Guidelines for candidates

Intraocular/corneal surgery station

At the intraocular/corneal surgery station candidates will be asked to perform one or more corneal and/or intraocular procedures, or part thereof on a cadaver eye. This station is an opportunity to test a candidate's microsurgical and problem-solving skills on a cadaver, and also to evaluate a candidate's understanding of and critical reflection on the procedure performed.

The candidate will be marked by at least two examiners, who will agree on a unified mark.

The candidate will be marked on the following:

Sections
1 – Preparation, incl. microscope, surgeon's chair, table set-up • Checking chair height, table height and armrest position • Adjusting microscope (height, tilt, foot pedal, fine focus, X-Y axis) • Adjusting interpupillary distance and focusing of oculars • Focusing microscope on the patient while on the highest magnification to be used, then returning to low magnification • Adjusting room light conditions prior to starting procedure • Discussing appropriate patient and globe preparation (briefly)

2 – Surgical approach
• Appropriate globe immobilization (use of appropriate forceps, technique)
• Creation of appropriate corneal groove (continuous, approx. 75-80% depth and sufficient length)
  ○ use of appropriate surgical blade
  ○ considering vectors of tension (by moving the surgical blade towards the stabilising forceps)
  ○ minimising asymmetric lateral resistance (by reducing contact of the blade and tissue through positioning of the blade)
  ○ regrasping forceps when necessary (frequency depending on intraocular pressure)
• Creation of a full thickness incision with a suitable keratome
• Avoiding damage to intraocular structures when accessing the eye (i.e. iris, ALC, corneal endothelium)

3 – Capsulorrhexis

- Increasing magnification to perform the capsulorrhexis
- Introducing instruments though full thickness incision in a controlled manner
- Using suitable needle or equivalent to create an anterior capsulotomy
- Creating a safe, appropriate size continuous curvilinear capsulorrhexis (CCC)
    - using appropriate instrument to extend capsulotomy (Vannas scissors or equivalent, cystotome or equivalent, capsulorrhexis grasping forceps or equivalent)
    - using shearing forces over tearing forces
    - when using tearing forces, controlling and reorienting the force vectors
    - regrasping capsule edge as needed, typically every 2-3 clock hours

4 – Hydrodissection

- Reducing magnification to perform hydrodissection
- Using appropriate tools, cannula introduction and positioning for hydrodissection
- Fluid wave noted during hydrodissection

5 – Lens nucleus delivery

- Completing the corneal incision using appropriate instruments and technique
    - using right/left corneal section scissors
    - aligning the corneal scissor with the groove, perpendicular to the cornea and pulling lower blade upwards to separate the groove lips
    - creating a bevelled incision, avoiding reintroduction of the blades, and without snapping the tips together while creating the incision.
- Correctly placing a muscle strabismus hook and lens loop, then extruding the lens nucleus completely and in a controlled manner

6 – Closure

- Demonstrating appropriate instrument, needle, and suture selection and handling (appropriate instruments to manipulate suture (tying forceps or equivalent) and tissue (colibri forceps or equivalent), use of dangling manoeuvre (Troutmann pirouette) to grasp needle, appropriate needle holding)
- Gentle tissue manipulation, and fixation when needed
- Corneal suture placement using appropriate technique
    - correct wound margin alignment
    - use of the needle's natural curvature
    - suture placement at 80-90% depth
    - appropriate suture pattern choice and placement considering compression zone overlap and lateral shifting forces, and knot type (surgeon's knot)
- Performing/discussing the need for automated or manual I/A
- Inflating the AC if needed
- Checking the incision for aqueous leakage (Seidel test or similar)

7 – General

- Considering retinal toxicity and switching light on/off when indicated
- Instrument table organization and instrument handling
- Taking appropriate care of the ocular surface throughout procedure
- Overall use of Ophthalmic Viscoelastic Devices (OVDs)
    - injecting OVD as needed to reform and maintain AC after entering the AC (injecting while advancing the cannula to the 6 o'clock position to create safe space around the cannula, then injecting more to perform an OVD/aqueous exchange while retracting the cannula)
    - use of OVD to maintain AC, protect corneal endothelium, create space for instruments and replace prolapsed iris as needed
    - discussing the uses of dispersive and cohesive OVD
- Completing the surgery within the allocated time

Deductions/Compensations

- The examiners can make additional deductions and award compensatory marks at their discretion; the justifications will be recorded

Deductions

- Additional deductions are made for serious/dangerous or recurrent errors, not captured elsewhere in the mark scheme, which may include:
    - Repeated poor/rough tissue handling (including repeated tissue grasping resulting in excessive tissue trauma, excessive struggling to grasp lens capsule)
    - Mishandling of instruments or suture (incl. the use of toothed forceps without tying platform for suture and/or needle handling, the use of needle holders for suture handling, damaging suture material while suturing)
    - Repeated failure to appropriately use OVD (to maintain the AC throughout the procedure, resulting in significant trauma to endothelium and/or iris, prolonged and/or repeated collapse of the globe)
    - Failure to identify and/or correct surgical and tissue handling errors (e.g. iris prolapse, lens capsule tear)
    - Failure to adequately reflect on any shortcomings (especially unacknowledged, repeated errors in tissue handling - trauma to endothelium, iris, wound edges, etc. – will result in significant deduction of points)

Compensations

- Additional marks may be awarded for significant corrective action, which may include:
    - Identifying and appropriately correcting or minimizing the negative consequences of a surgical error
    - Presenting a strategy to correct or minimize the negative consequences of a surgical error
    - Particularly thorough and accurate reflections that reassure the examiners regarding an area of displayed poor performance