The Evolution of the Alfred Hospital

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The Alfred hospital orthopaedic unit has been involved in the provision of orthopaedic trauma services for many years. It was one of the first units in the state to recognise the enormous advantages of intramedullary nailing for fractures of the femur. When I started as a junior resident at RMH, it was still routine to treat midshaft femoral fractures in split Hamilton-Russell traction, with all of the attendant problems that method of treatment caused. In 1991, I returned to the Alfred as a VMO having worked there as a registrar in the mid 1980s, and as a locum consultant in 1989. There was a significant emphasis on trauma, but the whole spectrum of orthopaedic problems was treated.

During the 1990s, it was becoming more and more evident that the optimal outcome for trauma victims was significantly influenced by early, appropriate, definitive management. There was considerable evidence from trauma centres in the US that a well resourced and well run trauma system could markedly reduce preventable adverse outcomes. (Cameron et al, J Trauma, 39:545-552, 1995.) There was also evidence identified by the Consultative Council on Road Traffic Fatalities that there were potentially preventable occurrences leading to death in 38% of road traffic fatalities (McDermott, J Trauma: 41: 83-90, 1996.)The deficiencies included lack of advanced life support skills, inadequate transport mechanisms, hospital delays and lack of sufficient expertise to deal with time critical trauma patients. There was the political will to set up such a system in Victoria. The Minister for Health at the time (The Hon. Rob Knowles), set up a review of trauma and emergency services in July, 1997. It was supported by the major medical colleges involved in trauma care. Elton Edwards sat as the orthopaedic representative on that committee. Major trauma in Victoria, defined as having an Injury Severity Score (ISS) of >15, was estimated to be in the order of 1000-1200 cases per year. Using broader definitions resulted in that number being approximately 1800. The Taskforce recommended that the centres include The Alfred, RMH and RCH. A number of us felt that if there was to be a second trauma unit apart from the Alfred, that this should be situated at the Austin Hospital because of the spinal unit. This did not occur.

At the same time, the Alfred Hospital was one of the Victorian hospitals that had been rumoured to close. There were cost pressures on the government, and it was stated that there were too many inner city hospitals. The orthopaedic unit, under the leadership of John Hart and Barry Elliott, was instrumental in working with the Administration to push the cause of the Alfred transforming itself into a fully fledged trauma unit. It was ideally poised to do so, having had a significant emphasis on trauma for many years. The recommendations of the taskforce were adhered to, and the first trauma unit was set up at The Alfred. It was not a success. The unit itself attracted an internationally renowned orthopaedic trauma surgeon in Christian Krettek. Unfortunately, the unit was woefully under resourced, from the point of view of junior medical staff, operating theatre access, research facilities and

equipment. The director attempted to redress these problems, but then received an offer of one of the most prestigious trauma chairs in Europe, and returned to Germany.

The hospital learnt from the initial problems, and when the next director, Professor Thomas Kossman, arrived, the trauma unit along with the orthopaedic unit, was much better resourced in all areas. The model of care changed to be more an ortho/trauma unit, run along the European trauma unit lines. The orthopaedic unit achieved what those of us in the mid 1990s had planned. It was apparent that the major surgical input to the trauma unit was from the orthopaedic unit. The figures from 2005 at The Alfred indicated that operating room activity for trauma patients comprised 14% General surgery, 18% mixed surgery and 68% orthopaedic surgery, thus indicating the pre-eminent role of orthopaedics in the provision of trauma services. It was estimated that 40% of admissions were TAC insured, and that 44% were under Medicare in the same year, which reflected the decline in TAC related admissions. Furthermore, the success of the triage program was underlined by the admissions data. Trauma admissions in 1995 were 737. In 2007, they numbered 3643. Major trauma admissions almost doubled between 1999 and 2005, and yet length of stay decreased by almost 50%. The initiative was successful. Cameron (MJA 2008; 189 (10):546-50) reported that the introduction of a statewide trauma system resulted in a significant reduction in risk-adjusted mortality, for road trauma victims, general trauma victims and patients with severe head injuries. This was what was expected and hoped for when the initial planning was done.

In 2007 and 2008, there were significant problems in the hospital. The trauma unit director resigned, and the prominence that the units had enjoyed somewhat lessened. However, the core of the orthopaedic unit remained. Elton Edwards, Max Esser, Russell Miller and myself have all been a part of the unit since the early 1990s. We have all been involved in the initial push for the hospital to become the pre-eminent trauma unit in the country. Elton Edwards, along with Owen Williamson and the Department of Epidemiology, Monash University, has been instrumental in setting up VOTOR, (Victorian Orthopaedic Trauma Outcomes Registry) a database to record orthopaedic injuries, treatment, complications and outcomes for the major trauma centres. This database had some 35000 admissions recorded by December 2012, providing an invaluable research tool for the future.

The orthopaedic unit has gathered and lost many people along the way. It is now under the extremely capable hands of Ms Sue Liew, who brings a spinal influence to the unit. Major trauma can be rewarding, exciting, and terrifying. It is often very antisocial. It is clearly not for everyone. When I started, it was accepted that the on call orthopaedic surgeon would be up for a major part of his or her on call period. That no longer holds true. There has been a significant change in practice over the 22 years that I have been at the Alfred. There has been a general reduction in the overall trauma load, reflecting the declining road toll over the past few years. The major advance has been the introduction of the Orthopaedic trauma on call (OTOC) operating list which runs after every on call period. This has the effect of transferring the non time critical surgical patients to a list during daylight hours. This has been shown to be safer for the surgeon, safer for the patient, and considerably less expensive for the hospital. It has the effect of freeing up the scarcer nocturnal resources for those patients who need them. It allows the non time critical patient to be treated expeditiously. It also allows us older members of the unit to continue to look after major trauma! There is still a need for the on call surgeon to be occasionally up at night, but that is nowhere near as common as it used to be. There have also been a number of

changes in the initial management of the severely injured patient. Definitive stabilisation, which used to be the normal practice on the first night, is not quite as commonly practised now. There has been a swing towards early temporary stabilisation in the critically ill patient, otherwise known as damage control orthopaedics, with delayed definitive fixation after the patient's clinical condition has stabilised. However, that pendulum has swung back somewhat now.

We now have subgroups within the units who have specific interests, including foot and ankle surgery, upper limb surgery, spinal surgery and pelvic surgery. The trauma component of the orthopaedic unit still predominates, but the subspecialty groups are just as active, and just as important. They provide highly specialised trauma care which is simply not available in many other areas of the state.

The Alfred orthopaedic unit has also been heavily involved in research and presentation to the wider orthopaedic community. Over the last few years, the Alfred surgeons have been very heavily represented in orthopaedic trauma presentations to the AOA ASM. The unit ran a very successful trauma COE in Melbourne in 2008, and has run a number of other seminars on trauma in Melbourne. The publications have not been all that we would wish, partly reflecting that fact that the unit is comprised primarily of VMOs who are universally busy outside the hospital, and partly because of the lack of research backup at the hospital. There is a wealth of clinical material that goes through the unit. It is often commented on by our fellows that they would see in 12 months the same number of tibial or femoral fractures that units overseas see in 5 years. The unit recognises that publications are one important measure of the worth of a unit, and that we have been a little lacking in that.

Overall, despite the inevitable frustrations, it has been a satisfying and rewarding journey. I have seen many changes in the management of severely injured patients. I suspect I shall see many more.