

Supporting people with voice banking and message banking

Our voices are individual to each of us and are integral to making us who we are. Many people lose their voice or speech altogether as a result of a medical condition and need an augmentative and alternative communication device (AAC) – also known as an electronic communication aid – to communicate in their daily lives. Electronic AAC devices mainly use generic voices, which bear no resemblance to the person’s own voice. Speech and language therapists can play a key role in supporting people with voice banking and message banking.

What are voice banking and message banking?

Voice banking

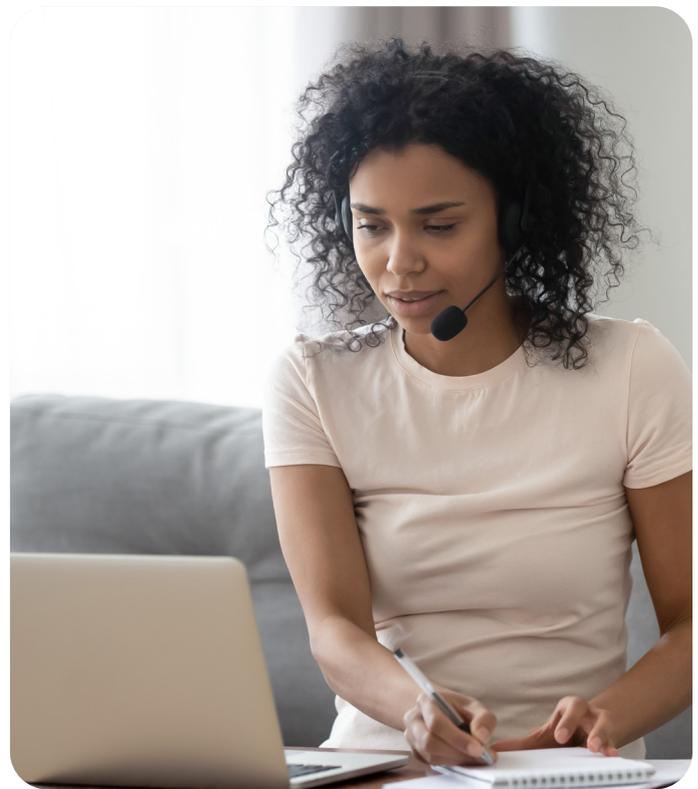
Voice banking is a process for creating a ‘personalised synthetic voice’ (PSV), a synthetic version of a person’s natural voice.¹ To create a PSV, a set list of phrases needs to be recorded – often between 350 and 1,600 phrases. The PSV can then be used on an AAC device to ‘say’ an infinite number of novel words, phrases and sentences.

A PSV is unique to the individual who recorded it and is usually easily identifiable by the person who made the recordings and their family and friends. It is different to the generic voices on AAC devices that are likely to be used by many others.

A PSV cannot, however, replace a person’s natural voice. For example it cannot vary tone, or the way their voice rises and falls, to communicate happiness, anger, sadness, irony or sarcasm in the way we can when speaking naturally. Communicating using an AAC device that has a PSV will also not lead to a conversation being the same speed as natural conversation.

Message banking

Message banking is the process of recording a person’s natural voice directly for storage and use on their AAC device by saying individual words, phrases, sentences or personal meaningful sounds. This captures the person’s own voice and how they choose to say these words. People often wish to record personal phrases with their own voice, such as ‘I love you’ or routine daily requests that are unlikely to change. They can record as many phrases as they like. However, content playback is limited to what has been pre-recorded.



Message banking and voice banking should be discussed together and are complementary. Given the time it may take to complete both, message banking and voice banking are frequently completed in parallel.

What do voice banking and message banking involve?

Voice and message banking both require a computer and a headset microphone to make recordings. Both can be done in a quiet part of a person’s own home, and do not require access to any special recording premises. Voice banking is carried out through a commercial provider who will give a framework for recording based on their requirements for producing a PSV. The amount of time taken to record depends on the number of phrases required by the individual provider, as well as the vocal stamina of the person recording. Message banking does not require a provider. Phrases can be recorded to a computer audio file and downloaded to an AAC device if needed. People can record as many messages as they wish.

Who can benefit from voice banking and message banking?

Anyone who is at risk of voice change or loss and has the ability to use electronic AAC may benefit from voice banking and message banking.

People living with motor neurone disease (MND) are probably the largest group of people who use voice banking.² Voice and message banking may also be considered for people with other progressive neurological conditions.

People with head and neck cancer, including those preparing for laryngectomy, long-term planned tracheostomy or glossectomy (the removal of the tongue), may also benefit from voice and message banking. So too may people with life-long communication challenges supported by AAC as their speech intelligibility may change over time.

