

# Critical-skills Acquisition and Maintenance in Medical Officers (CAMMO) Project – Stage 1

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## Abstract

**Background:** Health Services Wing (HSW) is continually seeking to improve the training and credentialing of medical officers in order to provide a high-quality healthcare capability. The CAMMO Project aims to inform an evidence-based approach to the training and credentialing of General Duties Medical Officers (GDMOs).

**Purpose:** Stage 1 of the CAMMO Project aims to define the critical care skills that GDMOs are required to be proficient in.

**Material and methods:** A literature search was conducted utilising restricted and non-restricted search engines to identify policy or doctrine defining those critical care skills.

**Results:** A range of relevant policies and publications were reviewed, from which the following list of critical care procedures was identified as requiring some proficiency:

- Bag valve mask ventilation
- Laryngeal Mask Airway (LMA) placement
- Endotracheal intubation
- Emergency surgical airway or cricothyroidotomy
- Decompressive thoracostomy (finger thoracostomy)
- Chest tube insertion
- Intravenous (IV) cannula placement
- Intraosseous line placement
- Focused Abdominal Scan in Trauma/Focused Assessment with Sonography in Trauma (FAST)

**Discussion:** No definitive policy was discovered that directly identified a set of critical care skills GDMOs are required to be proficient in; however, a range of publications and policies did provide guidance to construct a list of critical care skills to be investigated in Stage 2 of the CAMMO Project.

## Introduction

General Duties Medical Officers (GDMOs) in the Royal Australian Air Force (RAAF) have been deployed in roles requiring the emergent management of critically ill patients. Health Services Wing (HSW) seeks to provide a high-quality health capability to support aerospace and military operations. In order to achieve this, a robust training and credentialing program for GDMOs is required. The Critical-skills Acquisition and Maintenance in Medical Officers (CAMMO) Project is an initiative of Headquarters HSW seeking to provide an evidence-based approach to the training and credentialing of GDMOs expected to perform critical care skills. It is one of several

current projects being undertaken by HSW and the wider defence force attempting to optimise medical officer training. It is envisaged that the CAMMO Project will involve the following stages:

- Stage 1: Define the critical care skills GDMOs in the RAAF are required to be proficient in.
- Stage 2: A scoping literature review identifying appropriate training and experience required to attain and maintain the identified critical care skills.
- Stage 3: Comparison of current HSW training and credentialing requirements and those suggested by Stage 2.

This paper presents the findings of Stage 1. While HSW supported this project, opinions within do not necessarily reflect those of HSW or RAAF.

## Method

In order to define the critical care skills RAAF GDMOs are required to be proficient in, a search of the Defence Restricted Network and non-restricted search engines was used to find any policy or doctrine defining those. An additional search was performed to identify relevant documents from other organisations, such as medical colleges, that would assist in identifying these requirements.

## Results

Despite a thorough search, no definitive policy was discovered directly identifying the critical care skills GDMOs require. There are, however, a range of policies that provide guidance in this area. An employment profile is available for RAAF GDMOs.<sup>1,2</sup> The document identifies that medical officers may work in various situations, including non-permissive environments and isolated situations. However, it does not give specific information about the critical care skills medical officers are required to be proficient in or may be expected to perform. Further guidance comes from ADDP 1.2—Health support to operations,<sup>3</sup> an excerpt of which is shown in Figure 1.

