

**HIGHER MEDICAL TRAINING**

**CURRICULUM**

**FOR**

**AUDIOLOGICAL  
MEDICINE**

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## **INTRODUCTION**

Audiological Medicine is the medical specialty primarily concerned with the diagnosis and management of patients with auditory and vestibular disorders. The important function of Specialist Registrar training in Audiological Medicine is to ensure the competence of individuals who subsequently become consultant clinicians such that they are capable of providing a high standard professional service in the specialty. The training system ultimately aims to provide the patient with a doctor trained as an attentive listener, a careful observer, an effective communicator and a capable clinician. In turn trainees should be able to expect a training system which provides guidance, teaching, assistance, appraisal, assessment and support.

The Curriculum aims to give trainees the opportunity to become competent in:

- acquiring and applying sufficient knowledge and skill in diagnosis and management to ensure safe independent practice in Audiological Medicine, performing the core investigations required for all physicians practising Audiological Medicine
- establishing a differential diagnosis for patients presenting with clinical features in Audiological Medicine by appropriate use of history, clinical examination and investigation
- applying knowledge of the appropriate basic sciences relevant to Audiological Medicine
- exhibiting appropriate attitudes and communication skills in dealing with patients and colleagues
- developing plans for the whole patient and having sound knowledge of the appropriate treatments including health promotion, disease prevention and rehabilitative plans
- using skills of life-long learning to keep up to date with developments in Audiological Medicine
- being a teacher with good presentation and lecturing skills
- effective team work and leadership skills
- managing time and resources to the benefit of patients and colleagues
- management skills e.g. chairing a meeting, negotiating skills, dealing with conflict(s)/complaints etc...

## **Entry Requirements**

Applicants for Higher Medical Training (HMT) should have completed a minimum of 2 years of General Professional Training (GPT) in approved posts and obtained the MRCP (UK) or (I). The FRCS in Otolaryngology and MRCPCH are acceptable alternatives. If the candidate has an MRCS and 18 months of Basic Surgical Training (BST), he/she will need to have completed a minimum of 6 months of Accident and Emergency training, which must include unselected medical take to qualify for entry to the training grade. Experience in Audiological Medicine is not essential for enrolment into HMT, but experience at SHO grade in Paediatrics, Neurology, Otolaryngology or Geriatrics would be valuable.

Non-UK graduates without the MRCP who compete for HMT posts must provide evidence of appropriate knowledge, training and experience, particularly in the care of general medical conditions.

## **Duration of training**

The duration of HMT in Audiological Medicine is 5 years. This will be made up of 4 years of clinical training with an option to specialise in the 5th year if all the core curriculum and secondments have been satisfactorily completed. For those who have not previously acquired basic scientific skills related to the practice of Audiological Medicine, an MSc is strongly recommended. The training programme to which the trainee is appointed will have named consultant trainers (educational supervisors) for each part of the programme. In addition the programme will be overseen by a Programme Director, who will not normally be on the staff of the unit in which the trainee is working.

A maximum of one year of retrospective recognition, as approved by the Specialist Advisory Committee (SAC), may be given for any of the following: the MSc in Audiological Medicine; Specialist Registrar training in Otolaryngology, Paediatrics or Community Paediatrics (where there is corroboratory evidence that the training has been completed satisfactorily i.e. a satisfactory RITA); research leading to a degree i.e. MD or PhD, in an area deemed to be within the realm of Audiological Medicine by the SAC.

## **Training Record**

A Training Record will be maintained by the trainee. It will be countersigned as appropriate by the Educational Supervisors to confirm the satisfactory fulfilment of the required training experience and the acquisition of the competencies that are enumerated in the Specialty Curriculum. It will remain the property of the trainee, and must be produced at the annual assessments. It is the Programme Director's responsibility to ensure that the JCHMT requirements are met, and at each annual meeting to suggest any future modification in training or experience that may be necessary.

## **Flexible training**

Trainees who are unable to work full-time are entitled to opt for flexible training programmes.

EC Directive 93/16/EEC requires that:

- i. Part-time training shall meet the same requirements as full-time training, from which it will differ only in the possibility of limiting participation in medical activities to a period of at least half of that provided for full-time trainees;*
- ii. The competent authorities shall ensure that the total duration and quality of part-time training of specialists are not less than those of full-time trainees*

The above provisions must be adhered to. Flexible training programmes must involve at least five sessions per week and flexible trainees should undertake a pro rata share of the out of hours duties (including on-call and other out of hours commitments) required of their full-time colleagues in the same programme and at the equivalent stage.

For details of appointment and funding arrangements for flexible trainees, please see the revised 'Guide to Specialist Registrar Training' (February 1998).

## **Research**

A period of supervised research of high quality is considered a desirable part of HMT in Audiological Medicine. A relevant research period may contribute up to 12 months towards the total duration of HMT but only as an alternative to the year commonly spent on an MSc course in Audiological Medicine. A full four years of clinical training is an absolute requirement. Trainees may, of course, take time out for a year or more in research in addition to an MSc year, but such time will not count as time spent in higher training. Some trainees may wish to spend two or three years in research, either before entering HMT or by stepping aside from clinical training after entering a programme. This is perfectly acceptable but only one full year will count towards the programme. For those undertaking an extended period of research after entering a programme and obtaining their NTN, a limited amount of additional educational credit may be granted at the discretion of the SAC for clinical work relevant to the programme undertaken in the course of research beyond the initial year. This concession does not apply to those undertaking research prior to entry to a higher training programme. Trainees in research holding an NTN are subject to annual review if they wish to retain their number.

## **Assessment**

Assessment of trainees will be based upon the standard format of annual review, including the Penultimate Year Assessment (PYA) to which particular importance attaches. Full details may be found in the Introduction to the JCHMT handbook. The award of the CCST will be based on satisfactory completion of the entire series of annual assessments.

## **General Description of Training**

A minimum of three of the four years of clinical training must be spent in the practice of clinical Audiological Medicine, covering all aspects of the specialty at all ages. A further year will be spent in acquiring skills in related specialties, including paediatrics, neurology, geriatrics, otolaryngology, ophthalmology, genetics, psychiatry. Posts in such other disciplines will not be part of a formal inter-specialty rotation but will have to be approved as appropriate to the training allied to Audiological Medicine by the SAC in Audiological Medicine. The formal clinical training should comprise a core of paediatric audiological medicine and adult audiological medicine directed at obtaining appropriate knowledge and understanding of relevant instrumentation, test procedures and rehabilitation techniques and equipment. This should be supported by acquisition of related specialist skills and grounding in the relevant basic sciences allied to Audiological Medicine. Trainees must be competent in all aspects of the investigation, diagnosis, and management of hearing impaired and balance disordered children and adults, as well as children with disorders of communication. Experience of functioning in multidisciplinary teams and counselling patients and their relatives is considered to be of the utmost importance in this specialty. A knowledge of the organisation and needs of community paediatric services is required and at least three months experience in this area is essential.

The trainee should undertake a minimum of five and a maximum of seven out-patient clinics weekly throughout the five years of clinical training. Included may be two out-patient clinics attended for the purposes of obtaining experience in related medical disciplines. There should be dedicated time for audit, administration and research with a minimum of one and a maximum of three sessions per week. There will be two sessions for personal development i.e. 30 study days per year

The clinical posts must be structured to enable trainees to see new patients and undertake ward consultations under suitable supervision to enable the trainee to develop a level of responsibility which will prepare him/her for practice as a consultant. Experience of the investigation and management of acute auditory and vestibular crises is essential.

Audiological Medicine is essentially an outpatient based specialty with relatively few patients admitted for investigation or invasive procedures. As such it is generally associated with no on call commitment. This also makes it more amenable to flexible training programmes.

### **Structure**

With these general principles in mind, this curriculum is based on the three major areas of Paediatric Audiological Medicine, Adult Audiological Medicine, and Vestibular Medicine, and a number of other areas including Basic Sciences and related specialties which are common to the three core areas. The learning methods, assessment methods and evidence for competence will be relevant to the specific key areas and will be outlined within the relevant sections.

### **Paediatric Audiological Medicine**

Paediatric Audiological Medicine includes disorders associated with hearing, balance and communication in children. These incorporate children with hearing problems, tinnitus and dysacusis, those with disorders of balance of both peripheral and central vestibular origin (see Vestibular Medicine) and children with developmental disorders of speech and language.

Trainees should acquire a comprehensive knowledge of the development and anatomy of the head & neck with special reference to the ear and its central connections. They should learn the normal and abnormal development of the child including not only the physical and emotional development but also the development of hearing, balance, speech & language, and communication in addition to the cognitive development. In particular they should have a comprehensive knowledge of the impact of deafness on development of emerging communication, speech and language skills. They need to understand the anatomy, physiology and function of the speech apparatus.

Trainees should gain a comprehensive knowledge of the epidemiology, aetiology and pathology of the syndromes/conditions that can be associated with a hearing disorder, balance disorder or disorder of speech and language development, and also should be knowledgeable about the other systems that may be affected in a child with these problems. They should know the investigations required to make an aetiological diagnosis.

