

USING MAYO GAS & GEARS FORMS



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Training in robotic surgery is essential.

Training pathway in Gem hospitals Chennai, India is explained.

METHODS

Trainee started the program by observing two robotic procedures followed by simulation training. After completing online assessment an inservice overview of the system was conducted at Local hospital. TR200 training completed using animal model .

RESULTS



Certificate of completion as a console surgeon was obtained. Trainee took 6 months to complete the training. Initial cases were selected for high anterior resection followed by low anterior resection. Mayo based GAS & GEARS forms are used for the assessment. Trainee became proficient in Robotic surgery within 5 cases . Recorded unedited videos were used for assessment.

CONCLUSION

Challenges in the use of the technology and the learning curve can be shortened by this structured training pathway. Selection of cases in the initial period is important. MAYO based GAS & GEARS forms which were used for training is important for assessing and for reflection.

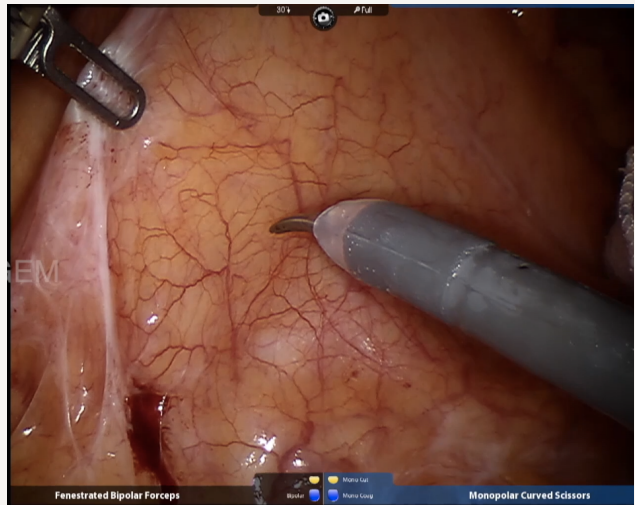
KEY STATEMENT

Robotic surgery needs a trainee centred pathway to effectively complete the program. Fellowships are planned for junior trainees . A senior surgeon needs a tailored pathway like LapCo (UK) to complete the training to attain conscious competence. DH UK needs to form Robco program for training robotic surgeons.

 Global Evaluative Assessment of Robotic Skills (GEARS) Robotic Competency Evaluation Form				
Post case completion the GEARS Form needs to be completed by the consultant Send completed form to Larissa Padman: Padman.Larissa@mayo.edu				
Follow Name _____		Clinic # is NOT to be used on this form		
Case Reference _____				
Operating Date _____				
Depth perception				
1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
Constantly overshoots target, wide swings, slow to correct		Some overshooting or missing of target, but quick to correct		Accurately directs instruments in the correct plane to target
Bimanual dexterity				
1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
Uses only one hand, ignores nondominant hand, poor coordination		Uses both hands, but does not optimize interaction between hands		Expertly uses both hands in a complementary way to provide best exposure
Efficiency				
1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
Inefficient efforts, many uncertain movements, constantly changing focus or persisting without progress		Slow, but planned movements are reasonably organized		Confident, efficient and safe conduct, maintains focus on task, fluid progression
Force sensitivity				
1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
Rough moves, tears tissue, injures nearby structures, poor control, frequent suture breakage		Handles tissues reasonably well, minor trauma to adjacent tissue, rare suture breakage		Applies appropriate tension, negligible injury to adjacent structures, no suture breakage
Autonomy				
1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
Unable to complete entire task, even with verbal guidance		Able to complete task safely with moderate guidance		Able to complete task independently without prompting
Robotic control				
1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>	5 <input type="radio"/>
Constantly does not optimize use of hand position, or repeated collisions even with guidance		View is sometimes not optimal. Occasionally needs to relocate arms. Occasional collisions and obstruction of assistant.		Controls camera and hand position optimally and independently. Minimal collisions or obstruction of assistant

1. Exposure:

1. Correct OR set up	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>
2. Correct patient positioning	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>
3. Safe access technique	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>
4. Exposure of operating field	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>

