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 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 cataract 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: Extracapsular Cataract Extraction (OSCAR: ECCE)						
Date _____ Resident _____ Evaluator _____		Novice (score = 2)	Beginner (score = 3)	Advanced Beginner (score = 4)	Competent (score = 5)	Not applicable. Done by preceptor (score= 0)
1	Draping	Unable to start draping without help. Drape needs to be redone.	Drapes with minimal verbal instruction. incomplete lash coverage.	Lashes mostly covered, drape is at most minimally obstructing view.	Lashes completely covered and clear of incision site, drape not obstructing view.	
2	Eye position and stability	Unable to stabilize eye in good position.	Achieves acceptable eye position and stability with some difficulty.	Achieves good eye position and stability.	Precisely and consistently stabilizes eye in good position.	
3	Scleral access & Cauterization	Unable to successfully access sclera. Cauterization insufficient or excessive both in intensity and localization.	Accesses sclera but with difficulty and hesitation. Cauterization insufficient or excessive in location or intensity.	Achieves good scleral access with mild difficulty. Adequate cauterization.	Precisely and deftly accesses sclera. Appropriate and precise cauterization.	
4	Scleral or Corneo-scleral Incision	Inappropriate incision depth, location, and size.	Only one of the following is done correctly: incision depth, location or size.	Only two of the following are done correctly: incision depth, location or size.	Good incision depth, location and size.	
5	Viscoelastic: Appropriate Use and Safe Insertion	Unsure of when, what type and how much viscoelastic to use. Has difficulty or multiple unsuccessful attempts at accessing anterior chamber through paracentesis.	Requires minimal instruction. Knows when to use but administers incorrect amount or type.	Requires minimal instruction. Uses at appropriate time. Administers adequate amount and type. Cannula tip in good position.	Viscoelastics are administered in appropriate amount and at the appropriate time with cannula tip clear of lens capsule and endothelium with no instruction.	
6	Anterior Capsulotomy	Awkward or rough movements of cystitome, digging too deep or too superficial, lens movement endangers zonules, poor control risks radialization. Difficulty initializing and keeping flap everted.	Either awkward or rough movements of cystitome but not both; depth of attempts adequate but not optimal, some lens movement, intermittent poor control of capsulotomy. Minor difficulty everting the flap.	Gentle but imprecise movements of cystitome; depth of attempts adequate but may not be optimal OR some lens movement OR intermittent poor control of capsulotomy.	Gentle precise movements of cystitome; depth and control correct for appropriately sized capsulotomy.	

7	Wound Enlargement	Inappropriate wound architecture and/or size, iris is damaged during the maneuver. Incomplete enlargement, loss of tissue plane, residual strands across incision.	Iris prolapse, leakage with local pressure. Provides poor surgical access to and visibility of capsule and bag.	May be mild leakage, allows adequate extraction of nucleus. Incision edges not parallel.	Beveled precise parallel incision edges, no iris prolapse, allows easy extraction of nucleus.	
8	Nucleus Hydrodissection	Rough and incomplete hydrodissection of lens-capsular adhesions preventing lens rotation or extraction, not recognized by surgeon.	Hydrodissection is rough or incomplete but able to recognize and correct with multiple attempts.	Hydrodissection and lens mobilization is imprecise but accomplished in one to several attempts without assistance.	Precise and controlled hydrodissection.	
9	Nucleus Extraction	Attempt causes radialization of capsulorrhexis or tear in posterior capsule; unable to hold and extract lens nucleus.	Movements coordinated but still unable to extract nucleus.	Uncoordinated and imprecise movements but with successful lens nucleus extraction.	Nucleus removed with dexterity, well controlled movements and technique.	
10	Irrigation and Aspiration Technique With Adequate Removal of Cortex	Great difficulty introducing the aspiration tip under the anterior capsule, aspiration hole position not controlled, cannot regulate aspiration flow as needed, cannot peel cortical material adequately, engages capsule or iris with aspiration port.	Moderate difficulty introducing aspiration tip under anterior capsule and maintaining hole up position, attempts to aspirate without occluding tip, shows poor comprehension of aspiration dynamics, cortical peeling is not well controlled, jerky and slow, capsule potentially compromised. Prolonged attempts result in minimal residual cortical material.	Minimal difficulty introducing the aspiration tip under the anterior capsule, aspiration hole usually up, cortex will engaged for 360 degrees, cortical peeling slow, few technical errors, minimal residual cortical material. Some difficulty in removing sub-incisional cortex.	Aspiration tip is introduced under the free border of the anterior capsule in irrigation mode with the aspiration hole up, Aspiration is activated in just enough flow as to occlude the tip, efficiently removes all cortex, The cortical material is peeled gently towards the center of the pupil, tangentially in cases of zonular weakness. No difficulty in removing sub-incisional cortex.	
11	Lens Insertion, Rotation, and Final Position of Intraocular Lens	Unable to insert IOL.	Insertion and manipulation of IOL is difficult, eye handled roughly, anterior chamber not stable, repeated attempts result in borderline incision for implant type. Repeated hesitant attempts result in lower haptic in the capsular bag, upper haptic is rotated into place.	Insertion and manipulation of IOL is accomplished with minimal anterior chamber instability, incision just adequate for implant type, the lower haptic is placed inside the capsular bag with some difficulty, upper haptic is rotated into place.	Insertion and manipulation of IOL is performed in a deep and stable anterior chamber and capsular bag, with incision appropriate for implant type. The lower haptic is smoothly placed inside the capsular bag; the upper haptic is rotated or gently bent and inserted into place.	

