Ophthalmic and Vision Science

OVS1 – Obtain ophthalmic patient history to assist with diagnosis and treatment planning
OVS2 – Instil eye medication for the purpose of investigation or treatment
OVS3 – Determine the optical prescription of visual aids
OVS4 – Determine refractive error of the eye
OVS5 – Measure visual acuity
OVS6 – Assess visual field
OVS7 – Undertake measures of visual function (other than visual acuity and visual field)
OVS8 – Examine the eye and supporting structures
OVS9 – Obtain measurements of intraocular pressure
OVS10 – Obtain structural measurements of the eye
OVS11 – Obtain images of the eye and supporting structures using light or lasers
OVS12 – Obtain angiographic images of the eye using contrast media
OVS13 – Assess electrophysiological function of the visual system
OVS14 – Obtain images of the eye, orbit and adjacent structures using ultrasound

Ref no.	OVS1	Title	Obtain ophthalmic patient history to assist with diagnosis and treatment planning

OVERVIEW

This standard relates to the taking of a clinical history from a patient prior to examination and treatment.

You must be able to:	You must know and understand:
a. Obtain and record a history of patient's presenting symptoms b. Obtain and record a history of patient's past ocular diseases and conditions, including history of surgery, and details of birth history where appropriate c. Obtain and record relevant family history of diseases d. Obtain and record details of social history including occupation and details of exposure to industrial or occupational hazards e. Obtain and record a history of patient's current and past general health and trauma, including any surgical procedures f. Obtain and record a history of current medications for ocular conditions and general medical conditions g. Obtain and record a history of any allergies or other adverse reactions to treatments h. Identify aspects or areas of particular concern and inform relevant professional if appropriate	1. Personal role, responsibilities and level of competence for procedure 2. Requirements for confidentiality of information 3. Requirements for accurate and legible recording of information 4. The purpose and relevant protocols for obtaining and documenting patient history 5. The anxieties or concerns which patients, parents or carers may experience and how to alleviate them 6. How to communicate effectively with patients, parents or carers including patients with a range of cultural and special needs 7. The relevance of patient history to ocular and systemic disease 8. The symptoms of common diseases affecting the visual system and the relationship between ocular/visual and non-ocular symptoms and diseases of the visual system and systemic disease 9. Ocular/visual manifestations of systemic disease

Ref no.	OVS2	Title	Instil eye medication for the purpose of investigation or treatment

OVERVIEW

This standard relates to the instillation of topical eye medications for the purpose of examination, investigation or treatment. Individuals performing such instillation must have relevant authority or may work under supervision. They should ensure that a current drug history has been obtained from the patient prior to administration.

You must be able to:	You must know and understand:
a. Confirm prescription for substance to be instilled including strength, timing and frequency b. Confirm that medication to be instilled has not exceeded expiry date c. Identify possible precautions which need to be taken or contra-indications to instillation of medication by obtaining relevant history from patient and patient's records d. Where precautions or contradictions have been identified, take action or seek advice from relevant personnel e. Explain to the patient the purpose, effects and duration of the medication f. Instil the correct medication in the correct strength, with the correct method and at prescribed frequency to the correct eye g. Terminate instillations immediately where adverse or unexpected reactions occur h. Where adverse reactions outside of own area of competence occur obtain support immediately from suitably qualified personnel i. Record instillation in accordance with relevant protocol or procedure, including signature, time and date of administration j. Advise and educate patient and/or carers on instillation of eye medication if appropriate k. Label and store medication safely and securely l. Limit risks of infection by using appropriate infection control procedures	1. Personal authority for instillation of eye medication 2. Medications used to investigate, diagnose and treat ocular disease, indications for use and modes of action 3. The purpose and prescription of eye medication for individual 4. Contra-indications to instillation of eye medications 5. Possible effects of eye medication including duration and consequences 6. Adverse reactions which may occur and appropriate remedial action 7. Consequences of incorrect type, dosage or frequency of instillation 8. The relevant personnel to contact for further advice 9. The range of methods and techniques for instillation of eye medication and their correct application for intended purpose 10. How to advise patients and/or carers on correct instillation of eye medications and any side effects and adverse effects of medication 11. Requirements for labelling and storage of eye medication 12. Infection control procedures and their application 13. Requirements for accurate and legible recording of information

Ref no.	OVS3	Title	Determine the optical prescription of visual aids

OVERVIEW

This element relates to the determination of optical prescription in spectacles and contact lenses, and includes focimetry.