Trainees should learn to take a complete history, carry out a clinical examination and a developmental assessment in order to make a tentative or differential diagnosis in children with hearing, balance or communication problems. They must be able to decide on the appropriate tests that should be used to assess hearing and balance in that child. They need to acquire a comprehensive knowledge of different types of hearing tests, both behavioural and objective, and the appropriateness of each test in individual cases, to ensure correct test selection for hearing evaluation. Trainees need to be able to select and conduct tests of balance function in children. They should be aware of the specialist assessment needed to fully evaluate children with developmental disorders of speech and language and should be able to interpret the results of these assessments in the light of clinical findings. They should also have a knowledge of relevant surgical options appropriate to management of disorders of hearing, balance and speech, and know when to refer children.

Trainees should also acquire a knowledge of the patterns of inheritance of hearing loss, the genetic typing of known conditions associated with deafness and the availability of those tests to identify such conditions. They should be able to offer genetic counselling in such cases. Knowledge of genetic disorders should extend to cover those associated with developmental disorders of speech and language and of disorders of balance.

Trainees should gain a detailed knowledge of methods of amplification, choice of hearing aids available and their specifications. They are expected to know the advantages and disadvantages and suitability of hearing aids, ear moulds, tubing, hooks etc. when selecting hearing instruments to suit a hearing loss. They must also be familiar with hearing aid fitting formulae for children and assessing benefit/outcome in children with hearing aids.

Trainees should develop a detailed knowledge of alternative communication systems for children with hearing loss and communication disorders. They should have knowledge of the educational provision for children with special needs, in particular those with hearing loss and disorders of speech and language, including individual educational plans and the process of assessment of educational needs. Furthermore, they should know which children require further referral for developmental assessment and understand the multidisciplinary team approach to the management of children with disorders of hearing, balance or communication.

Trainees should develop an understanding and appreciation of issues relating to the impact on parents and child of a new diagnosis of deafness, and the multidisciplinary management of a new diagnosis of hearing loss, the importance of close working with the teacher of the deaf, and views of deaf culture. They should also have a knowledge of voluntary bodies involved with supporting hearing impaired children and their families.

Trainees should also have an appreciation of the impact of speech and language disorders upon the child and the family. They should understand the role of the speech and language therapist and of specialist educational support for these children. They should have a knowledge of voluntary bodies involved with supporting children with speech and language problems and their families.

## **Adult Audiological Medicine**

Trainees must be completely familiar with the presentation and causes of disorders of hearing, tinnitus and dysacusis and must have had experience in a specialist clinic in order to be able to distinguish between conditions stemming from a variety of causes. They must be fully competent in performing an audiological examination so that they can demonstrate the abnormalities to an independent clinical observer. When the disorder is a part of a clinical syndrome, they should be able to recognise the syndrome and make a comprehensive physical examination of the other clinical aspects of the syndrome. This should include the effects on the balance system as well as on the auditory system. They must understand the clinical factors such as psychological, metabolic, cardiovascular, neurological and musculoskeletal, which may influence their patient's ability to benefit from appropriate treatment and rehabilitative techniques and should know when to refer or how to treat these conditions.

Trainees must have a working knowledge of a full battery of site-of-lesion tests for peripheral and central auditory dysfunction and tinnitus and be able to carry out these tests themselves. These should include both subjective and objective tests. Limitations of the tests and their interpretation should be recognised and appropriate allowance made for that. They should also know which tests are relevant to answer specific diagnostic questions and, further, which are relevant for the assessment of appropriate management of the patient. They should be able to interpret the abnormalities found in the context of the total clinical picture.

Trainees should develop a full knowledge of aetiological testing including both genetic and acquired causes of hearing disorders. This should cover the pertinent imaging, haematological, biochemical and bacteriological investigations and cardiovascular tests, necessary to come to an appropriate aetiological diagnosis.

Trainees must develop the counselling skills and have the requisite understanding of the different conditions to be able to inform patients of their audiological diagnosis. They must be aware of the full range and doses of appropriate pharmacological agents available to treat the conditions, where relevant, and the limitations, both interactions and side effects of these medications. They must also know the full range of rehabilitative options available to treat the patient with irreversible hearing loss and understand the wide range of personal and contextual factors that will determine whether or not the impairment develops into a specific activity limitation and participation restriction. They should be able to elicit the effects of the individual's condition on their life in a systematic way to guide the patient towards appropriate rehabilitative intervention. In particular, they must be aware of the psychological aspects of the patient in terms of their anxiety and depression and their appropriate and inappropriate coping strategies for dealing with their conditions which can have a major influence on the management approach to be adopted. Furthermore, trainees must be aware of the relevance of significant others to the patient's problems and be able to assess those individuals who have a major role in the patient's life in an appropriate and non-intrusive manner, while giving precedence to the patient and their perceived problems.

Trainees must also be aware of various instrumental devices which can be used to ameliorate the patient's problems including the full range of hearing aid technology,

cochlear implants, tactile aids, bone anchored aids and tinnitus instruments. In addition, they should be aware of the range of environmental aids (assistive listening devices) available and the means by which these can be provided for the patient.

### **Vestibular Medicine**

Trainees must be completely familiar with the aetiologies and presentations of disorders of balance and must have had experience in a specialised neuro-otological clinic in order to distinguish between balance disorders of otological, neurological and general medical origin. They must be fully competent in making a complete neuro-otological clinical examination, such that they can demonstrate the abnormalities to an independent clinical observer. Where the disorder is part of a clinical syndrome, they should be able to recognise the syndrome and make a comprehensive physical examination of the other clinical aspects of the syndrome. Trainees must also understand the clinical factors e.g. psychological, neurological, ocular, musculo-skeletal or cardiovascular, which may restrict vestibular compensation, and know when to refer or how to treat these conditions.

Trainees must be familiar with the development of balance and locomotor skills in the child. They should be able to take a history and assess a child with balance difficulties in order to determine the underlying diagnosis.

Trainees must have a working knowledge of the full battery of site of lesion vestibular testing, and where appropriate, be able to carry out the vestibular testing themselves e.g. caloric irrigations. Where these tests need modifying because of the age of the patient i.e. in a child, these constraints must be recognised and appropriate modifications made. Trainees should also know when and what type of audiological testing is also necessary to come to the right diagnosis. They must then be able to interpret the abnormalities seen in the context of the clinical picture.

Trainees should develop a full knowledge of aetiological testing including both congenital and acquired causes of balance disorders. They should know the relevant blood tests (including genetic analysis), neuro-imaging, angiographic techniques, neurological investigations and cardiovascular investigations necessary to come to an aetiological diagnosis in both children and adults, and know how to request them. Trainees should develop a clear understanding of when surgical management options are appropriate and when to refer.

Trainees must develop the counselling skills and have the requisite pathophysiological knowledge to inform patients of their vestibular diagnoses. They must know the full range and doses of pharmacological agents available to treat acute vertigo and oscillopsia, and the limitation of each of these agents as well as any potential interactions or contra-indications. They must also know the full range of management options available to treat the patient with chronic dizziness. They must understand the relevance of psychological factors in delaying vestibular compensation in those patients in whom a peripheral lesion has been diagnosed, and be able to recognise anxiety, avoidance behaviour and depression where they co-exist with vestibular disease. They must have an understanding of psychiatric and cognitive/behavioural therapy approaches, and have attended behavioural therapy, cognitive therapy, and psychiatric clinics.

Trainees must understand the physiological basis and different physiotherapeutic options for the rehabilitation of the dizzy patient. Where particle repositioning manoeuvres are appropriate i.e. Epley and Semont manoeuvres, these should be properly understood to a level that they can be performed by the trainees themselves. The absolute contra-indications for these manoeuvres must be known. Where graded balance exercises are appropriate, trainees should know the indications for these exercises and understand them to a level where they can teach the exercises to the patient. They should have attended an instruction class run by physiotherapists teaching Cawthorne-Cooksey and Brandt Daroff exercises. They must also be familiar with outcome measures used for assessing improvement in patients with balance disorders and have administered these questionnaires themselves. They should be aware of the multidisciplinary management of balance disorders in children.

