

# BSSH Travelling Fellowship Report Institute Kaplan, Barcelona, Spain January 2024

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## Introduction

In January 2024, I completed a two-week travelling fellowship visiting the Kaplan Institute in Barcelona, Spain. I chose this institute in particular due to its world-class pedigree in hand and wrist surgery research. Its founding members and current faculty have shaped the way we think about areas of hand surgery such as the biomechanics of the thumb carpometacarpal joint and scapho-lunate ligament injuries amongst many others.

I completed this visit after completing fellowships at the Pulvertaft Hand Centre, Derby, the Royal North Shore Hospital and a period as a locum consultant at Guys & St Thomas Hospital Hand Unit. This meant that I had a good foundation in hand surgery but as I set sail into independent practice I had formulated many questions and areas of interest that I found challenging. The fellowship therefore came at the perfect time in my early career where I could learn from some of the leading hand surgeons in Europe with an opportunity to discuss interesting cases and gain pearls of wisdom.



*Emanuel B. Kaplan M.D. Sketch*

## History of the Kaplan Institute

The Kaplan Institute was founded in 1994 by two pioneers of hand surgery: Alberto Lluch & Marc Garcia-Elias forming the first dedicated hand unit in Spain.



*Left: Alberto Lluch. Right: Marc Garcia Elias*

## Who was Emanuel Kaplan?

Emanuel B. Kaplan M.D. (1894-1980) was a gifted hand surgeon and anatomist. He was born in 1894 in Ukraine and completed his undergraduate studies at the University of Montpellier, France and began his medical education in Paris in 1912. When the First World War started, he returned to Russia and graduated from the Kharkov Imperial University Medical School in 1916. He then served as a medical officer with the Imperial Revolution Army. After the war, he was the director of the American Joint Distribution Committee and served as physician and interpreter with the American Relief Administration. His work brought him to the attention of USA President Herbert Hoover who encouraged him to emigrate to America. He settled in New York and began orthopaedic residency at the Hospital for Joint Diseases where he later became an Attending Orthopaedic Surgeon. During his career, he authored over 100 publications including four books including *The Functional & Surgical Anatomy of the Hand*.<sup>1</sup>



*Emanuel B. Kaplan M.D. Portrait*



## The Kaplan Institute

The Kaplan Institute is primarily based at Creu Blanca located in the Sarria area of Barcelona. Creu Blanca is a private multi-specialty clinic of which the Kaplan Institute occupies a floor of clinic rooms and operating theatres in the basement within a beautiful building. The faculty also work across other hospitals in Barcelona including Hospital de Barcelona and Vall d'Hebron which is a major trauma centre. This should be considered when planning a visit however, each of the locations are easily accessible by the metro. There is also a biomechanics laboratory affiliated to the Kaplan Institute located at the University of Barcelona. Unfortunately, I did not get to visit as the lab was closed but I did have the opportunity to discuss how the lab is set up and how research is organised.



*Kaplan Hand Institute @ Creu Blanca*





There are six consultants based at the Kaplan Institute including Dr. Alex Lluch Bergada, Dr. Angel Ferreres Claramunt, Dr. Ana Carreno Delgado, Dr. Mireia Esplugas, Dr. Miguel Perez Abad and Dr. Maria Larrea Zabalo. They each have their own areas of clinical expertise including wrist arthroplasty, small joint arthroplasty and reconstructive microsurgery.

*Left: Creu Blanca Clinic  
Below: Vall d'Hebron Hospital  
Bottom: Hospital de Barcelona*



## Summary of Clinical Experience

The unit is busy with multiple activities across multiple locations each day. The week's roster is published on the Sunday before the week starts but it possible to see which cases are planned ahead of time. There are often multiple travelling fellows at the institute at any given time which requires some diplomatic negotiation about who does what. During my time, I was accompanied by three fellows from Chile. It was interesting to talk about how healthcare is organised and delivered in South America and what challenges they face which were often comparable to those in the NHS.

## Clinic

I spent most of my time in clinic under the supervision of Dr. Alex Lluch Bergada and Dr. Mireia Esplugas. The clinic rooms were adorned with certificates and diplomas which belonged to the faculty. Of note, there was the Emanuel Kaplan prize from the New York Hand Society which was awarded for "anatomical excellence in surgery of the hand" for research on thumb carpometacarpal joint biomechanics.



Emanuel B. Kaplan Award from the New York Hand Society

I particularly enjoyed clinic with Dr. Esplugas with her unique and brilliant bedside manner. Appointments were 30 minutes in duration with an extremely detailed history and examination where most of her diagnoses were formulated. Each bone, ligament, tendon, nerve and muscle was assessed with a plethora of special tests – I thought I knew how to examine a wrist but after observing her I clearly do not! At the corner of the room there was an ultrasound machine which she effortlessly used as an extension of her clinical examination. She showed patients pathology and took time to explain what was going on which made a huge difference to the patient experience and understanding of their condition. She demonstrated triggering of fingers to patients and the accuracy of the injections going into the sheath. A good tip I picked up was to inject trigger thumbs with the patient prone lying on a couch and their arm adducted by their side and forearm pronated. This position was comfortable for the patient allowed easy access for the ultrasound probe. We discussed topics such as



Clinic in a lab coat



thumb carpometacarpal joint arthroscopy and tips and tricks for wrist arthroscopy which was very helpful.

