

Military Anaesthesia in contingencies: what skill sets are required and how will we prepare our trainees?

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ABSTRACT

The Defence Medical Services are now in an established period of contingency operations. In 2008, the Royal College of Anaesthetists approved a Military Anaesthesia Higher Training Module which could be easily achieved by deploying to the field hospital in Camp Bastion, Afghanistan, for two months under the supervision of a consultant anaesthetist. This opportunity no longer exists but the need to assure quality training and to demonstrate military skill sets is still essential. This article discusses the revised Military Higher Module and how it will be implemented in the future either during deployment or during times of peace.

INTRODUCTION

The Defence Medical Services (DMS) are currently involved in a busy period of contingency operations. The term contingency is defined in the Oxford Dictionary as “*a future event or circumstance which is possible but cannot be predicted with certainty*” with a more military definition being “*planning, reorganising and training so that we are ready to deploy wherever and whenever—to react across the full spectrum of operations from peace support including humanitarian aid to warfighting*”¹. These deployments are significantly different from the previous long-standing engagements on Op TELIC (Iraq) and Op HERRICK (Afghanistan), where for a period of over 10 years the injuries were caused by high-energy blasts from improvised explosive devices and high energy ballistics. A six-week tour during the busiest periods in Afghanistan provided equivalent exposure to almost three years of UK trauma experience in penetrating torso trauma alone.²

Future contingency operations will offer a number of key challenges to the

deploying Defence cadre anaesthetist. Working in the future operating environment (FOE)³ will require moving away from a ‘Bastion Mindset’ (working in the established Role 3 trauma hospital in Afghanistan) and medical paradigms.⁴ Defence cadre anaesthetists need to develop new mental models in order to prepare for managing FOE unknown unknowns, working in resource-limited and dispersed areas of operations with logistical challenges for medical resupply, lack of airframes for pre-hospital emergency medicine (PHEM) and longer evacuation timelines, with stretched lines of communications.

Consultants belonging to the Department of Military Anaesthesia, Pain and Critical Care (DMAPCC) when not deployed are now embedded into the NHS working in either one of the Defence Medical Group Units based in Plymouth, Portsmouth, Middlesbrough and Frimley Park, the Royal Centre for Defence Medicine (Birmingham) or in a singleton attachment to an NHS hospital. Even if working in a major trauma centre (MTC), the majority of serious trauma in the UK is as a result of motor vehicle collision⁵ and so it is essential to look for other ways to prepare for a deployment which could potentially be in a remote or austere environment. Recent reviews have considered military surgical training⁶ and the skill sets required to deploy as a military surgeon.² This article considers the process and a package of training to demonstrate currency as a Defence anaesthetist for contingency operations and how our trainees will achieve this in the future.

REVALIDATION

On 3 December 2012, the General Medical Council launched the appraisal and revalidation process. Essentially all consultants are now required to actively engage in an annual appraisal and providing that this is deemed satisfactory then every five years they will be formally revalidated. DMAPCC consultants are encouraged to undertake appraisal in their own NHS hospital; however, as DMS personnel, a proportion of their job plan will be allocated to Military Protected Time

(MPT), and so the appraisee must also demonstrate evidence of military competence as would be required for other areas such as private practice, education and research. The appraisal process draws on evidence from many domains including participation in clinical governance, research, education and training, job plan review, logbook review, reflection and continuous professional development (CPD). To assist in the latter, the Royal College of Anaesthetists has produced a CPD matrix, the latest version in 2013,⁷ consisting of three levels: level 1 (core knowledge areas for anaesthesia, including basic science and medicolegal issues), level 2 (knowledge and skills that are relevant to an individual doctor’s ‘whole’ practice) and level 3 (knowledge and skills required by those whose routine clinical practice includes one or more special interest areas in their routine clinical practice). Following a review by the DMAPCC Special Interest Group in Training,⁸ a Military Anaesthesia Level 3 Matrix has been published⁹ with nine separate topic headings (Table 1).

