

M. Bircher

M. Bircher, FRCS (Eng) FRCS (Edin),
 Consultant Orthopaedic Surgeon,
 Ashted Hospital, The Warren,
 Ashted, UK
 martindbircher@hotmail.com

Major Trauma Training Interface Group Fellowships (TIGs): Where do they fit in with the orthopaedic surgeon?

Since the successful reorganization of trauma care in the United Kingdom into the major trauma networks, different models in the delivery of care to major trauma patients have evolved across the country. These models have been based on the local health economy, tradition, available workforce, and case-mix.

The majority of trauma victims have suffered blunt trauma. However, inner-city networks also receive a significant number of patients with penetrating trauma requiring urgent resuscitative surgery. Any initial surgical care of these penetrating injuries should be delivered by general or vascular surgeons.

In the past, it has occasionally fallen upon orthopaedic surgeons to carry out this life-saving surgery. This was probably due to a number of reasons, including the rarity of such patients and the fact that many orthopaedic surgeons underwent long periods of general surgical training before they entered orthopaedics. Now, with streamlined training programmes, the modern orthopaedic consultant (even those with a specialist interest in trauma) may be ill at ease carrying out a life-saving thoracotomy or laparotomy in the presence of hypovolaemic shock.

In 2014, the Royal College of Surgeons produced a strategy document to assess the sustainability of trauma surgeons within the trauma system.¹ This identified significant gaps in the

service, particularly in the delivery of general surgical, vascular, and resuscitative surgical procedures. This skills gap appeared to be amplified in those networks that were receiving a higher number of patients with penetrating trauma.

Increases in the threat level of international terrorism in the UK, which was twice raised from severe to critical in 2017, are likely to be accompanied with greater awareness of high-profile incidents of penetrating trauma. In order to address these concerns, all networks need to be prepared and appropriately staffed to manage patients with both blunt and

penetrating trauma. The problem has always been how to train the workforce adequately and, more importantly, how to maintain those skills.

Traditionally, orthopaedic surgeons across the country have underpinned the major trauma service, as around 80% of major trauma patients will have significant orthopaedic-type injuries requiring orthopaedic expertise. The two published papers that the working party produced^{1,2} made recommendations that were taken up by Health Education England (HEE). New training pathways were to be developed. There was also an appreciation that a balance needed to be

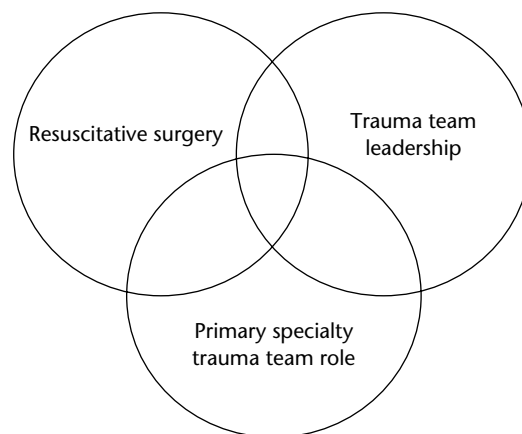


Fig. 1 The three core competencies required to provide acute care to the trauma victim. The Major Trauma Consultant will fulfil at least two of these roles, but not necessarily all three. Resuscitative surgery will usually, but not always, be carried out by a general or vascular surgeon.

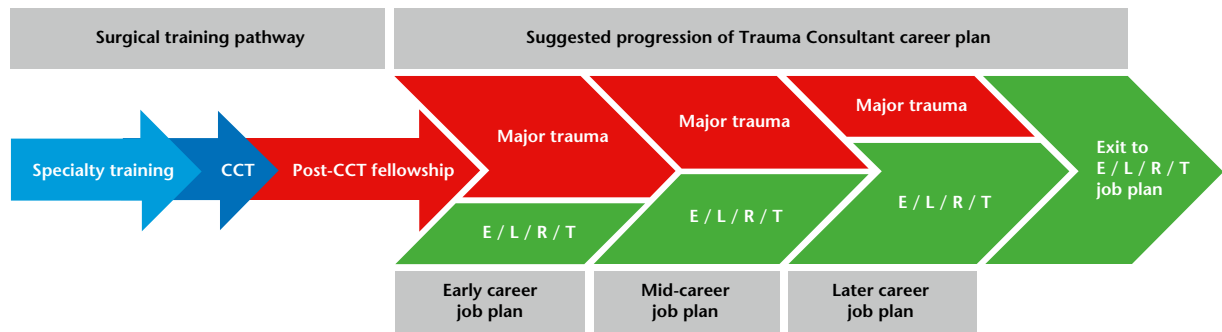


Fig. 2 A model of surgical training and consultant career development. CCT, Certificate of Completion of Training; E/L/R/T, Elective/leadership/research training.

struck between service, training, patient safety, and the careers and lifestyles of healthcare professionals delivering that care. The skills needed to provide safe, high-quality major trauma care were distilled into three major areas.

