BOA Travelling Fellowship Report

Name	Matthew Brown
Institution	Institut de la Main, Paris, France
Dates	15-26 July 2019
Supervisors	Dr. Caroline Leclercq, Prof. Christophe Mathoulin, Dr. Mathilde Gras

I write this report on my return Eurostar journey following a wonderful fortnight spent with the inspirational team at the Institut de la Main in Paris. The Institute is a centre of excellence in hand and wrist surgery and training. It was founded in 1972 by the renowned hand surgeon, Pr. Raoul Tubiana as the first specialist hand surgery unit in Europe. The private unit treats traumatic, congenital and degenerative conditions of the entire upper limb, with a focus on the hand and wrist. I chose to visit in the final months of my specialist training to maximise my understanding and learning. Having developed my surgical practice in the British tradition, and I was excited to compare my experiences with France's highly regarded and innovative health service. My primary learning objective was to learn from world-renowned surgeons in the management of conditions of the hand and wrist to effect improvements in my future patient care. I also hoped to understand how the service provided may help contribute to the institute's success. I am incredibly grateful to the BOA for generously supporting this learning opportunity.

My arrival in Paris coincided with Bastille Day and I started my trip in a city gripped by the energy of this national celebration. After enjoying the evening fireworks in the shadow of the Eiffel Tower I retired to the city's suburbs in anticipation of the fortnight ahead. My weekly timetable maximised access to the daily operative lists, during which I assisted or observed Prof. Mathoulin and Drs. Leclercq, Gras, Arnout and Guero. Although hand surgery is similarly an interface specialty in France, all except the latter were orthopaedic surgeons and this further encouraged me to believe that the pioneering techniques observed could be incorporated into my future orthopaedic hand surgery practice.

I also joined Drs. Leclercq and Gras in the out-patient department and made notes on their thorough and considered approach when examining and managing hand cases. Dr. Leclercq co-authored the seminal textbook on Dupuytren's disease, and I was especially interested in her management of this condition. We discussed her treatment hierarchy and her indications for dermofasciectomy. Although not currently covered by French insurers or the public system, Dr. Leclercq supports the use of collagenase as a treatment for MCPJ contractures with a palpable palmar cord. A weekly tutorial for residents and visiting fellows was delivered by Dr. Leclercq. She is an expert on spasticity and tetraplegia management in the upper limb and she provided a tutorial on the latter. Although not performed during my visit, she is a protagonist of selective neurectomy and we discussed its use and indications.

Pr. Mathoulin founded the European Wrist Arthroscopy Association (EWAS) and has pioneered wrist arthroscopic surgeries generally unseen in UK practice. Over 20 arthroscopic wrist operations are performed at the institute and I was fortunate to assist with the following arthroscopic procedures: scaphoid non-union grafting and fixation,

repairs of the scapholunate ligament and TFCC, distal ulnar 'wafer' excision for ulnocarpal impaction, dorsal ganglion excisions and arthroscopic interposition tendon arthroplasty (AITA) using palmaris longus autograft for stage 2 scapholunate advanced collapse (SLAC). The team published a retrospective case series of 16 AITA cases in early 2019 and reported preserved motion, acceptable functional outcomes and reduced pain. Other arthroscopic procedures discussed but not observed include styloidectomy and arthroscopic-assisted distal radius fixation.

Pr. Mathoulin and Dr. Gras perform most of the arthroscopic procedures at the institute. Despite performing the many cases with impressive ease, the steep learning curve (and the extended surgical time, especially initially) perhaps provides a reason for why it is not more widely performed, even in France. I was impressed by their research outcomes and the radiographic and symptomatic improvements observed during my time at the institute. Dr. Gras provided the second tutorial on arthroscopic proximal pole scaphoid replacement for cases of fracture-associated necrosis. Both Dr. Leclercq and Pr. Mathoulin utilise two operating theatres for their lists, with two fellows (often international residents) and two theatre assistants working between theatres to prepare cases so that operative time can be maximised. Of interest, anaesthetic expertise in regional anaesthesia ensured that all cases received a regional blockade, with only one case being supplemented with general anaesthesia.

All surgeons at the institute perform endoscopic carpal tunnel decompression (ECTD) and having only read about the procedure I was keen to observe and assist. Mild or moderately severe primary cases are treated with ECTD, with recurrent or severe cases (i.e. loss of 2-point discrimination) instead treated with 'canal carpien classique' (the classic open technique). All cases presenting with carpal tunnel syndrome are investigated with neurophysiological testing. Ultrasound-guided steroid injections are reserved for mild cases alone. Both single and two-incision ECTD techniques were observed.

I was intrigued to learn how the team developed their endoscopic skills and they highlighted the need for cadaveric experience in the early stages of transition. Each suggested that relative proficiency was achieved after performing around 50 operative cases. Although atypical locations of the recurrent motor branch may not always be clearly observed, the risk of inadvertent injury is reduced by rotating the endoscopic blade in an ulnar direction. The team support the use of ECTD on the basis that patients prefer the smaller scar(s) and the noticeable reduction in scar-related pain (the incidence of CRPS remains unchanged). I was impressed by the clear visualisation of the deep surface of the transverse carpal ligament and the incision-to-closure times being just a few minutes. I am uncertain if I would incorporate this into my future practice; however, assisting the team has certainly enriched my understanding.

In addition to the above cases, I also assisted and observed many open operations. These included De Quervain's release, cubital tunnel decompression with anterior ulnar nerve transposition, thumb ulnar (and radial!) collateral ligament repairs, midcarpal fusion for a hemiplegic flexion contracture, plus forearm neurolyses. I also observed use of the lateral digital rotation flap for covering palmar soft tissue defects overlying the proximal phalanx,

for example following dermofasciectomy or contracture excision, and I will aim to utilise this in my future practice.

France is often overlooked as a fellowship destination by UK orthopaedic trainees. Paris is a city that needs little introduction and the expertise of the Institut de la Main provided the perfect learning experience. The surgeons and theatre staff at the institute were very welcoming and my rudimentary conversational French proved more than adequate. The team were more than happy to use English in conversation and they even tolerated my poor attempts to communicate in French!

In addition to the valuable educational experience, I also enjoyed living on the metropolitan periphery of Paris. Staying in a quiet residential neighbourhood, enjoying the local food and drink, and commuting daily with Parisians on the Metro will remain fond memories. The team's dedication to surgical education, research, and pioneering advances in minimally invasive techniques was an inspiration. I believe strongly that my experience in Paris will help support my future learning and influence my surgical practice. I remain immensely grateful for the team's gracious support and hospitality. As my Eurostar train pulls into St Pancras station I look forward to planning my next visit to the institute one day soon.

Matthew Brown with Team Mathoulin and with Prof Mathoulin