From the Economic boom to ending UK aid, Tendulkar’s 100th 100 to borderline call centres, or from the Commonwealth to nationalism, for many years, ongoings in India have been reported by the UK press. The ascendancy of globalisation has made us all aware of the potential benefits of complicity in positive internationalism. The travelling fellowships made available by the British and Indian Orthopadic Associations of the UK facilitate this cross orthopaedic polonisation.

I first met the orthopaedic surgical oncologists from the Tata memorial in 2007 when they visited the RNOH at Stanmore, and then again when I was on fellowship at Mount Sinai in Toronto. At that point, Professor Puri gave a presentation on The Tata Bone and Soft Tissue Tumour unit, and how it had adapted to the workload of a country occupied with 1.2 billion potential patients. The hospital itself is located in Parel, one of the original seven Islands that formed, the now renamed in 1996, Mumbai. Mumbai is the fourth most populous city in the world, at 20.5 million residents. It is the commercial centre of India and representative of the new wealth being created by the country.

Although I had always said it would be great to visit the unit in Mumbai, I did wonder when I would ever find time to do this. The current paucity of consultant jobs, especially in orthopaedic oncology, has however, opened up doors of opportunity to investigate other avenues of interest. Although post CCT trainees are somewhat dismayed about the lack of positive hits for “Consultant Orthopaedic Surgeon” in the careers section of the BMJ/NHS jobs I could perhaps use this time to find alternative pursuits that can directly or indirectly benefit future career evolution, prior to appointment as a consultant in the NHS; hopefully...
The Tata memorial is the largest medical and surgical Cancer unit in India. It has 570 beds and an annual budget of $25 million US dollars. Last year it received 2007 patient referrals for suspected sarcoma, the majority of whom had had prior interventions at other units. Of the 2007 patients, 553 had primary malignancet bone tumours and 551 had soft tissue sarcomas. The rest of the patients had either non-primary sarcomatous or metastatic disease. This represents a significant workload and hence the orthopaedic oncology surgeons are full-time tumour surgeons and do not have a conventional joint reconstruction or trauma commitment. Complications of surgery and endoprosthetic loosening are an added pressure. Even if they chose to expand their remit, there in no scope in their job plan to do so. The hospital tends not to admit any non-tumour patients.

In the week there are three all day lists and and two sets of all day clinics on Tuesdays and Thursdays. There is also a half-day Saturday list on the first of the month to cope with the workload, shared between two surgeons, Professor Ajay Puri and Dr Ashish Gulia. The unit is additionally manned by a senior and junior fellow, as well as a senior and junior resident, all of whom are resident on site outside the working day. In other words, resident, means resident.

60% of patients are funded wholly by the government and 40% are funded either partially or completely by themselves, their employer or with private insurance. The majority of these funds go to the hospital. The government has just opened a new hospital building which sits at the forefront of the public funded hospitals within India. The older buildings within the unit demonstrate how the modern India is slowly and surely replacing the old.

There are ten operating theatres, managing patients in all the oncological surgical specialities. The wards fall in to three tiers. Single rooms, dual/bay and open wards. Open wards have 60 beds, with both adult and paediatric patients in close proximity . The nursing staff number six on days and three at night, on the open wards. They are obviously pushed to deliver basic nursing care. It is apparent that the family members do much or the day-to-day care that the health care assistants would do in the NHS. The system has evolved around the culture of the people. As we have seen in the UK last year, the suggestion by NHS authorities that family members should aid in patient care, was met with public negativity.
Having completed fellowships in orthopaedic oncology in Toronto and an OOPT (out of programme training) in Birmingham, on arrival I was expecting a number of painful days to be spent in induction in the fellowship administration office jumping through the obligatory paperwork hoops. To my surprise, thankfully the whole procedure was over in a two hours and I was rubber stamped to attend theatre. Across the planet, meeting the gatekeeper of theatres and convincing her you are not a reprobate who steals theatre greens, is always par for the course. Thank you Sister and your generosity with theatre shoes will not be forgotten.

The first patient was a 33 year old right handed businessman with a biopsy proven distal humeral Giant Cell Tumour that had completely destroyed the medial condyle of the left humerus. The adjacent soft tissue mass had rendered the medial collateral ligament complex redundant. There was a pre-operative fixed flexion deformity of 60 degrees and no neurovascular deficit. In general, surgical bone tumour management is divided into three main operative components - resection of the tumour, bone and then soft tissue reconstruction. The omnipresent modified WHO pre-operative checklist was completed and we begun.

The ulna nerve was identified and protected. The mass was resected and the intra-osseous disease meticulously curetted. The absence of any medial condyle precluded any standard ligament reconstruction. The bone defect was reconstructed using a geometric cementoma. Attention was then turned to the soft tissue reconstruction of the medial collateral ligament.