TRAINING COURSES

In order to achieve Level 3 CPD over the five-year revalidation cycle, there are several current courses that have been adapted for the contingency environment (Table 2).

CORE COURSES

Military Operational Surgical Training Course

The Military Operational Surgical Training (MOST) Course¹⁰ was developed in 2009 to prepare the multidisciplinary team for deployment to Camp Bastion in Afghanistan. It initially began with a ‘live link up’ to the current team in the Role 3 Trauma Hospital to give insight as to the current tempo and the course was subsequently altered based on experience and new evidence. MOST has now been adapted for the contingency environment and is one week in duration at the Royal College of Surgeons in London. The whole multidisciplinary trauma team attend and undertake lectures, small group workshops, fully immersive simulation scenarios and cadaveric workshops. Highlights of the programme are listed below.

Equipment familiarisation

Workshops focus on the equipment required for advanced vascular access,¹¹ Belmont Rapid Infuser (Belmont Rapid Infuser, Belmont Instrument, Boston, USA), difficult airway equipment, thromboelastography (RoTEM, Pentapharm, Munich, Germany) and the current anaesthetic

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Table 1 The Military Anaesthesia Level 3 CPD Matrix and designated CPD Code 3A14

General	Advanced leadership and crew resource management Military clinical governance
Prehospital	Military prehospital analgesia Prehospital resuscitation options Intraosseous devices and control of catastrophic haemorrhage Casualty reporting systems
Resuscitation	Military massive haemorrhage protocol Fluid management for major burns with trauma Near patient coagulation testing Concepts of vascular access and rapid infusion devices Ketamine for Military Anaesthesia Management of military airway injuries Broselow bags and paediatric skills relevant to resuscitation Overview of initial management of pelvic injuries Management of traumatic cardiac arrest
Military Anaesthesia	Anaesthesia for blast and ballistic injuries to the chest Anaesthesia for blast and ballistic injuries to the head and neck Anaesthesia for blast and ballistic injuries to the abdomen Deployed anaesthetic apparatus Paediatric adaptations of deployed apparatus Deployed theatre and transfer ventilators Deployed indirect laryngoscopy devices Anaesthesia for severe burns Anaesthesia for head injuries in the military setting Overview of anaesthetic management at Role 4
Regional anaesthesia	Regional anaesthesia for military injuries Deployed regional anaesthesia equipment including CPNB catheters DMS regional anaesthesia protocols and documentation Working knowledge of sona-anatomy Use of regional blocks during transfer
Field pain management	Field hospital analgesia ladder Field PCA equipment Early prophylaxis of neuropathic pain Analgesia for aeromedical evacuation Role 4 analgesia protocols Pain management during rehabilitation
Critical care	Preparation of patients for CCAST evacuation Deployable specialised medical assets Management of blast lung Specific deployed ICM equipment
Training	Awareness of the Royal College of Anaesthetists Military Anaesthesia Higher Training Module Military appraisal process during deployment Risks of PTSD and decompression processes
Management	Familiarity with DMS structure, hierarchy and responsibilities Enduring DMS audit and data collection process, aeromedical evacuation chain and movement processes Role of the Deployed Medical Director

CCAST, critical care air support team; CPD, continuous professional development; CPNB, continuous peripheral neural blockade; DMS, Defence Medical Service; ICM, intensive care medicine; PCA, patient-controlled analgesia; PTSD, post-traumatic stress disorder.

