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1 June 2016

TO: Dr Stuart E Hoffman and Sharon R Penchina

Dear Stuart and Sharon

I'm writing to you today to say a huge THANK YOU!!!! Thank you for being a member of our Supporters Programme at the Centre for Chiropractic Research. The future of chiropractic research, particularly in our Centre, depends on people like you who support the research that we perform. We launched the Supporters Programme almost three years ago because we have some huge aspirations for the research we'd like to do on behalf of the profession, but our traditional funding sources just can't support the big vision we have. I'm pleased to say that since its launch the Supporters Programme has been a success and has enabled us to complete a number of projects that would not have been possible if the Programme had not been launched. Today I would like to share the results of a couple of these projects with you.

The first project was recently published in the highly reputable journal 'Neural Plasticity'. In this study we aimed to see whether chiropractic adjustments altered the way the brain processes sensory information and where in the brain any changes we observed take place. This project involved researchers from the Centre for Chiropractic Research as well as an amazing team of researchers from Denmark, Canada, and Australia. It was a big project and received external funding from Spinal Research in Australia and the Hamblin Trust in New Zealand. **We think that the results of this work are some of the most thrilling findings we've encountered to date in our research efforts!** The results suggest that some of the biggest changes that occur in the brain following chiropractic adjustments of vertebral subluxations takes place in the prefrontal cortex.

The prefrontal cortex is known to be a key structure responsible for the performance of what is known as 'executive functions'. Executive function is the mechanism by which the brain integrates and coordinates the operations of multiple neural systems to solve problems and achieve goals based on the ever-changing environment around us. In other words it is key to the way that we adapt and self-organise. A change in prefrontal activity following chiropractic care may therefore explain and/or link some of the varied improvements in neural function previously observed in the literature and that we see in our practices on a daily basis. It also may explain why chiropractic care can have benefits that exceed simply reducing pain or improving muscle function.

In another study we recently published we compared the pelvic floor muscle activity (Levator Ani muscle complex) of pregnant and non-pregnant females, before and after a session of chiropractic care. While there was no change in non-pregnant women, in the pregnant group a significant relaxation of the pelvic floor muscles occurred. This means, that chiropractic care could be beneficial during pregnancy and support natural vaginal delivery. A secondary finding was an increase in muscle contractility of the non-pregnant group to a degree previously seen only in elite

athletes. We don't yet know exactly why, but a possible explanation for this is that they were chiropractic students who were regularly getting checked and adjusted and this may have been why they had such amazing control over their pelvic floor muscles. It's also possible this would have a preventative effect against future pelvic floor dysfunction such as stress urinary incontinence! But of course we need to follow up with more studies to find out for sure.

We've also just completed data collection for another exciting project, or more to the point a series of projects, in Pakistan. In these studies in Pakistan we were working with researchers from Riphah International University and the National University of Science and Technology in Pakistan to research the effects of chiropractic care on nervous system function in patients who have had a stroke or who have been diagnosed with Parkinson's or Alzheimer's disease. Our team has only just arrived back from Pakistan, but our very early analysis of data looks really encouraging. We can't wait to share the results of these studies with you once we've properly analysed the data.

Besides conducting a large amount of ground breaking research over the last year we've also been lucky enough to receive a number of awards. These include the first place Haldeman Award at the WFC congress in Athens, the delegates award at the CAA scientific symposium in Melbourne, and the first place research award at the Parker Conference in Las Vegas. Our up and coming researchers Alice Cade and Tanja Glucina-Russell were also awarded scholarships by Independent Tertiary Education New Zealand and the NZCA, and our team also received a president's award from the NZCA for our contribution to the association. All in all, it's been a very successful and very busy year for us. We're proud to be at the forefront of this ground-breaking chiropractic research and we want to thank you for your support because we couldn't do this without you. Your support is making a difference to chiropractic research, we are extremely grateful that people like yourself have helped to provide us with the opportunity we now have to advance the chiropractic profession through cutting edge research, and we're working hard on behalf of you and the profession to take chiropractic to the next level.

Yours sincerely

A handwritten signature in cursive script that reads "Heidi Haavik". The ink is dark and the handwriting is fluid and personal.

Dr Heidi Haavik  
**Director of Research**