In addition, some people who have never been able to speak, for example those with congenital conditions, may choose to use a donated banked voice on an AAC device in order to achieve a voice that suits their age and regional accent.

When considering the use of voice banking, it is important to consider the person's current cognitive function, and how this may change over the course of their condition, as this may have an impact on their ability to use electronic AAC.

The impact of speech and language therapy

Speech and language therapists (SLTs) have an important role in educating and providing practical support to people on voice banking and message banking.

Voice banking and message banking are best carried out before there is significant change to speech quality. People should be provided with enough information as early as possible to make their own decision about whether or not to proceed. To fully support this, speech and language therapy services should accept referrals for patients who have, or are under investigation for, a medical diagnosis, but do not yet have any difficulty with their speech or voice.

SLTs should also engage with potential referrers to highlight the importance of early referral, in order to signpost people who may benefit from voice banking before their voices deteriorate. Delayed referral may lead to less satisfactory outcomes. This may require revision of existing care pathways.

SLTs have specialised knowledge of how each lifelong and progressive medical condition will progress and when speech or voice deterioration or loss is anticipated. This means they can have open and sensitive conversations about voice banking and message banking at a time when someone may be coming to terms with their diagnosis and potential loss or changes in speech intelligibility. This may include consideration of voice banking as 'insurance' in case of later speech and voice loss.³

SLTs can assist with selecting a voice banking provider and with the recording process, or they may train others to assist. This may include offering advice on how long the recording may take, the costs involved or on the different features offered by different providers. Providers and AAC companies can help with downloading the voice to an AAC device if and when it is needed.

Impact of voice banking and message banking

As voice banking and message banking are still relatively new interventions, there is a lack of research evidence on their impact. However, there is significant and growing interest in voice banking, particularly within the MND community, and increasing numbers of people are accessing voice banking and message banking services each year.

People who have banked their voices frequently report positive feedback, as do their family and friends. This includes preservation of identity for the person who has recorded, and saving the distress of family and friends who fear they may never hear their loved one's voice again. Use of a PSV also helps to promote human interaction and social participation, and may also help people to adapt to using AAC due to more positive reactions from communication partners.

Tony's story

Tony remembers first experiencing a problem with his speech about four years ago, but did not realise it was anything serious. 'People who used to come into the shop have since told me that occasionally I slurred my words and they thought I'd had a drink. I was a little aware of it, but thought I was just talking too fast and did not know what it was.'

He noticed that he was starting to trip a lot and realised he could not do things like walk and blow his nose or sneeze at the same time. Tony was diagnosed with MND in October 2016 and despite suspicions, it came as a huge shock.

'I had read about voice banking, but did not know much about it. My speech therapist told me that no one in the region had done it yet and that was like a red rag to a bull and made me determined to do it! It took me about three weeks to work through all the sentences.

'My banked voice is used to create me a voice. It is a computer generated voice, but it is my voice. The best way to describe it is if you have brothers or sisters, when you speak to them on the telephone, they sound like you, but not exactly like you.

'When I lose my voice, if I have got use of my hand, I will be able to type and use my banked voice to speak. If you are paralysed and can't type, they have a thing called eye gaze where you can blink words. The function I will miss most is when I'll lose my voice as communication is everything. I know I will end up in a nasty place but if I can still communicate, things will be more bearable.

'I feel useless at most things and I can't move but doing the voice banking has made me feel I am doing something and I am now encouraging other people to do it. The important thing for me is that it will make a huge difference to me in the future when my voice has gone and I can't get it back. I will still be able to talk to my grandchildren and they will be able to recognise it as grandad's voice and not just a robotic voice or a stranger's voice.'

Brian's story

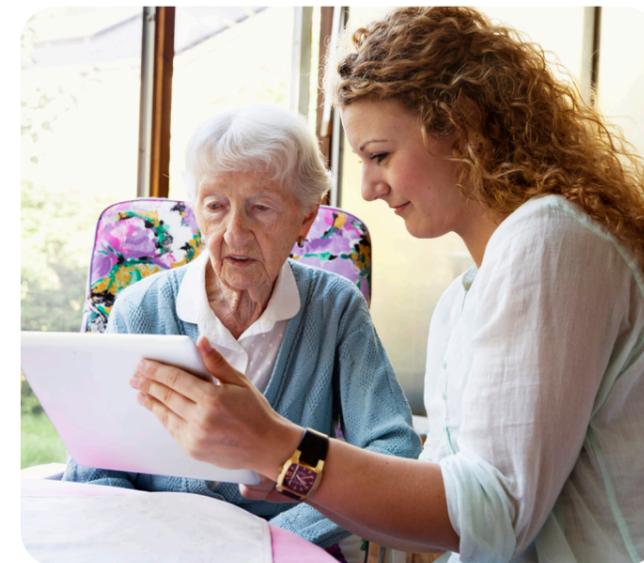
Brian had a total laryngectomy following diagnosis of laryngeal cancer. He was unable to manage a voice prosthesis, and could not gain a voice with an electrolarynx, so had begun to explore AAC options with his SLT. He initially used a Lightwriter (a speech generating device), but felt that it did not give him the functions he needed, so he began to explore using Predictable on an iPad.