Casualty transfer

There is an introduction to PHEM outlining how patients would be transported to the contingency facility and the treatment that they could potentially receive.^{22 23} There is also a discussion on the role of the Critical Care Air Support Team (CCAST) with an overview of their capabilities and preparing to package a patient for a CCAST transfer.²⁴

Sub-specialty-specific workshops

- Difficult airway: Guidelines produced by the UK Difficult Airway Society provide advice on the management of the unanticipated difficult airway.²⁵ The MOST course focuses on the management of the anticipated difficult airway in the deployed environment²⁶ and the importance of human factors.²⁷ There is a joint cadaveric session with the trauma surgeons to practice both emergency cricothyroid airway and a more controlled tracheostomy. Recently, the available deployed airway equipment has been rationalised and this is discussed.²⁸
- Burns: The workshop discusses how to conduct an anaesthetic for a casualty with burns in the deployed environment.
- Paediatrics: The workshop discusses the management of paediatric casualties, particularly focusing on massive transfusion equipment,²⁹ previous operational experience³⁰ and the management of a child on the critical care at Role 3.³¹ This is supplemented with a fully immersive simulation scenario.
- Cardiothoracic anaesthesia: A joint workshop with the trauma surgeons who review the current management of cardiothoracic injuries³² including the management of traumatic cardiac arrest.³³ A cadaveric workshop allows rehearsal of where personnel stand and key moments during procedures, particular a thoracotomy. This is especially tailored towards a contingency environment with limited blood and blood products.
- Pain management: An overview is given on the current acute pain guidelines^{34 35} and is supplemented by a half-day workshop on regional anaesthesia in the deployed environment.³⁶
- Critical care: The Deployed Critical Care Guidelines for Operations (Hutchings S, currently unpublished) are discussed and there is a focus on the management of blast lung injury³⁷ and traumatic brain injury.³⁸ Depending on the contingency unit,

machines in service: the Anaesthetic Machine Light (Triservice Anaesthetic Apparatus^{12 13}) and the Anaesthetic Machine Heavy (Drager Fabius Tiro (Drager, Telford, Panama). This allows candidates the opportunity to familiarise themselves with Defence anaesthesia equipment with consolidation of this knowledge occurring later in the course with fully immersive simulation scenarios.

Damage control resuscitation

Using the principles of damage control resuscitation (DCR) that were developed during Op TELIC and Op HERRICK,^{14–16} small group workshops and lectures discuss

how this will be conducted in the contingency environment with limited resources and uncertain supply chain. This must still occur within the guidance of the Surgeon General's Policy Letter on Massive Transfusion¹⁷ and the Clinical Guidelines for Operations.¹⁸ Discussions also cover modern concepts of complex trauma management including acute coagulopathy of trauma^{19 20} and the use of near point-of-care testing (RoTEM)²¹ to provide the ability to conduct an individually tailored haemostatic resuscitation.¹⁹ These concepts are also consolidated during whole trauma team fully immersive simulation scenarios.

Personal view

Table 2 Current Military Anaesthesia courses mapped to the Royal College of Anaesthetists continuous professional development (CPD) Matrix⁹

Course	Royal College of Anaesthetists CPD Matrix Codes
<i>Core courses</i>	
Military Operational Surgical Training Course <i>Location: Royal College of Surgeons, London.</i>	1A02, 1B04, 1C01, 1D01, 1D02, 1F05, 1I02, 1I03 2A01, 2A02, 2A05, 2A11, 2E01, 2G01, 2G02, 2G03, 2G04 3A01, 3A09, 3A10, 3A11, 3A14, 3F00, 3G00, 3H00, 3A14 1I02, 1I03
Defence Anaesthesia Simulation Course <i>Location: Centre for Simulation and Patient Safety, Health Education North West, Liverpool.</i>	2A02 3A10, 3A11, 3A14
Military APLS Course <i>Location: Centre for Simulation and Patient Safety, Health Education North West, Liverpool</i>	2D01, 2D02, 2D03, 2D04, 2D05, 2D06, 2D07 3A10, 3A14, 3D00, 3A14
<i>Additional courses</i>	
Chemical, Biological, Radiation, Nuclear Clinical Course <i>Location: Winterbourne Gunner, Salisbury</i>	1I02, 1I03 3A14
Targeted Resuscitation using Echocardiography <i>Location: Kings College Hospital, London.</i>	2A05 3A10, 3A14
Medical Emergency Response Team Course <i>Location: Tactical Medical Wing, RAF Brize NORTON.</i>	1I02, 1I03 2A11 3A10, 3A11, 3A14

there is always the possibility for a 48-hour holding period for any casualty, particularly in the maritime environment³⁹ and so this section serves as a good revision for those who do not regularly have critical care in their job plan.