With Dr. Lluch Bergada I discussed areas of hand surgery which I find challenging such as STT arthritis, stage 3B Kienbock's disease and management of ulna sided wrist pain. For every topic, he went through a keynote presentation delivered at various meetings and courses with the latest research and his own experience which was hugely informative. Patients came from all over Spain with many second opinion referrals. Clinics run well into the evening with 20.30 pm finishes the norm.

## Theatre

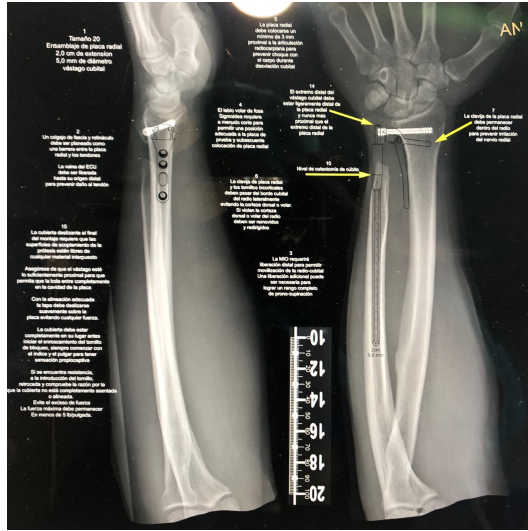
Theatres are spread across Creu Blanca, Vall d'Hebron and Hospital de Barcelona with a published theatre schedule. Travelling fellows are expected to scrub in and assist the consultants.

I scrubbed into a broad range of cases from simple to complex. There is always something new and interesting to learn. For example, I assisted Dr. Angel Ferreres Claramunt with a carpal tunnel decompression transverse carpal ligament (TCL) flap. He placed the skin incision ulnarly, just radial to the hook of hamate and then opened Guyons canal so the ulna neurovascular bundle is visualised. Then the TCL is divided just radial to hook of hamate. A radially and distally based flap of the TCL is raised and is sutured loosely to the remnants of the TCL on the ulna side. The rationale is that this helps improve grip strength especially with the wrist flexed. I was also shown how to decompress the carpal tunnel when performing a dorsal approach Trapeziectomy. The FCR tendon is identified and then traction is placed on it to release it from adhesions to the scaphoid. Then its retracted and the tissue deep to it is divided to reveal the FPL tendon with further dissection revealing the median nerve!

I also had the opportunity to assist with complex cases which demanded dual consultant operating with Dr. Esplugas and Dr. Lluch. This included cases such as a Radio-scapho-lunate arthrodesis for radiocarpal post-traumatic arthritis using headless cannulated compression screws, INCA STT joint arthroplasty and a Scheker Aptis DRUJ arthroplasty for an unstable ulna stump post Suave-Kapandji procedure. It was wonderful to see two colleagues work together and something which I think I would advocate doing back at home when performing complex or uncommon procedures which can be encountered in hand surgery.

*Assisting Dr. Esplugas & Dr. Lluch with a RSL arthrodesis case*





*Scheker DRUJ arthroplasty*

It was also great to operate with Dr. Perez Abad and Dr. Larrea Zabalo who are two young consultants at the Kaplan Institute. I assisted them in cases such as the TOUCH CMCJ arthroplasty and fixation of a unicondylar proximal phalanx fracture using the Medartis 1.7mm headless compression screw. The future of the Kaplan Institute is in good hands (excuse the pun!)

*INCA STT joint arthroplasty*





Patients are encouraged to begin hand exercises immediately. Two lines were drawn on their bandages with their finger in the intrinsic claw position and one with the MCPJs flexed. Patients were instructed to touch the tips of their fingers onto both lines.

*Bandage markings for finger exercises*



Overall, it was an outstanding experience. It was a great opportunity to observe how a different healthcare system to the NHS works both within the public and private setting. It was really wonderful to meet and interact with fellows from across the world and foster collaborative friendships with masters in hand surgery.

I would highly recommend a visit to the Kaplan Institute and I would like to express my deepest gratitude to the BSSH for facilitating this experience.



*Dr. Lluch & Travelling Fellows*

## References

1. Spinner RJ, Dellon L, Emanuel B. Kaplan, M.D. (1894-1980): A Legendary Anatomist and Hand Surgeon Clin Anat. 2018 Nov;31(8):1104-1108. doi: 10.1002/ca.23245.

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