You must be able to:	You must know and understand:
a. Confirm patient's existing use of optical correction b. Measure optical prescription of spectacles, including distance, intermediate, near and prismatic corrections of visual aids with manual and automatic focimeters c. Transpose optical prescription as needed d. Document optical prescription accurately, with correct notation in patient record	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant protocols for procedure and their correct interpretation 4. How to maintain and calibrate focimeter 5. How to identify the type of spectacle optical prescription by inspection 6. How to identify spectacle correction by neutralisation of lenses 7. Optical prescription notation and how to transpose an optical prescription 8. Principles of focimetry and different types of focimeters 9. Principles of optics relevant to lenses and prisms and correction of refractive error 10. Different methods for measuring and documenting optical prescriptions in bifocals, trifocals, varifocals and contact lenses 11. How to identify the optical centre of a lens and lens decentration 12. How to identify and measure the power and orientation of a prism incorporated into a lens 13. Possible consequences of inaccurate measurement and recording of optical prescriptions 14. Requirements for accurate and legible recording of information

Ref no.	OVS4	Title	Determine refractive error of the eye

OVERVIEW

This standard relates to the measurement of refractive error. Individuals performing refraction must, as a minimum, be able to perform autorefraction and understand the principles of retinoscopy and subjective refraction.

You must be able to:	You must know and understand:
a. Confirm patient's existing use of optical correction b. Confirm patient's understanding of procedure and requirements for compliance c. Instil mydriatic or cycloplegic drops or ointments as indicated, according to personal role and responsibilities and local protocols d. Position and align patient correctly e. Measure refractive error for distance with an autorefractor f. Document refraction accurately, with correct notation in patient record g. Transpose the optical prescription as needed h. Perform additional measurements of refractive error consistent with personal role, responsibilities and level of competence	1. Personal role, responsibilities and level of competence for performing procedures 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant protocols for procedure and their correct interpretation 4. Different types of refractive error and their correction 5. Principles and methods of objective and subjective measurement of refractive error 6. Indications and contraindications for medications used for cycloplegic refraction and possible adverse effects 7. Optical prescription notation, and how to transpose an optical prescription 8. Possible consequences of inaccurate measurement and recording of refractive error 9. Changes in corneal curvature and refraction that can be induced by contact lens wear 10. The principles of and relationship between refractive error and visual acuity and how to estimate refractive error from unaided visual acuity 11. Requirements for accurate and legible recording of information

Ref no.	OVS5	Title	Measure visual acuity

OVERVIEW

This standard relates to the performance of tests of visual acuity including distant and near vision with and without optical correction. It includes the assessment of visual acuity in patients of different ages including children, patients with communication difficulties and with a range of refractive error and ocular disease.

You must be able to:	You must know and understand:
a. Confirm patient's existing use of optical correction b. Confirm patient's understanding of procedure and requirements for compliance c. Identify any cultural and special needs that may influence performance of test d. Perform tests for visual acuity consistent with personal role, responsibilities and level of competence e. Select appropriate visual acuity test according to patients age, co-operation, ability and any cultural and special needs f. Position and align patient at the correct distance from the test chart g. Change distance from test chart if appropriate h. Ensure the chart is correctly illuminated for test purpose i. Instruct patient clearly, including wearing of current optical correction appropriate to the test distance j. Ensure correct use of occluder k. Ensure correct use of pinhole l. Accurately record results and patient responses	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant protocols for procedure and their correct interpretation 4. The principles of and relationship between visual acuity measurement and refractive error and how to estimate refractive error from unaided visual acuity 5. Reasons for altering test distance 6. Different types of refractive error and their correction 7. The non-refractive causes of reduced visual acuity and how they affect the measurement of visual acuity 8. How to identify a spectacle optical prescription by inspection 9. The range of tests for visual acuity, including Snellen, LogMAR, E-test, Sheridan-Gardiner and tests for near vision 10. The principles and use of pinhole to correct reduced visual acuity and its limitations 11. How to measure visual acuity in patients with language or communication difficulties or illiteracy 12. How to measure visual acuity in patients with low vision 13. Different strategies and tests for measuring visual acuity in children of different ages, and the difficulties and limitations of these tests 14. Requirements for accurate and legible recording of information

