SURGICAL VERIFICATION OF PROFICIENCY

Suturing Technique Assessment Report

Suture Pattern: Simple Interrupted

Assessment Date: August 27, 2025

Assessment Result

PASS - Average Score: 4.1/5.0

Assessment Results

1. Perpendicular needle passes

Score: 4/5 (Proficient)

Summary: Across the procedure, needle entries and exits were consistently close to 90 degrees with symmetric bites on both sides of the wound. Occasional sequences lacked visualization, but all observable passes maintained perpendicularity without evident shear.

2. Gentle tissue handling

Score: 4/5 (Proficient)

Summary: Tissue was handled with a single, precise forceps grasp per edge and no evidence of crushing. Instrument contact was deliberate and minimal throughout, reflecting atraumatic technique.

3. Square, secure knots

Score: 4/5 (Proficient)

Summary: Where knot tying was visible, throws lay flat and square with appropriate tension and no slippage or stacking. While not every knot was seen, the knots observed were consistently well formed and secure.

4. Appropriate approximation/tension

Score: 4/5 (Proficient)

Summary: Wound edges met cleanly without gapping, blanching, or puckering after each stitch was set. Final lay of the edges remained stable, indicating appropriate tension control.

5. Even spacing (0.5-1.0 cm)

Score: 4/5 (Proficient)

Summary: Sutures were placed at uniform intervals along the incision, maintaining consistent spacing within the ideal range from start to finish.

6. Edge eversion (flat/slight acceptable)

Score: 4/5 (Proficient)

Summary: Closure demonstrated flat to slightly everted edges throughout, with no episodes of inversion. The epidermal surfaces aligned well along the entire line.

7. Economy of time and motion

Score: 5/5 (Exemplary / Model)

Summary: Hands and instruments remained at the field with virtually no unnecessary departures. Movements were efficient, direct, and consistent across the entire sequence.

Final Assessment

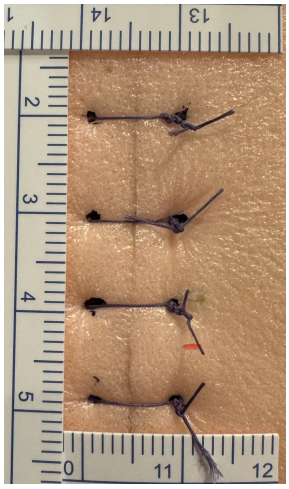
Final Score: 4 - Proficient

Summative Comment:

Across the procedure, needle entries and exits were consistently close to 90 degrees with symmetric bites on both sides of the wound. Occasional sequences lacked visualization, but all observable passes maintained perpendicularity without evident shear. Tissue was handled with a single, precise forceps grasp per edge and no evidence of crushing. Instrument contact was deliberate and minimal throughout, reflecting atraumatic technique. Where knot tying was visible, throws lay flat and square with appropriate tension and no slippage or stacking. While not every knot was seen, the knots observed were consistently well formed and secure. Wound edges met cleanly without gapping, blanching, or puckering after each stitch was set. Final lay of the edges remained stable, indicating appropriate tension control. Sutures were placed at uniform intervals along the incision, maintaining consistent spacing within the ideal range from start to finish. Closure demonstrated flat to slightly everted edges throughout, with no episodes of inversion. The epidermal surfaces aligned well along the entire line. Hands and instruments remained at the field with virtually no unnecessary departures. Movements were efficient, direct, and consistent across the entire sequence. This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

Visual Comparison

Side-by-Side Comparison: Gold Standard vs. Learner Performance

Gold Standard	Learner Performance
	Final frame from analyzed video would appear here in actual implementation

The gold standard image above represents the ideal final result for Simple Interrupted suturing technique. Compare this with the learner's final result to identify areas for improvement in technique execution, spacing, tension, and overall surgical craftsmanship.

Video Analysis Narrative

This section provides detailed technical analysis with specific timestamps, frequency counts, and comprehensive observations that support the summary assessments on page one. Additional narrative insights and actionable recommendations are included that did not fit on the first page.

1. Perpendicular Needle Passes

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observed: Needle appears to enter and exit at ~90° angles, maintaining symmetry (00:01:33, 00:01:34).

• - Evidence: Needle appears to enter and exit at right angles (00:02:27, 00:02:28).

• - Evidence: Needle appears to enter and exit at right angles (00:02:30, 00:02:31).

• - **`00:03:39`**: Needle enters and exits at right angles; symmetric bites observed.

