistant • Aware of impact of 'Human behaviour' in running of safe theatre list • Understand robot system in use of fulfil the requirements before removing instruments • Understands how to overcome system error in an emergency • Understands the requirements for uninterrupted power supply to robot components • Teaching skills and giving clear instructions

- Understands importance of giving precise instructions to assistant to perform arterial clip application for prevention of bleeding
- Able to give supportive constructive feedback to trainees/ assistants
- Has knowledge of how to perform an emergency undocking procedure and communication with team
- Ability to prevent excessive blood loss during surgical procedure
- Effective communication with recovery and ward staff

SECTION 2: PROCEDURES

Procedures marked with * require three summative competent OSATS

Procedures	*Level by end of training*	*CIP 1*	*CIP 2*	*CIP 3*
Docking and undocking of robot *	5	X	X	X
Robotic assisted Hysterectomy *	5	X	X	
Robotic assisted Myomectomy	1	X		
Robotic assisted excision of rectovaginal endometriosis	1	X		
Robotic assisted Hysterectomy for gynaecological cancer +/- LN dissection	1	X		
Robotic assisted Procedure for pelvic floor prolapse or incontinence	1	X		
Robotic assisted reimplantation of ureter	1	X		X

SECTION 3: GMC GENERIC PROFESSIONAL CAPABILITIES

Mapping to GPCs
Domain 1: Professional values and behaviours Domain 2: Professional skills • Practical skills • Communication and interpersonal skills • Dealing with complexity and uncertainty • Clinical skills *(history taking, diagnosis and management, consent; humane interventions; prescribing medicines safely; using medical devices safely; infection control and communicable diseases)* Domain 3: Professional knowledge • Professional requirements • National legislative requirements • The health service and healthcare systems in the four countries Domain 4: Capabilities in health promotion and illness prevention Domain 5: Capabilities in leadership and teamworking

Domain 6: Capabilities in patient safety and quality improvement
- Patient safety
- Quality improvement

Domain 7: Capabilities in safeguarding vulnerable groups

SECTION 4: MAPPING OF ASSESSMENTS TO RAGS CiPs

RAGS CIP	Online Modules Possible Courses	OSATS	Mini-CEX	CbD	NOTSS	TO1/ TO2	Reflective practice
1: The doctor can be an effective assistant within the multidisciplinary robotic surgical team	Online Modules Simulator training certification	Simulator Task based	X	X	X	X	X
2: The doctor provides high quality surgery for pelvic pathology using robotic assistance	Log book Audit Project Dry lab/Wet lab robotic courses Training courses	X	X	X	X	X	X
3: The doctor is competent in recognising, assessing, and managing complications and emergencies in robotic theatre	Skills drill/robotic courses Human factors/ communication course	X	X		X	X	X