### **AIMS**

The educational process in Audiological Medicine aims to produce Physicians who:

Apply appropriate knowledge and skill in the diagnosis and management of patients with audiological and vestibular disorders

1. Establish a differential diagnosis of patients presenting with audio-vestibular problems by the appropriate use of the clinical history, examination and investigations
2. Are competent to perform the core investigations required in Audiological Medicine (see page 13)
3. Are able to apply the knowledge of basic sciences in clinical practice
4. Can develop management plans for the 'whole patient' and maintain knowledge in areas of Medicine and Complementary medicine which impinge on the speciality of Audiological Medicine
5. Are able to act as safe independent practitioners whilst recognising the limitation of their own expertise and the obligation to seek assistance of colleagues where appropriate
6. Develop clinical practice which is based on an analysis of best available evidence and/or within national guidelines where available
7. Have acquired and developed team working and leadership skills
8. Take into account all aspects of the healthcare needs of patients and their families
9. Work effectively with other health care professionals, social services, education departments and voluntary agencies
10. Manage time and resources to the benefit of themselves, their patients and colleagues
11. Are able to identify and take responsibility for their own educational needs and the attainment of these needs
12. Are capable of being educational supervisors/trainers able to perform an objective appraisal and honest assessment trainer
13. Can effectively use current methods in Information Technology
14. Are aware of current thinking about ethical and legal issues

### **Generic Objectives**

1. Clinical governance

2. Managing health information
3. Plan, conduct and analyse a research project
4. Develop the skills, attitudes and practices of a competent teacher

### **Outline of Clinical learning objectives**

By the end of the educational programme trainees would be expected to be able to make an audiological and vestibular assessment, diagnose and manage the following clinical problems and to have acquired knowledge and skills in a number of other areas:

#### **Paediatric Audiological Medicine**

- 1.1. Congenital or prelingual hearing loss
- 1.2. Progressive or sudden hearing loss
- 1.3. Fluctuating hearing loss including otitis media with effusion
- 1.4. Non-organic hearing loss
- 1.5. Children with complex medical problems and others who are “difficult to test”
- 1.6. Children with speech & language problems
- 1.7. Central auditory processing disorders (CAPD)

#### **Adult Audiological Medicine**

- 1.8. Tinnitus
- 1.9. Sudden hearing loss
- 1.10. Unilateral hearing loss
- 1.11. Hearing Problems in younger adults
- 1.12. Congenitally deaf adult
- 1.13. Hearing Problems in the elderly
- 1.14. Dysacusis & central auditory dysfunction
- 1.15. Speech/Language disorders in adults
- 1.16. Intellectually disabled adult
- 1.17. Medicolegal Case

#### **Vestibular Medicine**

- 3.1. Acute Vertigo
- 3.2. Recurrent dysequilibrium
- 3.3. Chronic imbalance
- 3.4. Blackouts/Drop Attacks
- 3.5. Falls in the elderly
- 3.6. The dizzy child

#### **Other related topics**

- 4.1. Basic Sciences
- 4.2. Preventive Audiology
- 4.3. Hearing Instruments
- 4.4. Ear, Nose and Throat
- 4.5. Paediatrics and Developmental Paediatrics
- 4.6. Paediatric neurology
- 4.7. Adult Neurology
- 4.8. Child and Adolescent Psychiatry/Psychology
- 4.9. Adult Psychiatry/Psychology

- 4.10. Paediatric Ophthalmology
- 4.11. Adult Ophthalmology
- 4.12. Genetics
- 4.13. Care of the Elderly
- 4.14. Managing Health Information
- 4.15. Clinical Governance

### **Core investigations and procedures**

**A = procedures and investigations all trainees would be expected to select appropriately, perform competently and interpret correctly.**

- Distraction hearing test
- Visual re-inforcement audiometry
- Conditioning techniques for soundfield and headphone audiometry, co-operative methods
- Pure tone audiometry (air conduction, bone conduction with or without masking)
- Speech audiometry (toy tests, word lists, picture tests, speech in noise)
- Acoustic immittance measures and middle ear reflex measures
- Otoacoustic emissions (transient, distortion product, spontaneous, contra-lateral suppression)
- Use of hearing aid test box for testing hearing aids and measuring insertion gain and real ear to coupler difference
- Selecting, testing and fitting of hearing aids
- Measuring benefit of amplification
- Gait assessment
- Hallpike testing
- Particle repositioning manouvres
- Video-nystagmoscopy
- Caloric irrigations
- Posturography

**B = procedures and investigations all trainees should be expected to select appropriately and interpret correctly.**

- Evoked responses (electro-cochleography, auditory brainstem responses, middle latencies, cortical responses)
- ENG recordings during visuo-vestibular stimulation
- Aetiological investigations for hearing loss and tinnitus
- Aetiological investigations for balance disorder

**C = all trainees must have a comprehensive knowledge of the indications for the following:**

- Specialised hearing aids including bone anchored hearing aids, cochlear implants, vibro-tactile aids, frequency transposition aids, implantable hearing aids, CROS and BICROS aids
- Referral to other specialists including ENT surgeons, Neurologists, Paediatricians, Community Paediatricians, and Clinical Geneticists

- Referral to allied professionals including physiotherapists, behaviour therapists, speech & language therapists, and specialist teachers

**D = those procedures that require full competence before undertaking**

- Suction clearance of ears
- Ear syringing
- Transtympanic electrocochleography

### **Learning Methods**

- a) Self directed learning (journals, textbooks, internet sources)
- b) Knowledge of current work (Evidence Based Medicine)
- c) Reflective commentary in trainees portfolio on anonymised patients
- d) 'Apprenticeship learning'
- e) Formal training e.g. Specialist Registrar training days, audit meetings
- f) Case discussions, simulated patients, "in house training"
- g) MSc in Audiological Medicine
- h) Courses and conferences

### **Assessment Methods**

Direct observation of clinical performance

- a) Assessment of records/letters of patients cared for by Specialist Registrar
- b) Case-based presentations
- c) Objective Structured Clinical Examinations (OSCEs)
- d) Reflection on critical incidents
- e) MCQs/short answer questions
- f) 'Portfolio of achievements'
- g) 360° assessment i.e. reflective observations from the other team members (non-training consultants, scientists, technical staff, nurses, medical secretaries, patient/parent/carer)
- h) Log book

### **Portfolio of Educational Achievements**

The portfolio of educational achievements is the opportunity provided for trainees to construct their own record of achievement. The portfolio is designed to complement the training record, which documents your competency in the practice of Audiological Medicine as reported by your Educational Supervisor and other Trainers.

The portfolio provides the trainee with the opportunity to display evidence that effective learning has taken place with respect to a range of objectives. Some of these objectives are of an intrinsically clinical nature and others reflect the generic skills that the Royal College of Physicians and the General Medical Council expect Physicians to be able to demonstrate.

Clearly trainees acquire generic skills throughout the length of their training period, and different skills will be acquired in different years. Other training objectives relate to specific subjects. It would be appropriate at the end of each year to provide a report in the portfolio which documents the competencies and learning points

achieved during that year. These achievements should relate to the training agreement, which was completed at the beginning of the year.

**1. Cases**

Summary pages from your logbook can be used as a factual basis. You can then reflect upon or discuss cases that you have encountered, their management and specific learning points.

**2. Publications**

There is a section relating to your publications – abstracts, original research papers, and editorials. You can take the opportunity to demonstrate the importance of your particular areas of expertise and interest in relation to Audiological Medicine as a whole.

**3. Learning and Update on Developments in Audiological Medicine**

Evidence of your ability to keep up to date with developments in Audiological Medicine is sought. Whilst it is important to document your attendance at post-graduate meetings it should also include reflections on the contents of the meeting that you found most useful and which would alter your routine care of patients.

**4. Clinical Governance**

The contribution of trainees to Clinical Governance issues is an important one. The details of your involvement in the development of local guidelines, protocols and integrated care pathways are items that you will wish to document.

**5. Clinical Audit**

Clinical Audit is an important component of trainee assessment. You will wish to take the opportunity firstly of documenting the detailed contribution that you have made to audit projects. As you progress through the Training Programme, you can then document areas of clinical practice in which audit has improved routine clinical care.

**6. Teaching and Educating**

The ability of doctors to act as effective educators of teachers is a very longstanding tradition within medicine. Training Courses to improve teaching skills are recommended. You have the opportunity to provide evidence of the quality of your teaching skills as well as any formal training you have received over the years of the training programme.

**7. Information Technology**

Evidence of your use of information technology is sought. This should not simply consist of a list of software programmes with which you are familiar but rather should include a discussion of aspects of your professional life in which information technology has led you to specific learning achievements.