- G. Imaging: An overview is given on the imaging options that are available in the deployed environment⁴⁰ with worked examples.

Focused workshops and discussions

- A. Mass casualty: A focused discussion is conducted on the Military Major Incident Medical Management and Support Course,⁴¹ with reference to contingency operations.
- B. Role 4 (Queen Elizabeth Hospital, Birmingham): This is where our servicemen and women will be ultimately transferred to and there are discussions on how Role 4 operates⁴² and the specifics of critical care at Role 4⁴³ including the Joint Theatre Clinical Case Conference (JTCCC).⁴⁴
- C. Ethics in contingencies: Several case study examples are used to demonstrate difficult ethical dilemmas in contingencies and a specific ethical tool is introduced for the deployed environment.⁴⁵ The role of the Deployed Medical Director⁴⁶ or Clinical Director for smaller groups is discussed.

Fully immersive simulation scenarios

Using a wireless mannequin, there is the opportunity to rehearse in the teams that are deploying together in fully immersive scenarios. As far as possible a trauma bay

is recreated with deployed military equipment that would be available and a background contingency operation story is briefed. The scenario setup allows a manipulation of timelines to evacuation and so drive the scenario to promote discussions around limited resources, human factors⁴⁷ and decision-making. Following each scenario there is an immediate video-assisted debrief focusing on technical and non-technical skills.

Defence Anaesthesia Simulation Course

The Defence Anaesthesia Simulation Course is currently a two-day course held at the Centre for Simulation and Patient Safety based at Aintree Hospital in Liverpool, a regional high fidelity simulation centre.⁴⁸ The course is designed for anaesthetists and operating department practitioners and allows demonstration of competence with many of the key items of military anaesthetic equipment. For many years, the Triservice Anaesthetic Apparatus (Anaesthetic Machine Light)^{12 13} has been the anaesthetic machine of choice for entry operations or as a backup to the Anaesthetic Machine Heavy (currently the Drager Fabrio Tiro, Telford, Panama). Candidates undertake realistic scenarios in the trauma bay and a field operating theatre setting; common problems with the equipment are explored and military anaesthetic techniques are discussed, including use with paediatric casualties.⁴⁹ The use of video allows an immediate debrief with an additional focus on human factors in contingencies.⁴⁷

Military APLS Course

This is a one-day addition to the APLS Course and is also currently held at the Centre for Simulation and Patient Safety in Liverpool. Lectures, workshops and fully immersive simulation scenarios explore key challenges faced when caring for children in an operational environment. Scenarios allow familiarisation and use of the paediatric equipment module and specific adaptations of equipment required to treat children, such as administering a massive transfusion.²⁹ Difficult cases from previous operational deployments are raised to promote reflection and ethical discussions.

ADDITIONAL COURSES

Medical Emergency Response Team Course

This course is held at the Tactical Medical Wing at RAF BRIZE NORTON and by using a combination of lectures, workshops, simulations and actual flying serials, candidates focus on in-flight DCR. Enhanced interventions include prehospital rapid sequence induction of anaesthesia, blood transfusion, the management of traumatic cardiac arrest and thoracotomy. Scenarios also focus on additional medical problems that could occur in the contingency environment.

