James IV Fellowship

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I would like to start by thanking the Directors of the James IV Association of Surgeons for having appointed me one of the travelling fellows in the year 2006. The opportunity to serve as a James IV Fellow represents one of the most important and defining periods in my career as a surgeon. The opportunity to meet so many surgeons of distinction and achievement in the United States was unique and it reminded me of the true fellowship that exists in surgery and the importance that must be attached to sharing experiences, knowledge and our understanding of how best to deliver the complicated agenda of excellence in clinical practice, patient safety, teaching and training and fundamental basic and clinical research. I recognised that the problems we face in academic surgery are common to institutions and departments whether they be in the United Kingdom or the United States. Interestingly, the solutions are not always recognised to be applicable on both sides of the Atlantic, but indeed I believe that they are.

Summary of visit

I was fortunate enough to be able to organise visits to the University of California, Los Angeles, David Geffen School of Medicine, the Stanford University School of Medicine, the Scripps Research Institute, La Jolla, California, the Memorial Sloan Kettering Cancer Centre, the Brigham and Women's Hospital, Harvard Medical School and the University of Rochester School of Medicine. The visits took place during July and August of 2006 to the west coast of the United States, and in October 2006 to the east coast of the United States.

At the David Geffen School of Medicine, UCLA, my host was Dr Peter Lawrence, Professor in Vascular Surgery. At the Stanford University School of Medicine, my host was Dr Jeffrey Norton.

At the Scripps Research Institute, La Jolla, California my host was Dr Wolfram Ruf PhD. At the Memorial Sloan Kettering Cancer Centre my host was Dr Murray Brennan. At the Brigham and Women's Hospital, Harvard Medical School my host was Dr Samuel Goldhaber. At the University of Rochester School of Medicine my host was Dr Seymour Schwarz.

I would like to express my deep gratitude and thanks to each of my hosts, the numerous other surgeons, fellows and residents who took great pains to ensure that my visit to each of the institutions was successful, that I was able to derive the most from exposure both in the clinical environment and in the research and training environment, and that I was provided with the kindest and most generous hospitality, wherever I was. Their attention to my needs, enthusiasm for my visit and open, honest and insightful sharing of experiences, aspirations and philosophies was most enlightening and invaluable.

During my visit I was able to make at least 2 formal presentations at every Institution that I visited. These were on the subject of the prevention and treatment of venous thromboembolism, with specific reference to this important clinical entity in surgical patients, and talks either on the subject of cancer associated thrombosis or the role of thrombin and the coagulation serine proteases in tumour biology. I have appended copies of the presentations for the record kept by the James IV Association.

I would now like to focus on 4 areas that particularly struck me during my visits and which have provided me with invaluable insights and have subsequently guided my own activities and practices here in the United Kingdom.

Bariatric Surgery

During my visit to the Stanford University Medical Centre, I had the opportunity to spend time attached to John Norton who is the leading bariatric surgeon in that institution. This was a particularly useful experience. I was able to attend theatres and was fortunate enough to have him demonstrate to me some of the more advanced techniques in bariatric surgery particularly duodenal procedures and revision operations.

I was most impressed by the provision of facilities for obese patients, in particular the thought which had been put into design of out-patient facilities, and the materials available for patients being considered for bariatric surgical procedures. I was also impressed by the thoughtful but entrepreneurial way in which many US bariatric surgeons were looking at opportunities to drive forward provision of these vitally important procedures.

What I was able to experience has provided vital insights into the responsibilities I have had in chairing the review for designation of preferred providers status for bariatric surgical units in the East of England, Greater London and the South of England on behalf of the specialist commissioning groups for those 3 areas.

In particular, the importance of multidisciplinary team working, and indeed multidisciplinary assessment became very clear. This is because the majority of patients will not benefit from simple gastric banding. The outcomes data has been carefully collected by the American Society for Metabolic and Bariatric Surgery. Outcomes depend on a wide range of skills being made available within the surgical team, thorough scrutiny of suitability for operation itself and the type of procedure proposed. Otherwise there run is a significant risk that surgeons with a limited

repertoire in terms of bariatric surgery, might offer inappropriate operations, primarily based upon gastric banding, to a large number of patients achieving only poor long-term results in terms of sustained weight loss.

It was interesting to see how training at fellowship level, was provided not only for this demanding branch of surgery but for others.