Ref no.	OVS6	Title	Assess visual field

OVERVIEW

This standard relates to the performance of investigations to test visual field and requires judgement in respect of subjective responses provided by patients. It includes automated and non-automated static and kinetic perimetry and tests for central field.

You must be able to:	You must know and understand:
a. Record correct patient and optical prescription data b. Identify possible precautions which need to be taken or contra-indications to planned procedures by obtaining relevant history from patient and patient's records c. Where precautions or contra-indications to procedure have been identified, take action or seek advice as appropriate from relevant personnel d. Ensure accurate corrected visual acuity is recorded prior to commencement of visual field test e. Ensure appropriate test conditions including illumination and test distance and occlusion of non-tested eye. f. Ensure that appropriate optical prescription is used and positioned correctly for test performance g. Provide clear and concise instructions to the patient and reassure patient throughout to obtain compliance h. Monitor patient behaviour to obtain required fixation and concentration throughout testing i. Evaluate reliability of patient responses and alter testing strategies as indicated j. Analyse results and carry out additional tests as appropriate k. Document results in patient record l. Accurately record patient responses and any difficulties with compliance m. Limit risks of infection by using appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant international and national recommendations for performance of investigation in addition to local protocols 4. How to maintain and calibrate equipment 5. Correct use of equipment 6. Principles of Perimetry 7. Different methods and equipment used for these measurements 8. Precautions and contra-indications to procedure and relevant personnel to contact for further advice 9. Anatomy and physiology of the eye and visual pathway relevant to visual field examination 10. Range of clinical conditions that can give rise to defects in visual field and relevance of test to these conditions 11. How to choose appropriate test strategy according to patients age, co-operation, ability and clinical condition 12. How to instruct and reassure the patient to maximise effectiveness and compliance 13. Methods of judging reliability of patient response 14. Sources of error and artefact and how to overcome them, including operator error, ocular conditions, and patient compliance 15. How to recognise abnormal measurements and their significance to diagnosis or treatment, and to take appropriate action 16. How to annotate data and record patient compliance 17. Requirements for accurate and legible recording of information 18. Infection control procedures

Ref no.	OVS7	Title	Undertake measures of visual function (other than visual acuity and visual field)

OVERVIEW

This standard relates to the performance of other psychophysical tests of visual function, and requires judgement in respect of subjective responses provided by patients. This may include tests of colour vision, glare, contrast sensitivity, dark adaptation and macular photostress.

You must be able to:	You must know and understand:
a. Comply with relevant protocols for specified investigations b. Enter correct patient data c. Identify possible precautions which need to be taken or contra-indications to planned procedures by obtaining relevant history from patient and patient's records d. Where precautions or contra-indications to procedure have been identified, take action or seek advice as appropriate from relevant personnel e. Ensure test equipment is of adequate quality for reliable test performance f. Perform tests consistent with personal role, responsibilities and level of competence and local protocols g. Ensure appropriate test conditions h. Ensure that appropriate optical prescription is used and positioned correctly for test performance i. Provide clear and concise instructions to the patient j. Judge reliability of patient responses and repeat test if necessary k. Complete the required series of tests l. Accurately record patient responses m. Limit infection with appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant protocols for investigation and their correct interpretation 4. Precautions and contra-indications to procedure and relevant personnel to contact for further advice 5. Anatomy, physiology and pathology of visual system relevant to procedure 6. Principles of measurement of psychophysical functions 7. Different methods and equipment used for these measurements and their clinical indications as relevant 8. Range of clinical conditions that can affect vision relevant to the test performed 9. How to instruct and reassure the patient to maximise effectiveness and compliance 10. Importance of correct illumination and how this may affect test result 11. Correct use of test devices 12. How to recognise and interpret abnormal results and their significance to diagnosis or treatment 13. Requirements for accurate and legible recording of information 14. Infection control procedures

Ref no.	OVS8	Title	Examine the eye and supporting structures

OVERVIEW

This standard relates to the performance of a clinical examination of the anterior segment of the eye and ocular adnexae and includes the assessment of pupil responses. The examination may be performed with a torch, loupe or slit lamp.

