

BTA and the latest in Tinnitus Research

- David Stockdale, Chief Executive of the British Tinnitus Association - 19th May 2015

This month we had a great talk from David Stockdale, who gave us all an insight into the British Tinnitus Association and the latest research. He focused the first half of his discussion on general tinnitus information, and the second half on sleep - as well as including a discussion about the BTA and recent research projects.

David began by discussing some general aspects of tinnitus - starting with an explanation of the BTA's definition of tinnitus: 'a noise in your ears or head with no external source'. He noted that the cause of it is not understood and everyone's tinnitus is unique to them, leading to different ways of experiencing it. 10% of the adult UK population have permanent tinnitus, and it can occur at any age. The main causes of tinnitus are; hearing loss, exposure to loud noise, stress and anxiety, or ear infections. David explained that there are two forms of tinnitus; subjective tinnitus where most people hear a whistling or buzzing sound, and objective tinnitus where a wooshing or clicking sound can be heard. David then continued to focus the discussion on subjective tinnitus.



Subjective Tinnitus

David began by explaining the hearing anatomy, pointing out all the components and noting that it does not explain why some people with tinnitus have normal hearing, and why some people who have severe cochlear damage have no tinnitus at all. He then went on to explain the hearing anatomy to give us an insight into how researchers have attempted to explore tinnitus. Firstly, he noted that the filtering and recognition that occurs once sounds pass through our ears, relates to our emotional brain and thus the autonomic nervous system is engaged in fight or flight mode. David gave an example of when we hear a noise in the night, which startles us and puts the 'flight or fight' mode to work.

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He then continued to discuss previous research which paved the way for how this autonomic system works. In 1953 Heller and Bergmann conducted an experiment which found that when 80 people with normal hearing were sat in a sound proofed room, 94% heard noises similar to that relating to tinnitus. In 2008, the experiment was repeated by Italian researchers, who found that 92% heard noises similar to tinnitus, when there was an unplugged loud-speaker in the room. It was established



that these people were hearing electrical activity in the audio pathways, and for most people the filter in our hearing anatomy stops this noise, but for those with tinnitus the filter fails to stop the noise, as there are no other sound stimulus - for example they may have hearing loss or are in a soundproof room. Thus, they become more aware of the sound, which leads to concern and increases the fear or worry via the autonomic nervous system. Therefore, David noted that because we are monitoring it, it makes us worry, and the more we monitor the more the filter continues to listen and fails to stop the noise. The limbic system - which is the part of the brain dealing with emotions, makes us more stressed because of the noise, and then our tinnitus starts.

David explained that the best way to manage tinnitus is from the angles, by increasing sound via your hearing aid, and reducing anxiety or stress. Further, he recommends relaxation, counselling and sound therapy - as having sounds in the room helps. One example an audience member gave was to have a fish tank in the room, as the noise of the filter helps them. Further, if you think about the tinnitus too much it might aggravate the noise, or may be more noticeable if you are less engaged in activities.

Research

-*Acoustic CR Neuromodulation RESET 2* - this equipment plays 4 sounds around the tinnitus - however you need to have 'signal tonal tinnitus', which only 1 in 3 people do. It is designed to slowly train your brain to focus on the beeps rather than the tinnitus, and it is claimed to work in 70% of cases. However, the research from a trial conducted in 2014 has yet to be released.

-*soundcure* - this is available at local hearing aid dispensers, but there is no current evidence that it works

- *Tinnitus pro music therapy* - pitch-matches tinnitus by listening to your own music, as it removes the pitch level from it. It is claimed that playing sounds to the tinnitus pitch makes you listen to that instead of the tinnitus.

- David also noted the value of using sound, via correcting your hearing loss through a well fitted hearing aid will help. He advises to write down when your hearing aid does and does not work, and then take it to the audiologists so they can know when

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the hearing aid will work better for you and adjust it accordingly. David also pointed out that hearing aid microphones are directed to focus on the person talking, but if you have tinnitus, you will want background noise to distract you from the tinnitus - which is why some modern hearing aids may be *too good*.

