ORTHOPTISTES DE LA COMMUNAUTÉ EUROPÉENNE
ORTHOPTISTS OF THE EUROPEAN UNION

Competence profile for Orthoptists in Europe

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Foreword

This competence profile was written as the basis for the European Diploma for Orthoptists. It was created as part of an Erasmus+ subsidised project called EDORTH (Acronym for **E**uropean **D**iploma for **ORTH**optists). This competence profile has been validated using the Delphi method in 2019 by orthoptic associations who are members of the OCE (Orthoptistes de la Communauté Européenne / European Orthoptic Association).

It is an honour for the Education Committee of the OCE to share this work.

December 2020

Contents

Introduction

This document was created by members of the Education Committee of the Orthoptistes de la communauté Européenne (OCE) with the aim of defining a commonly agreed description of the professional roles and competences of an orthoptist working in any of the participating countries.

Most of these countries have orthoptic programmes. They have defined their role within their national health care system and naturally these roles may differ. In order to agree on a common high standard in the education of orthoptists it is necessary to accept differences, but to improve the quality of orthoptic programmes in countries, where it does not meet this standard.

The description is structured to show the roles in different steps of the orthoptic process. Some roles go beyond this to explain how orthoptists position themselves within the multi-professional health care system. The competences are listed and explained in some detail, stating the expected level of expertise in the field concerned.

Participating European Countries

The OCE has 16 member countries of which 11 are represented in the Education Committee. These are:

- Austria
- Belgium
- France
- Germany
- Italy
- Netherlands
- Norway
- Portugal
- Sweden
- Switzerland
- United Kingdom

Process

This common document was prepared by comparing the competence profiles of all countries. It was discussed which competences are expected in the respective countries at which level and it was then agreed, which standard should be met by any newly qualified orthoptist in any of these countries. The members did explicitly not choose the lowest common denominator but aimed to set the standards high in order to encourage and demand the best possible quality required for adequate, safe, evidence-based and reflective patient care.

To reach consensus about the content of the competence profile the Delphi method – a structured communication technique – was used. The competences and respective levels were presented to clinical experts and academic experts from all 12 countries in Europe who offer an orthoptic programme. These are:

- Austria
- Belgium
- Czech Republik
- France
- Germany
- Italy
- Netherlands
- Poland
- Portugal
- Sweden
- Switzerland
- United Kingdom

The experts were asked to agree or disagree, add or eliminate items from the list of competences as well as to agree or disagree to the suggested levels of competence or knowledge. This was done in two rounds. Views were sought on 96 different statements regarding expected knowledge/compentence of a newly graduated orthoptists from 24 academic and clinical experts and a response rate of 96% for both rounds confirms the high validity of the results.

The final document will need to be reviewed in due course by this committee or a similar to ensure, that standards are continuously met in the ever-developing science of medicine in general and orthoptics in particular.

Competences

The competences of an orthoptist in his/her field of work are varied. They extend from the assessment of a patient to the diagnosis and therapy as well as professional communication with patients, relatives and carers, other health professionals and even local and state authorities. The differentiation towards the role description as discussed above is seen in the explanation of the specialist **knowledge** and **skills** required by the orthoptist in order to competently and professionally fulfil his / her role in a specific work environment.

All competences are also weighted by specifying the level of proficiency required by a newly qualified orthoptist, one who has not specialised in a certain field or gained more experience in one area possibly at the cost of other skills not required for some time.

Orthoptists know the theoretical and scientific basis of visual perception and of peripheral and central control mechanisms of the eyes and eye movements, they know about their development and physiological changes within a life span.

Following the logic of the grading "levels of competences" we also grade knowledge. With graduation an advanced level is achievable.

The competence proficiency scale used here is based on the proficiency scale suggested by the US National Institute of Health [3]. It is used as an instrument to measure the level of skill and knowledge expected from a health care professional and ranges from 0 – not applicable to 5 – expert level. It is expected, that level 5 (expert in his/her field of work) may not be achieved by any newly qualified orthoptist as it would require sufficient professional experience. At this level the orthoptist provides guidance within his/her area of expertise, may apply this competence across multiple projects and/or organizations with consistent excellence, may create new applications for and/or lead the development of reference and resource materials for this competence. Level 0 did not need to be included here as only relevant skills and competences are listed.