## CLINICAL LEARNING OBJECTIVES

### 1. PAEDIATRIC AUDIOLOGICAL MEDICINE

<b>1.1 Congenital or prelingual hearing loss</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to suspect, diagnose and manage children with congenital and prelingual hearing loss	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the signs and symptoms of hearing loss</li> <li>▪ the aetiology and the likelihood of involvement of other systems</li> <li>▪ normal general child development</li> <li>▪ the speech &amp; language development of normal and deaf children</li> <li>▪ the indications, application and problems of audiological tests</li> <li>▪ amplification methods including hearing aids, and methods of prescribing hearing aids</li> <li>▪ methods of assessing benefit and problems with amplification</li> <li>▪ about the educational needs of children and statutory assessment of educational needs</li> <li>▪ of possible psychological /cultural issues surrounding hearing loss and their immediate and long term management</li> <li>▪ when to refer for further medical opinions and to other allied professionals</li> <li>▪ about newborn hearing screening</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history including pre-, peri- and post-natal history and family history</li> <li>▪ elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable clinical examination</li> <li>▪ select the appropriate tests that are required to assess the child</li> <li>▪ interpret the results of these tests</li> <li>▪ appropriately select and interpret aetiological investigations</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> <li>▪ effectively use British Sign Language to a minimal level of Stage 1</li> </ul>	<p><b>To understand and appreciate:</b></p> <ul style="list-style-type: none"> <li>▪ the importance of the history including family history &amp; developmental history in making a diagnosis.</li> <li>▪ the cultural issues and parental views with regards to hearing loss and its management</li> <li>▪ the anxiety and stress caused by suspected hearing loss and the possible natural reactions surrounding the diagnosis</li> <li>▪ the importance of involvement of other professionals in the management of children with hearing loss</li> <li>▪ the importance of effective multidisciplinary team work and ability to efficiently communicate with colleagues and parents both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>1.2 Progressive or sudden hearing loss</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to detect, investigate and manage a child with a progressive or sudden hearing loss	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the signs and symptoms of progressive or sudden hearing loss</li> <li>▪ the psychological sequelae of sudden hearing loss</li> <li>▪ the impact on speech and communication skills and school performance</li> <li>▪ the aetiology</li> <li>▪ the appropriate audio-vestibular and aetiological investigations</li> <li>▪ how to manage a child with progressive or sudden hearing loss</li> <li>▪ when to refer for further medical opinions and to other allied professionals</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history</li> <li>▪ elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable audiological, neuro-otological and general clinical examination</li> <li>▪ correctly select, perform where necessary, and interpret investigations including speech and language assessment</li> <li>▪ appropriately select and interpret aetiological investigations</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues both verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> </ul>	<p><b>To understand and appreciate:</b></p> <ul style="list-style-type: none"> <li>▪ the importance of the history including family history, and developmental history in making a diagnosis.</li> <li>▪ the anxiety and stress caused by suspected hearing loss and the possible natural reactions surrounding the diagnosis</li> <li>▪ the importance of involvement of other professionals in the management of such children</li> <li>▪ the importance of effective multidisciplinary team work and effective communication with colleagues and parents both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>1.3 Fluctuating hearing loss including otitis media with effusion</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to detect, investigate and manage a child with a fluctuating hearing loss including otitis media with effusion	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the signs and symptoms of fluctuating hearing loss including otitis media with effusion</li> <li>▪ the aetiology of fluctuating hearing loss including otopathology and its pathogenesis</li> <li>▪ the impact of otitis media with effusion on emerging speech and language skills and behaviour, and its management</li> <li>▪ appropriate audio-vestibular and aetiological investigations of fluctuating hearing loss including otitis media with effusion</li> <li>▪ current best evidence for medical, audiological and surgical management of fluctuating hearing loss</li> <li>▪ when to refer for further medical opinions and to other allied professionals</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history</li> <li>▪ elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable audiological, neuro-otological, developmental, &amp; speech and language assessment, and general clinical examination</li> <li>▪ select and interpret the appropriate tests that are required to assess the child</li> <li>▪ select and interpret appropriate aetiological investigations</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues both verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> </ul>	<p><b>To understand and appreciate:</b></p> <ul style="list-style-type: none"> <li>▪ the importance of the history including family history, and developmental history in making a diagnosis.</li> <li>▪ the importance of involvement of other professionals in the management of children with hearing loss</li> <li>▪ the importance of effective multidisciplinary team work and effective communication with colleagues and parents both verbally and in writing</li> <li>▪ that some families seek complementary medicine approaches to otitis media with effusion</li> <li>▪ parental views of the child's management</li> <li>▪ the value and limitations of national guidelines</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, I

<b>1.4 Non-organic hearing loss</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to detect, investigate and manage a child with non-organic hearing loss	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the developmental/history profile of children who present with non organic hearing losses</li> <li>▪ the causes of non-organic hearing loss</li> <li>▪ correct management of non-organic hearing loss</li> <li>▪ when to refer for further medical opinions and to other allied professionals</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take an accurate history</li> <li>▪ elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable audiological and general clinical examination in particular a clear profile of psychological and educational achievements</li> <li>▪ select and interpret the appropriate tests that are required to assess the child</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues both verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> </ul>	<b>To understand and appreciate:</b> <ul style="list-style-type: none"> <li>▪ the importance of the history in making a diagnosis.</li> <li>▪ the importance of involvement of other professionals in the management of children with non-organic hearing loss</li> <li>▪ the importance of effective multidisciplinary team work and effective communication with colleagues and parents both verbally and in writing</li> <li>▪ importance of sensitivity to parents' and patient's response to a 'non-organic' diagnosis</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>1.5 Children with complex medical problems and others who are “difficult to test”</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to accurately carry out an audiological assessment of children with complex medical problems and also those children who are “difficult to test” and manage any hearing loss	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the signs and symptoms of hearing loss in children with complex medical problems</li> <li>▪ normal general child development</li> <li>▪ the speech &amp; language development of normal and deaf children</li> <li>▪ amplification methods including hearing aids, and methods of prescribing hearing aids especially with reference to children with complex medical problems</li> <li>▪ methods of assessing benefit and problems with amplification</li> <li>▪ about the educational needs of children and statutory assessment of educational needs</li> <li>▪ of possible psychological /cultural issues surrounding hearing loss and their immediate and long term management</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history including pre-, peri- and post-natal history, developmental history and the family history</li> <li>▪ to elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable clinical examination</li> <li>▪ identify the importance of general medical conditions on audio-vestibular status</li> <li>▪ select and interpret the appropriate tests that are required to assess the child</li> <li>▪ select and interpret appropriate aetiological investigations</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues both verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> </ul>	<p><b>To understand and appreciate:</b></p> <ul style="list-style-type: none"> <li>▪ importance of the history including family and developmental history in making a diagnosis.</li> <li>▪ cultural issues and parental views with regards to hearing loss and its management</li> <li>▪ the anxiety and stress caused by suspected hearing loss and the possible natural reactions surrounding the diagnosis</li> <li>▪ the importance of involvement of other professionals in the management of children with hearing loss</li> <li>▪ the importance of effective multidisciplinary team work and effective communication with colleagues and parents both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, I

<b>1.6 Children with speech &amp; language problems</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to suspect and diagnose speech & language disorder/delay in children presenting with speech & language problems	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the signs and symptoms of speech and language disorder/delay in children</li> <li>▪ causes of speech and language problems in children</li> <li>▪ to understand the association of developmental disorders of speech and language with other developmental and processing disorders</li> <li>▪ normal general child development</li> <li>▪ normal speech &amp; language development</li> <li>▪ the role of the speech &amp; language therapist</li> <li>▪ about the educational needs of children with speech and language disorder/delay and statutory assessment of educational needs</li> <li>▪ the specialist provision and voluntary organisations supporting these children</li> <li>▪ the range of tests and assessments needed to evaluate children with disorders of speech and language</li> <li>▪ the communication options for these children</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history including pre-, peri- and post-natal history, developmental history and the family history</li> <li>▪ to elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable clinical examination</li> <li>▪ work closely with speech and language therapists (SALT) and other professionals to ensure effective multidisciplinary evaluation of the child</li> <li>▪ select and interpret appropriate aetiological investigations</li> <li>▪ interpret appropriate multidisciplinary assessments in the light of clinical presentation</li> <li>▪ formulate, in conjunction with a SALT and the parents, an appropriate management plan</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues both verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> </ul>	<p><b>To understand and appreciate:</b></p> <ul style="list-style-type: none"> <li>▪ importance of the history including family and developmental history in making a diagnosis.</li> <li>▪ cultural issues and parental views with regards to speech and language difficulties and management thereof</li> <li>▪ the anxiety and stress caused by speech and language difficulties and the possible natural reactions surrounding these diagnoses</li> <li>▪ the importance of involvement of other professionals in the management of children with speech and language difficulties</li> <li>▪ the importance of effective multidisciplinary team work and effective communication with colleagues and parents both verbally and in writing</li> <li>▪ the importance of enabling parents to access specialist resources</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h **Assessment method:** a,b,c,e,f,g,h,i

<b>1.7 Central Auditory Processing Disorders (CAPD)</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to suspect, diagnose and manage children with central auditory processing problems	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the signs and symptoms of CAPD and how it affect the child's educational process</li> <li>▪ the conditions that may cause CAPD</li> <li>▪ normal general child development</li> <li>▪ the speech &amp; language development of normal and deaf children</li> <li>▪ the anatomy and physiology of the central auditory pathways</li> <li>▪ the indications, application and problems of audiological tests</li> <li>▪ methods of rehabilitation of children with CAPD</li> <li>▪ about the educational needs of children and statutory assessment of educational needs</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history including pre-, peri- and post-natal history, developmental history and the family history</li> <li>▪ to elicit sensitive information from the parents/patient that are relevant to management</li> <li>▪ undertake an accurate and reliable clinical examination including neurological assessment</li> <li>▪ select and interpret the appropriate tests that are required to assess the child</li> <li>▪ select and interpret appropriate aetiological investigations</li> <li>▪ communicate effectively with both patient and parents, including those whose first language is not English</li> <li>▪ communicate effectively with colleagues both verbally and in writing</li> <li>▪ correctly assess benefits and problems of intervention</li> </ul>	<p><b>To understand and appreciate:</b></p> <ul style="list-style-type: none"> <li>▪ importance of the history in making a diagnosis.</li> <li>▪ the importance of involvement of other professionals in the management of children with CAPD</li> <li>▪ the importance of effective multidisciplinary team work and effective communication with colleagues and parents both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

