

## **Wound Healing and Tissue Engineering Research Elective**

Chronic wounds are a major cause of morbidity, affecting more than 1% of the UK population and the treatment costing more than £1 billion per year (Thomas and Harding, 2002). For example, pressure ulcers are a considerable healthcare problem, with approximately 700,000 affected each year and cost the National Health Service more than £3.8 million a day (NHS, 2017), yet it is still an ongoing issue despite local and national efforts to maximise conservative management and educate patients and staff. For these reasons, it is important that we continue to find and research novel therapeutics for chronic wounds.

Wound healing is an exciting and expanding area of medical research. Having taken part in research in the Biomaterials and Tissue Engineering Laboratory at University College London during medical school, I was keen to continue developing my research skills in this exciting field further.

I carried out a research internship during my medical elective, in the state-of-the-art Wound Healing and Tissue Engineering Laboratory at Harvard Medical School and Brigham and Women's Hospital in Boston, USA. It was an internship I wanted to do for several years and I was delighted when my medical school (University College London Medical School) approved it as part of my studies.

The laboratory is working on exciting projects on advancing wound healing surgery and medicine as well as tissue regeneration. It was a once-in-a-lifetime opportunity to work in an internationally recognized institution that is at the frontier of research in its field and experience research first-hand. My main aim before setting out to do this elective was to develop and learn skills that would help put me in good stead for a career as an academic clinician.

During my time in the laboratory, I took part in various activities. My bench side laboratory duties involved observing and carrying out practical experiments such as those involving cell culturing, immunohistochemistry and animal models. As well as on-the-ground practical tasks, I also had the opportunity to learn and take part in statistical analysis, contributing to writing the project paper, presenting at the weekly laboratory meeting and reviewing the literature. Since the laboratory is located in a research-dense area of Boston, with Massachusetts Institute of Technology fairly local, there was also plenty of opportunity to attend very interesting lectures and talks by eminent professors and physicians in the evenings.

Particular challenges I encountered was the steep learning curve, especially in the beginning and also managing my time. I needed to learn several laboratory protocols, handling software, dealing with equipment and balance this with time spent on the computer analysing data and writing.

My experience has been incredible. I've had an immense opportunity to learn about basic scientific research in wound healing and experience research first-hand. I feel this elective has greatly helped me to broaden my experience and helped put me in good stead for my academic career aspirations. I sincerely thank the British Association of Dermatologists for their support and I am very grateful.

## References

- THOMAS, D. W. & HARDING, K. G. 2002. Wound healing. *Br J Surg*, 89, 1203-5.
- NHS. 2017. *Stop the Pressure* [Online]. Focus Games Ltd. Available: <http://nhs.stopthepressure.co.uk/> [Accessed 22/01/2017].



