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ESTABLISHING A HAND SERVICES-SOME REMINISCENCES

Subspecialisation in surgery has only relatively recently become the norm, particularly in the developing world. But hand surgery presented many unique requirements, so it became a subspecialty almost 100 years ago. Sterling Bunnell was in charge of hand surgery services for the American Armed Forces in World War II. Therefore, following the war, his activities and those of other surgeons produced powerful new techniques and equipment advances, which encouraged many hand surgeons in the United Kingdom and the United States to set up quality units. Among these of note was Guy Pulvertaft, who established a unit in Derby, England. He came to Australia many times, and I was fortunate to entertain him at my home on several occasions.

I was particularly attracted to the work of Dr Joseph Boyes in Los Angeles, as I had met him in Asia. I spent several weeks with him at his unit and was impressed by his operating arrangements. When he was in army service, there was a boy who appeared to be an orphan and who hung around his unit. The boy was given tasks to do, and when Dr Boyes returned home, he brought him back to the United States and set him up as his scrub nurse. Watching these two people work together was magic. He anticipated Dr Boyes's every move. This circumstance reminded me that the scrub nurse is the essential team member that comforts the surgeon during the surgery, particularly during complex cases that stress the whole team, particularly the surgeon.

A foundation member of the hand surgery group in Sydney was Alan McJannett, who arranged an itinerary so that 16 Australian orthopaedic, plastic, and general surgeons visited the major hand surgery centres of the United States. Sir Benjamin Rank was in the group, and we gathered in Benny's room each evening to discuss the day's activities. Each of us made a presentation to deliver in the USA, and I chose the small fragment lag screw and had a cadaver phalanx with an oblique osteotomy and a single lag screw in place. It is still mechanically strong after several hundred loosening and re-tightening. But then, metal implants hold better in dead bone than in live bone.

Figure 1. Benny Rank (later Sir Benjamin) and Allan McJannet

To my pleasant surprise, very few units in the USA were aware of the Swiss AO Foundation's achievements. Some surgeons in Europe were in direct contrast with the British Schools. For example, Gerhardt Kunscher inserted a medullary nail in the long bone shaft fractures of many injured servicemen, including the Allied nations. Despite this being successful and even life-saving, for example, in the case of burnt pilots, he was almost arranged as a wall criminal by the British orthopaedic surgeons reviewing his cases.

Figure 2. Foundation Australian hand surgical group touring USA

Soon after the war, the Swiss AO group was formed with reducing techniques and implants in fracture fixation, revolutionising fracture care. This included miniaturised implants for hand fractures. Gottfried Segmuller designed these and wrote an excellent book on their use. I was the first person in Australia to embrace and instruct on his techniques. Introducing new techniques is a very interesting phenomenon and is best conducted in a skills laboratory. This quickly reveals those people skilful with their hands and acquiring new techniques in contrast to those not so skilfully endowed.

There is also a most interesting phenomenon not named in surgery, particularly orthopaedic surgery, which depends on one being skilful with tools. This phenomenon is the age at which a surgeon is not capable of mastering, usually complex, new techniques. Unfortunately, such a surgeon is generally very senior or head of department. For example, my chief could not triangulate or perform an arthroscopic meniscectomy and continued with open meniscectomy and was critical of arthroscopy.

In Sydney, Professor Taylor expressed strongly negative views such as “arthroscopy anonymous”, which advised that those who would like to perform an arthroscopy should take a cold shower and give the matter further thought. But, of course, there are three sides to everything, and we should be fair to these gentlemen because it transpired that these opponents were not far off the mark in one aspect of arthroscopy. Still, this does not apply to the whole practice, which marches forward from joint to joint, until at the time of this writing, basal thumb arthritis is treated endoscopically by many surgeons.

If these opponents to knee arthroscopy were not far off the mark as history provided Via Ian Harris in his book, performing an arthroscopy to attend to a meniscal problem in a degenerative knee is of no value. This practice was challenging to stop in Australia. I am informed that in Germany, it needed legislation to prevent this practice from continuing. There have been departments in which the senior surgeon could not master knee arthroscopy and prevented other department members from proceeding with this technique because of his influence and status.

