Ophthalmology Surgical Competency Assessment Rubric (OSCAR)

Ophthalmology Surgical Competency Assessment Rubrics" (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.

OSCAR Instructor Directions

1. Observe resident trabeculectomy 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).

<u>Suggestions</u>:

- If previous cases have been done, review 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.

Ophthalmology Surgical Competency Assessment Rubric: Trabeculectomy (OSCAR:Trabeculectomy)

Resident: _____ Assessor: _____ Year of Training: _____ Date: _____

	Surgical Step	Novice (score = 2)	Beginner (score = 3)	Advanced Beginner (score = 4)	Competent (score = 5)	Not applicable. Done by preceptor (score= 0)
1	Universal precautions	Has not heard of universal precautions.	Aware of time-out process but not confident to perform. May perform with guidance/ prompting, but misses some information.	Able to perform team time-out but needs prompting to do so.	Independently initiates team time-out at beginning of case, identifies correct patient, procedure and side. Team members have been introduced. Alerts / allergies noted.	
2	Draping and placement of speculum	Unable to start draping without help.	Drapes with minimal verbal instruction. Incomplete lash coverage.	Lashes mostly covered, drape at most minimally obstructing view. Attains proper head position.	Lashes completely covered and clear of incision site, drape not obstructing view.	
3	Corneal Traction Suture	Unable to describe purpose and method of inserting corneal traction suture.	Difficulty loading needle, needs instruction for correct needle placement and completion of suture placement.	Able to load and handle needle appropriately. Some difficulty in finding correct depth of suture, needs instruction, needle track too deep or too shallow or bite not of ideal size.	Is able to consistently perform the step with the appropriate length of bite, depth of suture and achieve the desired rotation of the eye for exposure.	
4	Conjunctival incision and dissection	Is able to describe but not able to perform limbal or fornix conjunctival incision for trabeculectomy surgery.	Is able to perform limbal or fornix conjunctival incision but is inefficient and requires guidance. Has difficulty with judging appropriate length of incision, dissection down to sclera of both conjunctiva and Tenon's and the necessary force to apply to the tissue. Has difficulty avoiding damage to the superior rectus muscle with limbal-based conjunctival flap.	Is able to perform limbal or fornix conjunctival incisions but is inefficient or tentative and requires guidance with technique and/or position and size of incision.	Performs conjunctival incision without creating buttonholes and with no disruption of adjacent tissues. Incision is of correct size (i.e. enough to give proper exposure for performance of posterior subTenon's dissection and formation of scleral flap.	
5	Hemostasis	Is unable to describe the need for hemostasis, type of cautery required, appropriate technique. Is unable to perform.	Is able to describe the need for hemostasis, type of cautery required, appropriate technique. Has difficulty performing proper technique.	Is able to apply cautery but has difficulty with scleral burns, shrinkage of tissue, obtaining hemostasis.	Is able to efficiently and precisely apply hemostasis without significant scleral burns, shrinkage of tissues and obtains hemostasis. Understands advantages and disadvantages of different types of cautery tips.	

6	Application of antimetabolite	Is unable to accurately describe role of antimetabolites in trabeculectomy, types of antimetabolites and the relative indication for use of each type, safety considerations and use of pledget material.	Is able to accurately describe role of antimetabolites in trabeculectomy, types of antimetabolites and the relative indication for use of each type, safety considerations and use of pledget material. Needs guidance for choice of anti-metabolite and exposure time. Needs guidance for fashioning of sponges. Inefficient or inappropriate placement of sponges. Needs to be reminded to keep surgical count. Does not protect conjunctival edge. Inefficient removal of sponges and /or irrigation.	Is able to safely apply antimetabolite onto eye but may have difficulty creating pledget material to appropriate size and thickness. Appropriately discards materials into toxic waste and rinses eye of residual antimetabolite material.	Is able to safely, efficiently and accurately, apply antimetabolite onto eye and has no difficulty creating pledget material to appropriate size and thickness. Appropriately discards materials into toxic waste and thoroughly rinses eye of residual antimetabolite material. Keeps surgical count of pledgets used.	
7	Creation of scleral flap	Is unable to describe dissection technique for flap creation.	Is able to describe dissection technique for flap creation but requires constant guidance to perform the basic steps. Needs reminding to grasp sclera outside flap construction area.	Is able to perform basic flap creation but is inefficient and/or creates flaps that may be too thin, deep, small, or posterior or at risk of avulsion.	Is able to efficiently create flap to the appropriate size and depth without constant guidance. Able to describe the complications and management of faulty scleral flap creation including buttonholing and avulsion of the flap.	
8	Paracentesis	Puts anterior lens capsule or iris at risk when entering anterior chamber Inappropriate incision architecture, location, and size.	Needs instruction on how to perform. Leakage and/or iris prolapse with local pressure, provides poor surgical access.	Incision not in correct position or leaks.	Incision parallel to iris, self-sealing, adequate size, provides good access for surgical maneuvering.	
9 (a)	Sclerostomy (with Kelly punch)	Has difficulty with entry into anterior chamber, either ineffective or trauma to ocular tissue. Uncontrolled entry into AC. Difficulty using Kelly punch.	Is able to create an entry plane into anterior chamber but has significant difficulty with using Kelly punch. Damages scleral flap. Makes sclerostomy too large /small or too anterior/posterior for appropriate filtration.	Is able to use the Kelly punch, but may be prone to creating a shelving wound with the punch. Makes sclerostomy too large or too small for appropriate filtration.	Is able to create an appropriate entry plane into the anterior chamber and is able to use Kelly punch with dexterity. Sclerostomy appropriate size for filtration.	
9 (b)	Sclerostomy (without Kelly punch)	Needs constant direction. Size of sclerostomy inappropriate or not in correct position	Difficulty outlining and dissecting deep scleral flap. There may be damage to surrounding tissues.	Able to outline deep scleral flap and perform dissection, but has difficulty performing this smoothly, needs direction, unable to cleanly remove deeper scleral tissue.	Outlines deep scleral flap with ease, dissects flap sclera from underyling tissue without trauma to other structures, excises deep scleral flap cleanly. Deep scleral flap/ sclerostomy of appropriate size and correctly positioned. Avoids damage to the underlying ciliary body.	