This brings me to the second area where I found insights incredibly invaluable from my James IV visit.

Surgical residency

It was very interesting to see the very central role that the surgical residency and fellowship programmes play in the lives of each of the academic centres and surgical units which I visited. In comparison to the state of post-graduate surgical training in the United Kingdom, I found surgical residency and fellowship programmes in each of the Institutions I visited to be most impressive. In particular, it is noteworthy to recognise that programmes in the United States are well structured, set clear objectives that need to be attained at each stage of the programme, provide opportunity to trainees to be involved in patient care and place a great emphasis on academic achievement and attainment. I reached the firm conclusion that at the heart of each of the great and truly successful surgical departments that I visited, was a vibrant and dynamic residency programme, which was cherished by both academic surgeons and attending surgeons alike. In fact it was abundantly clear that it was considered a privilege to train residents and fellows, and that the hosting of a prestigious scheme in a particular institution was taken very seriously. There was a clear desire amongst all trainers to ensure that the very best trainees were attracted to the Institution either as residents or fellows. There was

certainly earnest competition for places in all the Institutions which I visited. It was clear that competitive instinct was maintained throughout either the residency or fellowship programmes and manifested itself both in terms of a desire to attain skills and judgement in terms of clinical practice and to shine in elements of academic activity. There was also an interesting, and I think very healthy, dynamic between residents and fellows. The desire to attain surgical skills, deliver surgical care and advance surgical knowledge is clearly instilled in United States surgeons during their residency and fellowship programmes.

The areas of training offered stark contrast to the current situation in the United Kingdom where it is becoming increasingly apparent that clinical academics have diminishing influence in terms of overall control of surgical control training programmes. In particular the fact that leadership for surgical training is often provided outside academic surgical departments has removed from the academic surgical department the opportunity both to engage in the most meaningful way with broader non-academic surgical colleagues, and has denied trainees the opportunity to benefit from a joined up approach which delivers both development in clinical skills and judgement and also development of academic, managerial and other leadership skills which are vital for delivery of a patient-centred patient-safety agenda in surgery, advancement of knowledge in surgery and for ensuring that surgical leadership continues to play a vibrant role in shaping the delivery of healthcare locally, nationally and internationally.

I consider the whole question of how lessons can be learnt from the success of residency and fellowship programmes in the United States, to be vital for future discussions in the way that British surgery is shaped. Here I would make one of my clear recommendations, that if this is not already happening, moves be made to allow us to formally and objectively assimilate

experience and knowledge from many years and decades of delivery of such programmes in the United States to help us reshape the training opportunities here in the United Kingdom.

Academic Health Sciences Centres

Whilst I was on the first leg of my visit in July 2006, I had the opportunity to meet others outside the surgical departments, involved in the leadership of the academic health science centres that I was visiting. This again, was an illuminating experience. The concept of academic health science centres has been deployed in the United States for many years. This concept is new to the United Kingdom. At the time of my visit there were no formal academic health science centres in the United Kingdom. As a result of what I saw, I was able to prepare a paper which was submitted both to the governing boards of my medical school and the partner NHS trust. This resulted in the initiation of a discussion to create an academic health science centre which has proceeded. In this respect therefore my visit as James IV Fellow has had broader and very positive implications for colleagues throughout my trust and medical school.

I would like, however, to spend some further time dwelling on my impressions about academic health science centres in the United States and the important agenda in terms of quality and knowledge attainment which they represent.

It is becoming increasingly clear that the next stage of reform for the NHS here in England, is gong to be directed towards improving quality. The quality agenda will be defined not only by clinical outcomes, but by patient satisfaction, effective and efficient utilisation of resources, and creation of knowledge and innovation to drive wider societal benefits. The academic