- *combination hearing aid* - 'Widex zen' - this includes a hearing aid and tinnitus programme to produce the sound of electronic wind chimes.

BTA Research

David then discussed the BTA's recent research concerning: cost evaluation of tinnitus in the NHS, which established that treatment is cheaper and will be published soon/ mindfulness in relation to the cognitive model of tinnitus/ relationship between tinnitus and hyperacusis and anxiety in children aged 8 - 16 years/ profound deafness in tinnitus

Sleep

David began by discussing the issues relating to insomnia and noting that it can cause us to worry, induces negative cognitive activity, cause arousal and distress, makes us monitor and focus on the tinnitus, and distorts our perception of what is going on around us. David advised that it may be better to push ourselves and engage in activities so that we are distracted from the tinnitus. In particular he noted that things we do in the day impact on how well we sleep. David then explained that having a quiet bedroom makes you aware of tinnitus, leading to unhelpful thoughts and behaviours which make us anxious and increase our heart rate. However, it is not about how many hours



sleep you get, but the quality of the sleep - so it is important to correct distorted perceptions and reduce monitoring of your sleep. He also noted that you have to be conscious to be aware of tinnitus, which reflects why hypnotherapy is good at stopping tinnitus. Further, as we get older, our sleep pattern changes and we have far more awakenings and less deep sleep, making it seem like we are getting less sleep and thus noticing our tinnitus more.

David advised that having a clock in your room makes sleep harder, as when you wake up at 3am you instantly look at the clock and work out how many hours sleep you have left. Without a clock, the chances of falling back to sleep is maximised. Furthermore, visualisation helps with sleep - for example counting sheep can have less response as it is neutral with no meaning, so we are not really thinking about it. David also suggests repeating a neutral word such as 'the' or thinking of a daily

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activity which is easy to focus on and that has no consequences. Finally, it is important to note that it is common to wake up feeling rubbish, and to feel sleepy mid-afternoon - it is not due to the tinnitus, and David highlights the need to not put inaccurate beliefs onto tinnitus.

David recommended the following for good 'sleep hygiene' - exercise, avoid big meals at night, avoid alcohol, make your bedroom only for sleeping, go to bed when you are tired, do not change your day-time routine, and enable a good sleeping environment by keeping temperatures low.

Another treatment David recommended was relaxation to reduce stress and anxiety via breathing, visualisation and muscle relaxation.

Dealing with intrusive thoughts

Finally, David discussed the methods of dealing with intrusive thoughts, as we need to think about something to know whether or not we are thinking about it - which makes trying to not think about tinnitus impossible. Instead, it is easier to attempt to distract ourselves by thinking about other things. David spoke of having a notepad and pen beside your bed, so that any panicked thoughts which awaken you in the middle of the night can be written down and left until the morning to deal with. Before bed you could also try writing out everything you want to do tomorrow so you do not think about it when you are trying to sleep. Further, the environment around your bedroom can have a huge impact on your tinnitus, so it may be help to purchase a bedside sound generator. David recommends one which is mains operated so it does not run out in the middle of the night, or even one with pillow speakers. It may also be useful to use it without the timer, leaving it on a low level at all times. This means that the noise is permanent, making you forget about it and thus making you forget about your tinnitus. Ultimately, David notes that all these methods are subjective, and as tinnitus is different for person, you should pick and choose which method works for you.

BTA information:

For more information visit - www.tinnitus.org.uk/

Or use the freephone helpline - 0800 018 0527



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Next TSG meeting

Our next meeting will be on Thursday 25th June 2015, starting at 2:30pm. We will be joined by Claire Gatenby, Chief Hearing Therapist from the Audiology Department of the Norfolk & Norwich University Hospital, who will be presenting a talk on sleep management for people with tinnitus. If you would like to attend this meeting please email me at tinnitus@norfolkdeaf.org.uk or call 01603 404440.

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