Chemical Biological Radiation and Nuclear Course

Held at Winterbourne Gunner in Salisbury, UK, this week-long course, using lectures, workshops and fully immersive scenarios, provides an in-depth look at the Chemical Biological Radiation and

Box 1 The new Higher Military Module of the Royal College of Anaesthetists

Knowledge

Prehospital care

Explains military triage assessment and categories
 Explains military major incident management
 Recalls physiological hazards of transporting patients by air
 Recalls aircraft features and aircrew procedures likely to impact on patient safety
 Describes Medical Emergency Response Team equipment
 Recalls casualty reporting systems
 Describes prehospital resuscitation options including principles of damage control resuscitation
 Describes military prehospital analgesia

In-hospital resuscitation and field anaesthetics

Recalls relevant trauma scoring systems and military audit projects
 Explains the Surgeon General's current transfusion policy
 Recalls the logistics of medical resupply and the maintenance of appropriate storage conditions
 Recalls indications for and the safe use of emergency blood donor panels
 Describes field surgical team equipment, including tri-service anaesthetic apparatus (with paediatric adaptions) and operating tables, knowledge of rapid infusion devices, transport ventilators, Broselow bag, regional anaesthesia equipment and PCA
 Explains field sterilisation and clinical waste disposal methods
 Explains understanding of ketamine
 Explains current Military Anaesthesia concepts on dealing with a difficult airway in a trauma setting
 Recalls the principles of anaesthetics for damage control surgery
 Describes the use of near point coagulation testing RoTEM and its use in damage control resuscitation
 Management of the traumatic pelvis
 Describes current concepts in the management of traumatic cardiac arrest
 Describes Military Anaesthesia for severe burns
 Describes Military Anaesthesia for head injuries
 Describes concepts of blast and ballistic injury in terms of Military Anaesthesia
 Recalls the current methods for management of acute pain in the field including field hospital analgesia ladder, early prophylaxis of neuropathic pain

Critical care

Explains the capabilities and limitations of field critical care
 Recalls preparation of patients for handover to an aeromedical transfer team
 Explains the role of the AELO in the evacuation process
 Recalls a basic understanding of CCAST equipment
 Recalls specific deployable medical assets such as field haemofiltration teams
 Discusses the management of blast lung
 Knowledge of CBRN in the context of anaesthesia and damage control resuscitation
 Explains the repatriation process for KIA including appropriate liaison with SIB and UK coroners

Battle casualty rehabilitation

Recalls the casualty reception process in the UK
 Explains the rehabilitation process
 Recalls the chronic pain management options for battle casualties

Deployed military hospital management

Describes a working knowledge of Joint Warfare Publication 4-03—Medical Support to Operations
 Recalls Clinical Guidelines for Operations
 Explains the structure and responsibilities of the Defence Medical Services, Joint Medical Command, Surgeon General's Department, Land, Fleet and Air Commands
 Recalls the procurement process for new medical equipment
 Explains the role and responsibilities of a Field Hospital Clinical Director and the Commander Medical
 Explains the role of host nation, friendly force medical facilities and non-government organisations
 Explains the role of UK Role 2 (light manoeuvre) and sea-based medical facilities
 Explains the operational medical entitlement matrix
 Describes medical communication systems
 Recalls the field hospital major incident plan
 Overview of key issues around contingency operations, decisions when resources are limited and the key ethical decisions required by the Deployed Clinical Director
 Describes military clinical governance structure

Skills**Prehospital care**

Demonstrates emergency skills in trauma with particular reference to emergency airway management including use of field cricothyroidotomy kit, insertion of chest drains and gaining central venous access

Demonstrates application of the combat application tourniquet and haemorrhage control compression dressing bandage

Demonstrates the use of intraosseous rapid access devices

Demonstrates novel haemostatic techniques such as Hemcon and QuikClot dressings

In-hospital resuscitation and field anaesthetics

Demonstrates provision of anaesthetics for elective, emergency and damage control surgery using current UK military field anaesthetic equipment modules

Demonstrates use of field and regional anaesthetics as an adjunct to acute pain management in the field

Demonstrates use of field PCA equipment

Critical care

Demonstrates packaging of casualties for safe aeromedical evacuation

Demonstrates management of massive blood transfusion in a field hospital

Demonstrates ability to assist the AELO with completion of evacuation signals and documentation