This resistance to the new implants and techniques does not just apply to arthroscopy. It was particularly applicable in the introduction of AO techniques. Thus, it was challenging to introduce the AO system into Australia with its wide variety of implants, specific surgical techniques, and after-care following their use. To be fair again, according to the chief’s perspective, they were surgeons of the Second World War. They emerged from that experience with orthopaedic skills that they applied to all problems adult and paediatric. They would not consider a second opinion. My chief called this “management by committee”.

I worked with him a lot and greatly admired his ability to turn his hand to anything in the myriad of problems in orthopaedic surgery. However, I could not emulate him because my training experience differed significantly from his wartime period. He had to do everything during the war and found himself able to do so. He was a great teacher but did not refer positively or negatively to his wartime surgical experience. He and his colleagues worldwide must have undertaken new techniques on multiple occasions during that time. Therefore, when he could not triangulate and perform knee arthroscopy, I reflected on this. It must have given him significant concerns. Perhaps on the lighter side, I found my Achilles heel in shoulder arthroscopy. It was in the very early days, and I found myself working in an ink well. I used the golf/tennis rule. That is, if you would rather be on the golf course or tennis court than what you are doing, you should stop doing it, and this applied to my shoulder arthroscopy, so I stopped.

The message here for establishing a hand service is to recruit young staff with an open mind capable of being trained in new techniques and to assist in training others. When you think about this issue, nothing could be more relevant than replant and transplant surgery. One interesting legal aspect arises here. When we perform these new procedures, we are experimenting on our patients. This is an ethical issue and a further

reason for supervised training in the use of the skills laboratory. For example, as a trainee in Newcastle, I wanted to plate both forearm bones. I called my chief for guidance, and he explained to me that I should go to the director of the post-mortem room. So, when somebody had to have this procedure, I should do a mock plating of both bones, being careful that no wounds were visible.

This I did, and the Chief of the Post-Mortem Room, who helped me on many occasions, came to Sydney and assisted us in obtaining human skeletal specimens for our AO courses. At that time, plastic liners were not available. We all had gone through a phase of concern and initial rejection of this "metallic madness". However, my friend Philip Segelov and I became AO instructors after multiple visits to the Davos research centre in Switzerland.

Figure 3. Phil Segelov in skills lab with Australian hand surgeons, 1975.

There was considerable resistance to the introduction of AO because Australian orthopaedists were all trained in the United Kingdom school, which was extremely conservative. For example, I gave an AO multiple case presentation at the AGM in Melbourne in the mid-1970s. Halfway through my talk, the President of the AOA arose and asked the chairman to cease my presentation and thus remove me from the podium. Similarly, there was resistance by the general surgeons at a hospital where I was on the staff to my establishing a hand service.

I was assisted in my endeavours by my involvement in a remarkable case. I was asked at midnight to see a patient whose hand had turned black with a circulation obstruction. He had suffered fractures of the metacarpals and wounds resulting from his hand being caught between a wall and a swinging bucket. He had been taken to the operating room, where the general surgical registrar surgically treated his wounds. Subsequently, the night staff ward doctor and his general surgeon superiors were puzzled at the patient's progressively darkening hand. I was surprised to receive a phone call requesting that I attend as I was not part of their team. When I cut the dressings on the ward, I found his metal expandable watch wristband had not been removed despite his wounds being treated surgically in the operating room. It was obstructing his circulation.

Figure 4. Tight wristwatch band, still worn, discovered post-surgery.

Information about circumstances such as this patient's wristband being left on during surgery travels fast in a hospital situation when something like this happens. So, I did not personally need to inform the Senior administration—subsequently, the quiet introduction of a hand service to place.

The above reminiscences are enjoyable to reflect upon and perhaps open the gate into the next phase of personally endeavouring to establish a hand service. May I provide more thoughts on this matter in a subsequent article?

Warm Regards,

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