

AUDITORY VERBAL^{UK}

Creating a sound future for deaf children



A sound future:

Raising expectations for children with deafness

Position Paper

2020

This position paper uses the latest international research to outline the current landscape of the Auditory Verbal approach and paediatric deafness. It includes how social policy, hearing technology and early interventions have advanced; raising the potential for deaf children to learn to listen and speak alongside their hearing peers. Auditory Verbal therapy is a highly specialist early intervention programme which coaches parents to maximise their child's hearing technology, their child's listening and learning, and subsequently their child's speech and language development. In this paper we explore the global picture of Auditory Verbal therapy and what more we can be doing to make this intervention accessible to families across the UK.

CONTENTS



Paediatric deafness

The number of children with permanent hearing loss in the UK under the age of five years has been estimated to be 7,200^{1,2} and around 90% of deaf* children are born to hearing parents^{3,4}. Without early intervention, this could leave many deaf children without access to either a rich spoken language environment or access to a rich sign language environment as most hearing parents are not fluent in sign language. There is a continuum of communication approaches available for deaf children and they range from the more visual to the most auditory.

Parents** of deaf children should always be presented with clear information about these approaches so they are able to make an informed decision about which communication approach they would like for their child.

By the age of three and a half, the human brain has completed 85% of its physical growth, meaning the first three years of life are critical for developing spoken language through listening^{5,6}. For families wanting their children to communicate using spoken language, this represents a neurological emergency to access meaningful sound.

In the UK there has been substantial investment in the Newborn Hearing Screening Programme (NHSP), with millions of babies having been assessed for hearing loss at birth since 2006. There have also been, and continues to be, significant advances in assistive hearing technologies (e.g. digital hearing aids, auditory implants and all other digital accessories). However, amplification alone does not allow for optimal spoken language development⁷, nor does amplification alone support growth in other developmental areas such as social competence⁸.

The NHSP was introduced in the UK on the premise that outcomes for deaf children could be improved by early identification of hearing loss and effective early intervention^{9,10}. Effective therapy is crucial if



we are to benefit from this investment and technology. We now know that excellent outcomes for spoken language can be achieved if children with hearing loss are fitted expertly with the most appropriate technology and if their families are supported with effective early intervention¹¹.

Deafness is not a learning disability. The majority of children with hearing loss have the potential to reach the same educational outcomes as hearing children, if they have appropriate support. However, if there is a language delay, this can affect both children's literacy and numeracy. A study in 2017 funded by the Nuffield Foundation reported that 48% of oral children aged between 10 and 11 years were reading below age level¹². It is of concern that in 2019, 56% of deaf children left primary school having failed to achieve the expected standard at reading, writing and mathematics compared to 26% of children with no identified Special Educational Needs¹³. A new Progress 8 measure was introduced in the UK to investigate the progress that children have made between the end of primary and secondary school compared to other children of the same prior ability.

*The term 'deaf' is used in this paper to denote an average hearing loss of 40 dBHL or greater in the ear most sensitive to sound.

**The term 'parents' refers to any significant caregiver in the child's life.



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Figures show that deaf children are not 'catching up' from their lower starting points as they move through secondary school¹⁴. Furthermore, an early language delay can continue to jeopardise future educational outcomes for deaf children.

Children who have hearing loss are also at greater risk of experiencing social isolation, loneliness and difficulty with peer relationships^{14, 15}. This influences later adult relationships and social-emotional development. Early access to language is the decisive factor that drives development forward and provides good social-emotional functioning¹⁶. With over 40% of children with permanent hearing loss estimated to have mental health difficulties in childhood/early adulthood¹⁷, there is a vital place for early intervention programmes.



Auditory Verbal Therapy

Auditory Verbal therapy was founded on the work of audiologists and practitioners dating back to the late 1930s. It was first coined Auditory Verbal by the Alexander Graham Bell Association for the Deaf in the 1970s in the United States¹⁸.

Optimal development of speech and language skills is preceded by developing optimal listening skills. Listening is dependent upon the stimulation and development of the auditory cortex in the brain. Throughout the first three years of life, children generally receive this stimulation in the form of interactions with their parents and this allows them to start learning language¹⁹. We now know there is a sensitive period during which the central auditory system remains maximally plastic. An effective early intervention programme, comprising optimally fitted hearing technology (i.e. hearing aids or implantable hearing technology, such as cochlear implants) together with effective early support for communication needs to be in place as early as possible and ideally within the first three and a half years in order to optimally support the brain development required for listening and spoken language development²⁰.

