



BCIG Professional Guidelines for Rehabilitation Staff working within a Hearing Implant Centre

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This document is Version 2 of the BCIG Rehabilitation Guidelines. Version 2 supersedes version 1 (2017), which was reviewed, revised and updated.

Version 2 was approved at an ICREHAB meeting held on 13th January 2022 with rehabilitation professional representation from 13 implant centres across the UK. This meeting was attended by clinicians from different professional backgrounds including Clinical Psychologists, Qualified Teachers of the Deaf and Speech and Language Therapists.

This document should be read in conjunction with the BCIG Quality Standard Document (published April 2023).

This document was developed to support Hearing Implant Teams to develop and review models of rehabilitation offered. Models and service delivery needs will vary and therefore this document should be used to support the development of local centre specific models or working.

The term 'rehabilitationist' has been used throughout this document to refer to any individual who has a professional qualification and is registered to practise clinically / educationally as a:

- Qualified Teacher of the Deaf
- Speech and Language Therapist
- Auditory Verbal Therapist
- Clinical Psychologist
- Educational Audiologist
- Hearing Therapist
- Rehabilitation Audiologist (dual qualification Audiologist/SLT)

Other professional roles that work as part of the Rehabilitation team may include:

- Speech and Language Therapy Assistant (with supervision from clinicians)
- Rehabilitation Support Worker/Assistant/Bilingual support worker (with supervision from clinicians)

The rehabilitationist may work with children, adolescents and/or adults with congenital (or pre-lingual acquired) hearing loss or acquired hearing loss.

The term 'rehabilitation' has been used to refer to both 'habilitation' and 'rehabilitation' and 'hearing implant' to refer to and cover the terms 'hearing' and 'auditory' implant.

Introduction to cochlear implants and other implantable devices

The main focus of hearing implant teams is cochlear implantation (including electro-acoustic stimulation implants):

Cochlear implants (CI)

A CI is an electronic medical device that replaces the function of the damaged inner ear in cases of severe/profound hearing loss. Unlike hearing aids, which make sounds louder, CIs do the work of damaged parts of the inner ear (cochlea) to provide sound signals to the brain.

Electric- (Electro) acoustic stimulation (EAS)

An EAS system is a treatment option for individuals with normal hearing to moderate hearing loss in the low frequencies and steeply sloping severe-to-profound hearing loss in the mid to high frequency range (also called a precipitous “ski-slope” type of hearing loss). The EAS system combines a hearing aid to acoustically amplify low frequency sounds and a CI, which provides electrical stimulation for high frequency sounds.

Many hearing implant centres also offer other hearing implants which include Bone Conduction Hearing Implants (BCHIs) and Middle Ear Implants (MEIs). Two centres are commissioned to offer adult Auditory Brainstem Implants (ABIs) and two centres are commissioned to offer paediatric Auditory Brainstem Implants (ABIs).

Rehabilitation involvement for these other types of hearing implants will be decided at each implant team based on service need. This document covers the core work of teams in relation to cochlear implant patient cohorts. It may however be a guide for involvement with other hearing implant recipients.

Service Considerations

A. Rehabilitation team structure and purpose

All hearing implant programmes should include suitably qualified and experienced rehabilitation staff. This will include one or more of the following professions: Qualified Teachers of the Deaf, Speech and Language Therapists, Auditory-Verbal Therapists, Clinical Psychologists, Educational Audiologists and Hearing Therapists. Some teams may make use of rehabilitation assistants to support clinicians' work. The team must have the knowledge and highly specialised skills to assess and work with children and adults with a range of complex needs in addition to their deafness.

There are historically four BCIG professional support groups within the field of hearing implants where clinical and professional support and experience can be shared:

- Implant Centre Audiology Group (ICAG)
- Implant Centre Psychology Group (ICPSYCH)
- Implant Centre Speech and Language Therapy Group (ICSLT)
- Implant Centre Qualified Teachers of the Deaf Group (ICQTOD)

As rehabilitation professionals work closely together, the ICPSYCH, ICSLT and ICQTOD groups have now combined under the name of:

- Implant Centre Rehabilitationist Group (ICREHAB).