The level specified in the Orthoptic Profile in Europe will be obligatory for any orthoptist wishing to receive a European Orthoptic Diploma. National competence profiles may differ from this in a way that a lower level is sufficient to work in that country. There may however be aspects where a higher level of proficiency is required in one country or another. These would be considered as facets of an extended role of orthoptists in those particular countries.

	Level of knowledge	Level of competence
4		**Advanced**
	• specialist knowledge • specific orthoptic knowledge where other professionals might ask	• specialist skill • a specific orthoptic skill where other professionals might ask the orthoptists advice
3		**Intermediate**
	• core knowledge in a straightforward situation • recognition of personal limits of knowledge, needs help in more complex fields	• core skill in a straightforward situation • recognition of personal limits of skill with support needed in more complex cases
2		**Limited experience**
	• some theoretical knowledge	• limited practical skill and might need help when performing this skill
1		**Fundamental awareness**
	• knowledge of basic principles	• basic practical skills

Knowledge

Orthoptists link their awareness of the theoretical background outlined below with their extensive knowledge of signs and symptoms of orthoptic disorders and the respective

pathogenesis. They bridge their specific area of expertise to basic insights into medicine, psychology and health and rehabilitation sciences as well as their sound knowledge of ophthalmology and optics. They also apply their extensive knowledge of orthoptic disorders on their understanding of pathology.

Level 4 knowledge
Refraction
Refractive errors: myopia, hypermetropia, astigmatism, anisometropia Presbyopia
Visual functions
Visual acuity: Principles, Detection / resolution / recognition acuity / hyperacuities Foveal vs peripheral vision
Binocular vision / correspondence
Basic principles of sensory fusion: Horopter / PANUMs area and space, Physiological diplopia, Retinal rivalry, Sensory fusion and stereopsis, Projection and normal correspondence
Physiology of ocular alignment, muscle laws (HERING, SHERRINGTON, LISTING), Vergence and motor fusion
Accommodation / convergence
Accommodation
Accommodation / convergence relationships (AC/A and CA/C relationships and ratios)
Special anatomy and physiology
Extraocular muscles: Structure and anatomy, Muscle actions
Orbital fascia including muscle pulleys
Ocular innervations: sympathetic and parasympathetic, cranial nerves II, III, IV, VI
Physical Optics
Lenses: optics, notation, transposition of prescriptions, lens types
Prism: optics and notation including Fresnel prisms, prism placement e.g. Prentice vs frontal plane / Effects of stacking
Ophthalmoscopes including fixation ophthalmoscopes
Retinoscopes
Effects of general disease on ocular motility and sensory function
Multiple sclerosis
Myasthenia gravis
Thyroid eye disease
Awareness of medicines used in ophthalmology
Pharmacokinetics of miotic, mydriatic, local anaesthetic and cycloplegic drugs

Level 3 knowledge
Refraction
Emmetropisation
Visual functions
Contrast sensitivity
Motion detection
Stability of fixation
Colour vision
Related subjects (vision / binocularity)
Visual processes involved with reading
Special anatomy and physiology
Bony orbit
Ocular adnexa & lacrimal system
Anatomy of the bulbus: lens, cornea, aqueous / vitreous, maintenance of intra-ocular pressure, uveal tract, retina
General anatomy and physiology
Central and autonomic nervous systems, cranial nerves Head and neck anatomy