## 2. Adult Audiological Medicine

<b>2.1 Tinnitus</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ distinguish between the causes of tinnitus</li> <li>▪ determine the effects of tinnitus on the individual</li> <li>▪ specify appropriate investigations</li> <li>▪ define a management plan</li> <li>▪ explain the causes and consequences of tinnitus to the individual</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the different conditions which can cause or trigger tinnitus</li> <li>▪ how the different effects of tinnitus on the individual can be managed</li> <li>▪ how to select and interpret appropriate tinnitometric and aetiological (including audiometric and imaging) investigations</li> <li>▪ the emotional effects of tinnitus on the patient</li> <li>▪ the prevalence of tinnitus and habituation to it.</li> <li>▪ the effects of hearing aids, tinnitus instruments and environmental modification on tinnitus</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform an appropriate examination</li> <li>▪ counsel the patient on the cause, test results and consequences of tinnitus</li> <li>▪ interpret the results of tinnitometric, audiological and imaging studies</li> <li>▪ appropriately select management strategies such as hearing aids, tinnitus instruments, cognitive therapy, relaxation, pharmacological options</li> <li>▪ detect patients with severe psychological problems needing psychiatric referral</li> <li>▪ select and interpret appropriate outcome measures</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ listen sympathetically and positively to the problems and fears of the patient</li> <li>▪ liaise effectively with hearing therapists, clinical psychologists and psychiatrists about the appropriate management of the patient</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.2 Sudden hearing loss</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to carry out specialist assessment, treatment and rehabilitation of patients with sudden hearing loss.	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the aetiology and classification of sudden hearing loss.</li> <li>▪ how to differentiate between the various anatomical sites of lesion that may be involved.</li> <li>▪ the indications for the relevant audiometric, serological and imaging investigations.</li> <li>▪ the psychological impact of sudden hearing loss particularly if permanent and bilateral.</li> <li>▪ the indications for surgery in both conductive and profound hearing loss.</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ appropriately select and interpret results of investigations.</li> <li>▪ select appropriate management strategies e.g. pharmacological, surgical, psychological and rehabilitative - including CROS systems.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ listen sympathetically and positively to the problems and fears of the patient</li> <li>▪ appreciate the potential anxiety and effects on the patient's life.</li> <li>▪ Ability to liaise effectively with Otologist, Neurosurgeon, Hearing Therapist and Counsellor about the appropriate management of the patient</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.3 Unilateral hearing loss</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to carry out specialist assessment, treatment and rehabilitation of patients with unilateral hearing loss.	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the aetiology and classification of unilateral hearing loss.</li> <li>▪ the indications for relevant audiometric, serological and imaging investigations.</li> <li>▪ the effects that unilateral hearing loss may have on the patient.</li> <li>▪ the indications for surgical referral to Otologist or Neurosurgeon.</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ appropriately select and interpret results of investigations.</li> <li>▪ define an appropriate management plan including CROS/BICROS systems.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>• listen sympathetically and positively to the problems and fears of the patient.</li> <li>▪ liaise with Otologist and Neurosurgeons where necessary.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h,

**Assessment method:** a, b, c, e, f, g, h, i

## 2.4 Hearing problems in younger adults

Objectives	Knowledge	Skills	Attitudes
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the cause and types of hearing problems</li> <li>▪ specify appropriate investigations</li> <li>▪ determine the consequences of the hearing impairment for the individual</li> <li>▪ define appropriate management and rehabilitation</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the conditions which can result in hearing problems in younger adults</li> <li>▪ the manifestations of King Kopetzky Syndrome</li> <li>▪ and understand audiometric investigations which can be used to specify the type of impairment</li> <li>▪ which patients with conductive hearing loss may be amenable to surgery</li> <li>▪ the possible impact of the hearing problems on the individual's life and the effect on immediate family members.</li> <li>▪ the importance of education of significant others to aid rehabilitation.</li> <li>▪ about appropriate instrumental help e.g. Hearing aids, Bone Anchored hearing aids, Cochlear Implants, tactile and environmental aids</li> <li>▪ about non instrumental rehabilitation e.g. Hearing Tactics, Speechreading</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an appropriate history, examine the patient and perform clinical tests of hearing</li> <li>▪ appropriately select and interpret audiometric tests including pure tone and speech audiometry, otoadmittance testing and more sophisticated measures including tests of central condition, function</li> <li>▪ perform all basic audiometric tests</li> <li>▪ prescribe appropriate hearing aid or other instrumental fitting</li> <li>▪ Determine and interpret relevant outcome measures</li> <li>▪ communicate effectively with patients whose first language is not spoken English e.g. BSL</li> <li>▪ work effectively as part of a multidisciplinary team</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ liaise with ENT Surgeons about surgery for those with appropriate conductive hearing loss</li> <li>▪ sympathetically understand the patient's concerns about the effects of their hearing problems including cosmetic effects</li> <li>▪ explain the results of the investigations and discuss management options with the patient and significant others</li> <li>▪ work closely with other professionals e.g. hearing therapists /speech therapists/psychologists to determine optimal management strategies for the patient</li> <li>▪ understand the limits of hearing aid amplification</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.5 Congenitally deaf adult</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the aetiology, severity and progression of the hearing impairment</li> <li>▪ assess the impact of the hearing impairment in the individual</li> <li>▪ elucidate the previous management, education and communication skills (including signing) of the patient</li> <li>▪ initiate further rehabilitative management, in conjunction with the Social Worker for the Deaf and Disability employment advisor where relevant</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the causes of congenital hearing loss</li> <li>▪ the impact of such hearing loss on individuals concerned and significant others</li> <li>▪ about alternative communication systems</li> <li>▪ about deaf culture and the local support facilities for deaf people</li> <li>▪ about appropriate hearing aids and environmental aids to facilitate the individual leading a normal family life and holding down an appropriate job</li> <li>▪ about the rapid advances in the research of genetic hearing loss and its impact on patient management</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ elucidate an appropriate family history</li> <li>▪ take a relevant history and perform an appropriate examination using a sign language interpreter where necessary</li> <li>▪ determine the communication abilities and needs of the individual</li> <li>▪ use finger spelling and some basic signs (minimum BSL stage 1)</li> <li>▪ select appropriate environmental and other aids for the patient</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ appreciate and understand the attitudes of those within the Deaf Community</li> <li>▪ liaise effectively with Social Worker for the Deaf about ongoing support</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.6 Hearing problems in the elderly</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the aetiology, type and severity of hearing loss</li> <li>▪ specify appropriate investigations</li> <li>▪ initiate management relevant to the patient within their environment</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the different conditions which may cause hearing impairment in the elderly.</li> <li>▪ the effects of general ageing process on the auditory system</li> <li>▪ the impact which hearing loss can have on individuals and their significant others and the importance of education to aid rehabilitation</li> <li>▪ the different rehabilitative approaches that are available</li> <li>▪ of other relevant services, e.g. social worker for the hearing impaired, who can provide help for such individuals</li> <li>▪ of other impairment e.g. loss of tactile sensitivity or blindness which might impair the individual's ability to cope with more routine rehabilitative approaches</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take a relevant history and examine the patient</li> <li>▪ appropriately select and interpret audiological investigations</li> <li>▪ perform basic audiological investigations</li> <li>▪ select appropriate instrumental devices e.g. hearing aids, environmental aids</li> <li>▪ select and interpret appropriate outcome measures</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ listen sympathetically to the effects of the hearing loss on the individual and their significant others</li> <li>▪ explain patiently the results of investigations and the advantages and otherwise of alternative interventions</li> <li>▪ effectively liaise with hearing therapist and social worker to the hearing impaired regarding optimal approaches to management of the individual's problems</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h,