12	Wound Closure: Suture handling & Placement	Cannot reliably load suture. Instruction is required and stitches are placed in an awkward, slow, non-radial fashion with much difficulty, consistently in the wrong 13tissue plane, has to repeat same stitch.	Some difficulty loading and placing sutures, often in wrong tissue plane, resuturing may be needed. Sutures not radial or appropriately spaced.	Able to load sutures consistently. Stitches are placed with minimal difficulty usually in correct tissue plane. Sutures mostly radial and of adequate length and space between sutures.	No difficulty loading or placing sutures consistently in correct tissue plane. All sutures radial and of adequate length and space between sutures.	
13	Wound Closure: Suture tying & Knot rotation	Unable to get tension correct, multiple corneal striae present, incorrect number of throws, knots often not buried.	Uneven suture tension, some corneal striae, number of throws usually correct, most knots buried.	Sutures tied tight enough to maintain the wound closed, may have slight corneal distortion, rare knot not buried adequately. No corneal striae.	Sutures are tied tight enough to maintain the wound closed, but not too tight as to induce astigmatism. All knots buried.	
14	Wound Closure: viscoelastic removal, wound hydration, wound security	Unable to remove viscoelastics thoroughly. Unable to make incision water tight or does not check wound for seal. Improper final IOP.	Questionable whether all viscoelastics are thoroughly removed, Extra maneuvers are required to make the incision water tight at the end of the surgery. May have improper IOP, but recognizes possibility.	Viscoelastics are adequately removed after this step with some difficulty. The incision is checked and is water tight or needs minimal adjustment at the end of the surgery. May have improper IOP but recognizes and treats IOP.	Viscoelastics are thoroughly removed after this step, the incision is checked and is water tight at the end of the surgery. Proper final IOP.	
Global Indices						
15	Wound Neutrality and Minimizing Eye Rolling and Corneal Distortion	Nearly constant eye movement and corneal distortion.	Eye often not in primary position, frequent distortion folds.	Eye usually in primary position, mild corneal distortion folds occur.	The eye is kept in primary position during the surgery. No distortion folds are produced. The length and location of incisions prevents distortion of the cornea.	
16	Eye Positioned Centrally Within Microscope View	Constantly requires repositioning.	Occasional repositioning required.	Mild fluctuation in pupil position.	The pupil is kept centered during the surgery.	
17	Conjunctival and Corneal Tissue Handling	Tissue handling is rough and damage occurs.	Tissue handling borderline, minimal damage occurs.	Tissue handling appropriate but potential for damage exists.	Tissue is not damaged nor at risk by handling.	
18	Intraocular Spatial Awareness	Instruments often in contact with capsule, iris or corneal endothelium.	Occasional accidental contact with capsule, iris and corneal endothelium.	Rare accidental contact with capsule, iris and corneal endothelium.	No accidental contact with capsule, iris or corneal endothelium.	
19	Iris Protection	Iris constantly at risk, handled roughly.	Iris occasionally at risk. Needs help in deciding when and how to use hooks, ring or other methods of iris protection.	Iris generally well protected. Slight difficulty with iris hooks, ring, or other methods of iris protection.	Iris is uninjured. Iris hooks, ring, or other methods are used as needed to protect the iris.	

20	Overall Speed and Fluidity of Procedure	Hesitant, frequent starts and stops, not at all fluid. Case duration greater than 60 minutes.	Occasional starts and stops, inefficient and unnecessary manipulations common, case duration about 60 minutes.	Occasional inefficient and/or unnecessary manipulations occur, case duration about 45 minutes.	Inefficient and/or unnecessary manipulations are avoided, case duration is appropriate for case difficulty. In general, 30 minutes should be adequate.	

Comments:

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Golnik KC, Beaver H, Gauba V, Lee AG, Mayorga E, Palis G, Saleh GM. Cataract surgical skill assessment. Ophthalmology. 2011 Feb;118(2): 427.e1-5.