Twice yearly ICREHAB meetings will take place to provide opportunities for sharing best practice and cross professional training with opportunities for breakout discussions to be used if required for profession specific issues.

This guidance aims to provide an overview of the specialist role of rehabilitation staff working within a hearing implant programme. However individual professions should also refer to and adhere to guidance and standards published through their own professional body, including:

- British Association of Teachers of the Deaf
- Royal College of Speech and Language Therapists
- AG Bell Academy for Listening and Spoken Language
- British Association of Educational Audiologists
- British Society of Audiology
- The British Psychological Society

Given the multi- and inter-disciplinary nature of hearing implant teams, there may be overlapping skills and individual teams should define how specific professional expertise is used in written protocols and care pathways. There will be differing skill mixes in different teams across the UK to meet the needs of their service users. No single model of service delivery is recommended as local and regional policy and patient demographics will dictate recruitment and provision.

All rehabilitation team members work closely and collaboratively with other members of the hearing implant team and liaise closely with local professionals.

The key roles and responsibilities of staff on the rehabilitation team are to:

- Assess patients (and, if appropriate, their families), and contribute to the multidisciplinary decision-making process regarding suitability for implantation and likely benefit based on the individual patient's unique background and circumstances

- Explore the expectations and goals of the recipient (and, if applicable, the family) and guide them towards realistic expectations and understanding (informed consent)
- Support patients and families through decision-making and challenging hearing implant related issues. Refer on and signpost to other services where clinically appropriate
- Maximise the person with the cochlear implant's listening, speech perception and communication skills with their implant in line with their individual goals and needs
- Assess, monitor and evaluate the patient's progress with their implant
- Identify issues and concerns about the rate of progress and what may be contributing to this
- Liaise with local professionals (education, health and social care) and implant companies as clinically required
- Train and educate other professionals in relation to hearing implants and practical solutions to improve implant device use and listening experience
- Support the person with the cochlear implant, family and local teams in jointly identifying rehabilitation goals related to their implant and listening progress
- Conduct research and clinical audits

In a paediatric setting, the rehabilitationist role requires close liaison with the child's family/carer, local professionals and other members of the hearing implant team as well as the client.

Those working in adult services may liaise with other professionals and family members as appropriate to their client's needs as well as working with the client directly.

The service and rehabilitation levels of staffing should be appropriate to offer core levels of support, but also be flexible to be tailored to each client's individual needs and abilities. This is particularly relevant with patients who have additional needs, or those whose home language is not English, where the rehabilitationist will be working with interpreters to facilitate delivery of care. The rehabilitationist will adhere to the service delivery models and protocols used within their team.

B. Format of service delivery

Service delivery is constantly evolving to reflect the changing nature of the implant criteria, technology, caseload demographics, the ethos of the implant team and the geographical areas covered by the team.

Paediatric services and rehabilitation may be provided:

- Within the clinic
- Via telehealth
- Via outreach visits

For adult services, the rehabilitationist is likely to predominantly work:

- Within the Hearing Implant clinic
- Via telehealth
- With outreach only in specific circumstances deemed necessary to facilitate the client's progress
- Aspects of the service may be offered either individually or in patient groups.

Services may offer a combination of:

- Assessment and outcome monitoring
- Coaching and guidance to clients, families and local professionals

- Consultation and liaison with local professionals; establishing and maintaining direct communication between the centre and the local setting
- Teaching and training local services

All collaboration and communication should be General Data Protection Regulation (GDPR) compliant following local information governance protocols.

C. Recommended professional provision per patient

Adequate levels of rehabilitation involvement are required to assess a potential recipient's suitability for hearing implants and to maximise their device use and benefit post-implant. Each implant team will decide how time is allocated both pre- and post-implant and this will be closely linked to the team's chosen model(s) of service delivery and protocols. Teams will establish their own protocols for long term monitoring and support.

In a specialist service contact includes patient focussed work that is both direct and indirect.

