

## Global Evaluative Assessment of Robotic Skills (GEARS)

Name of Resident: \_\_\_\_\_

Date: \_\_\_\_\_

Case: \_\_\_\_\_

### Depth Perception

1	2	3	4	5
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	2	3	4	5
Uses only one hand, ignores non-dominant hand, poor coordination		Uses both hands, but does not optimize interaction between hands		Expertly uses both hands in an complementary way to provide best exposure

### Efficiency

1	2	3	4	5
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	2	3	4	5
Rough moves, tears tissue, injures nearby, 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	2	3	4	5
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	2	3	4	5
Consistently does not optimize view, 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

### Level of Difficulty

1	2	3	4	5
Straightforward	Some difficulty	Moderate difficulty	Significant difficulty	Extreme difficulty

### Percent of Case Completed by Resident

1	2	3	4	5
0%-20%	21%-40%	41%-60%	61%-80%	81%-100%