Optimal language acquisition depends upon engaged parents¹⁹. Permanent hearing loss extending beyond the early school-age years without adequate auditory stimulation may result in significant re-organisation of the brain, with additional areas of the auditory cortex becoming involved in visual processing^{21,22}. If parents desire listening and spoken language outcomes for their child with hearing loss, a communication approach that emphasises early development of auditory brain pathways through listening and spoken language is necessary^{3, 22}.

A newly published study (2019) looking at various outcomes for a group of more than 200 children who have followed either an Auditory Verbal, a total communication or an oral (listening with an intentional support of lip-reading) approach has found that children following an Auditory Verbal approach out-perform children who have followed an oral or total communication approach on a

number of measures²³. Other research, albeit more limited, has also indicated that there are benefits of choosing an Auditory Verbal approach, even after the optimal intervention age. For example, late-identified children have still shown social interaction skills comparable to their hearing peers²⁴.

By stimulating auditory brain development, Auditory Verbal therapy enables deaf children with hearing aids and/or auditory implants to make sense of the sound relayed by their devices. Each Auditory Verbal session is developed with specific targets covering audition, listening, understanding, cognition, expressive communication and speech. Auditory Verbal therapy is delivered by listening and spoken language specialists (LSLS CertAVT®) who have undergone three years of post-graduate training and have been certified by the A.G. Bell Academy – an internationally recognised qualification.

Auditory Verbal therapy sessions are typically one hour and are attended weekly or fortnightly. They include the parents, the child and the practitioner. Every session is play based and highly functional in order to be integrated into an everyday routine^{25,26}. The aim for each session is for the child to have fun whilst parents learn strategies to maximise their child's listening and spoken language skills in everyday activities. As a result, children are better able to develop speech and language skills, laying strong foundations for literacy and numeracy²⁷. Sessions can be delivered face to face or via online platforms (telepractice).



Outcomes

Research from the US and Australia shows that children in an Auditory Verbal therapy programme develop spoken language in line with their hearing peers^{28, 29, 30, 31} and progress at the same rate for listening, spoken language³², self-esteem, reading and mathematics as a matched group of children with normal hearing³³. First Voice, a consortium of Australasian Early Intervention Centres (of which Auditory Verbal UK is an international member) collate and publish spoken language outcomes for graduates of Auditory Verbal programmes: In 2018, 86% of children in First Voice Centres with hearing loss alone (ie without additional difficulties) achieved a standard score within or above the average range for typically hearing children, a level higher than the normal population³⁴. The report also details a cost benefit analysis from 2019: the benefit to cost ratio for the community investment was approximately 4:1, a figure replicated by Auditory Verbal UK's own cost benefit analysis³⁵.

Research from Denmark demonstrates that children in an Auditory Verbal programme have advanced spoken language skills relative to other children who have received standard early intervention³⁶. Such children also perform well in comprehension of vocabulary after receiving Auditory Verbal therapy for one year, attaining the same level as their typically hearing peers after three years³⁷.

Recent research (2018) investigating the early reading development of children with cochlear implants who have followed an Auditory Verbal approach has found that phonological awareness,

the awareness of the sound structure of language, is a significant factor in reading development³⁸. Regarding further chronological development of reading, research from Israel has shown that Auditory Verbal therapy graduates outperform adolescents and young people with hearing loss who were not rehabilitated via this approach, in Hebrew and Literature grades³⁹.

In the UK, approximately 80% of all children who spend at least two years on our programme at Auditory Verbal UK achieve age appropriate language^{40, 41} and most attend mainstream school⁴². On average, deaf children with additional needs double their rate of language development whilst on the Auditory Verbal UK programme, and one in two children reach age-appropriate spoken language at the end of their programme. For children both with and without additional needs, the earlier they start the programme, the better the prognosis for language development⁴¹. The target-focussed, collaborative approach adopted by Auditory Verbal practitioners⁴³ influences the outcomes for families of children who have hearing loss alone and of those who have additional challenges⁴⁴. The holistic approach of Auditory Verbal intervention promotes best outcomes through transdisciplinary working.

It has also been found that 97% of deaf children without additional needs reach at least age appropriate spoken language at the end of the Auditory Verbal UK programme⁴⁰.

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1 in 2

deaf children with additional needs reach at least age appropriate spoken language

Telepractice and Auditory Verbal Therapy

It is important to consider the effectiveness of Auditory Verbal therapy via telepractice, which became widely used during the current Covid-19 pandemic. Research has shown that children with hearing loss who, together with their parents, receive telepractice sessions perform at least as well in multiple measures of language outcomes as those who receive in-person sessions⁴⁵. Furthermore, parents have been found to be more engaged during teletherapy than traditional sessions^{45, 46} and may also favour telepractice because of the reduced disruption to their everyday routine⁴⁶.

