**Needle Manipulation Curriculum**

**Task 1: 26mm Targets (no loupes)**

**Description**: Use regular needle drivers. Do not wear gloves or loupes. Use 18" single arm **2-0 prolene on a 26mm curved needle**. Secure a knot in the center of the figure and the needle is positioned in a forehand load 3/4 of the way back from the tip in preparation for the first pass. Numbered targets are then sequentially passed from 1-16. Knot tying is not part of this exercise. Time starts when the needle enters the first target. All odd numbered targets will be driven through from above and the needle will subsequently be aimed through the next even numbered target ("taking it in one" approach). The time will stop when the needle has completely passed through the 16th target. The trainee may use either forehand or backhand loads on any given target.

Errors:

* Locking suture = 20 point if occurs during exercise
* Breakage = 20 points if ligature is broken during any portion of exercise
* Loading (using fingers for loading) = 1 point during each tissue bite phase
* Missed Target = 1 point off for each missed target

**Proficiency**: 120 seconds (2 minutes) with no errors on 2 consecutive repetitions

**Trainee Scores:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Date | Repetition # | Time | Locking error  | Breakageerror | Loadingerror | # Missed Targets |
| Pretest |  |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  |  |
|  |  | 2 |  |  |  |  |  |
|  |  | 3 |  |  |  |  |  |
|  |  | 4 |  |  |  |  |  |
|  |  | 5 |  |  |  |  |  |
|  |  | 6 |  |  |  |  |  |
|  |  | 7 |  |  |  |  |  |
|  |  | 8 |  |  |  |  |  |
|  |  | 9 |  |  |  |  |  |
|  |  | 10 |  |  |  |  |  |
|  |  | 11 |  |  |  |  |  |
|  |  | 12 |  |  |  |  |  |
|  |  | 13 |  |  |  |  |  |
|  |  | 14 |  |  |  |  |  |
|  |  | 15 |  |  |  |  |  |
|  |  | 16 |  |  |  |  |  |
|  |  | 17 |  |  |  |  |  |
|  |  | 18 |  |  |  |  |  |
|  |  | 19 |  |  |  |  |  |
|  |  | 20 |  |  |  |  |  |
| Posttest |  |  |  |  |  |  |  |

**Task 2: 13mm Targets (no loupes)**

**Description**: Use Castroviejo needle drivers. Do not wear gloves or loupes. Use 18" single arm **5-0 prolene on a 13mm curved needle**. Secure a knot in the center of the figure and the needle is positioned in a forehand load 3/4 of the way back from the tip in preparation for the first pass. Numbered targets are then sequentially passed from 1-16. Knot tying is not part of this exercise. Time starts when the needle enters the first target. All odd numbered targets will be driven through from above and the needle will subsequently be aimed through the next even numbered target ("taking it in one" approach). The time will stop when the needle has completely passed through the 16th target. The trainee may use either forehand or backhand loads on any given target.

Errors:

* Locking suture = 20 point if occurs during exercise
* Breakage = 20 points if ligature is broken during any portion of exercise
* Loading (using fingers for loading) = 1 point during each tissue bite phase
* Missed Target = 1 point off for each missed target

**Proficiency**: 130 seconds (2 minutes 10 seconds) with no errors on 2 consecutive repetitions

**Trainee Scores:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Date | Repetition # | Time | Locking error  | Breakageerror | Loadingerror | # Missed Targets |
| Pretest |  |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  |  |
|  |  | 2 |  |  |  |  |  |
|  |  | 3 |  |  |  |  |  |
|  |  | 4 |  |  |  |  |  |
|  |  | 5 |  |  |  |  |  |
|  |  | 6 |  |  |  |  |  |
|  |  | 7 |  |  |  |  |  |
|  |  | 8 |  |  |  |  |  |
|  |  | 9 |  |  |  |  |  |
|  |  | 10 |  |  |  |  |  |
|  |  | 11 |  |  |  |  |  |
|  |  | 12 |  |  |  |  |  |
|  |  | 13 |  |  |  |  |  |
|  |  | 14 |  |  |  |  |  |
|  |  | 15 |  |  |  |  |  |
|  |  | 16 |  |  |  |  |  |
|  |  | 17 |  |  |  |  |  |
|  |  | 18 |  |  |  |  |  |
|  |  | 19 |  |  |  |  |  |
|  |  | 20 |  |  |  |  |  |
| Posttest |  |  |  |  |  |  |  |

**Task 3: 13mm Targets (with loupes)**

**Description**: Use Castroviejo needle drivers. Wear loupes. Use 18" single arm **5-0 prolene on a 13mm curved needle**. Secure a knot in the center of the figure and the needle is positioned in a forehand load 3/4 of the way back from the tip in preparation for the first pass. Numbered targets are then sequentially passed from 1-16. Knot tying is not part of this exercise. Time starts when the needle enters the first target. All odd numbered targets will be driven through from above and the needle will subsequently be aimed through the next even numbered target ("taking it in one" approach). The time will stop when the needle has completely passed through the 16th target. The trainee may use either forehand or backhand loads on any given target.

Errors:

* Locking suture = 20 point if occurs during exercise
* Breakage = 20 points if ligature is broken during any portion of exercise
* Loading (using fingers for loading) = 1 point during each tissue bite phase
* Missed Target = 1 point off for each missed target

**Proficiency**: 180 seconds (3 minutes) with no errors on 2 consecutive repetitions

**Trainee Scores:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Date | Repetition # | Time | Locking error  | Breakageerror | Loadingerror | # Missed Targets |
| Pretest |  |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  |  |
|  |  | 2 |  |  |  |  |  |
|  |  | 3 |  |  |  |  |  |
|  |  | 4 |  |  |  |  |  |
|  |  | 5 |  |  |  |  |  |
|  |  | 6 |  |  |  |  |  |
|  |  | 7 |  |  |  |  |  |
|  |  | 8 |  |  |  |  |  |
|  |  | 9 |  |  |  |  |  |
|  |  | 10 |  |  |  |  |  |
|  |  | 11 |  |  |  |  |  |
|  |  | 12 |  |  |  |  |  |
|  |  | 13 |  |  |  |  |  |
|  |  | 14 |  |  |  |  |  |
|  |  | 15 |  |  |  |  |  |
|  |  | 16 |  |  |  |  |  |
|  |  | 17 |  |  |  |  |  |
|  |  | 18 |  |  |  |  |  |
|  |  | 19 |  |  |  |  |  |
|  |  | 20 |  |  |  |  |  |
| Posttest |  |  |  |  |  |  |  |