Liaison and collaborative working with local professionals takes a substantial amount of time and this may result in the time allocated for indirect contact exceeding the time for direct contact with the client.

Some patients have extenuating circumstances which may require a more flexible approach and a need for significantly more contact time. Examples of factors that will increase the amount of time needed are listed below:

Complex needs in addition to deafness including:

- Visual impairment
- Learning disability
- Multiple physical disabilities
- Age or trauma related cognitive changes

In addition:

- The need to monitor communication skills during a hearing aid trial
- Working with multi-lingual patients and families
- Children and adults from complex family circumstances e.g. when social services are involved
- Long term congenital deafness (rather than acquired deafness)
- The need to trial and help troubleshoot assistive listening devices
- Liaising with local services to evaluate and improve listening environments
- Working with individuals who are making slower than expected progress
- Contributing to Education, Health and Care Plans or their equivalent
- Support and counselling for patients and their families who may need help to move towards a positive outcome from the initial diagnosis or unexpected events post-implant (such as device failure)
- In some adult centres the rehabilitationist is responsible for delivering formal speech perception tests

Some cases may need less direct auditory and communication support, although many will still require significant counselling, support and liaison from the team.

Provision and support offered for other types of hearing implant devices will be agreed upon at local levels.

D. Quality Assurance

As part of the interdisciplinary team, the rehabilitationist will be asked to contribute to the hearing implant team's quality assurance standards at a local level and may be responsible for monitoring aspects of service delivery and reporting within internal clinical governance systems.

The ICREHAB group will meet twice a year to ensure that nationally agreed Quality Standards are maintained and updated in response to the rapidly changing field of hearing implants, share best and reflective practice and share professional expertise.

Clinical audit and Outcome Measures

Clinical audit is an integral part of all hearing implant programmes. It provides an opportunity to evaluate, review and improve assessment, intervention and the broader aspects of service provision. All rehabilitationist staff should routinely collect outcome data relating to the client's implant use, listening, speech perception, communication skills and patient satisfaction. This data should be stored in line with local policies and will enable teams to monitor trends in performance and conduct research.

Clinical Skill Set

The required skill set of the rehabilitationist joining a hearing implant team will be dictated by their professional qualification and background.

Speech and Language Therapists: It is recommended that the ICSLT joins the hearing implant team ideally with a suitable breadth of experience and post-graduate qualifications for working with deaf patients and managing a caseload of patients with complex needs. Specialist Speech and Language Therapists are currently difficult to recruit and therefore it may be necessary to recruit into a trainee specialist post. If this is the case, a clear framework of training must be established at recruitment with a dedicated specialist mentor to support the clinician. Evidence of ongoing professional development is essential, and completion of relevant post-qualification deafness courses is desirable. Experience in other relevant fields including bilingualism, specific language impairment, or acquired communication difficulties is also highly relevant to the caseloads managed by an ICSLT. To practise as a speech & language therapist in the UK, the ICSLT must be registered with the Health and Care Professions Council (HCPC) and must demonstrate ongoing professional development to maintain their registration. It is recommended that the ICSLT is a registered member of the RCSLT. This implies an undertaking to adhere to the RCSLT Code of Ethics and Professional Conduct advocated for SLTs in “Communicating Quality Live” (www.rcslt.org)

Qualified Teachers of the Deaf: The ICQTOD will be a qualified teacher and hold the mandatory qualification in Teaching Hearing Impaired/Deaf Children. The ICQTOD should have a suitable breadth of experience working with deaf babies, children, young people and children with complex needs and their families. Ongoing professional development is a requirement for the ICQTOD to keep up-to-date with developments in the field. The ICQTOD may also be qualified as an Educational Audiologist.

Auditory-Verbal Therapist: The ICAVT will already have a professional background of SLT, QTOD or Audiologist. In addition, it is recommended that the ICAVT joins the hearing implant team with a suitable breadth of experience and in-depth knowledge of children with complex needs / complex communication needs and older children / adults. This will depend on their pre-qualification experience and AVT training route. If these skills require development, a clear framework of training must be established at recruitment with a dedicated specialist mentor to support the clinician. The AVT must be a member of AGBell and maintain their licence to practice under this professional title.