Research conducted by AVUK after five months of lockdown in the UK, showed that 78% of parents who had opted to continue with their Auditory Verbal sessions via telepractice through the global pandemic, indicated that they felt that their child was making good progress with their telepractice sessions. At least four out of five families expressed a strong preference for continuing telepractice sessions either entirely or in combination with in-centre appointments in future. Auditory Verbal UK will be continuing to monitor the progress of children and the impact of increased use of telepractice in the year ahead.



Benjamin's story

Ben was diagnosed with severe sensorineural hearing loss at 4 weeks old, receiving his first hearing aids at 6 weeks old. It was a huge shock as we had no experience of deafness and we felt very confused and worried as a family.

We received fortnightly visits from a teacher of the deaf which was really helpful and reassuring. At a few months old we were told Benjamin had a genetic condition called Connexin 26, which was the cause of his deafness. At the time we were told his hearing loss was non progressive. As months went on it became clear to me that Benjamin wasn't picking up words and I felt he wasn't sufficiently benefiting from his hearing aids, to add to this tests showed his hearing in both ears was worsening.

He was referred for a cochlear implant assessment and the team felt he would benefit from bilateral cochlear implants. However, Benjamin was a borderline candidate and despite a long fight from his team, we had to fundraise for cochlear implants. We knew if we wanted Ben to speak then he had to have bilateral implants as soon as possible, almost 2 years had already gone by from the first referral. Thankfully our efforts were successful thanks to our media campaign and some very kind donors and finally, after almost two and a half years of fighting for it, Ben had his initial tunings in May 2018.

Auditory Verbal UK has been an essential part of our journey. I knew from research that as soon as Ben could hear more with the right technology, I wanted him to have Auditory Verbal therapy. It has given us the tools that we need to teach Ben how to listen and talk. His teachers benefit from the fortnightly 'Take Home Notes' as well and it provides a brilliant structure from which all professionals involved with Ben can work from.

We see results week on week thanks to Auditory Verbal UK. There is no way we would have the knowledge of how to work on listening and talking without Auditory Verbal UK and I am sure his progress would be very different without them. Benjamin actively listens now in all situations which means his listening and speech skills are improving day by day. Without the skills that Auditory Verbal UK have taught us as parents, the way he is listening in each and every situation wouldn't be happening.



The team are so kind and I remember our first session feeling worried as it had been a battle to get Ben fitted with the right technology to enable him to hear speech. But when we walked through those doors I felt a sense of hope and understanding. There was no "Maybe he won't" or negativity, it was "He can and he will".

From the first session I could see his listening skills flourish and Auditory Verbal therapy clicked with him from day one. I had structure in between sessions knowing exactly what to work on and how and it no longer felt like climbing a mountain as we were doing it in building blocks.

After just seven months, we are so happy with his progress. Working with your child and Auditory Verbal UK is hard work, it certainly isn't the easy option and it requires focus and determination but the results speak for themselves. The bursary has helped us access Auditory Verbal UK and without it, this may not have been possible.

Auditory Verbal UK are an essential part of Benjamin's life. Without them I am not sure where we would be. At every session each speech sound is even monitored so when we see our audiologists, mapping is tailored so that he can access every speech sound that his Auditory Verbal therapist feels he could be struggling with. This close attention to his progress is a result of extremely knowledgeable therapists who are so amazing at what they do.

– Joanna, Ben's mum

Self-Efficacy



One of the most important aspects of the Auditory Verbal approach is that it is family centred and focuses on giving parents the skills that they need to be able to facilitate their child's improved language outcomes⁴⁷. A crucial part of this is ensuring that parents feel confident and able to take on this role. In recent years, more emphasis has been placed on research into the effect of the Auditory Verbal approach on parental self-efficacy. Self-efficacy is an umbrella term to include such aspects as the belief in one's ability to succeed in a certain situation, resilience and the ability to problem solve.

The 2020 AG Bell Global Symposium⁴⁸ highlighted the relevance of self-efficacy in parent interaction. Higher maternal self-efficacy was associated with more knowledge and acceptance of the child's hearing loss. It is important for Auditory Verbal practitioners to create an environment which encourages maximum self-efficacy by assuring that high quality information is both given to, and understood by, parents. Not only does this allow parents to feel supported, but it also has a beneficial effect on the language development of the child, as demonstrated by recent research⁴⁹. Early intervention using a coaching model that helps parents understand their potential to

influence their child's outcomes builds parental self-efficacy and supports parents' involvement in facilitating their child's language development.

