

## ORIGINAL PAPERS

### A Fellowship in Craniofacial Surgery

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#### Introduction

Craniofacial surgery is concerned with the treatment of patients with complex congenital or acquired anomalies that affect the skull and face. The National Specialist Commissioning Advisory Group (NSCAG) has recognised and funds four supra-regional centres for craniofacial surgery in the United Kingdom.

These are situated in Liverpool, London (Great Ormond Street), Oxford and Birmingham.

At the West Midlands Craniofacial Unit in Birmingham, a full range of craniofacial problems are treated in both adults and children. However an emphasis is placed on paediatric congenital disorders. Conditions treated include craniofacial synostosis and dysostosis, craniofacial clefts, encephaloceles, orbital dysostosis, vascular malformations, complex trauma and tumours of the craniofacial region.

The core craniofacial surgical team consist of consultants in oral and maxillofacial surgery, plastic surgery, neurosurgery and a fellow. A small group of specialist anaesthetists work closely with the Unit. Support is given by many other specialities such as, Paediatrics, Ophthalmology, Ear, Nose and Throat, Dental, Speech and Language Therapy, Dietetics, Clinical Psychology, Clinical Genetics, Orthodontics, Maxillofacial Prosthetics and specially trained nursing staff.

Supra-regional units undertake at least 50

major craniofacial procedures a year. The majority of patients with severe craniofacial abnormalities are children and they are often treated at less than 2 years of age. The major surgery may affect the airway, and frequently involves significant blood loss that is usually managed intra operatively by transfusion. On site paediatric intensive care and high dependency facilities are necessary to provide optimum postoperative care.

#### The Birmingham Craniofacial Fellowship

The West Midlands Craniofacial Unit was established in 1978 and in 1988 the Unit was recognised, funded and designated as a supra-regional centre for craniofacial surgery. The Fellowship has educational approval from the Specialist Advisory committees of oral and maxillofacial surgery, plastic surgery and neurosurgery. The post is intended for a trainee from any one of these specialities who has a definite interest in craniofacial surgery and who wishes to gain further sub-speciality training in the final year of higher surgical training.

The surgical workload comprises approximately 120 cases per year of which 80% are complex/major cases, the majority of which are transcranial procedures. Of these, 90% are for congenital deformities, both syndromic and non-syndromic. The fellow receives consultant supervised, hands on training in outpatient clinics and in the operating theatre. Opportunities exist to develop skills which span all three specialties, and improve skills within the fellow's own speciality.

The ideal candidate should have passed their intercollegiate speciality FRCS examination, have a proven track record in audit and research and a commitment to teaching. They require good computer skills, a capacity for self appraisal, enthusiasm and high motivation. Above all they must have sound communication and interpersonal skills and the ability to work well in a team.

The clinical timetable is comprised of a weekly all day paediatric operating list, 2 paediatric craniofacial clinics a week, a monthly adult all day operating list and a monthly adult clinic. Daily ward rounds are undertaken. After the weekly hour long Unit planning meeting, a programme of teaching, audit and journal reviews takes place organised by the fellow. The Unit has an excellent record of presentations at national and international

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Fig 1. Repair of Craniofacial fractures with miniplates.

meetings and fellows are actively encouraged to prepare audit and research to present and publish. Fellows usually participate in the on-call rota of their parent speciality at University Hospital Birmingham NHS Foundation Trust and have access to attend teaching, clinics and theatre lists in all 3 surgical specialities.

The core surgical team is supported by one secretary and one craniofacial co-ordinator. It has its own offices fully equipped with computers, laptops and internet access.

Within the Unit, the fellow is mentored as a junior colleague by all the consultants. This helps smooth the later transition from specialist registrar to consultant that many surgical trainees find daunting. The Fellowship also allows a unique environment for training outside the fellow's speciality in related disciplines and for a stimulating exchange of ideas between specialities.