Hearing Therapist/ Rehabilitation Audiologist: Hearing Therapists and rehabilitation audiologists work with adult CI patients, should be RCCP registered and have extensive knowledge and in-depth training with adults with hearing loss and deafness. Hearing Therapists and Rehabilitation Audiologists often have an audiology qualification with additional specialist qualifications in tinnitus, hyperacusis and balance.

Clinical Psychologists: Not all implant teams employ clinical psychologists as an integral part of the team. Where they do, their role is varied and includes assessment, individual, family and group interventions and liaison with local health, educational and social services. Clinical Psychology input can be indicated at any stage of the programme (child or adult) from pre-implant assessment, preparation for surgery and initial programming through to post-implant follow-up and, in the case of young people, transition to adult services. Within hearing implant programmes, there is also likely to be an emphasis on assessment of cognitive abilities and/or learning disabilities, as well as neuro-developmental and acquired neurological disorders, with the aim of supporting the child or young person to reach their full potential in terms of their speech, language and academic attainments and maintain function in adults. Clinical psychologists who work in CI teams have chosen to specialise in

this area following completion of their professional Doctoral qualification. Clinical Psychologists must be registered with the Health and Care Professions Council (HCPC) and must demonstrate ongoing professional development to maintain their registration. Where a team does not employ a Clinical Psychologist directly, they must have routes to refer patients to Clinical Psychology support.

When considering the skill mix of the team, it is essential that the rehabilitation team as a whole has sufficient experience in the broader field of paediatric / adult work, as appropriate to the patient demographics in the geographical area served. Individuals may be appointed into development posts. In this instance, there must be senior rehabilitationist staff regularly available for mentoring and close supervision.

There are a number of core clinical skills that the rehabilitationist must have in order to offer assessment and post-operative management for the implant caseload.

Skills of the rehabilitationist that are needed in the assessment, rehabilitation and development of:

- Every day and age-appropriate communication and social skills
- Functional listening and speech perception skills in line with the patient's abilities with an emphasis on maximising sound and auditory experience
- Understanding and use of spoken language in line with the patient's needs and abilities
- Being mindful and respecting the home language of families for whom sign language is the main home language and working with families to provide a balanced exposure to both signed and spoken language to optimise the benefit of the implant.
- Supporting consistent device use (during all waking hours) and troubleshooting equipment

The implant centre rehabilitationist must also have:

- Knowledge of audiology and assistive listening technology
- Skills in how to counsel adults/families through the assessment and decision-making process
- Insight into the culture and language of the Deaf community
- Understanding of the impact of deafness on quality of life depending on the client's personal experiences and goals
- Understanding of the impact of deafness and communication development on identity, mental health, social and emotional well-being
- Understanding of the impact of deafness on language development and cognition
- Understanding that patient's needs may change over time and that the nature of support required may be different at different points. e.g. adolescents in the process of transitioning from Paediatric to Adult services, older adults transitioning into Elderly Care.
- British Sign Language (BSL) skills and formal qualifications (Level 1-6)
- Understanding and knowledge of communication support teams i.e. lip speakers, note takers, speech to text (for adolescent and adult services)
- Experience and skills working with infants and very young children (for paediatric services)
- Knowledge of the educational practices and policies in the geographical areas covered by the team and a national perspective (for paediatric and adolescent services)

Dependent on the professional background, there are additional clinical skills and knowledge that would be expected of an individual and would be beneficial to have within the rehabilitation skill mix of the team:

- An in-depth knowledge of CI technology and an appropriate knowledge of audiology, hearing aids and Assistive Listening Devices (ALD) management, including radio aids
- Expert knowledge of educational policies and practices both locally and nationally
- Voice and speech production including phonetic transcription
- In-depth assessment and analysis of speech, language and communication disorders for differential diagnosis
- Experience in auditory training
- Assessment and treatment of cognitive, emotional and behavioural difficulties
- Assessment of capacity to consent
- Identification and assessment of mental health problems