The Auditory Verbal approach promotes parental self-efficacy in four ways: demonstrating useful facilitative language techniques, providing opportunities for parents to practise these techniques, giving specific feedback and encouragement, and identifying and reframing parents negative thoughts⁴⁸. The degree of involvement of the parents and their degree of self-efficacy is not influenced by the manner of delivery, whether the coaching is via telepractice or in-person⁵⁰.

A recent Danish study of parental perceptions of Auditory Verbal therapy found that almost all of its participants showed increased confidence in their ability to support the development of their child's listening and spoken language as a result of participating in an Auditory Verbal therapy programme⁵¹. This level of parental self-efficacy is consistent with that of the parents on the Auditory Verbal UK programme, with 97% of parents reporting that they felt confident in using Auditory Verbal techniques in their everyday life.

Mia's story

Mia was born with CHARGE syndrome, a rare genetic condition that can affect different parts of the body; the most common problems are with the hearing, vision, the heart, airways and growth.

In the weeks after her birth we learned that Mia was severely visually impaired, severely to profoundly deaf, had missing balance organs in her inner ear – meaning she would struggle to learn to walk and had problems with her swallowing and breathing. After weeks of being bombarded with long lists of serious medical diagnosis our whole family were in shock. We began to think about what the future held for Mia.

It took a while to get Mia's audiology right due to her complex mixed hearing loss. We have explored every avenue available to us and when Mia was 6 she had bone-anchored hearing aids (BAHA) fitted. From a baby she has always been an excellent hearing aid user and this has really helped her develop her speech and language.

At times some people have underestimated Mia's ability to develop speech because she struggles with her clarity or needs more time to process information. Perhaps this is partly due to a lack of training about children with a multi-sensory impairment, the impact this has on development and the strategies needed to help support the child.

I became Mia's advocate. I had to be strong and pushy making sure she has every opportunity available to her in terms of audiology, therapy, support and education. I make sure people understand her, understand that she is bright and able and with the right support will reach her full potential. To be treated like any other child and not held back because of her difficulties.

Auditory Verbal UK worked with Mia's multi-sensory needs and adapted her therapy to take into account her vision, hearing and balance difficulties. Combining Auditory Verbal therapy with our local speech and language support really pushed Mia's speech along, closing the gap in her speech delay.

– Claire, Mia's mum



Despite having to work four times harder to walk, talk, listen and learn, Mia had age-appropriate language by her Reception year at school. She is now 9 years old and goes from strength to strength. She is a bright, charming, determined and courageous little girl. Mia loves princesses, dancing, dressing up and all things pink. She is very social, loves to talk and loves being with her family and friends. She is the youngest in the family and has a strong bond with her older brothers, Oscar and Oliver.

Global Picture - Policy and Funding

The international evidence in this Position Paper demonstrates that deaf children in the UK could benefit greatly from an investment into making Auditory Verbal therapy more widely available in the critical first few years of a child's life.

There are currently 963 certified Auditory Verbal therapists worldwide, with this form of early intervention being government-funded in Australia, New Zealand and Denmark. It is also a mainstream approach in North America for enabling deaf children to listen, speak, and to achieve long term social and educational outcomes⁴⁰. The spoken language outcomes of these programmes have been replicated in the UK at Auditory Verbal UK^{32, 35, 36}. However, there are currently only 25 Auditory Verbal therapists in the UK as of September 2020. Ten of these therapists work for Auditory Verbal UK with others based in the National Health Service, local authorities and in private practice. With full caseloads, these UK-based therapists can only provide therapy for 8% of the deaf children under 5 years old in the UK. To increase access to specialist support, there needs to be more practitioners trained in Auditory Verbal practice working in the NHS and Local Authority Sensory Services who support deaf children across the UK.

In 2019, the National Institute for Health and Care Excellence put forward new guidance for cochlear implant candidacy criteria. The guidance promotes babies being screened within one month, referred for hearing aids within two months and referred for cochlear implantation within a year. If we are to benefit from the investment into effective early intervention, we need to upskill our current workforce to be able to give parents and carers the techniques and strategies they need to maximise the potential of their child's hearing technology and listening and learning skills.

Auditory Verbal UK provides internationally accredited training for speech and language therapists, audiologists and teachers of the deaf who wish to become Auditory Verbal practitioners to address this severe need.

To watch Auditory Verbal therapy providers from around the world talking about provision in their countries, [click here](#) or visit <https://bit.ly/2lqRI65>

If you want to find out more about what we do and the ways you can help create a sound future for deaf children, visit www.avuk.org



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