Brian became aware of voice banking, and commented that he wished he had a voice on his communication aid that sounded more like him. He was by that point unable to record his own voice and therefore the option of a donor voice was explored.

Brian's cousin Bill offered to donate his voice to Brian to use on his iPad. The SLT visited Bill and discussed this independently with him to be sure that this was an informed and reasoned decision. Brian and Bill did not see

each other often, and therefore Bill felt that he would be comfortable donating his voice and would be unlikely to hear 'himself' very often. Bill commented that their voices had been similar when they had spoken in the past, and that people had mistaken one for the other on the phone. They were a similar age and spoke with the same local accent.

Bill completed the recording process successfully and Brian received his donor voice. Brian was happy to have a voice that sounded much more like his own voice had been, and felt that this made him a much better communicator with his communication aid than he had been with a generic voice that bore no resemblance to his own. He reported feeling more inclined to talk to people because of this, and his opportunities to communicate increased.



Rosie's story

Rosie's SLT discussed voice banking and message banking at an early stage before Rosie's voice had significantly changed. The SLT had banked her own voice and demonstrated it to Rosie on an iPad using the 'Predictable' app. The SLT was able to talk about communication aids generally at an early stage and Rosie said she had no idea such options were available and was pleased to know for future planning if she ever needed them. They had a detailed discussion about voice banking – how it sounds and how it is used in a communication device. Rosie decided voice banking was not for her because she felt a synthetic voice through a machine

would never replace her own voice and not represent anything about who she is – it would just be another robotic voice. The SLT let Rosie know that she could discuss it again at any point in the future.

Rosie did decide to message bank and recorded a large number of personal messages to her family too. She felt this was useful because she would be speaking with her own voice. Although Rosie chose not to voice bank, she had recorded more than 30 minutes of messages and the option to create a voice bank from these recordings would be available in the future if she changed her mind.



Greg's story

Greg was diagnosed with limb onset MND at the age of 48. He lived at home with his wife Mandy and three teenage children. Voice banking was a very new intervention when Greg and Mandy contacted their SLT to look at this and they were keen to give it a try. Greg was beginning to notice some changes to his voice and was experiencing increasing fatigue with his MND. The voice banking process at that time was more time consuming than it is now and had a few technical hiccups along the way.

Despite this, he successfully banked his voice and used the voice on his AAC device when it became needed. Greg initially was concerned that he would not like hearing his own voice, commenting that we all sound different to how we think we do and none of us like how we sound. He went on to say that he had got used to that very quickly and it did not bother him as he had anticipated.

One of Mandy's greatest fears was never being able to hear Greg speak again, and also the impact that would have on their children as they progressed through their MND journey as a family. She had heard many other families of people with MND say this and did not want that to be their experience. She was delighted with the outcome of the recordings, commenting on how good a likeness it was to Greg's own voice and feeling that the psychological benefits of that to the whole family would be substantial.

Greg and Mandy's advice to anyone thinking about voice banking was 'Do it early – do it now' and they continued to promote the benefits of voice banking through Greg's life, and as his legacy after he died.

► For more information please contact info@rcslt.org

June 2020

ACKNOWLEDGEMENTS

The RCSLT would like to thank Jennifer Benson for suggesting this factsheet and for producing the initial draft with Rhiannon Evans and Richard Cave. We are also grateful to Professor Janice Murray and Dr Steven Bloch for their comments and input.

REFERENCES

¹ Costello, J. M. (2016). Message Banking vs Voice Banking: A Very Successful Proactive Model for People with ALS/MND. In 14th Annual Allied Professionals Forum. Dublin. Retrieved from <https://www.alsmndalliance.org/wp-content/uploads/2016/12/costello-message-banking-handout.pdf>

² Cave, R., & Bloch, S. (2020). Voice banking for people living with motor neurone disease: views and expectations. (under review).

³ Benson, J. (2015). Have your MND patients taken out their vocal insurance yet? RCSLT Bulletin, (December), 12–13. Retrieved from <http://www.callscotland.org.uk/common-assets/cm-files/files/voice-banking-for-patients-with-motor-neurone-disease.pdf>