You must be able to:	You must know and understand:
a. Confirm patient's understanding of the procedure and consent prior to commencing examination b. Where precautions or contraindications have been identified, take action or seek advice as necessary from relevant personnel before proceeding c. Explain possible side effects and consequences of procedure to the patient d. Instil topical medications as required for purposes of examination e. Note any abnormalities of head posture or facial appearance relevant to ocular examination f. Position and align patient correctly for examination, avoiding patient discomfort g. Examine ocular adnexae and anterior segment of eye with loupe and/or torch or slit lamp to confirm normal appearance or for evidence of disease or disorder h. Examine posterior segment of eye with direct or indirect ophthalmoscopy and condensing lenses i. Determine or otherwise full range of ocular movement and note any abnormalities of eye movement j. Evaluate pupil shape and responses to light, including whether there is a presence of afferent pupil defect k. Evaluate tear production and patency of naso-lacrimal passage l. Record all findings accurately in case notes according to relevant protocols m. Limit risks of infection by using appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing examination 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant protocols for procedure and their correct interpretation 4. Possible precautions and contraindications to procedure and the relevant personnel to contact for further advice 5. Information needs of patients prior to, during and after examination and limits of professional role in providing information 6. Topical medications used for examination, indications, authorisation and correct method for instillation, and effects 7. The purpose and relevant protocols for performing and documenting ocular examination 8. Normal and abnormal ocular movement and range of ocular movement 9. How to examine the eye and ocular adnexae with loupe and torch 10. The component parts of the slit lamp and slit lamp examination techniques 11. The normal appearance of anterior segment of eye and ocular adnexae 12. Clinical findings of common conditions affecting the ocular adnexae and anterior segment of the eye 13. Normal and abnormal pupil responses including how to recognise an afferent pupil defect, and their relation to diseases of eye and visual pathway 14. Requirements for accurate and legible recording of information 15. Infection control procedures and their correct application

Ref no.	OVS9	Title	Obtain measurements of intraocular pressure

OVERVIEW

This standard relates to the performance of measurement of intraocular pressure. It may include other more specialized procedures such as measurement of ocular blood flow and tonography.

You must be able to:	You must know and understand:
a. Identify possible precautions which need to be taken or contra-indications to planned procedures by obtaining relevant history from patient and patient's records b. Where precautions or contra-indications to procedure have been identified, take action or seek advice as appropriate from relevant personnel c. Where topical medications are instilled, confirm correct dosage, strength and frequency of use against relevant protocol d. Provide clear and concise instructions to the patient and reassure patient throughout to ensure compliance with required procedure e. Obtain sufficient, accurate measurements to ensure comparability and adequate response to clinical question f. Recognize when additional tests or expertise may be needed and act appropriately g. Accurately document results and any difficulties encountered in obtaining measurements h. Limit risks of infection by using appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant international and national recommendations for performance of investigation in addition to local protocols 4. Precautions and contra-indications to procedure and the relevant personnel to contact for further advice 5. The range of topical medications used and their purpose, correct method of instillation and effects 6. Information needs of patients to ensure compliance with procedure 7. Principles of aqueous production and outflow and ocular blood flow, equipment used to measure these functions and clinical conditions that may affect their measurements 8. Purposes and clinical indications for obtaining functional measurements 9. Principles of measurement of intraocular pressure, aqueous outflow and ocular blood flow 10. Different methods and equipment used for measuring intraocular pressure, aqueous outflow and ocular blood flow and their clinical indications 11. Use of slit lamp for purposes of Goldmann tonometry 12. Interaction and interdependencies between different investigations 13. Limitations of procedure including sources of operator error and how to minimise them, ocular conditions that can affect accuracy of measurements, and patient compliance 14. How to recognise abnormal measurements and their significance to diagnosis or treatment, and to take appropriate action 15. Requirements for accurate and legible recording of information 16. Infection control procedures

Ref no.	OVS10	Title	Obtain structural measurements of the eye

OVERVIEW

This standard relates to the performance of a range of investigations to measure the dimensions of the eye, including corneal thickness and curvature, anterior chamber depth, axial length and pupil diameter. These measurements may be used for the clinical management of patients undergoing cataract or corneal refractive surgery and the management of glaucoma.