Battle casualty rehabilitation

Visit the Defence Medical Rehabilitation Centre and present a case report on an inpatient to military educational supervisor

Deployed military hospital management

Draft a Statement of Requirement for a piece of new medical equipment

Present a case at the weekly RCDM/Field Hospital video teleconference (could be completed during an exercise)

Present on a military medical topic at a CME meeting

Demonstrate briefing ability by shadowing the Field Hospital Clinical Director for a day, present on his behalf at a Command Brief and deliver a back brief to clinical staff

Attitudes and behaviour

Applies the principles of Good Medical Practice in the field including the conduct of healthcare governance on operations

Demonstrates a broad understanding of the unusual ethical challenges and non-medical influences on hospital activity

Can apply appropriate risk assessment and management

Demonstrates ability to work within a military command structure

Demonstrates knowledge of advanced leadership and crew resource management (human factors)

AELO, Aeromedical Evacuation Liaison Officer; CBRN, Chemical Biological Radiation and Nuclear; CCAST, critical care air support team;

CME, continuing medical education; KIA, killed in action; PCA, patient-controlled analgesia; RCDM, Royal Centre for Defence Medicine; SIB, Special Investigation Branch.

Nuclear course aspects required for contingency operations.

Targeted Resuscitation Using Echocardiography Course

The Targeted Resuscitation Using Echocardiography Course is an intensive one-day practical course for clinicians with some basic echocardiogram ability, held at Kings College Hospital in London. It focuses on using transthoracic echocardiogram for volume resuscitation in critically ill patients and involves a high fidelity echo simulator and practical echo in a clinical environment on the critical care unit.

EXERCISES

It is important that the medical planners of contingency exercises are now proactive and look to map the clinical aspects of ‘in-situ’ simulation scenarios to the Level 3 CPD Matrix.⁵ Previously exercises have focused on the validation of deployed units, looking at the processes of casualty movements, paperwork and communication with external organisations. To not include clinical teaching into contingency operations will lead to wasted opportunities and prevent clinicians the

chance to earn CPD points towards their appraisal.

JOB PLANNING

For the past year, the DMAPCC have been proactive in annually reviewing the job plans of regular consultant anaesthetists, led by the Defence Consultant Adviser (DCA) aiming to ensure that clinical work in base NHS hospitals is sufficient to maintain clinical currency to deploy. There are four work strands available to clinical consultants: clinical anaesthesia, critical care, academia and PHEM of which an individual should only be undertaking a maximum of two within a 10-programmed activity (four hours) job plan. Placing consultant anaesthetists in one of the 26 MTCs or Collaboratives⁵⁰ in the NHS will allow the trauma aspect of their currency to be maintained and there are partnerships with universities and Air Ambulance Trusts to allow currency in academia and PHEM.

TRAINING AS A MILITARY ANAESTHETIST

During the early stages of anaesthetic training, all core trainees (years 1 and 2)

must complete basic training modules⁵¹ and pass the Primary Fellowship of the Royal College of Anaesthetists (FRCA) exam; following this, trainees then complete intermediate training (specialty training years 3 and 4).⁵² Achieving the award of FRCA is compulsory before entering higher and advanced training (specialty training years 5–7).

Previously, a higher military module was undertaken by specialty trainees 5–7⁵³ and most of this was completed under supervision during an eight-week deployment to Afghanistan as part of the trauma team in the Role 3 hospital at Camp Bastion.⁵⁴ The stated learning objectives of the higher military module were to equip the trainee with the additional knowledge and skills required to perform appropriate prehospital care, resuscitation, field anaesthetics and critical care within military environments and to gain an understanding of the management of medical support to military operations. Previously, such placements in Afghanistan were supported by the Royal College of Anaesthetists as a ‘out of program training’ and thus counted toward the Certificate of Completion of Training (CCT).