The first skill is that of the Major Trauma Leader or Consultant, a role that any physician can take up. In most networks, this would be very much suited to an orthopaedic surgeon but other networks have chosen to use A&E doctors, general surgeons, vascular surgeons, and anaesthetists to fulfil this role. The new trauma Training Interface Group (TIG) fellowship has a specific pathway to enhance the skills of the major trauma consultant. During this part of the TIG training pathway, trainees will be exposed to all aspects of resuscitative surgery and other relevant types of surgery that would be required during the patient's journey. It is not intended to train non-general surgical or vascular surgeons to the level of being able to carry out, for example, regular laparotomy or thoracotomy, but rather to impart knowledge of the indications and principles that will enrich the major trauma consultant role.

The second limb of the training programme is designed to enhance the skills of general surgical and vascular surgeons in resuscitative surgery. Training within networks with high volumes of patients requiring such emergency surgery should be selected to teach these surgical skills. This should ensure that a steady stream of appropriately trained surgeons remain part of the team to provide timely management of the exsanguinating patient. It is this skill that is sorely lacking in many of the trauma networks at present. There remain gaps in rotas, and currently

this service can rely on a few highly motivated, specifically trained doctors whose career paths are probably not sustainable.

Each team will have a surgical representative from the subspecialties, almost always an orthopaedic surgeon at a minimum. This primary specialist role will be built upon with either limb of the new TIG.

The new trauma TIG provides skills in both leadership and resuscitative surgery with appropriately selected fellows. It is hoped that traditional training pathways will be able to provide customized training for trainees with a special interest in major trauma, with bespoke modules within the specialist registrar years. These skills will be honed and further developed during the fellowships.

All surgical training programmes must provide a suitable balance through a surgical consultant's career. As surgeons age, job plans will have less and less acute work, with more opportunities for elective work, research, and teaching.

Orthopaedic surgeons have actually been doing this informally for decades, as, commonly, half of the workload managed by an orthopaedic trauma unit is acute, underpinned by the emergency call and trauma lists. However, an elective subspecialty interest that develops and expands later has traditionally ensured a long, satisfying, and sustainable career, and also provides good value for the National Health Service (NHS).

Orthopaedic surgeons cannot now be expected to carry out the occasional thoracotomy or laparotomy. We must, however, ensure that major trauma networks remain safe, and build upon the success of the last seven years.

Without a more formal, sustainable training pathway, there is a danger that the pressures of the health service, the increasing number of patients arriving at an A&E department, and the desire to train surgeons quickly will lead to safety issues within the network that should not be tolerated.

The first five major trauma TIGs will go live in 2018. After an open application process, doctors will be selected to go down either the Resuscitative Surgical stem or the Major Trauma Consultant stem. There will inevitably be cross-over between the training pathways; however, the output will be somewhat different. Any doctor can apply for either stem but it is envisaged that the resuscitative surgical stem will be more suited to general and vascular surgeons, and the trauma team leadership will particularly suit orthopaedic surgeons.

For full details of the TIGs and the full syllabus and curriculum, please visit <https://www.jcst.org/training-interface-groups/>

REFERENCES

1. Bircher M, Tai N. Trauma Systems in England. A strategy for Major Trauma Workforce Generation and Sustainability. March 2014. Royal College of Surgeons of England Briefing Note. <https://www.rcseng.ac.uk/-/media/files/rcs/standards-and-research/standards-and-policy/service-standards/major-trauma-surgery/rcs-trauma-systems-in-england.pdf> (date last accessed 18 December 2017).
2. Bircher M, Brooks A, Ong T, Tai N. Major Trauma Workforce Sustainability. Outcomes of the RCS Major Trauma Workgroup. Royal College of Surgeons, January 2016. https://www.rcseng.ac.uk/-/media/files/rcs/standards-and-research/standards-and-policy/service-standards/major-trauma-surgery/major_trauma_workforce_sustainability-p2.pdf (date last accessed 18 December 2017).