Faculty of Science – UNSW Optometry Clinic
PROTOCOL FOR GONIOSOPY

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Effective date:	April 2012
Last Updated:	March 2016
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1. Purpose/background – context for development of the protocol

This protocol will provide guidelines as to the indications and procedure for gonioscopy within the UNSW Optometry Clinic. Gonioscopy is a technique used to view and assess the anterior chamber angle. In clinical practice this can be achieved using a contact diagnostic lens (goniolens).

2. Scope – to which positions/groups does the protocol apply

This protocol applies to all students, academic, professional staff in the UNSW School of Optometry and Vision Science practising within the UNSW Optometry Clinic.

3. Protocol statement

a. Indications for gonioscopy

Gonioscopy is indicated for (but is not limited to):

- Evaluation of glaucoma patients and glaucoma suspects.
- Assessment of synechial angle closure.
- Accurate assessment of the anterior chamber angle to determine if the patient is suitable for pupil dilation when:
  - the anterior chamber angle is narrow or closed (Van Herrick <0.3 at any location),
  - there is previous history of angle closure or
  - there is other clinical evidence of angle closure, e.g., glaukomflecken, intermittent blur, frontal pain or headaches, or haloes (not readily attributable to other causes).
- Further assessment of anterior segment findings which may also affect/alter the appearance of the anterior chamber angle, e.g., pseudoexfoliation of the lens capsule.
- Anterior chamber abnormalities, for example:
  - Peter's, Reiger's or Axenfeld's anomalies (anterior chamber cleavage syndromes),
  - Posterior embryotoxon
  - Essential iris atrophy
  - Chandler's syndrome
  - Iris naevus syndrome
  - Irido-corneal endothelial syndrome
- Investigation of intraocular pressure that has increased over time, or if the intraocular pressure is greater than or equal to 21 mmHg.
- Asymmetric anterior chamber depths or unusual sectoral variation in anterior chamber depth.
- Assessment of patients at risk of angle neovascularisation for example, in cases of early or established proliferative diabetic retinopathy, recent or old central or branch retinal vein thrombosis or new vessels on the iris surface.
- Signs of neovascularisation of the angle.
- Signs of neoplastic activity in the anterior chamber, for example:
  - localised bulging of the iris surface

  - enlarged or proliferated iris blood vessels,
  - iris naevi extending peripherally beyond slit-lamp view or
  - unusual pigment deposits on the iris.
- Suspect anterior uveal melanoma,
- Signs of past or present inflammation of the anterior segment, for example:
  - keratic precipitates,
  - flare or cells in the aqueous,
  - synechiae,
  - cilliary flush or
  - irregular or poorly responsive pupil.
- History or signs of trauma such as:
  - iridodialysis
  - eccentric pupil,
  - anisocoria,
  - dyscoria,
  - ruptures of the pupil margin, or
  - iris trans-illumination.
- History or signs of penetrating foreign body.

b. Relative contraindications for gonioscopy

Gonioscopy is relatively contraindicated in cases of:

- Corneal or conjunctival inflammation or infection.
- Significant corneal abrasions or erosion.
- Significant epithelial basement membrane dystrophy.
- Lacerated or perforated globes.
- Hyphaema (in some cases hyphaema is considered an indication for gonioscopy but there is the risk of additional bleeding to the anterior chamber so it is advisable to delay gonioscopy until the bleeding resolves).

In cases where relative contraindications exist, gonioscopy should only be performed if the potential benefit justifies the potential risk to the patient. In teaching clinics, this is to be determined by the Supervising Optometrist.

c. Location of equipment

A variety of gonioscopy lenses are available to be used in teaching clinics. These include 3 mirror goniolens, 4 mirror goniolens (G4) and Zeiss 4 mirror goniolens. These lenses are distributed amongst the trays of diagnostic lenses which are stored in the Staff Optometrists Office.

Gonioscopy lenses for use in the Ocular Pathology Clinic are stored in the Special Services Room.

Topical anaesthetic and Viscotears gel is kept in the fridge located in the Staff Optometrists Office.