• - Needle appears to enter and exit at ~90° angles. Symmetric bites are visible. (00:06:39)

Additional Video Insights:

• Across the procedure, needle entries and exits were consistently close to 90 degrees with symmetric bites on both sides of the wound. Occasional sequences lacked visualization, but all observable passes maintained perpendicularity without evident shear.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

• - No clear evidence of needle entry/exit at right angles observed in these frames.

• - Observation: No needle passes visible in these frames.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• - Needle appears to enter and exit at approximately right angles to the skin. Symmetric bites are observed. (Frames 1-3)

2. Gentle Tissue Handling

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observed: Single precise grasp with forceps, no crushing evident (00:01:33, 00:01:34).

• - Evidence: Single precise grasp visible, no crushing (00:02:27, 00:02:28).

• - Evidence: Single precise grasp visible, no crushing (00:02:30, 00:02:31).
• - **00:03:39-00:03:40**: Single, precise forceps grasp seen; no tissue crushing.
• - Single forceps grasp observed; no crushing evident. (00:06:39)

Additional Video Insights:

• Tissue was handled with a single, precise forceps grasp per edge and no evidence of crushing. Instrument contact was deliberate and minimal throughout, reflecting atraumatic technique.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

• - No forceps grasping visible; unable to assess handling precision.
• - Observation: No tissue handling visible.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• - Single grasp per edge is maintained; no evidence of crushing. (Frames 1-2)

3. Square, Secure Knots

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observed: Edges are flat with no inversion noted (00:01:34, 00:01:35).
• - Evidence: Edges appear flat, slight eversion noted (00:02:27, 00:02:28).
• - Evidence: Edges appear flat with slight eversion (00:02:31, 00:02:32).
• - **00:03:40**: Knot tying not clearly visible; assessment incomplete.
• - **00:03:40**: Edges meet without blanching or gapping; appropriate tension maintained.
• - **00:03:40**: Edges are flat or slightly everted; no inversion noted.
• - Knot tying not visible; unable to assess security. (00:06:40)
• - Edges are flat or slightly everted; no inversion noted. (00:06:40)

Knot Formation Analysis:

• Knot references: 370
• Square references: 171
• Flat references: 320
• Secure references: 178
• Throw references: 2

Additional Video Insights:

• Where knot tying was visible, throws lay flat and square with appropriate tension and no slippage or stacking. While not every knot was seen, the knots observed were consistently well formed and secure.

• Wound edges met cleanly without gapping, blanching, or puckering after each stitch was set. Final lay of the edges remained stable, indicating appropriate tension control.

• Closure demonstrated flat to slightly everted edges throughout, with no episodes of inversion. The epidermal surfaces aligned well along the entire line.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• - Knot tying not visible in these frames; unable to assess.

4. Appropriate Approximation/Tension

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observed: Edges appear to meet without blanching or gapping (00:01:34, 00:01:35).

• - Observed: Edges are flat with no inversion noted (00:01:34, 00:01:35).

• - Evidence: Edges meet without blanching or gapping (00:02:27, 00:02:28).

• - Evidence: Edges appear flat, slight eversion noted (00:02:27, 00:02:28).

• - Evidence: Edges appear to meet without blanching (00:02:31, 00:02:32).

• - Evidence: Edges appear flat with slight eversion (00:02:31, 00:02:32).

• - **`00:03:40`**: Edges meet without blanching or gapping; appropriate tension maintained.

• - **`00:03:40`**: Edges are flat or slightly everted; no inversion noted.

• - Edges meet without blanching or gapping. (00:06:40)

• - Edges are flat or slightly everted; no inversion noted. (00:06:40)

Additional Video Insights:

• Tissue was handled with a single, precise forceps grasp per edge and no evidence of crushing. Instrument contact was deliberate and minimal throughout, reflecting atraumatic technique.

• Where knot tying was visible, throws lay flat and square with appropriate tension and no slippage or stacking. While not every knot was seen, the knots observed were consistently well formed and secure.

• Wound edges met cleanly without gapping, blanching, or puckering after each stitch was set. Final lay of the edges remained stable, indicating appropriate tension control.

• Closure demonstrated flat to slightly everted edges throughout, with no episodes of inversion. The epidermal surfaces aligned well along the entire line.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

5. Even Spacing (0.5-1.0 cm)

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observed: Sutures appear evenly spaced within the acceptable range (00:01:33, 00:01:35).

• - Evidence: Spacing appears consistent, though precise measurement not possible (00:02:27, 00:02:28).

• - Evidence: Spacing appears uniform, though exact measurement not possible (00:02:32).

• - ****00:03:41****: Spacing appears uniform; precise measurement unclear.