Pathology – general and eye related
Eye-related effects of prematurity
Orthoptic significance of cranial dysostoses
Aspects of ophthalmic disease
General ophthalmic history
Acute and emergency ophthalmology
Disease processes and treatment: Glaucoma and ocular hypertension Retinal disease including age related macular degeneration (AMD), retinitis pigmentosa (RP)
Cataract
Corneal disease
Oculoplastics
Optic nerve pathology
Ocular trauma
Physical Optics
Refraction, refractive index, reflection, diffraction, polarization, ocular aberrations
Pinholes and stenopaeic slit
Focimetry and neutralisation of lenses
Slit lamp
Effects of general disease on ocular motility and sensory function
Hypertension
Diabetes
Stroke
Parkinsons disease
Neoplastic diseases
Cerebral palsy
Awareness of medicines used in ophthalmology
Pharmacokinetics of other ophthalmic drugs
Dosages, administration routes and storage
Indications and contraindications
Interactions, cautions, and side effects, adverse drug reactions and reporting, interaction with multiple pathologies, existing medication, allergies

Level 2 knowledge
Visual functions
Dark adaptation
General anatomy and physiology
Genetics and inheritance
Vascular and endocrine systems
Ocular embryology
Typical physical and motor child development
Normal, physiological ageing
Pathology – general and eye related
Developmental delay
Vascular diseases including stroke
Neoplastic diseases
Myopathic diseases
Metabolic diseases including diabetes
Genetic diseases including chromosomal abnormalities which relate to the eye
Infectious disease, viral/bacterial diseases
Inflammatory diseases
Neurological diseases
Cerebral palsy
Dementia
Physical Optics
Tints and filters

Related subjects
Electrodiagnostic testing
Scanning techniques (ultrasound/ x ray, MRI, fMRI)
Neurological assessment
Paediatric developmental assessment
General Pharmacology
Awareness of how medicines are licensed, sourced and supplied, and the legal and ethical implications of doing so
Systems necessary to supply and administer medicines
Pharmacokinetics

Many of the competences involved in the administration of drugs are common to many other aspects of orthoptic practice. Orthoptists must be aware of any Exemptions legislation in the country in which they work.

Assessment and Diagnosis

Assessment and diagnosis of patients are core tasks and build the foundation for developing a management plan and advising any therapeutical intervention. Orthoptists have a wide spectrum of orthoptic diagnostic procedures and choose patient-centered and solution-orientated appropriate methods.

Assessment

Level 4 competences
History taking
Relevant orthoptic, general ophthalmic and medical history Social, family, drug history
Assessing visual functions
Vision tests in infants and non-verbal patients (Preferential looking and vanishing optotypes, picture tests e.g. Kays, LEA symbols, tumbling E, Letter tests for children)
Vision tests in adults / verbal patients (Landolt C, letters, numbers and text reading tests)
Assessment of crowding / separation difficulty
Assessment of eccentric fixation
Confrontation fields
Assessing ocular alignment
Assessment of corneal reflections, knowledge of angle kappa (alpha/lambda)
Cover/ uncover test / alternate cover test
Prism cover test in primary position and 9 positions of gaze Alternating, unilateral, simultaneous prism cover test
Synoptophore: horizontal/vertical /torsional angle of deviation, objective and subjective angle,…
Methods using diplopic projection (Maddox Rod, von Graefe, scale methods)
Assessing ocular motor functions
Ocular motility: versions and ductions, smooth pursuit and saccades, vergence, translatory movements, vestibulo-ocular reflex (VOR), optokinetic nystagmus (OKN)
Lees screen / Hess chart / Harms tangent screen
Field of uniocular fixation
Field of binocular single vision
Convergence to near point
Clinical assessment of nystagmus
Assessing binocular functions / correspondence
Prism fusion: ranges (to blur, diplopia and recovery), 4 prism test, 20 Base out prism test
Relative fusion/relative vergence methods
Bagolini striated glasses
Worth's lights
Synoptophore and prism assessment of potential binocular function

Filter bar assessment of fusion and dissociated vertical deviation
Stereotests: anaglyphs (e.g. TNO), vectographs (e.g. Titmus), free space methods (Frisby, FD2, Lang, Lang 2pen)
Assessment of suppression: with prisms (including post-op diplopia test), on the synoptophore (depth & area), with filter bar
Assessment of abnormal correspondence
Near point of accommodation
Assessing related / ophthalmic aspects
Pupil examination
Administration of eye drops for diagnostic purposes
Assessing refraction
Principles of refraction Retinoscopy: Cycloplegic / non cycloplegic / over refraction/ dynamic Subjective refraction: crossed cylinders / duochrome test / astigmatic fan
Photorefraction / autorefraction