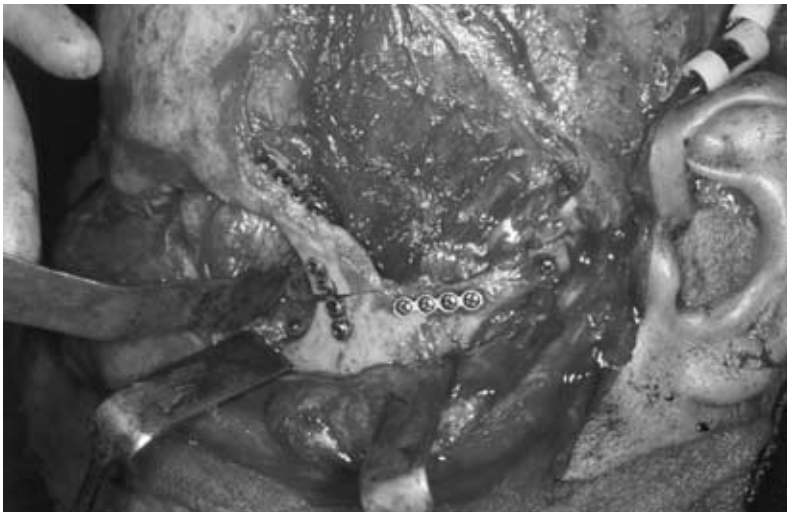


Fig 2. A bicoronal scalp flap and miniplate fixation of an orbital-zygomatic complex osteotomy for access to the infra-temporal fossa.

### Relevance to Military Training

Data from military conflicts in the second half of the 20th century showed that approximately 16% of battlefield injuries involved the head and neck area(1-3). However, the use of Kevlar body armour in military conflicts of the 21st century has led to less thoraco-abdominal injuries and a proportional increase in trauma to the head and neck area such that it accounts for 21% of battle injuries(4). Severe craniofacial injuries may require extensive access, anatomical reduction, watertight dural repair and early bone grafting and soft tissue reconstruction(5-7). These techniques have improved outcomes and reduced the incidence of secondary deformities and the risk of late intracranial infection. Competence and confidence in the management of severe craniofacial trauma are essential for surgeons treating head and neck injuries. The Craniofacial Fellowship gives surgeons unrivalled hands on training in the total management of craniofacial surgery patients. Although the majority of patients treated during the fellowship are children, the craniofacial skills acquired are

directly transferable to the military situation.

During active hostilities and humanitarian missions military surgeons may be called on to treat paediatric injuries. Military surgical training focuses mostly on the management of adult trauma. Treating paediatric patients with limited resources may prove particularly challenging as demonstrated in both the Iraq and Afghanistan conflicts. Therefore, a surgeon who has some paediatric training is a valuable member of any modern military surgical team.

Another important aspect of the craniofacial fellowship is the training in multidisciplinary team-working. Inter surgical rivalries are put to one side, and the art of clear, effective communication with fellow surgeons and anaesthetists is taught. Emphasis is also placed on communicating well with staff, patients and families. Hence, by the end of their appointment the Craniofacial Fellow will have extensive practical training in multidisciplinary team-working and acquire useful leadership skills.

Birmingham is now the established Centre for Defence Medicine. This allows any military craniofacial fellow to have ready access to military support, not only in administration but for research, audit and military training.

### Conclusion

The Birmingham fellowship offers a military surgeon a unique and extensive training in craniofacial surgery that is directly relevant to modern warfare. We would recommend any surgical trainee likely to deal with major head and neck trauma to consider applying for it.

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### Useful websites for information

National Specialist Commissioning Advisory Group [www.advisorybodies.doh.gov.uk/](http://www.advisorybodies.doh.gov.uk/) NSCAG/  
Birmingham Craniofacial Unit [www.bcfu.org.uk](http://www.bcfu.org.uk)  
British Association of Oral and Maxillofacial Surgeons [www.baoms.org.uk](http://www.baoms.org.uk)  
British Association of Plastic Surgeons [www.baps.co.uk](http://www.baps.co.uk)  
Society of British Neurosurgeons [www.sbns.org.uk](http://www.sbns.org.uk)