With a move to contingency operations, a review of the higher training module has now been completed and approved by the General Medical Council.⁵⁵ The new module has been designed to be completed within the UK and does not require an operational deployment, although one would be desirable. The five key sections of the module still include prehospital care, in-hospital resuscitation and field anaesthetics, critical care, battle casualty rehabilitation and deployed hospital medical management with sections for knowledge, skills and attributes and behaviours (Box 1). Evidence will need to be collected in the trainee's e-portfolio using the assessment tools of Anaesthesia Clinical Evaluation Exercise (A-CEX), Case Based Discussion (CBD), Direct Observation of Procedural Skills (DOPS), Intensive Care Medicine Evaluation Exercise (I-CEX), Multi-source Feedback (MSF) and Simulation.

To limit disruption to other training, a three-month package has been proposed in a MTC under the supervision of a DMAPCC anaesthetist (Table 3).⁵⁵ In addition to attending current military courses it will also permit the shadowing of the trauma team leader and bespoke visits that include:

- Royal Centre for Defence Medicine for awareness of the Role 4 infrastructure and to allow attendance at a JTCCC.⁴⁴
- The Defence Medical Rehabilitation Centre, Headley Court, where UK servicemen and women currently undertake rehabilitation and the opportunity to attend a chronic pain clinic.

- An Air Ambulance Trust, to complete a day shadowing the helicopter emergency medical service crew on call and attend a clinical governance meeting.
- The DMAPCC Special Interest Group in Equipment meeting as a guest to experience how DMAPCC anaesthesia equipment is reviewed and procured.
- The Defence Anaesthesia Specialty Board and shadow the DCA who is Chair of the meeting.

There is a close relationship between the DMAPCC and the Royal College of Anaesthetists. The DCA is the Military Anaesthesia Regional Advisor but delegates responsibilities to two Deputy Regional Advisers (CT1-2 and ST3-4 and ST5-7) who attend trainees' Annual Review of Competence Progression. There is also an annual trainees review panel to consider placements and provide a formal mechanism to support trainees in difficulty.

The new Higher Military Anaesthesia Module will now be compulsory for trainees starting as ST5 from 1 August 2016 and will be required to be completed to be successful at the Armed Forces Consultant Advisory Board. Trainees who are ST6-7 at the moment will be required to show equivalence. The gold standard to complete the module would be to deploy on a contingency operation under supervision and this is currently being explored. Trainees should also be encouraged to attend an exercise during their training as many work-based assessments could be completed during this time.

CONCLUSION

With a move to contingency operations, the DMAPCC has been proactive in providing a mechanism for its consultants to demonstrate ongoing CPD for their annual appraisal via the Level 3 Matrix.⁹ Current military courses have been redesigned and adapted based on previous experiences, lessons learnt and current best evidence in order to assist Defence anaesthetists to be well prepared for the contingency environment. A new Higher Military Module⁵⁵ has been written to allow DMAPCC trainees the opportunity to achieve the competencies to enable CCT as a military consultant in times of peace. A future role of the DMAPCC Special Interest Group in Education will be to review the Level 3 CPD module and military courses aligned to support future operational tempo.

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Table 3 Example of the Military Higher Module available at major trauma centre under the supervision of a Military Consultant

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	Induction	On-call days anaesthesia					
2		Military Operational Surgical Training Course					
3	On-call shadow trauma team leader				On-call nights anaesthesia		
4			Headley Court visit	RCDM visit	Equipment group visit		
5	On-call days anaesthesia						
6	MERT COURSE						
7	Military APLS	On-call days anaesthesia					
8	On-call shadow trauma team leader						
9	Military Major Incident Medical Management and Support Course					On-call shadow trauma team leader	
10		On-call days anaesthesia ³					
11	Clinical Chemical Nuclear Biological and Radiation Course						
12	Helicopter emergency Medical Service visit		Defence Anaesthesia Simulation Course				

MERT, Military Emergency Response Team; RCDM, Royal Centre for Defence Medicine.

Personal view

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