

Research into “freezing” in Parkinson’s sufferers.

A presentation to the Guildford and South Surrey Branch meeting on 22 May 2018.

Dr Will Young (Brunel University)

Will began his talk by telling everyone about his background as a Sports Psychologist, from where he had found his way into Parkinson's research. He explained that he has been looking at issues around posture and gait and particularly the impact of anxiety and freezing in people living with Parkinson's.

He described the inspiration for his most recent research project which was an experiment conducted in Italy looking at the motor neurone centre of the brain. It had been discovered that viewing someone carrying out an action (in this case a monkey picking up a banana) can trigger a reaction in the corresponding part of the brain in the person that sees it: these are called ‘mirror neurones’.

Will began looking into whether this concept could be applied to Parkinson's and the prevention of freezing. Early tests showed that listening to the sound of footsteps on gravel gave a 20%-30% improvement in keeping moving without freezing, but this didn't translate well to the real world. People found it very intrusive and the action of walking is too variable.

With funding from Parkinson's UK Will then began a project training people to *imagine* the sounds of footsteps: this was still very intrusive and unpopular with participants but did show some evidence of working. Finally, Will decided to focus on the fact that some people can feel freezing about to start 2-3 steps before it happens and asked if it would be more productive to look at ‘getting people going’ and preventing falls, rather than trying to prevent freezing altogether.

Working with another Sports Psychologist (and former cage fighter!) from Exeter, Will has been looking at techniques to use cues to get people to shift their weight onto the moving foot. He gave examples of imagining you are balancing on scales, or ‘Wobbling like a Weeble’, swaying like a tree etc. and used these with participants to develop new techniques. Participants in the experiments tried out a range of techniques while wearing Virtual Reality Headsets and attached to climbing ropes.

The results from the study were just in and are showing it has been very successful and that it can be translated into real-life situations. Will was keen to find out from the group what next steps the project should take and the best way to disseminate the information via Parkinson's UK. Options included developing information flyers, producing a range of videos and tutorials on the cueing strategies which could be made available online or even taking the training out ‘on the road’ to different groups and venues.

The way forward is now being considered by Parkinson’s UK. Watch this space!