

MScore™

The screenshot shows the MScore software interface. At the top, there are navigation tabs: Exercise Report, Exercise History, Metric History, Search, Results, and Proficiency Report. The user is identified as Janet Freeman. The exercise is 'Energy Dissection 2'. A 'Proficiency Summary' table shows 'Pass' with a green checkmark and 'Proficiency' with a red X. An 'Overall Score History' bar chart shows scores for 10 attempts, with the 6th attempt highlighted. Below this, an 'Attempt Summary' shows 'Pass: X Overall Score: 786.67' for attempt 6 on 2012-01-15 at 13:30:52. A grid of metrics includes: Time to Complete Exercise (190.33 sec), Economy of Motion (327.17 cm), Instrument Collisions (3), Excessive Instrument Force (1.57 sec), Instruments Out Of View (2.4 cm), Master Workspace Range (12.26 cm), Misapplied Energy Time (13.08 sec), Blood Loss Volume (238.78), and Broken Vessels (1). The Intuitive Surgical and Mimic logos are at the bottom.

Objective Skills Assessment for Robotic Surgery

- ▶ NEW: Proficiency based scoring system
- ▶ NEW: Import and export customized curricula
- ▶ Admin tools for course creation and management
- ▶ Track learning history for each exercise and metric
- ▶ Customize scoring baselines and proficiency levels
- ▶ Export data for statistical analysis in Excel

New Proficiency Based Scoring System

MScore is utilizing data collected from more than 100 experienced surgeons with over 75 robotic cases completed. Assessment is based on expert averages and standard deviations similar to the Fundamentals of Laparoscopic Surgery (FLS) protocol to facilitate credentialing and privileging.

New Curriculum Tools and Customization

Educators can now build their own robotic surgery training protocols from more than 40 exercises and assign different curricula to each user. Curricula, including exercises, completion order, and scoring baselines, can be imported and exported to facilitate collaboration and sharing between institutions.

Comprehensive Metrics for Surgical Skills Assessment

Time to Completion
Economy of Motion
Instrument Collisions
Number of Drops
Missed Targets
Instruments Out of View

Master Workspace Range
Blood Loss
Broken Vessels
Excessive Instrument Force
Misapplied Energy
Overall Score

This screenshot shows a 'Proficiency Summary' window. It contains a table with columns 'Attempt', '2 Consecutive', and '5 Non-consecutive'. The 'Pass' row has green checkmarks in the '2 Consecutive' and '5 Non-consecutive' columns. Below the table, 'Proficiency:' is followed by a large green checkmark.

▶ Surgeon Assessment

Easy to use monitoring and reporting tools allow proctors to determine when a new *da Vinci* surgeon is ready to operate on patients.

This screenshot shows the 'Menu Editor Settings Scoring' interface. On the left, a list of curriculum items includes 'Novice Curriculum...', 'Endowrist Level 1...', 'Peg Board 1', 'Energy Dissection 1', 'Ring & Rail 1', 'Camera & Clutching Level 2...', 'Camera Targeting 2', 'Ring Walk 2', and 'Energy & Dissection...'. On the right, a 'Curriculum:' dropdown is set to 'Novice Trainee', and a vertical stack of buttons includes 'New', 'Clone', 'Rename', 'Delete', 'Export', and 'Import'.

▶ Create & Share Curricula

User friendly interface for easy creation and sharing of personalized training curricula.

Two screenshots for the 'Economy of Motion' metric. The left one is a line graph showing 'Score' on the y-axis (0 to 200) and 'Attempt' on the x-axis (1 to 10). The score starts at approximately 80 and rises to about 180 by attempt 10. The right one is a progress bar showing a green checkmark and the value '327.17 cm'.

▶ Analyze Performance

Customize scoring to emphasize important curriculum metrics for new users, surgical warm-up, and skills retention.



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Contact us at:
www.MimicSimulation.com
info@MimicSimulation.com
(800)-918-1670