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.7 Dysacusis and central auditory function</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the cause of pressure sensations, phonophobia (hyperacusis), echoing and other dysacusis</li> <li>▪ treat them appropriately</li> <li>▪ evaluate any central auditory dysfunction</li> <li>▪ initiate rehabilitative management for such patients</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>• the range of dysacusis and the aetiological factors involved</li> <li>▪ the approaches to treatment and rehabilitative management of these conditions</li> <li>▪ the anatomy of the central auditory pathways and methods of testing the function of the different parts</li> <li>▪ the conditions which can result in such dysfunction and their investigations, and current limitations in our knowledge of their cause, investigation and treatment</li> <li>▪ the rehabilitative approaches available for such patients</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an appropriate history and perform a relevant clinical examination</li> <li>▪ appropriately select and interpret tests of peripheral and central auditory function</li> <li>▪ perform basic audiometric tests including uncomfortable loudness levels, auditory brainstem response testing and otoacoustic emissions</li> <li>▪ select appropriate imaging procedures for those with proven central auditory dysfunction</li> <li>▪ effectively counsel the patients with phonophobia about methods of desensitisation</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ listen sympathetically to the patient's symptoms and explain the reasons for such symptoms</li> <li>▪ liaise effectively with hearing therapist regarding rehabilitative strategy for patients with central auditory dysfunction</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.8 Speech/Language disorders in adults</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ determine the cause and nature of the speech/language disorder</li> <li>▪ assess the effect of the disorder of the patient</li> <li>▪ exclude any voice disorders and neurological problems</li> <li>▪ organise appropriate rehabilitative help for the patient</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the mechanism of speech production</li> <li>▪ the neurological basis of language and its different elements e.g. Phonology, Syntax, Semantics, Pragmatics, Lexicon</li> <li>▪ about the use of fibre-optic laryngoscope and stroboscopic examination in a specialised clinic</li> <li>▪ about acoustic phonetics and the use of speech recording and analysis techniques</li> <li>▪ the effects of different types of hearing impairment on speech and language production and other communication problems</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform an appropriate clinical examination</li> <li>▪ plan appropriate rehabilitation in conjunction with speech therapists</li> <li>▪ correctly identify patients who need stress reduction management</li> <li>▪ communicate effectively</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ deal sympathetically with the patient's problems and their amelioration</li> <li>▪ liaise effectively with speech therapists in planning the rehabilitative management</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.9 Intellectually disabled adult</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to carry out specialist assessment, treatment and rehabilitation of patients with intellectual disability.	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the audiological medical problems that may be associated with intellectual handicap and the specific effects that such problems may have.</li> <li>▪ the other handicaps that may be present such as visual or speech problems.</li> <li>▪ how acquired audiological medical problems may present in such patients.</li> <li>▪ the rehabilitative approaches available for such patients and how to implement them.</li> <li>▪ of issues concerning 'consent' in these patients</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ manage the patient's Audiological Medical problems appropriately and effectively.</li> <li>▪ communicate the diagnosis, results of investigations and management plan effectively.</li> <li>▪ use appropriate hearing testing procedures.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ listen sympathetically and positively to the problems and fears of the patient.</li> <li>▪ Respect issues of confidentiality and informed consent.</li> <li>▪ work effectively with interpreters, carers and significant others where appropriate.</li> <li>▪ liaise effectively with other professionals involved including Social Work, Speech and Language Therapy, Nursing and carers.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>2.10 Medicolegal case</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ be able to write a medico legal report.</li> <li>▪ be able to act as an expert witness.</li> <li>▪ be able to advise patients when they should seek legal advice.</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ what constitutes a good medicolegal report.</li> <li>▪ the role of an expert witness and the limits of the individual's own expert competence.</li> <li>▪ relevant legislation at a basic level.</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ assimilate information from a variety of sources and come to a firm opinion.</li> <li>▪ express this opinion factually, clearly and concisely and to make them comprehensible to non-specialists.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ liaise effectively with the client's legal representatives and court officials.</li> <li>▪ be objective and to act without prejudice.</li> </ul>

**Learning method:** a, b, e, f, g, h

**Assessment method:** c, e, f, g,

### 3. Vestibular Medicine

#### 3.1 Acute vertigo

Objectives	Knowledge	Skills	Attitudes
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the cause of the acute attack of vertigo</li> <li>▪ instigate an appropriate set of investigations</li> <li>▪ define a management plan</li> <li>▪ assess the impact of the attack on the individual</li> <li>▪ explain to the patient the likely cause and outcome of the acute vertigo</li> <li>▪ identify those patients for whom the attack affects their fitness to drive</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the different pathomechanisms of an acute attack of vertigo</li> <li>▪ the various otological, neurological and general medical causes of acute vertigo</li> <li>▪ the clinical presentation of benign paroxysmal positional vertigo</li> <li>▪ the eye movement abnormalities that may be associated with acute vertigo</li> <li>▪ how to investigate each of the causes of vertigo</li> <li>▪ the pharmacological options available to treat acute vertigo and the role of the low salt diet in patients with Meniere's Disease, and the place of prophylaxis in migraine</li> <li>▪ when to refer the patient to an ENT surgeon, a neurologist or a general physician</li> <li>▪ the natural history of acute vertigo</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ distinguish, as far as possible, peripheral from central vestibular causes of acute vertigo by an accurate history</li> <li>▪ carry out a complete neuro-otological examination including an accurate examination of the eye movements, characterising any nystagmus</li> <li>▪ identify any general medical causes of vertigo by a good history and examination</li> <li>▪ identify pathology in the other stabilising sensory and effector motor systems by a good history and examination</li> <li>▪ assess any associated psychological factors and refer as necessary</li> <li>▪ perform a caloric irrigation</li> <li>▪ carry out a particle repositioning manoeuvre</li> <li>▪ interpret a full battery of audio-vestibular tests</li> <li>▪ know when surgical management may be an option</li> <li>▪ implement appropriate management</li> <li>▪ correctly judge as to when fitness to drive is affected</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ work effectively within a multi-disciplinary framework</li> <li>▪ develop an empathetic approach to the dizzy patient and the psychological sequelae</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>3.2 Recurrent dysequilibrium</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the cause of the recurrent dysequilibrium</li> <li>▪ identify factors hindering vestibular compensation</li> <li>▪ determine any disability or handicap conferred by symptoms</li> <li>▪ select appropriate investigations</li> <li>▪ instigate appropriate management and referral if necessary</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the sensorimotor physiology involved in balance maintenance</li> <li>▪ the causes of peripheral and central vestibular disorders and those with remitting and relapsing courses</li> <li>▪ the types of pathology possible in other stabilising sensory and motor effector systems</li> <li>▪ the factors hindering vestibular compensation</li> <li>▪ the psychological impact of recurrent dysequilibrium</li> <li>▪ vestibular and aetiological testing protocols including imaging</li> <li>▪ the pharmacological options, physical rehabilitation and psychological/psychiatric interventions</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ Take an accurate history and perform clinical examination to highlight cause of disorder and any factors hindering compensation</li> <li>▪ assess any associated psychiatric symptoms / avoidance behaviour</li> <li>▪ appropriately select and interpret vestibular tests</li> <li>▪ correctly identify any aetiological factors</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ sensitively approach distress and disability caused by recurrent dysequilibrium</li> <li>▪ effectively use multidisciplinary approach to patient assessment and management</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>3.3 Chronic imbalance</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ identify the cause of chronic imbalance and ensure the appropriate management is instigated</li> <li>▪ ensure appropriate genetic counselling is given if required</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the range of central vestibular disorders causing chronic imbalance</li> <li>▪ the pathology in the stabilising sensory systems which give rise to multisensory imbalance</li> <li>▪ the pharmacotherapeutic agents causing chronic imbalance</li> <li>▪ the appropriate aetiological and vestibular investigations</li> <li>▪ the effect of recurrent and untreated dizziness of peripheral origin on balance</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an accurate history of balance impairment and disability</li> <li>▪ perform an accurate neurological, cardiological and general medical examination</li> <li>▪ perform an accurate eye movement examination and clinical balance assessment</li> <li>▪ accurately assess musculoskeletal conditions likely to impair rehabilitation</li> <li>▪ accurately assess disability and make appropriate physiotherapy referral</li> <li>▪ correctly disentangle psychological components from peripheral vestibular components in otherwise treatable balance disorders</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ empathise with impact of chronic imbalance on employment and activities of daily living including awareness of psychological impact</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>3.4 Blackouts/drop attacks</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ distinguish between blackouts and drop attacks</li> <li>▪ determine the cause of the black-out or drop attack</li> <li>▪ ensure that appropriate management is instigated</li> <li>▪ determine the significance of the episode from the perspective of fitness to drive</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the mechanisms of epilepsy, pseudo-epilepsy, syncope, vasovagal attacks, and blackouts, and to know the aetiological factors involved</li> <li>▪ the investigation protocol and type of abnormalities found for each of the above</li> <li>▪ the pharmacotherapeutic options available to treat each cause</li> <li>▪ the law regarding black-outs and syncope and fitness to drive</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ recognise the different clinical presentations of epilepsy, syncope and drop attacks</li> <li>▪ distinguish hyperventilation and pseudo-seizures from the above</li> <li>▪ take a good cardiological and neurological history and perform an appropriate examination</li> <li>▪ assess any psychological factors involved</li> <li>▪ interpret the full complement of cardiological, neurological, imaging and blood test abnormalities</li> <li>▪ appropriately refer the patient as necessary</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ empathise with the impact of attacks which may be unpredictable and may stop the patient driving</li> <li>▪ discuss psychological factors sensitively with the patient</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>3.5 Falls in the elderly</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ identify the cause of falls in the elderly</li> <li>▪ make a holistic assessment of balance and gait in the patient</li> <li>▪ instigate appropriate battery of investigations</li> <li>▪ manage falls appropriately making specialist referrals as necessary</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the sensori-motor physiology involved in balance maintenance</li> <li>▪ the effects of ageing and neurological disorder on the postural and righting reflexes</li> <li>▪ the causes of black-outs and drop attacks including cardio- and cerebrovascular pathology</li> <li>▪ the musculo-skeletal disorders impairing maintenance of the upright posture and locomotion</li> <li>▪ the investigation options available to identify aetiological factors</li> <li>▪ the full battery of audio-vestibular testing</li> <li>▪ the pharmacological and physiotherapeutic management options</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take a complete history and to understand the effects of ageing on memory and the consequent ability to give an accurate history</li> <li>▪ perform an accurate neuro-otological, neurological, cardiological and musculoskeletal examination.</li> <li>▪ make an appropriate differential diagnosis</li> <li>▪ interpret abnormalities on neuro-otological testing</li> <li>▪ appropriately refer, apply pharmacological interventions, or recommend physiotherapeutic options</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ demonstrate awareness of effects of both loss of confidence and social factors on gait.</li> <li>▪ demonstrate appropriate high standards of tact, empathy, respect and concern for the elderly and their families</li> <li>▪ appropriately refer to geriatrician, neurologist, rheumatologist or general physician and to multidisciplinary team</li> <li>▪ demonstrate awareness of the voluntary sector in care of the elderly</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>3.6 The dizzy child</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ determine the cause of dizziness in a child</li> <li>▪ perform a developmentally appropriate balance assessment of a child</li> <li>▪ instigate an appropriate test protocol</li> <li>▪ implement an appropriate management plan</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the sensori-motor physiology maintaining balance and the development of postural control in childhood</li> <li>▪ the ways in which a child may express their symptoms of dizziness</li> <li>▪ the specific causes of childhood dizziness</li> <li>▪ the techniques available to investigate dizziness and balance disorders, which are suitable for children of different ages</li> <li>▪ the other aetiological investigations appropriate for children</li> <li>▪ the treatment options and vestibular rehabilitation approaches for children</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take an appropriate neuro-otological and developmental history from parent/carer/child</li> <li>▪ perform a developmentally-appropriate balance assessment of the child including an appropriate eye movement examination</li> <li>▪ request an appropriate set of vestibular tests and be able to characterise abnormalities on those tests</li> <li>▪ recognise different causes of childhood and childhood/adult dizziness</li> <li>▪ discuss causes and management strategies in a sensitive way with both the child and his/her carer</li> <li>▪ communicate effectively with other members of the multi-disciplinary team</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ demonstrate appropriate high standards of tact, empathy, respect and concern for children</li> <li>▪ communicate effectively with both the child and his/her carer</li> <li>▪ recognise the importance and role of the multidisciplinary team</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