- Knowledge of local mental health services and national Deaf Child and Adolescent Mental Health Services

The rehabilitationist may also be required to:

- Train colleagues in good communication with deaf people and advocate for access to services for deaf people across their trust
- Provide 'expert witness' reports
- Support patients and families with the completion of paperwork to enable them to claim disability benefits
- Within adult teams, they may also be called upon as an expert communicator/facilitator and be able to act as a key worker for a client

Assessment and Intervention

Assessment is based on a thorough case history.

Assessments are administered pre-implant to establish baseline measures, help to determine implant candidacy, establish provision of local support and predict likely outcomes post-implant so as to manage expectations and counsel patients and their families appropriately.

Post-implant, assessments are used to monitor progress against the expected trajectory of progress and to plan therapy goals and future areas of work for the client. The rehabilitationist will highlight early indicators of unexpected or poor performance and refer to specialist professionals for further assessment and management as appropriate.

The client's listening, speech perception and communication skills may be assessed using a combination of observation, discussion, and formal and informal assessments. The exact battery of assessments may vary from team to team. They will draw upon some, or all of the skills outlined in Section A. Clinical Skills (above). Video and audio recordings may be used with appropriate client consent.

Assessment results will be shared with the client and their family, the implant team and local professionals, as appropriate. Where possible, the use of standardised assessment measures is recommended to assist in cross-centre collaboration.

Rehabilitation will vary depending on the service delivery model employed by the team.

However, in all cases the aim of rehabilitation is to optimise the client's use of their hearing implant. This may involve supporting development in young children, or providing direct and indirect training for adolescents and adults, in the following areas:

- Listening skills / functional listening / speech perception
- Spoken speech and language
- Communication skills including repair strategies
- Ability to troubleshoot and maintain external equipment
- Using assistive listening devices
- Speech intelligibility, voice quality and prosody

Practical and emotional support is needed for the client and their families/carers at all stages of the CI journey. Rehabilitation staff need to be able to identify patients/families who require psychological

assessment and intervention, and know how to access this support locally if there is no clinical psychologist on the team.

Report writing and record keeping

The rehabilitationist will provide written reports at regular intervals to the client, their family and other professionals. The purpose of these reports is to convey information about the client's progress and to provide recommendations about future management. The frequency and format of reports will vary according to team protocol. Reports may include the contribution of a written submission if requested by a Local Education Authority or equivalent body.

The rehabilitationist is also responsible for the accurate recording of all activities relating to the client, both directly through client contact and indirectly through meetings, discussions, emails and telephone calls. These records must be in line with local and national standards and those set out in professional guidance.

Training

Rehabilitation staff will provide training for a broad range of professionals, including hearing implant team members, local education and social services and other medical professionals.

They may also be required to give presentations at formal courses, academic meetings and conferences.

Formal/informal clinical placements may be offered to a variety of professionals as appropriate.

Ongoing educational needs of rehabilitation staff working in hearing implant teams

Each rehabilitationist must meet the requirements of their relevant professional body in terms of Continuing Professional Development (CPD), including registration to practice as appropriate.

The research and knowledge base in the field of hearing implants continues to expand rapidly and those working in the field require continuing education to stay abreast of this. Access to relevant post-qualification courses is recommended. Attendance at seminars, manufacturers' training, national/international conferences, specific interest groups, British Cochlear Implant Group (BCIG) meetings and national meetings will offer further necessary professional development opportunities. Individuals are encouraged to join BCIG and participate in its activities to promote improvement of knowledge and best practice in the field of hearing implantation. A commitment to maintaining and developing professional expertise has financial and time implications that must be considered when resourcing posts.

Research and Development

Most hearing implant team members, in particular senior team members, have an active role in conducting research and clinical audits. Where there is an expectation of involvement in research and audit, individuals must be given adequate support through the allocation of study time, relevant resources and training.

