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 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).

<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: Small Incision Cataract Surgery (OSCAR: SICS)						
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.	Drapes with minimal verbal instruction. Incomplete lash coverage.	Lashes mostly covered, drape at most minimally obstructing view.	Lashes completely covered and clear of incision site, drape not obstructing view.	
2	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.	
3	Sclerocorneal Tunnel	Inappropriate incision depth, location, and size, hesitant dissection. Iris prolapse may occur	One of the following correct: incision depth, location or size. Able to dissect forward but not able to perceive depth	Two of the following are correct: incision depth, location or size. Understands that tunnel depth is incorrect but unable to correct.	Good incision depth, location and size. Tunnel constructed at right plane, if inappropriate plane, able to rectify.	
4	Corneal entry	Hesitant keratome entry into AC. Unable to extend the internal valve. Significant shallowing of anterior chamber. Require wound extension or suturing.	Enters into AC but difficulty in extension. Follows a different plane. Entry either anterior or posterior to dissection site. Mild AC shallowing. Require wound extension or suturing.	Entry at right plane. Able to extend but with repeated use of viscoelastic. Internal valve irregular. Require wound extension or suturing.	Fluently enters in right plane. Wound length adequate with no further need for extension. Retains viscoelastic during extension. Self-sealing, provides good access for surgical maneuvering.	
5	Paracentesis & Viscoelastic insertion	Chamber collapses on performing paracentesis. Inappropriate width, length and location. Pierces anterior capsule on entry. Unsure of when, what type and how much viscoelastic to use. Has difficulty accessing anterior chamber through paracentesis.	Appropriate incision width, location or length. Anterior chamber shallows mildly. Requires minimal instruction. Knows when to use but administers incorrect amount or type of viscoelastic.	Inappropriate location, width or length. Anterior chamber almost stable Requires no instruction. Administers viscoelastic at appropriate time, amount, type, and cannula position.	Wound of adequate length, width, and correct location. Viscoelastics administered in appropriate amount, at appropriate time, with cannula tip clear of lens capsule and endothelium.	
6	Capsulorrhexis: Commencement	Instruction required, tentative, chases rather than	Minimal instruction, occasional loss of control of rhexis, cortex disruption may occur.	In control, few awkward or repositioning movements, no cortex disruption.	Delicate approach and confident control of the rhexis, no cortex disruption.	

	of Flap & follow-through.	controls rhexis, cortex disruption may occur.				
7	Capsulorrhexis: Formation and Circular Completion	Size and position are inadequate for nucleus density, tear may occur.	Size and position are barely adequate for nucleus density, difficulty achieving circular rhexis, tear may occur.	Size and position are almost exact for nucleus density, shows control, and requires only minimal instruction.	Adequate size and position for nucleus density, no tears, rapid, unaided control of radialization, maintains control of the flap and AC depth throughout the capsulorrhexis.	
8	Hydrodissection: Visible Fluid Wave and Free prolapse of one pole of nucleus	Hydrodissection fluid not injected in quantity or place to achieve nucleus rotation or prolapse.	Multiple attempts required, able to prolapse nuclear pole after multiple efforts. Manually forces nucleus prolapse before adequate hydrodissection; cheese wiring.	Fluid injected in appropriate location, able to prolapse one pole of nucleus but encounters more than minimal resistance.	Ideally see free fluid wave, adequate for free nuclear hydroprolapse or mechanical prolapse with minimal resistance. Aware of contraindications to hydrodissection.	
9	Prolapse of nucleus completely into AC	Unable to dial nucleus into AC. Hooks anterior or posterior nuclear surface, nucleus rotates in the bag, iris and corneal touch, pupillary constriction, may damage capsule or zonules.	Prolapses nucleus after repeated awkward attempts, needs instruction, churns cortex causing reduced visibility; iris or corneal touch; no damage to capsule or zonules.	Prolapses nucleus into AC with more than minimal resistance. No corneal touch.	Prolapse with minimal resistance. No damage to pupil and iris.	
10	Nucleus extraction	Damages endothelium, iris or capsule, unable to hold and extract nucleus, movements not coordinated.	Movements coordinated but unable to extract nucleus, iris or corneal damage, unable to assess wound size in relation to nuclear density.	Removes nucleus after repeated attempts, more than one piece, might need wound extension prior to extraction.	Extracts nucleus with one or two attempts; proper wound size in relation to nuclear density.	
11	Irrigation and Aspiration Technique with Adequate Removal of Cortex	Great difficulty introducing the aspiration tip under the capsulorrhexis border, 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 capsulorrhexis 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.	Minimal difficulty introducing the aspiration tip under the capsulorrhexis, 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 capsulorrhexis 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 subincisional cortex	

			Prolonged attempts result in minimal residual cortical material.			
12	Lens Insertion, Rotation, and Final Position of Intraocular Lens	Unable to insert IOL.	Difficult insertion, manipulation of IOL, rough handling, unstable anterior chamber. Repeated hesitant attempts placing lower haptic in capsule, repeated attempts rotate upper haptic d into place with excessive force.	Insertion and manipulation of IOL accomplished with minimal anterior chamber instability, the lower haptic is placed with some difficulty, upper haptic is rotated with some stress.	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 without exerting excessive stress to the capsulorrhexis or the zonule fibers.	
13	Wound Closure (Including Suturing, Hydration, and Checking Security as Required)	If suturing is needed, instruction is required and stitches are placed in an awkward, slow fashion with much difficulty, astigmatism, bent needles, incomplete suture rotation and wound leakage may result, unable to remove viscoelastics thoroughly. unable to make incision watertight or does not check wound for seal. Improper final IOP.	If suturing is needed, stitches are placed with some difficulty, resuturing may be needed, questionable wound closure with probable astigmatism, instruction may be needed, 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.	If suturing is needed, stitches are placed with minimal difficulty tight enough to maintain the wound closed, may have slight astigmatism, 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.	If suturing is needed, stitches are placed tight enough to maintain the wound closed, but not too tight as to induce astigmatism, 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					
14	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.	
15	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.	
16	Conjunctival and Corneal Tissue Handling	Tissue handling is rough and damage occurs.	Tissue handling borderline, minimal damage occurs.	Tissue handling decent but potential for damage exists.	Tissue is not damaged nor at risk by handling.	

17	Intraocular Spatial Awareness	Instruments often in contact with capsule, iris, corneal endothelium; blunt second instrument not kept in appropriate position.	Occasional contact with capsule, iris, corneal endothelium; sometimes has blunt second instrument in appropriate position.	Rare contact with capsule, iris, endothelium. Often has blunt second hand instrument in appropriate position.	No accidental contact with capsule, iris, corneal endothelium. Blunt, second hand instrument, is kept in appropriate position.	
18	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.	
19	Overall Speed and Fluidity of Procedure	Hesitant, frequent starts and stops, not at all fluid.	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:

Golnik KC, Haripriya A, Beaver H, Gauba V, Lee AG, Mayorga E, Palis G, Saleh GM. Cataract Surgery Skill Assessment. Ophthalmology. 2011; 118 (10):2094-2094.e2