Level 3 competences
Assessing visual functions
Electrodiagnostic tests of vision
Clinical contrast sensitivity tests
Colour vision tests for children and adults including Ishihara, 100 hue
Visual Fields: Goldmann and automated perimetry
Assessing ocular alignment
Knowledge of fixation disparity
Assessing binocular functions / correspondence
Accommodation facility (flipper lenses)
Assessing related / ophthalmic aspects
Macroscopic ocular examination
Direct ophthalmoscopy
Indirect ophthalmoscopy
Tonometry: Non-contact methods and applanation tonometry
Ocular Coherence Tomography (OCT)
Heidelberg Retinal Tomography (HRT)
Corneal topography
Pachymetry

Level 2 competences
Assessing ocular motor functions
Forced duction/generation tests
Eye tracking and nystagmography
Assessing related / ophthalmic aspects
Slit lamp examination: anterior segment, ocular media, fundus, lid examination

Level 1 competences
Assessing ocular motor functions
Electromyography
Assessing related / ophthalmic aspects
Retinal imaging & fluorescein angiography

Based on this, orthoptists independently state a diagnosis or possible differential diagnoses. Orthoptists perceive patients and carers with their needs and resources and responsibly and independently adapt the orthoptic process to these. (see also communication and social competence) They recognise and accept legal and social conditions as well as ethical norms and values for the investigation, appraisal and interpretation of diagnostic data. They prioritise their personal workload. They regularly assess, reflect and evaluate aims and objectives to ensure and improve work processes.

Diagnosis

Level 4 competences
Visual functions
Amblyopia: strabismic, anisometropic, combined mechanism, ametropic, stimulus deprivation
Eccentric fixation
Ocular alignment
Excluding / unveiling pseudo strabismus
Large or decompensating esophorias
Intermittent esotropia: fully accommodative, convergence excess
Distance esotropia in the elderly
Cyclic strabismus
Constant esotropia: infantile, constant without abnormal correspondence (AC), constant with AC, with accommodative element (partially accommodative), microtropia
Large or decompensating exophorias
Intermittent exotropia: distance and non-specific exotropia, near exotropia
Consecutive strabismus
Secondary strabismus
Vertical deviations in primary concomitant strabismus e.g. inferior oblique dysfunction
Dissociated vertical or horizontal divergence (DVD /DHD)
Accommodation and convergence disorders
Convergence insufficiency, paralysis
Convergence spasm
Accommodation inertia / insufficiency / paralysis
Accommodation spasm
Ocular motility disorders / incomitant strabismus
IIIrd nerve palsies
IVth nerve palsies
VIth nerve palsies
Differential diagnoses (recent/longstanding, neurogenic/myogenic)
Alphabet patterns (A/V/Y/X/λ)
Orbital trauma and fractures
Incomitant strabismus associated with high myopia (“heavy eye”) or healthy ageing (distance esophoria/“sagging eye syndrome”)
Browns syndrome
Duanes syndrome
Other congenital cranial dysinnervation syndromes (CCDDs) including “congenital fibrosis syndrome” / Marcus Gunn syndrome
Ptosis
Obliquus superior myokymia
Nystagmus
Idiopathic and infancy onset nystagmus: Orthoptic management, surgical management
Latent nystagmus

Level 3 competences
Visual functions
Conversion disorders[1] of vision (“functional amblyopia”/medically unexplained symptoms)
Ocular motility disorders / incomitant strabismus
Multiple nerve palsies (orbital apex, cavernous sinus, herpes zoster ophthalmicus)
Brainstem palsies
Inflammatory strabismus (orbital cellulitis, myositis)
Iatrogenic strabismus
Supranuclear ocular palsies
Internuclear palsies
Nystagmus
Acquired nystagmus

[1] ‘conversion disorders’ = functional neurological disorders / dissociative disorders / somatoform disorders

Therapy / Management of relevant pathology

The aim of orthoptic therapy is the improvement or elimination of any limited oculo-sensory or oculo-motor function. They demonstrate a critical understanding of relevant current research as a basis for therapeutic actions.