You must be able to:	You must know and understand:
a. Where topical medications are instilled, confirm correct dosage, strength and frequency of use against relevant protocol b. Identify possible precautions which need to be taken or contra-indications to planned procedures by obtaining relevant history from patient and patient's records c. Where precautions or contra-indications to procedure have been identified, take action or seek advice as appropriate from relevant personnel d. Provide clear and concise instructions to the patient and reassure patient throughout to ensure compliance with required procedure e. Select appropriate test parameters according to the patients age, co-operation, ability and eye condition f. Conduct measurements in correct sequence and in line with relevant protocols g. Monitor patient behaviour throughout to obtain required fixation and concentration throughout testing h. Obtain sufficient, accurate measurements to ensure reliability of results i. Accurately document results and any difficulties encountered in obtaining measurements j. Select appropriate formulae to calculate results where applicable k. Evaluate results and seek further information and advice as appropriate l. Limit risks of infection by using appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant international and national recommendations for performance of investigation in addition to local protocols 4. Information needs of patients to ensure compliance with procedures 5. Precautions and contra-indications to procedure and the relevant personnel to contact for further advice 6. Anatomy, physiology, pathology and optics of the eye relevant to procedure 7. Purposes and clinical indications for obtaining structural measurements 8. The range of topical medications used for procedure, their purpose, correct method of instillation and effects 9. Principles of techniques used for measurement of ocular dimensions. 10. Methods and equipment used for measuring ocular dimensions 11. Interrelationships between these measurements, and between these and the clinical condition. 12. Limitations of procedure including sources of operator error and how to minimise them, ocular conditions that can affect accuracy of measurements, and patient compliance 13. Changes in corneal curvature and refraction that can be induced by contact lens wear 14. How to obtain measurements of axial length in phakic, pseudophakic and aphakic eyes and other eye conditions and diseases 15. How to choose formulae and make calculations using measurements obtained 16. How to recognise abnormal measurements and their significance to diagnosis or treatment, and to take appropriate action 17. How to check and monitor accuracy and reproducibility of results 18. Requirements for accurate and legible recording of results 19. Infection control procedures

Ref no.	OVS11	Title	Obtain images of the eye and supporting structures using light or lasers

OVERVIEW

This standard relates to the performance of investigations to obtain images of the eye and supporting structures using light or lasers. It includes fundus photography with film and digital imaging systems, and may include confocal scanning laser ophthalmoscopy (SLO), optical coherence tomography (OCT) and scanning laser polarimetry (SLP, GDx).

You must be able to:	You must know and understand:
a. Ensure adequate mydriasis or instil topical medications as required in accordance with personal role and responsibilities b. Explain possible side effects and consequences of procedure to the patient c. Select imaging modality appropriate to clinical question and review and change as necessary during the course of the investigations d. Adjust equipment or use supplementary lenses to correct for patient's refractive error to enable consistent and reproducible image measurements e. Determine patient's refractive error with autorefraction, keratometry and focimetry as required f. Position and align patient correctly for each image capture, avoiding patient discomfort g. Obtain images of suitable clarity and type and in sufficient quantity to respond to clinical question h. Determine additional tests or expertise needed and action appropriately i. Evaluate, interpret and annotate images as required to obtain appropriate result j. Record and store images in accordance with relevant protocols and procedures k. Limit risks of infection through use of appropriate infection control procedures l. Acquire stereo images where appropriate, in the correct sequence for display method chosen and from the image sequence identify and tag stereo pairs for review m. Annotate records as necessary	1. Personal role, responsibilities, authority and level of competence for performing investigations 2. Relevant international and national recommendations for performance of investigation in addition to local protocols 3. Requirements for authorisation of request and patient consent 4. Precautions and contra-indications to procedure and the relevant personnel to contact for further advice 5. Information needs of patients prior to, during and after investigations 6. Topical medications used for procedure, indications, authorisation and correct method for instillation, and effects 7. Contra-indications and risks of investigations and relevant actions 8. Relevant principles of physics and instrumentation for imaging modalities 9. Reasons for selection of imaging modality according to clinical condition 10. Reasons for adjusting equipment for patient's refractive error and consequences if this is not done 11. How to identify and minimise artefacts and poor quality images due to ocular conditions, operator error and patient compliance 12. The relationship between normal and abnormal features with anatomy, physiology and pathology of the eye and supporting structures and significance to diagnosis or treatment 13. How to annotate, identify, archive and retrieve images and film appropriately 14. The relevant image acquisition and management system and its correct use. 15. Infection control procedures

Ref no.	OVS 12	Title	Obtain angiographic images of the eye using contrast media

OVERVIEW

This standard relates to angiography of the eye by administration or oral or intravenous fluorescein and intravenous indocyanine green (ICG) contrast medium. This includes imaging the fundus with fundus camera and confocal scanning laser ophthalmoscope, and may include imaging with slit lamp camera. This activity will assist with diagnosis, management, treatment and monitoring

You must be able to:	You must know and understand:
a. Ensure adequate mydriasis or instil topical medications as required in accordance with personal role and responsibilities b. Explain possible side effects and consequences of procedure to the patient c. Select imaging modality appropriate to clinical question and review and change as necessary during the course of the investigations d. Position and align patient correctly for each image capture, avoiding patient discomfort e. Adjust equipment or use supplementary lenses to correct for patient's refractive error to enable consistent and reproducible image measurements f. Determine patient's refractive error with autorefraction, keratometry and focimetry as required g. Obtain images of suitable clarity and type and in sufficient quantity to respond to clinical question h. Acquire stereo images where appropriate, in the correct sequence for display method chosen and from the image sequence identify and tag stereo pairs for review i. Determine additional tests or expertise needed and take appropriate action j. Respond appropriately to any adverse reactions to contrast medium and deterioration in patient's condition k. Evaluate, interpret and annotate images as required l. Record and store images in accordance with relevant protocols and procedures m. Limit risks of infection through use of appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant international and national recommendations for performance of investigation in addition to local protocols 4. Requirements for authorisation of request and patient consent 5. Precautions and contra-indications to procedure and the relevant personnel to contact for further advice 6. Information needs of patients prior to, during and after investigations 7. Relevant safety issues including safety implications associated with the use of contrast medium 8. How to maintain and calibrate equipment according to protocols 9. Topical medications used for procedure, indications, authorisation and correct method for instillation, and effects 10. Contra-indications and risks of investigations and relevant actions 11. How to recognise complications of intravenous contrast medium and how to take appropriate action 12. Relevant principles of physics and instrumentation for imaging modalities 13. Reason/s for selection of imaging modality according to clinical condition 14. How to identify and minimise artefacts and poor quality images due to ocular conditions, operator error and patient compliance 15. The relationship between normal and abnormal features with the anatomy, physiology and pathology of the eye and supporting structures and significance to diagnosis or treatment 16. How to record and store images appropriately 17. Requirements for accurate recording of information 18. Relevant image acquisition and management system and its correct use 19. Infection control procedures

Ref no.	OVS13	Title	Assess electrophysiological function of the visual system

OVERVIEW

This standard relates to the performance of a range of electrophysiological investigations of the visual system. This will include electro-oculograms (EOGs), electroretinograms (ERGs) and visually evoked potentials (VEPs) and may include other more specialised tests.