Figure 1: Excerpts from ADDP 1.2 Health support to operations.<sup>3</sup>

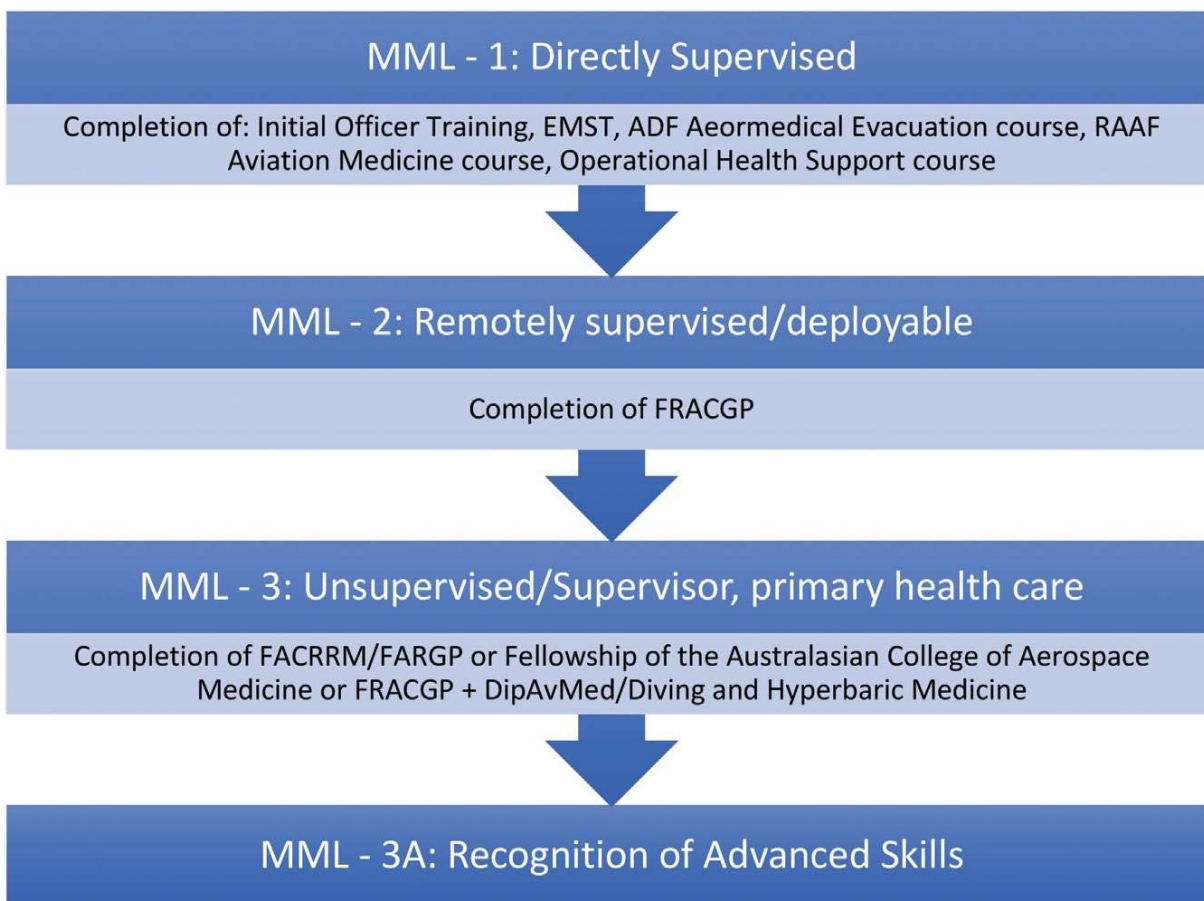
- 1.35 **Professional regulation.** The health profession is regulated by national, state and territory legislation, national health standards, and national boards.  
Defence policy provides a framework of accountability for health services and individual health practitioners. Defence health practitioners also have obligations related to professional standards and codes of conduct. Health Manual—Health Workforce Governance describes professional regulation and health workforce governance in Defence.
- 1.36 **Standards of care.** Safe and quality health care contributes to the morale and confidence of troops, as well as acting as a public statement of assurance to families, the public and the international community. Where the ADF is committed to operations, there is an expectation that casualty rates will be minimised and where personnel are wounded, become ill, or are injured, they will have access to the best health care outcomes that Defence can provide. Health services should be as close as possible to civilian standards within the limitations of operational constraints, and should meet contemporary standards of military health care.
- 2.6 The Surgeon General Australian Defence Force (SGADF) sets minimum clinical standards, including ongoing professional development and currency requirements. The Services are responsible for the raise, train and sustain functions that provide deployment-ready health practitioners. The Services, with SGADF guidance, set the occupation/employment specifications and readiness standards for their health practitioners.
- 3.35 **Damage control resuscitation.** Haemorrhagic shock due to blood loss is a common cause of death in battle casualties (bcas). Damage control resuscitation, also known as resuscitative surgery, is performed on casualties with a compromised airway and/or circulatory shock and who do not respond to initial emergency medical treatment and advanced trauma management procedures. It stabilises casualties for evacuation to a higher role of health care. Damage control resuscitation is a set of procedures designed to:
- a. identify moderate to severe trauma patients in compensated and uncompensated haemorrhagic shock
  - b. establish and maintain a definitive airway, when required
  - c. provide ventilatory support, when required
  - d. perform chest decompression via needle then tube thoracostomy, when indicated
  - e. control accessible haemorrhage via haemostatic agents or tourniquets
  - f. prevent and/or treat hypothermia
  - g. prevent and/or treat the cause of acidosis
  - h. reverse coagulopathy and anaemia with appropriate blood products
  - i. administer sufficient intravenous fluids and blood products to preserve cerebral and cardiac perfusion, without aiming for a normal blood pressure, until haemorrhage is controlled.
- 3.43 **One hour.** A medical practitioner-led team should assume responsibility for treatment within one hour of wounding, resuscitating and stabilising the casualty. The team provides mechanical ventilation, non-invasive monitoring and diagnostics. Severely wounded or injured casualties will require surgery as soon as possible, and within two hours of wounding.
- 3.74 **Individual health skills.** Health practitioners must be competent, current and authorised in both their professional and military skills to effectively contribute to health capability. They must meet the credentialing requirements of Australia and, where relevant, MN partners. Regular specialised continuation training using military health materiel is required to maintain viable capability, as the skills necessary to provide health support across a wide range of permissive, uncertain and hostile situations are diverse and perishable.