health science systems in the United States have long been sensitive to this complex agenda. Clearly in the institutions I visited a variety of different models existed. However one of the most appealing was that which I saw at the Memorial Sloan Kettering Cancer Centre (MSKCC). Of course this is a unique example in offering services for a single specialty. However during my time at MSKCC, I had the opportunity to visit the New York Hospital and Wiell School of Medicine. This in itself was also a most interesting experience. The campus including Memorial Sloan Kettering, New York Hospital and Cornell Medical School and the Rockefeller University is quite unique. In each of the clinical institutions, it was clear that clinical excellence was the principle driver, that the importance of patient flows, efficient use of resources and attainment of excellence to drive brand value in terms of clinical practice were understood by the vast majority of staff. At the same time it was fully recognised that without academic excellence the ability to drive forward a successful and sustainable clinical agenda was not possible. What struck me was how more frequently than not that there was no tension between the clinical and academic agenda, the opposite of which is something I have so often experienced here in the United Kingdom. How is it that academic and clinical excellence can sit together, driven by an agenda which married local, national and international excellence so comfortably? Part of the answer lies in the fact that academic health science centres are mature in the United States. I have no doubt that 30 years ago they must have experienced the same teething problems that we will inevitably experience in the United Kingdom as such centres are introduced into our healthcare and university systems. However, beyond the maturity of their systems, one critical feature was apparent. It was the understanding and genuine acceptance by all, whether they were brilliant clinicians, scientists or clinical trialists, that whether the emphasis was research, or for educators and trainers, education, that collaboration and respect for the different talents required to deliver excellence across the vital

range of activities that constitute an academic health science system was essential. It is this mindset that we will need to create if academic health science centres are to prosper here in the United Kingdom. Additionally the clarity of vision I saw in term of objectives for clinical and academical excellence which was demonstrated in all the centres I visited, is something that will need to be achieved if aspirations for our academic health science centres to compete internationally are to be achieved.

Research

Finally I would like to turn to the issue of research, not generically in terms of how basic and clinical research was delivered in the United States, in the centres I visited, but in terms of the invaluable knowledge I gained to further develop and drive my own research programme. In this regard visits to the Scripps Institute where I was able to refresh my knowledge in the molecular biology of blood coagulation and in particular blood coagulation serine protease receptors, was very useful. I was able to spend significant time in the laboratory of Dr Wolfram Ruf. This is the laboratory that I had spent part of my time as a PhD student 10 years ago. The tremendous developments both in terms of understanding at a molecular level, the cellular activities of the blood coagulation proteases were astounding. Additionally, I had the opportunity to view a range of technologies and understand their implications in a way that I doubt I would ever have been able to do if I had not been given the opportunity to make these visits. The important scientific message is the growing recognition that the blood coagulation serine proteases such as thrombin, activated factor X and activated factor VII, clearly pivotal in the fluid phase of blood coagulation, have important cellular activities. Through techniques of gene manipulation it is now possible to understand their roles in a variety of different cell systems and organs. This knowledge was particularly useful to me in

developing programmes of research to explore their role in the biology of common human tumours. As a result of my stay as the James IV Fellow at the Scripps Research Institute, we have been able to create a joint professorial position for Dr Wolfram Ruf between the Scripps Institute and the Thrombosis Research Institute in London. This vital collaboration has meant that he is now able to visit the United Kingdom on a regular basis and that we are working together in executing a programme of laboratory research at the most fundamental level, which will allow us to further understand not only the role of the coagulation proteases in aspects of tumour growth invasion, angiogenesis and metastasis, but to enhance the overall facilities for laboratory research within the Thrombosis Research Institute.

A second research element which I was able to achieve during my James IV Fellowship was during my visit to the Brigham and Women's Hospital and Harvard Medical School which hosts one of the leading venous thromboembolism clinical research groups in the United States. This group is led by Dr Sam Goldhaber. My stay there allowed us to initiate a number of large collaborative clinical research programmes in venous thromboembolism, and to consolidate our joint activities in taking forward the problem of hospital acquired venous thromboembolism as a patient safety issue. The opportunity afforded by the James IV Fellowship visit has continued to bear fruit with a number of global activities around patient safety and venous thromboembolism which we continue to take forward together. In terms of clinical research we were able to agree and initiate a number of exciting clinical trials which I am hopeful will have important implications for future clinical practice in the field of prevention of venous thromboembolism.

Conclusion

Once again I would like to thank the Directors of the James IV Association of Surgeons for having afforded me the privilege and distinction of a James IV Fellowship. My experiences across a wide range of areas were invaluable. They have driven significant changes in the way that I have looked at the delivery of surgical practice, training and research, and more broadly how healthcare systems can be organised to ensure maximising both the clinical, patient safety and academic excellence opportunities. I doubt I would ever have been able to have had such a wide exposure if it were not for the fact that the James IV Association of Surgeons is so highly regarded and respected. The experiences have certainly changed my views and have reinvigorated my enthusiasm for life as an academic surgeon. I am indebted, and most grateful.