Any registered orthoptist would be expected to be competent to manage all straightforward cases of concomitant and incomitant strabismus, ocular motility disorders and nystagmus, recognise atypical and complex cases and seek more experienced support. An important part of the process is to recognise which patient to treat how but also where it is appropriate to delay treatment or decide not to treat. This decision-making process is frequently carried out by the orthoptist without routine input from ophthalmologists.

Although orthoptists do not themselves prescribe spectacles in most European countries, they are also frequently required to advise on spectacle prescription when it applies to their patients. Orthoptists perceive patients and carers with their needs and resources and use professional judgement and problem-solving skills to draw up their management plan. They know the factors affecting adherence to treatment. Orthoptists show awareness that evidence-based management plans may need to be adapted to patient age and ability, social, environmental, cultural and psychological factors.

Within the interprofessional team they reflect and represent this therapeutic role. (see also communication and social competence)

Level 4 competences
Optical management
Principles of spectacle prescription in non-strabismic children and in strabismic children and adults, especially where the prescription affects the angle of deviation
Prism prescription / incorporated prisms for children and adults / press-on prism fitting
Amblyopia therapy
Occlusion (patches)
Optical penalisation
Atropine penalisation
Cycloplegia in accommodative problems
Orthoptic exercises
Convergence /divergence methods (prisms, synoptophore, dot card etc.) Relative vergence/accommodation methods (positive /negative relative vergence/accommodation, stereograms)

Level 3 competences
Optical management
Principles of the correction of presbyopia, including bifocals, multifocals, progressive lenses, monovision
Spectacle fitting in children
Orthoptic exercises
Anti-suppression methods (scotoma and density)
Pre-operative: Orthoptic role in aiding surgeon in decision-making where appropriate
Post-operative: Indications for referral for ophthalmologist opinion and management of post-operative complications
Pharmacological therapy / management
Administer drugs as prescribed
Recognise allergies and common complications
Botulinum toxin for strabismus
Therapies for delaying onset or slowing progress of myopia (atropine)
Surgical management
Extraocular muscle surgery techniques for concomitant and incomitant strabismus Nystagmus surgery

Level 2 competences

Optical management
Principles of spectacle fitting (pupillary distance, back vertex distance, high index lenses)
Spectacle fitting in adults
Complex fitting needs i.e. craniosynostosis, facial malformation
Treatment of myopia (including near additions, orthokeratology)
Contact lenses (optical principles and fitting)
Low vision aids, magnifiers, loupes
Amblyopia therapy
Reduced contrast /dichoptic amblyopia treatment methods
Orthoptic exercises
Awareness of where optometric vision therapy methods use similar principles with different names
Principles of orthoptic neuro-rehabilitation techniques, e.g. in hemianopia
Surgical management
Cataract surgery
Laser (refractive (LASIK), photocoagulation, capsulotomy)
Glaucoma surgery
Corneal surgery
Vitreoretinal surgery
Oculoplastic surgery
Orbital surgery
Lacrimal probing /chalazion surgery

Level 1 competences
Optical management
Lens implants: types and indications
Telescopes
Orthoptic exercises
Outline awareness of behavioural optometry methods
Pharmacological therapy / management
Botulinum toxin for blepharospasm/hemifacial spasm
Surgical management
Neurosurgery
Radiotherapy

Orthoptists would not be expected to carry out ophthalmic procedures but know the indications and methods available.

Prevention

The aim of preventive measures in the orthoptic process is the reduction of risk factors for oculo-sensory and oculo-motor disorders. Prevention in orthoptics also involves secondary and tertiary screening in order to improve orthoptic and rehabilitative care.
Orthoptists have a profound knowledge of visual perception as well as peripheral and central control mechanisms of the eyes and ocular movements. They know about the development and age-related changes. This knowledge is an integral part of all preventive measures carried out by Orthoptists in the context of medical, medico-legal and socio-educational requirements.