You must be able to:	You must know and understand:
a. Set up trial frame correction relevant to optical prescription b. Ensure that the patient is provided with the necessary level of support and reassurance throughout the investigation c. Select appropriate investigations and protocols in consideration of the clinical question, patient's age, co-operation and ability and review and change as necessary during the course of the investigations d. Prepare, position and apply electrodes appropriate for test being performed e. Adjust equipment parameters according to the test being performed f. Conduct investigations in the correct sequence and in line with relevant protocols g. Continuously monitor results and patient awareness for validity, accuracy and clinical usefulness, and check results for reproducibility h. Ensure that stimulus modalities and characteristics are appropriate to the purpose of the investigation and adjusted to avoid unnecessary patient discomfort i. Evaluate presence of noise or artefact in signal, determine cause and take relevant corrective action and annotate accordingly j. Annotate recordings legibly to show control settings, stimulus settings, clinical states and other relevant data k. At end of investigation remove electrodes, clean skin, clean and sterilize electrodes according to protocols, and remind patient of any possible after effects of medication or investigation l. Prepare data in suitable form for clinical reporting and provide factual assessment of results m. Recognise when additional tests or expertise may be needed and act appropriately n. Limit risks of infection by using appropriate infection control procedures	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant international and national recommendations for performance of investigation in addition to local protocols 4. Precautions and contra-indications to procedure and the relevant personnel to contact for further advice 5. Likely electrophysiological consequences of clinical condition being investigated 6. How to set up a trial frame and principles of refraction 7. How to take relevant clinical history and the range of data that will assist assessment 8. How to instruct and reassure the patient to maximise effectiveness and compliance 9. Equipment and electrodes being used and their characteristics 10. How to adjust equipment parameters and the reasons for such adjustments 11. How to prepare patient, select and correctly position and apply and remove electrodes 12. Types and purpose of stimulators and their correct use 13. Structure and function of the visual system 14. Possible interdependencies and interaction between different investigations 15. How to check reproducibility of results 16. Stimulus modalities and characteristics 17. How to annotate recordings 18. How to recognise normal and abnormal findings and relevant artefacts, in different patient groups and take corrective action when artefacts are recognised 19. Requirements for accurate and legible recording of information 20. Infection control procedures 21. Effect of mydriatics on electrophysiological results 22. Special requirements for intra-operative measurements

Ref no.	OVS14	Title	Obtain images of the eye, orbit and adjacent structures using ultrasound

OVERVIEW

This standard relates to the performance of investigations of the structure and function of the eye/orbit and adjacent structures using ultrasound. This can include Standardised Echography, High Frequency Ultrasound (HFU), and Ultrasound Biomicroscopy (UBM) of the eye and adjacent structures, and Doppler techniques to investigate blood flow to and from the eye.

You must be able to:	You must know and understand:
a. Confirm authorised request and patient consent prior to commencing procedures b. Obtain relevant history from patient and patient's records c. Identify possible precautions which need to be taken or contra-indications to planned procedures by obtaining relevant history from patient and patient's records d. Where precautions or contra-indications to procedure have been identified, take action or seek advice as appropriate from relevant personnel e. Confirm patient's understanding of the procedure and requirements for compliance f. Explain possible side effects and consequences of procedure to the patient g. Where topical medications are instilled, confirm correct dosage, strength and frequency of use against relevant protocol h. Select appropriate imaging modality with clinical/ systemic status, age, ability and co-operation i. Position and align patient correctly for image capture, avoiding patient discomfort j. Obtain images of suitable clarity and in sufficient quantity to answer clinical question k. Obtain measurement of relevant structures where appropriate l. Record and store images in accordance with relevant protocols and procedures m. Limit risks of infection by using appropriate infection control procedures n. Evaluate, interpret and annotate images as required to obtain appropriate result	1. Personal role, responsibilities and level of competence for performing investigations 2. Requirements and protocols for maintenance and calibration of equipment 3. Relevant international and national recommendations for performance of investigation in addition to local protocols 4. Precautions and contra-indications to procedure and the relevant personnel to contact for further advice 5. Requirements for authorisation of request and patient consent 6. Information needs of patients prior to, during and after investigations 7. Principles of A and B ultrasound, instrumentation and probe orientation 8. The purpose, procedure and relevant protocols for each investigation 9. Possible risks and reactions associated with investigations and relevant control or remedial action 10. How to identify abnormalities, artefacts and poor quality images 11. The limitations of procedure including sources of operator error and how to minimise them, ocular conditions that can affect quality of images, and patient compliance 12. The relationship between normal and abnormal features with the anatomy, physiology and pathology of the eye and the orbit and significance to diagnosis or treatment 13. Infection control procedures and their correct application