#### **4. OTHER RELATED TOPICS**

<b>4.1 Basic sciences</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ gain a comprehensive knowledge of the basic sciences related to the auditory system and related organs</li> <li>▪ gain a knowledge of phonetics, speech reception and speech production</li> <li>▪ gain a knowledge of room acoustics</li> <li>▪ gain a detailed knowledge of British and International standards relating to audiological medicine and calibration</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the anatomy, physiology and biochemistry of the audio-vestibular system and related organs</li> <li>▪ the anatomy and physiology of speech production system</li> <li>▪ the embryological development of the above</li> <li>▪ the psychology of hearing and balance</li> <li>▪ the requirements for sound proofing</li> <li>▪ about standards and calibration</li> <li>▪ basic acoustics</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ detect abnormalities in the development of the audio-vestibular system</li> <li>▪ detect abnormalities in the development of the speech production system</li> <li>▪ to detect abnormalities of speech</li> <li>▪ ensure room acoustics are appropriate for testing hearing and the equipment is calibrated properly.</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ understand the psychological issues with regards to abnormalities of anatomy and physiology</li> <li>▪ maintain standards of testing and test environment</li> <li>▪ recognise the role of various audiological professionals in maintaining the above</li> <li>▪ work effectively in a team in order to deliver a comprehensive and high standard of testing</li> <li>▪ effectively communicate with colleagues both verbally and in writing</li> </ul>

**Learning method:** a, b, d, e, g, h,

**Assessment method:** a, b, c, f, g, h, i

<b>4.2 Preventive audiology</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ know the general principles of primary, secondary and tertiary prevention</li> <li>▪ gain a comprehensive knowledge of noise and its effect on the audio-vestibular system</li> <li>▪ gain a detailed knowledge of ototoxicity</li> <li>▪ understand the epidemiology of hearing loss and its prevention</li> <li>▪ develop a comprehensive knowledge of screening for hearing loss</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the noise levels that are damaging to hearing, sources of such noise and prevention of exposure including noise surveys, hearing conservation and ear protection</li> <li>▪ the substances and drugs that affect the audio-vestibular system and their effect</li> <li>▪ the epidemiology of hearing loss, incidence of permanent congenital hearing loss and acquired hearing loss</li> <li>▪ about screening methods, dealing with screen failures, setting up a screening program in a district, monitoring and audit</li> <li>▪ the genetics affecting the individual's predisposition to ototoxic agents</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ detect noise damage early and provide appropriate advice</li> <li>▪ advise on prevention of damage from noise</li> <li>▪ detect ototoxicity early and advise other clinicians</li> <li>▪ manage significant audiovestibular problems from ototoxicity</li> <li>▪ implement and perform different screening methods, and interpret the results</li> <li>▪ manage appropriately those who "fail" the screen</li> <li>▪ ability to appropriately address the potential anxieties issues relating to screening</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ effectively work within a multidisciplinary team</li> <li>▪ effectively communicate with colleagues both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, f, g, h, i

<b>4.3 Hearing instruments</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To gain a comprehensive knowledge of amplification for adults and children including assistive listening devices	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ about NHS and commercial hearing aids, including body worn, post aural, in the ear, in-the-canal, totally-in-the-canal aids, vibrotactile aids, cochlear implants and bone-anchored hearing aids</li> <li>▪ about various hearing aid fitting formulae, real ear measurements in both adult and Paediatric practice</li> <li>▪ the “<i>plumbing system</i>” (hooks, moulds, tubing etc) and its effect on the sound amplification</li> <li>▪ the assistive devices available including the radio aid and FM soundfield systems, alarm systems, loop systems</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ select a suitable hearing aid for adults and children</li> <li>▪ discuss plan for amplification with other professionals and the parents</li> <li>▪ discuss the current best technology with both patients, their families, and other professionals</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ work effectively in a multidisciplinary team</li> <li>▪ effectively communicate with patients, their families and other professionals both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

#### 4.4 Ear, Nose and Throat

Objectives	Knowledge	Skills	Attitudes
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ gain a sound knowledge of embryology, anatomy and physiology of the head and neck</li> <li>▪ gain a detailed knowledge of pathology and management of otological conditions</li> <li>▪ observe audiology related ENT surgery such as grommet insertion, mastoidectomy, tympanoplasty, surgery for cochlear implantation, bone anchored hearing aids and vestibular schwannoma.</li> <li>▪ learn which patients are appropriately referred to ENT surgeons</li> <li>▪ gain a knowledge of rhinological, oropharyngeal, upper airway and other head &amp; neck conditions that may affect the audiovestibular system and speech.</li> </ul>	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ the embryology, anatomy, physiology of the ear and head &amp; neck</li> <li>▪ the pathology, appropriate investigations (including imaging) and management of congenital, acquired and other conditions of the ear including indications, risks, outcomes and complications of surgery</li> <li>▪ the head and neck conditions that may produce aural symptoms including conductive hearing loss, and their appropriate management</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ take a full otological/ENT history relevant to the audiovestibular system and speech.</li> <li>▪ accurately perform a comprehensive examination of the ear, nose, oral cavity, pharynx and head &amp; neck including use of otoscope, operating microscope, suction apparatus and other instruments for removal of wax, discharge and debris from the outer ear and the use of ear syringe, and head mirror</li> <li>▪ identify and treat cause of otalgia</li> <li>▪ competently use instruments and /or suction to clean the ear canal, examine under the microscope and detect any abnormalities.</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ appreciate the relevance of a good ENT history and examination in managing patients with hearing and balance problems.</li> <li>▪ know their limitations and when to refer</li> <li>▪ appreciate the importance of involvement of other professionals including ENT surgeons in the management of patients with hearing and balance disorders</li> <li>▪ effectively work in a multidisciplinary team</li> <li>▪ effectively communicate with colleagues both verbally and in writing</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.5 Paediatrics and Developmental Paediatrics</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ develop an appropriate and confident child/family-centred approach when seeing Paediatric patients enabling assessment of the whole child</li> <li>▪ obtain understanding of the roles of different members of the multi-disciplinary child health team</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the milestones of normal child development.</li> <li>▪ about school health, and educational provision and assessment procedures for children with special needs.</li> <li>▪ about child protection issues</li> <li>▪ about local professionals and the service they offer</li> <li>▪ about issues concerning consent</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination and developmental assessment</li> <li>▪ to communicate and play with children.</li> <li>▪ correctly recognise abnormal child development</li> <li>▪ appropriately refer to relevant specialist(s).</li> <li>▪ talk sensitively with parents</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ demonstrate appropriate high standards of tact, empathy and confidentiality.</li> <li>▪ liaise effectively with members of the multi-disciplinary child health team about the appropriate management of the patient.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.6 Paediatric neurology</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ make an accurate neurological assessment of a child</li> <li>▪ know when to refer a patient to a paediatric neurologist or a neurosurgeon</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the causes of paediatric central vestibular disorder</li> <li>▪ the neurological disorders with neuro-otological manifestations e.g. childhood migraine/cyclical vomiting, neurofibromatosis, Ushers syndrome</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a paediatric neurological history</li> <li>▪ competently perform a full neurological examination</li> <li>▪ correctly recognise central vestibular disorders</li> <li>▪ correctly recognise common neurological disorders</li> <li>▪ correctly select the appropriate management strategy</li> <li>▪ appropriately refer to a paediatric neurologist or neurosurgeon</li> <li>▪ be able to talk sensitively to parents</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ communicate effectively with paediatric neurologists and neurosurgeons</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.7 Adult neurology</b>			
<b>Objectives</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ make an accurate neurological assessment of a patient</li> <li>▪ know when to refer a patient to a neurologist or a neurosurgeon</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the causes of central vestibular disorder</li> <li>▪ the neurological disorders with neuro-otological manifestations i.e. multiple sclerosis, posterior circulation ischaemic disease, MSA</li> <li>▪ the investigation protocols for the above disorders</li> <li>▪ the pharmacological treatments and side-effects of common neurological disorders and those with neuro-otological manifestations</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a complete neurological history</li> <li>▪ competently perform a full neurological examination</li> <li>▪ correctly recognise central vestibular disorders</li> <li>▪ correctly recognise common neurological disorders i.e. multiple sclerosis, cerebrovascular disease, migraine, epilepsy</li> <li>▪ correctly select the appropriate management strategy</li> <li>▪ appropriately refer to a neurologist or neurosurgeon</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ empathise with any disability conferred on a patient by a neurological disorder</li> <li>▪ communicate effectively with neurologists and neurosurgeons</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.8 Child and Adolescent Psychiatry/Psychology</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To obtain an overview of child and adolescent psychiatric and behavioural disorders to enable appropriate referral to specialists, and development of appropriate attitudes to child and family.	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ about the common psychiatric disorders of children and adolescents, particularly the mental health of the deaf and pathogenesis of non-organic hearing loss.</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ liaise effectively with local resources and appropriately refer for a specialist opinion.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ demonstrate appropriate high standards of tact, empathy and confidentiality when dealing with children and their families, especially in the context of breaking bad news.</li> <li>▪ liaise appropriately with child mental health professionals about the appropriate management of the patient.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.9 Adult Psychiatry/Psychology</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ obtain an adequate psychological profile and to recognise manageable conditions, referring appropriately</li> <li>▪ acquire appropriate counselling skills</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the psychiatric disorders with vestibular manifestations</li> <li>▪ how psychotropic medication may influence audiovestibular disorders</li> <li>▪ the possible psychiatric morbidity of neuro-otological disorders</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>• identify behavioural disturbances and psychiatric disorder from the clinical presentations</li> <li>• discuss psychological/psychiatric disorder appropriately with patient</li> <li>• refer to psychiatric services appropriately</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>• demonstrate awareness of need for confidentiality</li> <li>• demonstrate high standards of tact and empathy</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.10 Paediatric Ophthalmology</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To obtain an overview of ophthalmological conditions affecting children, especially those which are associated with hearing loss and balance disorders	<b>To know:</b> <ul style="list-style-type: none"> <li>the common syndromes affecting vision and audio-vestibular system.</li> <li>the roles of other members of the team e.g. orthoptist</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>take a relevant history and perform appropriate examination.</li> <li>correctly perform fundoscopy and interpret a cover test.</li> <li>appropriately refer for a specialist opinion.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>demonstrate appropriate high standards of tact, empathy and confidentiality.</li> <li>liaise effectively with other members of multi-disciplinary team about the appropriate management of the patient.</li> </ul>