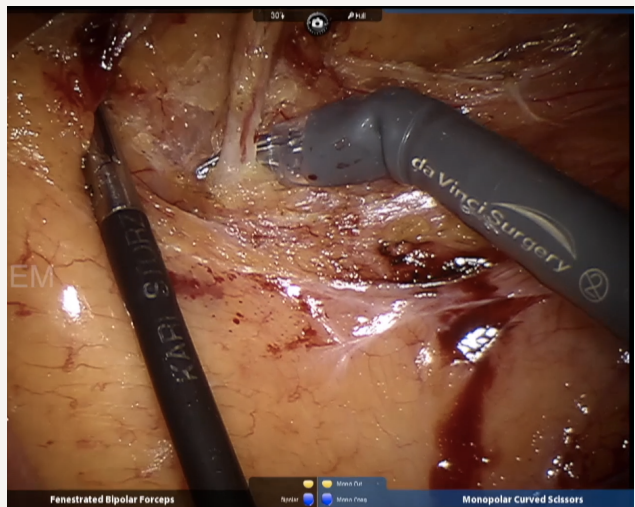


2. Vascular:

5. Safe dissection of vascular plane 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ N/A ☐

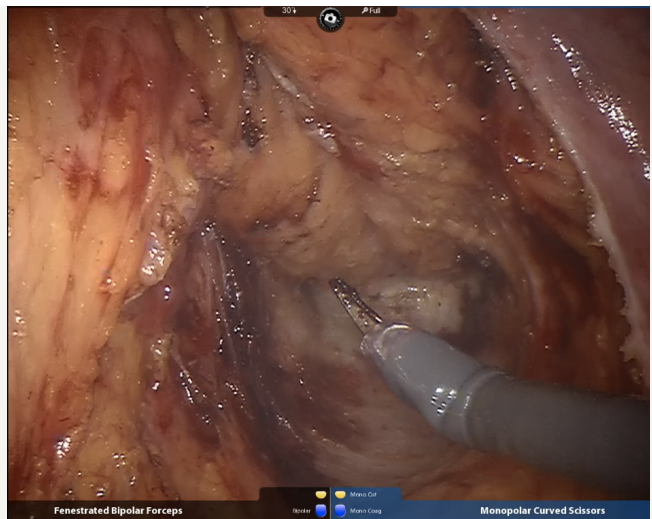
6. Dissection of Mesentery 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ N/A ☐

7. Identification of Ureter or duodenum 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ N/A ☐



3. Mobilization

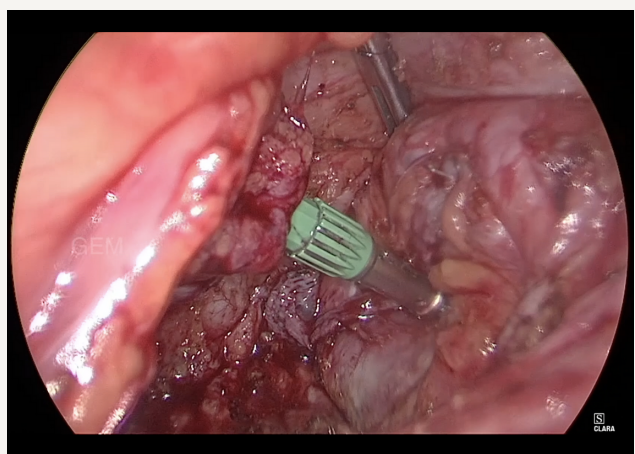
8. Dissection of hepatic or splenic flexure	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>
9. Mesorectal dissection (where applicable)	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>
10. Safe dissection of bowel	1	<input type="radio"/>	2	<input type="radio"/>	3	<input type="radio"/>	4	<input type="radio"/>	5	<input type="radio"/>	6	<input type="radio"/>	N/A	<input type="radio"/>



4. Anastomosis

11. Safe evacuation of specimen 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ N/A ☐

12. Anastomosis 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ N/A ☐



Overall Performance

13. Overall performance 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ N/A ☐

14. Comments: