

### **International Council of Ophthalmology's Ophthalmology Surgical Competency Assessment Rubric (ICO-OSCAR)**

The International Council of Ophthalmology's "Ophthalmology Surgical Competency Assessment Rubrics" (ICO-OSCARs) are designed to facilitate assessment and teaching of surgical skill. Surgical procedures are broken down to individual steps and each step is graded on a scale of novice, beginner, advanced beginner and competent. A description of the performance necessary to achieve each grade in each step is given. The assessor simply circles the observed performance description at each step of the procedure. The ICO-OSCAR should be completed at the end of the case and immediately discussed with the student to provide timely, structured, specific performance feedback. These tools were developed by panels of international experts and are valid assessments of surgical skill.

#### **ICO-OSCAR Instructor Directions**

1. Observe resident strabismus surgery.
2. Ideally, immediately after the case, circle each rubric description box that you observed. Some people like to let the resident circle the box on their own first. If the case is videotaped, it can be reviewed and scored later but this delays more effective prompt feedback.
3. Record any relevant comments not covered by the rubric.
4. Review the results with the resident.
5. Develop a plan for improvement (e.g. wet lab practice/tips for immediate next case).

#### Suggestions:

- If previous cases have been done, review ICO-OSCAR data to note areas needing improvement.
- If different instructors will be grading the same residents, it would be good that before starting using the tool they grade together several surgeries from recordings, so they make sure they are all grading in the same way.

## ICO-Ophthalmology Surgical Competency Assessment Rubric: Strabismus (ICO-OSCAR: Strabismus)

Resident: \_\_\_\_\_

Evaluator: \_\_\_\_\_

Date: \_\_\_\_\_

	Surgical Step	Novice (score = 2)	Beginner (score = 3)	Advanced Beginner (score = 4)	Competent (score = 5)	Not applicable. Done by preceptor (score= 0)
1	Draping	Is unable to prepare or drape the patient using sterile technique without instruction. Unaware of importance of identifying correct eye and muscle prior to draping.	Is able to prepare and drape the patient but sterile technique is inconsistent. Difficulty attaining proper head position.	Is able to consistently prepare and drape patients using sterile technique however steps are performed inefficiently. Attains proper head position.	Is able to consistently and efficiently prepare and drape patients with appropriate head position.	
2	Forced duction test	Is unaware of forced duction testing for muscle restriction.	Is familiar with the test but is unaware of its relevance, timing and is unable to perform it.	Is able to state the purpose of the test and is able to perform the test at the appropriate time(s) and detect moderate to severe restriction.	When appropriate, is able to consistently detect and describe all degrees of rectus muscle restriction and comment on relevance to surgical options.	
3	Globe stabilization	Is able to describe one method of globe stabilization but is unable to perform it.	Is able to describe one method of globe stabilization but needs assistance to perform it.	Is able to perform one method of globe stabilization with minimal verbal supervision.	Is able to perform one method of globe stabilization without verbal supervision and with ease.	
4	Conjunctival incision & Tenon's dissection	Is unable to describe limbal or fornix conjunctival incision for rectus muscle surgery.	Is able to describe but not able to perform limbal or fornix conjunctival incision for rectus muscle surgery.	Is able to perform limbal or fornix conjunctival incisions but is inefficient and requires guidance.	Is able to efficiently perform either limbal or fornix conjunctival incision.	
5	Hooking rectus muscle	Is unable to describe proper technique of hooking the muscle and is unable to perform technique.	Is able to describe proper technique but unable to hook muscle on first attempt.	Usually hooks the muscle on first attempt but is inefficient.	Is able to efficiently and precisely hook the muscle on first attempt.	
6	Exposure of rectus muscle	Is unable to describe proper dissection technique to expose rectus muscle.	Is able to describe dissection technique for muscle exposure but requires constant guidance to perform the basic steps.	Is able to perform basic exposure but is inefficient and/or occasionally disrupts multiple tissue planes or branches of the anterior ciliary arteries.	Is able to efficiently expose muscle using a combination of sharp and blunt dissection as appropriate and avoids branches of anterior ciliary arteries.	

7	Placement of suture in muscle	Is unable to accurately describe muscle suture technique.	Is able to describe muscle suture technique. Multiple attempts required to load or unload the needle-holder. Suture placement inaccurate. Requires assistance to properly place suture.	Is able to safely secure muscle with suture but is inefficient. May cause bleeding and muscle fiber cuts. Needs supervision for locking bites at two ends of muscle.	Is able to safely, efficiently and accurately secure the muscle with minimal tissue trauma without supervision.	
8	Disinsertion of rectus muscle	Is unable to describe technique for rectus muscle disinsertion.	Is able to describe but attempts to disinsert the muscle results in inadvertently cutting or nearly cutting the muscle suture or sclera.	Is able to perform disinsertion but occasionally causes inappropriate bleeding or leaves muscle tissue attached to sclera. Requires some verbal instruction.	Is able to safely and efficiently disinsert rectus muscle.	
9	Use of caliper/scleral ruler	Is unable to mark the sclera with calipers or does not check the caliper setting to confirm planned action or is too aggressive with indenting the sclera with caliper. Does not understand the potential discrepancy between arc-length and chord-length measurement.	Is able to mark sclera with calipers or scleral ruler but measurement is often not perpendicular to the original rectus insertion. Checks caliper for correct measurement. Understands arc-length vs. chord length measurements.	Is able to accurately mark sclera with calipers and/or scleral ruler but marks fade because not prepared to make needle pass.	Is able to efficiently and accurately mark sclera with calipers and/or scleral ruler and is prepared to make needle pass immediately after marking sclera.	
10	Reattachment of muscle: Intrascleral needle pass.	Is unable to describe safe technique for intrascleral pass.	Is able to describe safe technique for intrascleral pass but does not approach the globe with needle directed tangentially or does not unlock needle holder before starting the intrascleral pass. Unable to accurately obtain correct needle depth or length.	Safely approaches the globe with needle tip directed tangential to the globe. Visualizes needle tip after entering the sclera and has no difficulty exiting the sclera but intrascleral passes are frequently too short or too shallow. Minimal muscle belly sagging.	Approaches the globe with needle directed tangentially and intrascleral passes are consistently of correct length and depth. No muscle belly sagging.	

11	Conjunctival closure (when appropriate)	Is unable to close conjunctiva. Unable to differentiate Tenon's capsule from conjunctiva.	Is able to perform basic conjunctival closure technique but is inefficient and requires significant guidance. Additional sutures are required.	Is able to safely close conjunctiva with good tissue approximation but is inefficient. .	Is able to safely and efficiently close conjunctiva with good tissue approximation.	
	<b>Global Indices</b>					
12	Maintaining hemostasis	Is unable to describe proper rectus muscle dissection, suture placement and disinsertion to avoid bleeding and/or unable to describe electrocautery technique.	Can describe techniques for avoiding and controlling bleeding but requires significant guidance to perform proper dissection, suture placement, muscle disinsertion and electrocautery to minimize bleeding.	Usually applies proper tissue technique to avoid bleeding and is able to control bleeding using electrocautery but requires multiple attempts to cauterize and may leave burnt carbon marks.	Consistently applies proper tissue technique to avoid bleeding and is able to efficiently control bleeding using electrocautery.	
13	Tissue handling	Is excessively aggressive or timid in manipulating tissue. Inadvertent tissue damage occurs (including significant corneal epithelium disruption).	Aware of techniques for avoidance of tissue damage and bleeding but needs supervision to accomplish proper handling. Mild corneal epithelium disruption may occur.	Tissue handling is safe but sometimes requires multiple attempts to achieve desired manipulation of tissue. Minimal corneal epithelium disruption may occur.	Tissue handling is efficient, fluid and almost always achieves desired tissue manipulation on first attempt.	
14	Knowledge of instruments	Can only identify instruments in simple terms such as "muscle hook" and "forceps" but no knowledge of necessary sutures or needle types.	Can identify some but not most of the surgical instruments by proper names and can identify necessary suture sizes and materials but not needle types.	Can identify most but not all of the surgical instruments by proper name and can identify necessary suture sizes/materials but not needle types.	Can identify all surgical instruments by proper names and can identify necessary suture sizes/materials and needle types.	
15	Technique of holding suture needle in needle holder	Frequently loads needle incorrectly.	Loads needle in proper direction for a forehand pass but sometimes loads incorrectly for backhand pass. Loads too close or too far from the swaged end of the needle.	Loads needle properly for forehand and backhand needle pass but is inefficient and often requires multiple attempts.	Loads needle properly and efficiently for forehand and backhand needle passes.	

16	Technique of surgical knot tying	Unable to tie knots.	Require multiple extra hand maneuvers to make first throw lay flat and/or loosens first throw while attempting to perform the second throw.	Is able to tie a flat surgeon's knot first throw but second and third throws are inefficient. Does not inadvertently loosen the first throw.	Is able to efficiently tie a flat, square surgeon's knot.	
17	Communication with surgical team	Does not know role of surgical team members. Lacks confidence or has too much. Does not establish good rapport with team. Unable to request instruments from scrub nurse using proper instrument and suture names and/or instructions to surgical assistant are vague or nonexistent.	Knows role of most surgical team members. Lacks confidence. Has difficulty establishing good rapport with team members. Able to request most instruments from scrub nurse using proper instrument and suture names but instructions to surgical assistant are inadequate to perform procedure safely.	Knows role of each surgical team member. Is somewhat confident and usually treats team with respect. Establishes good working relationship. Able to request most instruments from scrub nurse using proper instrument and suture names in correct order. Instructions to surgical assistant are adequate for a skilled assistant but inadequate for an unskilled assistant.	Knows role of each surgical team member. Is confident and treats team with respect. Establishes good working relationship. Able to efficiently request instruments from scrub nurse using proper names in correct order. Able to consistently give clear instructions to surgical assistant.	

Overall difficulty of procedure (circle):      Simple                      Intermediate                      Difficult

Good points:

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Suggestions for development:

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Agreed action:

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Signature of Assessor: \_\_\_\_\_

Signature of Trainee: \_\_\_\_\_

Golnik KC, Motley WW, Atilla H, Pilling R, Reddy A, Sharma P, Yadarola MB, Zhao K. The ophthalmology surgical competency assessment rubric for strabismus surgery. J AAPOS 2012; 16(4):318-21.

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