Evaluation of Strabismus Surgery in University of Colorado Ophthalmology Residents

Emily Swenson MS1 | Robert Enzenauer MD2 | Emily McCourt MD2 | Jennifer Jung MD2
Rebecca Braverman MD2 | Jasleen Singh MD2

1: University of Colorado School of Medicine, Aurora, CO
2: Dept of Ophthalmology, University of Colorado School of Medicine, Children’s Hospital of Colorado, Aurora, CO

Methods

The Modified Strabismus Surgery Evaluation Rubric was created to augment the validated ICO-OSCAR: strabismus tool (see Appendix).

- Assesses residents in 21 pre-op, surgical, and post-op steps based on a Likert scale of 1 (novice) to 5 (expert).

Evaluations completed by 5 University of Colorado attending physicians for residents on their pediatric rotation at CHCO.

- Rubrics were completed directly following surgery.

- 109 total evaluations between 9 residents.

Scores for each individual step were compiled and analyzed using MATLAB and Excel.

- Proficiency defined as scoring a 4 on the Likert scale for 2 consecutive cases.

- Dictation step was often missing and thus was excluded from the analysis.

This prospective evaluation was approved by the Colorado Multiple Institutional Review Board.

Results

Number of cases until proficient in all steps ranged from 10-26 cases for the cohort included in the analysis.

- Residents required 20 cases (on average) to achieve proficiency in all surgical steps.

- Strongest overall steps:
  - consent
  - discharge paperwork

- Strongest surgical steps:
  - forced duction test
  - knowledge of surgical instruments
  - maintaining hemostasis

- Weakest step:
  - hooking the rectus muscle

Discussion

Conclusions

- Small sample size of 9 residents, with evaluations completed for only 30% of their cases.

- Time-consuming to complete a full rubric for every case – might not anticipate a higher percentage of participation.

- Results might not be generalizable to other residency programs.

Limitations

- Larger cohort within our own institution would allow us to more confidently implement change to the strabismus surgery training at the University of Colorado.

- Multi-institutional analysis would be necessary to influence resident strabismus training on a national scale.

Future Directions

References

Appendix

Figure 1. Portion of the University of Colorado Modified Rubric. The rest can be seen in the Appendix.

Figure 2. Illustration of strabismus repair.

Figure 2. AAPOS, (2014), Aug;16(4):318-323.