Disinfecting solution (diluted household bleach) can be found in a labelled glass bottle above the desk in the equipment rooms.

d. Preparation for gonioscopy

i. History:
   - Allergic reactions and drug sensitivity;
   - General health.

ii. Slit lamp examination:
   - Van Herrick assessment of angle;
   - Rule out any contraindications of gonioscopy as listed in Section 3b.

iii. Tonometry (See Tonometry Protocol)

iv. Inform patient verbally (and in writing when required) of:

- The likely effects of the anaesthetic drugs;
- The signs and symptoms of adverse reactions.

v. Obtain patient consent
- Patient permission **must** be obtained for gonioscopy following explanation of the procedure
- Gonioscopy must not be performed if the patient does not give permission
- *Refusal of Examination Procedure* signed by patients who refuses to have gonioscopy performed, despite the recommendations of the Supervising Optometrist and/or Staff Optometrist

vi. Preparation of gonioscopy lens
- Disinfect contact surface as appropriate
- Use coupling fluid when necessary

vii. Instillation of anaesthetic drug:
- To be instilled only with Supervisor monitoring
- Check correct drug and concentration, drug expiry date, date of opening bottle and colour of solution
- Avoid dropper tip contact with patients' lids/lashes
- Have patient close eyes and perform punctal occlusion to minimise systemic absorption
- Monitor patient for signs or symptoms of adverse reactions following instillation of drops

viii. Do not leave patient unattended

ix. Record details of:
- Drug and concentration used
- Date and time used
- Quantity used
- Any other necessary information (including which eye)

e. Disinfection of goniolenses

After each use, lenses must be cleaned and disinfected using the following procedure:

1. Use rigid contact lens cleaner to clean the contact surface of the goniolens
2. Rinse thoroughly with tap water
3. Dry with a fresh, non-abrasive tissue.
4. Disinfect with 1:10 dilution of sodium hypochlorite (pre-prepared)
5. Position contact element of the lens in solution and soak for 10 minutes. Ensure there is no air bubble at the contact element
6. Remove lens and rinse thoroughly with saline
7. Dry with a fresh, non-abrasive tissue
8. Store dry in the appropriate closed container
9. Clean the disinfecting container with soap and water; air-dry
10. If fingers touch the solution when removing the tonometer prism, the solution should be changed. Otherwise, the solution should be changed twice a day

4. Roles and responsibilities

a. Student Clinician

It is the responsibility of the student to follow the procedure as outlined above. The student is to consult with their supervising optometrist if there is any doubt over outcome of the procedure outlined in Section 3e. Prior to instilling any ophthalmic drugs, students must advise their supervisor if any of the contraindications or relative contraindications for gonioscopy are observed.

It is expected students know the drug profile, including the potential side effects and contraindications, of the ophthalmic agents used in a routine eye exam.

b. Supervising Optometrists

It is the Supervising Optometrists' responsibility to ensure that the students' patients have sufficient information to make an informed decision and that they fully understand the risks involved and the benefit that is expected to be derived from gonioscopy.

The Supervising Optometrists are to make the final decision as to whether to proceed with gonioscopy of the students' patients in the presence of relative contraindications

The Supervisor should directly monitor students during instillation of drops.

The Supervisors are to collect the topical anaesthetic drops from the Staff Optometrists Office at the beginning of the clinic, discard any expired drops, store the drops appropriately during clinic such that they are kept drops out of reach of children and ensure drops are returned to the Staff Optometrists Office at the end of clinic. They will collect and return the gonioscopy lenses and other diagnostic lenses from the Staff Optometrists Office as needed.

c. Staff Optometrists

During teaching clinics, Staff Optometrists will co-ordinate with non staff Supervising Optometrists in the care of patients who experience adverse side effects with ophthalmic drops or the gonioscopy procedure.

In the UNSW Optometry Clinic, Staff Optometrist may see patients privately (that is outside the teaching clinics). Staff Optometrists will follow this protocol for gonioscopy during consultations with private patients.

Staff Optometrists will ensure there is adequate supply of ophthalmic drops in the UNSW Optometry Clinic and that the drops are stored correctly. They will monitor the expiry date of drops and discard drops when necessary.

It is the role of the Resident Optometrist to ensure that there is sufficient disinfecting solution available within the UNSW Optometry Clinic. The Resident Optometrist will make up this solution by a 1:10 dilution of household bleach* – sodium hypochlorite.

*The usual concentration of household bleach is 5-6% sodium hypochlorite

d. Clinic Director

It is the role of the Clinic Director to ensure the Clinic protocols are implemented in their entirety and review protocols as required.

5. References

Lakkis, C., Lian, K.-Y., Napper, G. and Kiely, P. M. (2007), Infection control guidelines for optometrists 2007. Clinical and Experimental Optometry, 90: 434–444

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