10	Peripheral iridectomy (PI)	Cannot grasp iris tissue, damages surrounding structures.	Needs direction in grasping iris tissue and performing iridectomy. Unable to control size of PI.	Able to grasp iris tissue without damage to intraocular structures, but PI either too large or too small. May need more than one attempt	Able to grasp iris tissue without damage to surrounding structures, PI is of correct size.	
11	Scleral flap suturing	Instruction is required and stitches are placed in an awkward, slow fashion with multiple passes to sclera or tear of flap, bends needles, incomplete suture rotation.	Stitches are placed with some difficulty, re-suturing may be needed, instruction needed. Difficulty achieving proper IOP at end of case.	Stitches are placed with minimal difficulty; tight enough to achieve wound closure and allow for appropriate filtration.	Stitches are placed with correct tension to allow for appropriate filtration. Able to place both fixed and releasable sutures proficiently. Appropriate final IOP.	
12	Anterior chamber reformation	Cannot cannulate anterior chamber via paracentesis. Unable to assess whether anterior chamber of appropriate depth. Unable to assess whether IOP is satisfactory to proceed to next step.	Has difficulty cannulating anterior chamber via paracentesis to reform anterior chamber. Needs guidance.	Cannulates anterior chamber with ease to reform anterior chamber, but has difficulty assessing ideal AC depth/IOP.	Cannulates AC with ease and is able to assess correct AC depth/ IOP for eye	
13	Conjunctival closure	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. Significant bleb leak at the end of surgery with unstable, shallow anterior chamber. May have buttonhole of conjunctiva.	Is able to safely close conjunctiva with good tissue approximation but is inefficient. Requires guidance to ensure closure is effective without a leak. Placement of additional sutures or replacement of loose sutures required before closure is complete and Seidel negative.	Is able to safely and efficiently close conjunctiva with good tissue approximation, no bleb leak and stable anterior chamber. Has good understanding of various suture types, appropriate needles and different closure techniques.	
Global Indices						
1	Maintaining hemostasis	Is unable to describe types of cautery, settings for cautery and/or unable to describe electrocautery technique.	Can describe techniques for avoiding and controlling bleeding but requires significant guidance to perform proper cautery to minimize bleeding.	Usually applies proper tissue technique to avoid bleeding and is able to control bleeding using cautery 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 cautery.	
2	Tissue handling	Is excessively aggressive or timid in manipulating tissue. Inadvertent tissue damage occurs to conjunctiva or sclera. Needs direction to grasp sclera outside margins of intended scleral flap.	Aware of techniques for avoidance of tissue damage and bleeding but needs supervision to accomplish proper handling. Needs direction to grasp sclera outside margins of intended scleral flap. Conjunctival buttonholes present.	Tissue handling is safe but sometimes requires multiple attempts to achieve desired manipulation of tissue. No direction required to avoid grasping sclera within margins of intended scleral flap. Conjunctiva is intact but manipulated aggressively/unsafely e.g. toothed forceps.	Tissue handling is efficient, fluid and almost always achieves desired tissue manipulation on first attempt. No conjunctival buttonholes present.	

3	Knowledge of instruments	Can only identify instruments in simple terms such as “scissors” 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.	
4	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.	
5	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.	
6	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. Communicates with anesthetist, if present.	

Overall difficulty of case (circle): Standard Intermediate Difficult

Comments: _____

Signature of Assessor: _____ Signature of Trainee: _____

Green CM, Salim S, Edward DP, Mudumbai RC, Golnik KC. The Ophthalmology Surgical Competency Assessment Rubric for Trabeculectomy. J Glaucoma. 2017 Sep; 26(9):805-809.

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