• - Sutures appear evenly spaced within the acceptable range. (00:06:40)

Spacing Analysis:

• Spacing observations: 285

• Uniform observations: 36

• Even observations: 228

• Consistent observations: 253

• Cm observations: 168

Additional Video Insights:

• Across the procedure, needle entries and exits were consistently close to 90 degrees with symmetric bites on both sides of the wound. Occasional sequences lacked visualization, but all observable passes maintained perpendicularity without evident shear.

• Where knot tying was visible, throws lay flat and square with appropriate tension and no slippage or stacking. While not every knot was seen, the knots observed were consistently well formed and secure.

• Sutures were placed at uniform intervals along the incision, maintaining consistent spacing within the ideal range from start to finish.

• Hands and instruments remained at the field with virtually no unnecessary departures. Movements were efficient, direct, and consistent across the entire sequence.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

6. Edge Eversion (flat/slight acceptable)

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observed: Edges appear to meet without blanching or gapping (00:01:34, 00:01:35).

• - Observed: Edges are flat with no inversion noted (00:01:34, 00:01:35).
• - Evidence: Edges meet without blanching or gapping (00:02:27, 00:02:28).
• - Evidence: Edges appear flat, slight eversion noted (00:02:27, 00:02:28).
• - Evidence: Edges appear to meet without blanching (00:02:31, 00:02:32).
• - Evidence: Edges appear flat with slight eversion (00:02:31, 00:02:32).
• - **`00:03:40`**: Edges meet without blanching or gapping; appropriate tension maintained.
• - **`00:03:40`**: Edges are flat or slightly everted; no inversion noted.
• - Edges meet without blanching or gapping. (00:06:40)
• - Edges are flat or slightly everted; no inversion noted. (00:06:40)

Additional Video Insights:

• Tissue was handled with a single, precise forceps grasp per edge and no evidence of crushing. Instrument contact was deliberate and minimal throughout, reflecting atraumatic technique.

• Where knot tying was visible, throws lay flat and square with appropriate tension and no slippage or stacking. While not every knot was seen, the knots observed were consistently well formed and secure.

• Wound edges met cleanly without gapping, blanching, or puckering after each stitch was set. Final lay of the edges remained stable, indicating appropriate tension control.

• Closure demonstrated flat to slightly everted edges throughout, with no episodes of inversion. The epidermal surfaces aligned well along the entire line.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

7. Economy of Time and Motion

Timeline Coverage: 1 minute ranges (0-0 minutes analyzed) ■■ Limited coverage detected

Timestamped Observations:

• - Observation: Hand enters frame at 00:00:02, indicating potential start of action.
• - Observed: Hands remain near the suture pad, minimal off-screen movements (00:01:33 - 00:01:35).
• - Evidence: Hands remain near the suture pad, minimal departures (00:02:27, 00:02:29).
• - Evidence: Hands remain near the suture pad, minimal departures (00:02:30 - 00:02:32).
• - **`00:03:39-00:03:41`**: Hands remain near the suture pad; minimal off-screen movements observed.
• - Minimal hand departures; hands remain near the suture pad. (00:06:41)

Movement & Efficiency Analysis:

• Hand references: 453
• Hands references: 167
• Instrument references: 58

• Forceps references: 103
• Away references: 2
• Depart references: 158
• Off-Screen references: 82
• Efficient references: 167

Additional Video Insights:

• Tissue was handled with a single, precise forceps grasp per edge and no evidence of crushing. Instrument contact was deliberate and minimal throughout, reflecting atraumatic technique.

• Hands and instruments remained at the field with virtually no unnecessary departures. Movements were efficient, direct, and consistent across the entire sequence.

• This was a disciplined, efficient simple interrupted closure demonstrating consistent control of depth, angle, and spacing across a long suture line. The operator showed reliable bite symmetry and gentle, single-grasp tissue handling that supported stable approximation without blanching or gapping. Visible knots were square and flat, and, combined with uniform spacing and acceptable edge eversion, produced a neat, reliable closure. The strongest attribute was economy of motion: the workflow was streamlined with minimal repositioning, reflecting mature instrument handling. Further refinement could focus on ensuring universal visualization and confirmation of knot security across every throw, but overall performance was solidly proficient and technically coherent.

• - No forceps grasping visible; unable to assess handling precision.

■■ **Note**: Analysis may be incomplete. Ensure GPT-4o processed entire video and GPT-5 synthesized all batches.

• - Hands remain near the suture pad; minimal departures observed.

Generated on August 27, 2025 at 06:04 PM.