Level 4 competences
Screening
Amblyopia screening, visual acuity screening, strabismus screening, risk factor screening e.g. photoscreening for refractive error

Level 3 competences
Public health

Understanding of social, economic, cultural and institutional factors influencing care delivery
Child and vulnerable adult protection and safeguarding
Screening
National vision screening guidelines
Retinopathy of prematurity, ongoing monitoring of premature children as they develop
Children with special needs e.g. Downs syndrome /chromosome abnormalities, cerebral palsy, hearing loss
Children with specific literacy difficulties
Eye health in the workplace

Level 2 competences
Public health
Importance of public health & well being promotion
Awareness of health beliefs and inequalities in healthcare
Awareness of barriers to health care
Generic principles of health screening
Screening
Diabetic adults
Age-related macular degeneration

Explicitly Orthoptists are involved in different kinds of screening for visual defects. They have particular skills in the vision screening of children. Therefore, as a minimum requirement they need an overview of the scope of screening for disease in general and for specific ocular disease (see also assessment and diagnosis). They know and confidently use the methods available for such screening usually following an agreed protocol. In some cases, they will undertake unsupervised screening and are then expected to make appropriate referrals.

Documentation

All relevant data of a patient need to be documented accurately and completely adhering to data protection. This enables other health professionals to access these data for further health care delivery or other processes in the health system for instance in the interest of quality management.
Orthoptists need to be aware of different documentation systems (hand-written, electronic…) and know how to use them safely and accurately. They document assessment results, diagnoses, recommendations and management plans in appropriate wording, terminology and style for the needs of different recipients.

Level 4 competences
Use existing records to inform themselves / others about patient care
Make accurate and complete records of each patient episode
Adhere to local and national clinical and professional guidelines
Maintain confidentiality
Level 3 competences
Use digital resources

Level 2 competences
Apply informatics

Communication and social competence

All patient communication must have the objective to enable the patient and his / her carers to make an informed choice of further investigations, starting or continuing treatment or in other cases cessation of treatment. It must never be one-sided or opinionated.
Orthoptists use their relevant knowledge of verbal and non-verbal communication, psychology, sociology and pedagogics to prepare information accordingly. They use informational material and other communication tools as appropriate and choose different ways of communicating to suit the recipients' skills, abilities and cultural beliefs. Orthoptists adhere to ethical and medico-legal rules at all times in the communication with patients, carers and other professionals. They seek resolution of conflicts with service users and other professionals and promote team-work. Orthoptists use presentation skills to present material to colleagues and other audiences. Their use of social media and internet resources at work is only in the interest of service.

Level 4 competences
Adherence to rules of confidentiality, respect and duty of care
Awareness of roles of professions with which orthoptists work and professional bodies
Conscience for professional manner and dress at possible first / any contact with the service
Team working, communication and appropriate referral pathways between orthoptic colleagues, ophthalmologists and other eyecare professionals (opticians, optometrists[2], nurses, assistants, technicians)
Communication skills with the following range of service users: adult patients, infants, pre-school children, school-age children, adolescents, parents/ carers / guardians

[2] optometrists are not a registered profession in all member countries

Level 3 competences
Team working, communication and appropriate referral pathways between: multidisciplinary / community teams outside ophthalmology (i.e. physiotherapists, speech therapists, neurologists), within a formal legal framework (e.g. child protection, cared-for children, medicolegal)
Communication skills with the following range of service users: Service users for whom English[3] is not their first language Service users with hearing or other communication difficulties Service users with cognitive impairments e.g. autism, dementia
Written communication and professional letters /reports
Demonstrating to students / other professionals
Be able to use presentation skills to present material to colleagues and wider audiences
Appropriate use of social media and internet resources at work