A polypropylene mesh was folded back onto itself and using Ethibond, was stitched into a 1 cm wide band. Proximally, the mesh was cemented against the medial endosteal surface, and distally sutured to the periosteum (Figure 1) with transosseous sutures. The mesh acts a scaffold for fibrous tissue ingress. Post operatively the patient was allowed to flex and extend whilst in a brace that limited any varus/valgus movement. This type of mesh was used a few days later, in order to suspend the humerus from the osteotomised end of a clavicle following a scapulectomy in a 53 year old lady with chondrosarcoma. On the same day, in the theatre next door, an 11 year old boy was also undergoing a scapulectomy for Ewing’s sarcoma. He had had a previous open curettage for what was thought to be an infection, at another hospital with a reverse oblique scar. His mass was so large, even post chemotherapy that the scar could be taken into a S-shaped incision. He also underwent his thoracotomy and metastasectomy under the same general anaesthetic.
The MDT has a similar structure internationally - Surgeons, Pathologists, Radiologists, Medical and Radiation Oncologists, Paediatric Oncologists and support staff. There are some differences. A Palliative care consultant is also present, as so many patients present late, with huge masses and metastatic disease. Additionally, should individual patient’s history and examination findings require clarification by the senior medical staff they are called directly into the meeting and reviewed. Following the MDT the patients are informed of the plan and counselled with regards to options for treatments. Other patient family members and volunteers often take the consultation further, out of the clinic room. The waits are often long and many use the opportunity to take a nap on the clinic floor! (Figure 2) Patients and staff are also quiet ingenious with adapting garden furniture for outpatient use. (Figure 3)

The Friday was a public holiday. A great day for a cricket match between the consultants and junior staff. There was no toss. The consultants always field first, to get out of the midday sun and ensure the samosas and chai have a welcome home, (Figure 4 - Dr Gulia, Dr Lasker and Mr Bhumbra). An excellent policy that I cannot recommend more highly.

Many of the patients do clearly present with very large masses. The reasons for this are multi-factorial. Historically there was a perception amongst the poorly educated that hospitals could do little to prevent loss of life or limb. In some rural areas, access to healthcare is sub-optimal and when coupled with limited education, unfortunately late presentations do ensue. In certain regions, patients are managed locally by non-specialist trained surgeons, without access to an MDT. Given the vast populous, and limited resources of both the patients and healthcare system that supports them, it is not surprising that delays in referral to the appropriate place of care do happen and progressive disease is allowed to go untreated.

In India, the healthcare system aids with meeting the cost of patient care, wholly, or in part by the state. This includes hospital stay, medicines (including chemotherapy) and surgical treatments. However endoprostheses used in joint reconstruction, that were historically imported from other countries, are costed to the patient. If the patient is unable to afford this, then lower cost solutions are facilitated. Such an example would include a 10 year boy with a left-sided proximal humeral osteosarcoma. He underwent standard neo-adjunct chemotherapy and limb salvage with joint reconstruction using a cut K"untscher nail. Distally it was cemented into the medulla and proximally sutured to the glenoid labrum using the polypropylene mesh placed through the slotted holes. (Figure 5). Not a bad adaptation for a device originally implanted in 1939. Custom made plates are used in similar reconstruction modalities.
In order to make megaendoprostheses more cost viable, the local surgeons recruited an Indian manufacturer to produce lower cost implants that are able to function at the same level as the imported originals. Given the large numbers of patients now being managed in this up to date way, the prospective implant database is gathering patient accrual at an impressive rate. I note that the Tata group have just submitted for peer review the largest series of total humeral prostheses in the world. This represents the inventiveness of the local surgeons to overcome the resource challenged environment in which they work. It is of note, to see in Orthopaedics, the pattern that is being reproduced globally in areas such research, business and commerce. With foreign innovation being imitated, cleverly re-innovated and then mass produced at a fraction of the cost, without the bureaucratic hurdles that can cripple the workings of any large organisation.

The following weekend consisted of a two-hour flight to Trivendrum for a regional tumour meeting. It was an opportunity for many of the ex-Tata fellows to meet-up and a valuable national meeting for both discussing cases and educating the multidisciplinary audience.

The final week consisted of an 11 year old who underwent Extra-corporeal irradiation and reimplantation for a distal femoral meta-diaphyseal osteosarcoma. That week the lists also had patients undergoing curettage of a proximal humeral giant cell tumour, a distal femoral replacement, a rotationplasty, another proximal humeral osteosarcoma. More and more pathology. The case mix was phenomenal.

The great thing about travelling to other units is to see how the same effective care can be given in a variety of different ways. Learning about a new culture does not just mean about the culture of a country, but also the mindset and philosophy of the local orthopaedic surgeons. I am grateful to the British Orthopaedic Association, the Indian Orthopaedic Association of the UK and my local hosts for facilitating this unforgettable experience and to bring home to me the importance of travelling abroad to visit our global colleagues.