

Drill 4-Thoracoscopic Suturing

Drill Requirements:

Thorax Model 1 (Task A)

Thorax Model 2 (Task B)

Instruments:

Needle holder x 2

Parrot scissors

Other Equipment:

Video monitor

Camera

Telescope 4mm, 30 degree

4-0 braided suture (on tapered, swedged needle, cut to 10-12cm length)

Task A: TEF Suturing

Objective: Place 2 interrupted sutures for an esophageal anastomosis (intracorporeal tying under tension), each secured with 4 knots (throws) (intracorporeal tying)

Performance Scoring:

Time to complete task

Errors

 Misplaced suture (target mark missed)

 Poor tissue approximation/"air knot"

 Instruments removed/withdrawn from the trainer

General Principles:

For TEF suturing, 2 sutures are placed to start the anastomosis.

Time starts when the participant inserts the instruments and picks up and positions the needle. Once the participant states they are ready to start, time is measured. This is for placement of the suture through two corresponding marks on the fabric and the performance of 4 throws of a square knot.

If the participant uses a surgeon's knot and performed 2 throws for the first part of the knot, that counts as one throw. Participant will need to complete three additional throws after this.

Errors are recorded if there is an air knot, if the tissue is not well approximated, or the suture does not hit the mark on each side (if missed both marks, that is recorded as two errors) or instruments are inadvertently pulled from the box trainer (tip of instrument out of box—one error for each instrument removed i.e. both instruments pulled out = 2 errors).

Two sutures are placed and times for each independent suture recorded.

Task B: CDH Suturing

Objective: Place 2 interrupted sutures for repair of diaphragmatic hernia (intracorporeal tying under tension), each secured with 4 knots (throws) (intracorporeal tying)

Performance Scoring:

Time to complete task

Errors

 Misplaced suture (target mark missed)

 Poor tissue approximation/"air knot"

 Instruments removed/withdrawn from the trainer

General Principles:

For CDH suturing, 2 sutures are placed to close the defect.

Time starts when the participant inserts the instruments and picks up and positions the needle. Once the participant states they are ready to start, time is measured. This is for placement of the suture through two corresponding marks on the fabric and the performance of 4 throws of a square knot. If the participant uses a surgeon's knot and performed 2 throws for the first part of the knot, that counts as one throw. Participant will need to complete three additional throws after this.

Errors are recorded if there is an air knot, if the tissue is not well approximated, or the suture does not hit the mark on each side (if missed both marks, that is recorded as two errors) or instruments are inadvertently pulled from the box trainer (tip of instrument out of box—one error for each instrument removed i.e. both instruments pulled out = 2 errors).

Two sutures are placed and times for each independent suture recorded.

Neonatal MIS Trainer Project Participant Score Sheet

Session Date: _____ REDCAP Record ID: _____ - _____

Session Type (select one):

Evaluation Session (TS-E)				
<input type="checkbox"/> Baseline	<input type="checkbox"/> 6-month	<input type="checkbox"/> 12-month	<input type="checkbox"/> 18-month	<input type="checkbox"/> 24-month
<input type="checkbox"/> Mandatory Practice Session (TS-P)		<input type="checkbox"/> Optional Practice Session (TS-O)		

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Task A: TEF Suturing

Time to place interrupted sutures

Suture #1

Minutes Seconds

Suture #2

Minutes Seconds

Errors*

Air-knot/poor approximation	Count: _____
Misplaced suture (missed marks)	Count: _____
Instrument(s) pulled out of trainer	Count: _____

Task B: CDH Suturing

Time to place interrupted sutures

Suture #1

Minutes Seconds

Suture #2

Minutes Seconds

Errors*

Air-knot/poor approximation	Count: _____
Misplaced suture (missed marks)	Count: _____
Instrument(s) pulled out of trainer	Count: _____

*Record each error and indicate **total** number of each error type