[3] the respective language of the country of work

Level 2 competences
Conflict resolution with service users/ colleagues or others
Outline of psychological development from infancy to adulthood
Language, literacy and communication acquisition
Non-verbal communication
Health beliefs
Inequalities in healthcare and barriers to access to healthcare
Age/ ethnic/ cultural /social differences
Psychopathology (depression/autism/anxiety/schizophrenia/obsessive-compulsive disorder)

Quality management

Quality management enables the continuous improvement of the orthoptic process in the interest of best-practice patient care as well as recognition of the physical and psychological wellbeing of service providers.
Orthoptists recognise their scope of practice and accept limitations of personal expertise. They accept the necessity for life-long and self-directed learning and organise their workload

accordingly. Evidence-based practice and ethics are accepted and promoted as the foundation of best care. [4] They report concerns about health and safety of service users and providers.

Level 4 competences
Role and statutory obligations of health professionals Statutory role and powers Personal professional obligations, standards of proficiency and codes of conduct
Role and obligations for continuing professional development and use of reflective practice lifelong, self-directed learning
Adherence to local and national clinical and professional guidelines where applicable Use of current best evidence based practice
Confidentiality
Respect and duty of care, equality and diversity
Data protection
Working within the limits of personal knowledge and skills, reflective practice
Ethical practice
Consent (informed decision making)

Level 3 competences
Reporting concerns about personal and patient health and safety
Infection control in orthoptic practice, equipment decontamination, manual handling
Clinical governance
Basic first aid and cardiac-pulmonary resuscitation

Level 2 competences
Research ethics

Implementing research

Orthoptics is an applied science. The clinical work of orthoptists rests upon a fundamental understanding of vision science, of the difference between health and disease and physiological changes throughout life.

Orthoptists know the basics of scientific research including ethical and medico-legal implications. They understand that research is the foundation of evidence-based practice.

The practice of evidence-based medicine involves knowing how to appraise and apply published literature and also, increasingly, to be able to actively contribute to it. All Orthoptists should also be equipped with an outline knowledge and some experience of the research process.

Level 3 competences
Access sources of literature
Carry out a literature review, able to interpret findings of papers and literature reviews
Present and critically assess a paper in a journal club
Prepare a scientific abstract
Prepare a scientific poster
Understand the differences between audit, service evaluation and research, surveys / randomly controlled trials / qualitative methods
Understand when Ethics committee approval is necessary
Confidentiality, data protection, masking, anonymisation, pseudonymisation of data
Framing a research question/ generate a hypothesis / prepare a simple research protocol

Level 2 competences
Measure and evaluate critically the outcomes of professional activities

Understand statistical methods used to assess screening / audit e.g. sensitivity, specificity, predictive values
Prepare an Ethics application
Data collection methods, set up a database
Sampling / participant selection / inclusion and exclusion criteria / randomisation
Questionnaire design
Data analysis: probability and statistical / clinical significance, qualitative methods (interviews and their analysis), descriptive statistics, non-parametric statistics, simple parametric statistics
Present a scientific poster

Level 1 competences
Prepare a systematic review
Write a scientific paper
Present a scientific paper
Routes from research to practice/assessing impact

The extended role of orthoptists

There are services in some countries which are “extended roles” and would not be expected to be carried out by a newly-qualified orthoptist. Further training would be needed to engage in these roles. Some “extended roles” refer to patient groups that any orthoptist would be able to assess but experts in this field would be able to offer a higher level service to them.

- Surgical assisting
- Botulinum toxin clinics
- AMD screening/monitoring, medical retinal specialist
- Intravitreal injection
- Glaucoma/ocular hypertension screening / monitoring
- Corneal clinic roles
- Chalazion/lacrimal (epiphora) clinic roles
- Red eye clinics
- Diabetic monitoring
- Specialist visual aspects of managing children with special educational needs
- Specific literacy difficulty/dyslexia assessment and visual management
- Adult/ child low vision assessment and support
- Patient with cerebral visual impairment assessment and support
- Specialist stroke services
- Orthoptic neuro-rehabilitation including oculo-vestibular rehabilitation
- Specialist neuro-ophthalmology services

Literature

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Further Literature with regards to national Orthoptists compentency profiles

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