Definitions

Bone Conduction Hearing Implants (BCHIs)

BCHIs include both bone conduction hearing devices (BCHDs) and middle ear implants (MEIs):

BCHDs bypass the outer and middle ear, delivering sound directly to the inner ears. Such devices can be fitted to spectacles or held in place with a headband or an adhesive patch (depending on the device being used).

Surgically implanted percutaneous or transcutaneous devices can be recommended after appropriate client selection and assessment.

Middle Ear Implants

MEIs are surgically implanted electronic devices which aim to correct hearing loss through stimulation of the cochlea by delivering sound energy to the ossicles or directly to the cochlea (through oval or round window placement). MEIs are placed into the middle ear and generally leave the external auditory canal open and unobstructed. A MEI differs from a CI in that the latter directly electronically stimulates the auditory nerve.

Auditory Brainstem Implant (ABI):

This implantable device is used to treat total bilateral deafness caused by significantly compromised or absent cochleae or absence or damage to the cochlear nerve as a result of genetic conditions, tumours or surgery where hearing cannot be improved by hearing aids or other hearing implants. Auditory Brainstem Implants involve a wider specialist team including neurosurgeons, neurology and specialist nursing input.

Sources of useful information

As a member rehabilitationist of a Hearing Implant Programme, you can become a member of one or more of the following professional groups:

- British Cochlear Implant Group www.bcig.org
- Implant Centre Rehabilitationist Group (ICREHAB)

Professional Organisations

Royal College of Speech and Language Therapists: Communicating Quality Live www.rcslt.org

British Association of Teachers of the Deaf: www.batod.org.uk

British Society of Audiology: www.thebsa.org.uk

The British Psychological Society: www.beta.bps.org.uk

British Association of Educational Audiologists: www.educational-audiologists.org.uk

Hearing Implant Companies

Advanced Bionics: www.advancedbionics.com

MEDEL: www.medel.com

Cochlear Corporation: www.cochlear.com

Oticon: www.oticonmedical.com

National Charities for Deaf People / Implant Support Groups:

Royal National Institute for Deaf People (RNID): www.rnid.org.uk

National Deaf Children's Society (NDCS): www.ndcs.org.uk

Cochlear Implant Children's Support Group: www.cicsgroup.org.uk

National Cochlear Implant Users Association (NCIUA): www.nciua.org.uk

The British Society of Mental Health and Deafness: www.bsmhd.org.uk

British Tinnitus Association (BTA): www.tinnitus.org.uk

Deafness Research UK www.deafnessresearch.org.uk

Cued Speech Association UK: www.cuedspeech.co.uk

AVT: www.avuk.org.uk

Elizabeth foundation: www.elizabeth-foundation.org

Hearing Link www.hearinglink.org

Meniere's Society www.menieres.org.uk

Alexander Graham Bell Association for the Deaf and Hard of Hearing: www.agbell.org

Meningitis Now www.meningitisnow.org

Music and the Deaf www.matd.org.uk

National Association of Deafened People www.nadp.org.uk

SENSE www.sense.org.uk

Signature www.signature.org.uk

Stagetext www.stagetext.org

Speech to Text <https://www.completecommunicationltd.com/speech-to-text-reporters-sttr/>

City Lit Centre for Deaf People www.citylit.ac.uk

References:

CI : <https://www.nice.org.uk/guidance/ta566>

ABI: <https://www.england.nhs.uk/publication/clinical-commissioning-policy-auditory-brainstem-implant-with-congenital-abnormalities-of-the-auditory-nerve-of-cochlea/>

RCSLT <https://www.rcslt.org/speech-and-language-therapy/clinical-information/deafness/>

<https://www.rcslt.org/wp-content/uploads/media/Project/RCSLT/specialist-slt-for-cyp-who-are-deaf-person-specification.pdf>

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<https://www.rcslt.org/wp-content/uploads/media/docs/clinical-guidance/rcslt-batod-guidance.pdf>

BATOD: <https://www.batod.org.uk/information/altwg-quality-standards/>

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