While paragraph 3.35 in Figure 1 provides a definitive list of the procedures required for damage control resuscitation, it is not explicit who should carry out these procedures. However, given that these procedures are often time critical, it is logical, given that they are often the most proximate medical officers to wounded individuals, GDMOs would be expected to have a level of proficiency in carrying out those procedures.

Health Manual Vol 8<sup>4</sup> provides guidance on the scope of clinical practice and credentialing requirements of GDMOs. For example, it states that GDMOs are required to perform tasks defined in their employment profile/specifications. It also provides clinical currency details that inform the HSW policy, outlined below.

RAAF Medical Officers have credentialing requirements stipulated by the Defence Health Manual and overseen by HSW. Regarding critical care skills, this requires medical officers to pass Advanced Life Support (ALS) and Emergency Management of Severe Trauma (EMST) course requirements and repeat 2- and 4-year recertification, respectively. Successful completion of EMST is also a requirement for career progression from MML-1 (see Figure 2) to MML-2 (i.e. reaching a deployable status as a MO). EMST currency is a typical 'essential criteria' for most medical officer deployment Expressions of Interest (EOI). This, along with the statements in ADDP 1.2, suggest that MOs should have some ability to carry out the critical care skills involved in the algorithms taught in those two courses. It should be noted that no policy was identified where competence in these skills was required.

**Figure 2: Explanation of the Military Medical Level (MML) System**



The requirements for progression from MML-2 to MML-3 involve completion of the Royal Australian College of General Practitioners (RACGP) or the Australian College of Rural and Remote Medicine (ACRRM) training programs (being awarded FRACGP of FACCRM, respectively). Both programs require the completion of a course analogous to ALS.<sup>5,6</sup> Completion of the ACCRM pathway involves a number of additional courses that involve critical care skills; however, the trainee is allowed to pick from several different courses, so there is not a single defined set of critical care skills required to complete that program.<sup>6</sup> The RACGP triennial CPD requirements involve completion of a basic life support course,<sup>7</sup> whereas Fellows of ACRRM are required to complete an ALS course each triennium.<sup>8</sup> The MML pay scale recognises the additional requirements of an ACRRM qualification, the Fellowship in Advanced Rural General Practice (FARGP—awarded by RACGP), or additional qualifications beyond RACGP with the MML-3A remuneration category.<sup>2</sup>

The following list of critical care skills was extracted from course material of the EMST and ALS courses:<sup>9,10-11</sup>

- Bag valve mask ventilation
- Laryngeal Mask Airway (LMA) placement
- Endotracheal intubation
- Emergency surgical airway or cricothyroidotomy
- Decompressive thoracostomy (finger thoracostomy)
- Chest tube insertion
- Intravenous (IV) cannula placement
- Intraosseous line placement

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### Focused Abdominal Scan in Trauma/Focused Assessment with Sonography in Trauma (FAST)

It should be noted that this list closely aligns with the guidance from ADDP 1.2—Health Support to Operations.

### Discussion

While there is no specific list of critical care skills that GDMOs are required to be proficient in, there is guidance suggesting appropriate skills from sources both within and external to the ADF. The available guidance was used to create the list of procedures above that will be the subject of Stage 2 of the CAMMO Project. In Stage 2, a scoping literature review will be undertaken to determine the training required to attain and maintain proficiency in these skills.

It is recognised that although the above skills are described or practised in EMST and ALS courses, proficiency in those skills is not necessarily a requirement for passing. It is also recognised that definitions of proficiency in skills can be heterogeneous. However, it is hoped that a more precise analysis of proficiency in critical care skills will be afforded in the second stage of this project.

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