**Learning method:** a, b, c, d, e, f, g

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.11 Adult Ophthalmology</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>know how to screen a patient for visual disorder</li> <li>know when to refer a patient with visual symptoms</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>the common visual disorders with associated neuro-otological manifestations and their treatment</li> <li>how to make an accurate assessment of a strabismus and latent nystagmus</li> <li>and understand refractive errors and astigmatism</li> <li>and understand how visual disorders may impact on balance and how they may interfere with vestibular testing procedures</li> <li>know the management of strabismus, benign intracranial hypertension and oscillopsia resulting from nystagmus and altered vestibular-ocular reflexes</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>take a history of visual symptoms from a patient</li> <li>perform a full visual examination and correctly recognise optic field defects, papilloedema, conjunctivitis, choroiditis</li> <li>recognise relevant and common visual disorders i.e. altered visual acuity, strabismus, benign intracranial hypertension, glaucoma, presby- and hypermetropia</li> <li>appropriately refer to an ophthalmologist</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>empathise with patients with temporary or permanent visual disturbance</li> <li>communicate effectively with ophthalmologist</li> </ul>

**Learning method:** a, b, c, d, e, f, g

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.12 Genetics</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To obtain an understanding of genetics in audio-vestibular disorders and the role of the clinical geneticist	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the inheritance patterns of hearing loss.</li> <li>▪ the genetics and available tests of conditions associated with audio-vestibular disorders.</li> <li>▪ the psychological impact of genetic disorders.</li> <li>▪ the nature of non-directive genetic counselling, so that couples are enabled to make informed choice about their own reproductive decisions</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ correctly elicit and record a detailed family tree.</li> <li>▪ correctly interpret a diagnostic DNA report together with its implications</li> <li>▪ appropriately refer to a clinical geneticist.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ demonstrate appropriate high standards of tact, empathy and confidentiality.</li> <li>▪ effectively liaise with clinical geneticist about the appropriate management of the patient.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.13 Care of the Elderly</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<b>To:</b> <ul style="list-style-type: none"> <li>▪ obtain an overview of the conditions affecting the elderly including falls, multi-system disease and cognitive impairment</li> <li>▪ be able to explain the role of audiological services within multi-disciplinary teams caring for the elderly.</li> </ul>	<b>To know:</b> <ul style="list-style-type: none"> <li>▪ the common causes of falls and imbalance in the elderly.</li> <li>▪ the roles of other members of the multi-disciplinary teams caring for the elderly.</li> </ul>	<b>To be able to:</b> <ul style="list-style-type: none"> <li>▪ take a relevant history and perform appropriate examination.</li> <li>▪ appropriately refer for a specialist opinion.</li> </ul>	<b>Ability to:</b> <ul style="list-style-type: none"> <li>▪ demonstrate appropriate high standards of tact, empathy and confidentiality.</li> <li>▪ effectively liaise with other members of multi-disciplinary team about the appropriate management of the patient.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, c, e, f, g, h, i

<b>4.14 Managing Health Information</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
To be able to use information technology for patient care and for own personal development.	<p><b>To know:</b></p> <ul style="list-style-type: none"> <li>▪ how to undertake searches and access web sites and health related databases.</li> <li>▪ how to retrieve and utilise data recorded in clinical systems.</li> <li>▪ about main local and national projects and initiative in information technology and its applications.</li> <li>▪ the stages of evaluation that new technology needs to go through.</li> <li>▪ the range of possible uses for clinical data and information and appreciate the dangers and benefits of aggregating clinical data.</li> <li>▪ main features, responsibilities and liabilities in the UK and Europe pertaining to confidentiality</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ demonstrate competent use of database, word-processing and statistics programmes.</li> <li>▪ critically appraise available software.</li> <li>▪ apply the principles of patient confidentiality to information technology.</li> <li>▪ Use search engines, Medline and the Cochrane library to retrieve information relevant to evidence-based medicine</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ demonstrate the acquisition of new attitudes in patient consultations in order to make maximum use of computers.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h

**Assessment method:** a, b, e, g, h, i

<b>4.15 Clinical Governance</b>			
<b>Objective</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Attitudes</b>
<p><b>To:</b></p> <ul style="list-style-type: none"> <li>▪ demonstrate a thorough understanding of the context, the meaning and the implementation of Clinical Governance.</li> <li>▪ demonstrate an understanding of the organisational framework for Clinical Governance at the local health authority and national levels.</li> <li>▪ demonstrate an understanding of the benefits a patient might reasonably expect from Clinical Governance.</li> </ul>	<p><b>To know</b> the important aspects of Clinical Governance:</p> <ul style="list-style-type: none"> <li>▪ Medical and clinical audit</li> <li>▪ Research and Development</li> <li>▪ Integrated care pathways</li> <li>▪ Evidence-based practice</li> <li>▪ Clinical effectiveness</li> <li>▪ Clinical risk systems</li> <li>▪ Education</li> <li>▪ Complaints procedures</li> </ul>	<p><b>To be able to:</b></p> <ul style="list-style-type: none"> <li>▪ be an active partaker in clinical governance.</li> <li>▪ undertake medical and clinical audit.</li> <li>▪ be active in research and development.</li> <li>▪ aim for clinical effectiveness (best practice) at all times.</li> <li>▪ be committed to life-long learning, educate self, colleagues and other health care professionals.</li> <li>▪ be able to handle and deal with complaints in a focused and constructive manner, and to learn from complaints.</li> <li>▪ demonstrate good leadership skills.</li> <li>▪ Develop and institute clinical guidelines and integrated care pathways.</li> <li>▪ Be active in risk management.</li> </ul>	<p><b>Ability to:</b></p> <ul style="list-style-type: none"> <li>▪ demonstrate an effective multi-disciplinary approach.</li> <li>▪ make the care of the patient your first concern.</li> <li>▪ respect patients' privacy, dignity and confidentiality.</li> <li>▪ act quickly if you suspect you or a colleague may not be fit to practice.</li> <li>▪ learn from mistakes, errors and complaints.</li> </ul>

**Learning method:** a, b, c, d, e, f, g, h,

**Assessment method:** a, b, c, e, f, g, h, i