



Doctor training for MERIT and air operations

Contents:

- 1) Selection and training of new MERIT/HEMS doctors
- 2) PHEM trainee sign off process
- 3) Doctor training portfolio



WMAS Operational Guidelines

MAA – CL 002 Version - 2

Guideline ID	MAA Guidelines - 002		
Version	2		
Title	Doctor training for MERIT/HEMS operations guideline		
Approved by	Immediate Care Governance Group		
Date Issued	September 2017		
Review Date	September 2019		
Directorate	Clinical and Quality		
Authorised Staff	Emergency Care Assistant	Student Paramedic	
	Technician	Critical Care Paramedic	
	Advanced Technician	Nurse	
	Paramedic	Doctor	X
	Specialist Paramedic - Urgent Care		

Introduction:

This guideline lays out the processes that are involved in recruiting and training doctors to work on the MERIT and HEMS platforms within WMAS.

Selection and training of new MERIT/HEMS doctors

1. Introduction

- Midlands Air Ambulance (MAA)/Medical Emergency Response Incident Team (MERIT) aims to provide the best possible care to the West Midlands Ambulance Service (WMAS) patients that it treats. In order to achieve this, selection of crew – both doctors and paramedics – must be done in such a way that supports this aim by recruiting and training personnel with the correct knowledge, skills, attitudes and behaviours.
- A robust selection and training process is required to ensure that all Helicopter Emergency Medical Service (HEMS)/MERIT doctors have the necessary clinical skills, experience and personal qualities required for HEMS/MERIT operations.



2. Responsibilities

The WMAS Medical Director will:

- Have ultimate responsibility for the selection & training of HEMS/MERIT doctors.
- Ensure the full implementation of this policy.
- Ensure that adequate resources and time are provided to ensure the effective implementation of this strategy

The MERIT/Midlands Air Ambulance Clinical Lead will:

- Provide full support and co-operation to WMAS Medical Director to ensure successful implementation and management of this policy.
- Chair the HEMS/MERIT Selection Panel
- Coordinate HEMS/MERIT Doctor Training
- Provide full support and co-operation to WMAS Medical Director to ensure successful implementation and management of this policy.
- Maintain a central register of all accredited HEMS/MERIT doctors

The HEMS/MERIT Clinical Staff will:

- Familiarise themselves and comply with the contents of this policy and other related policies and procedures.
- Provide full support and co-operation to the MAA/MERIT Clinical Lead to ensure successful implementation and management of this policy.

3. Implementation Plan

- The Air Operations/Regional Trauma Desk (RTD)/MERIT Manager will be responsible for implementing the aviation and administrative elements of this Policy.
- HEMS/MERIT Clinical Staff will be responsible for implementing the medical elements of this policy.

4. HEMS/MERIT Doctor Selection

- HEMS/MERIT doctors are selected against criteria agreed between Midlands Air Ambulance and West Midlands Ambulance Service FT. These criteria are in accordance with recommendations from the DoH Air Ambulance Working Group1.
- Doctors will be selected against an agreed person specification (Table 1).



Table 1. HEMS/MERIT Doctor Person Specification

<i>Essential Criteria</i>	<i>Desirable Criteria</i>
<ul style="list-style-type: none">• Registered with GMC• 5 yrs post-qualification• DipIMC (or equivalent)• MIMMS/JESIP training or equivalent• ALS, ATLS or equivalent• Evidence of significant autonomous pre-hospital practice• Holds initial certificate of competence in anaesthesia (or equivalent)• Established RSI ability within normal practice with supporting evidence• Evidence of inter-hospital transfer training• Physically fit• Medically fit• Hep B Immune• CRB approved <p><u>Military applicants (In addition to above)</u></p> <ul style="list-style-type: none">• DCA authority	<ul style="list-style-type: none">• FIMC (or evidence of working towards)• APLS• 6 months critical care• 6 months emergency medicine• Qualification in transfer/retrieval medicine

Application Process

- Recruitment will be in line with WMAS recruitment policy and all vacancies will be advertised through normal channels – i.e NHS careers etc

Observer Shifts

- Shortlisted Applicants will be invited to complete an observation shift with the night MERIT team to allow the operational team to make an independent assessment of Crew Resource Management (CRM) and other human factors issues as well as giving the applicant insight into the team's role. An observer tabard will be worn at all times and no invasive clinical procedures will be undertaken by the observer. The operational team will complete a 'Confidential Observer Feedback' form (appendix 1)



Aircrew Selection

- The selection day will be run as a series of stations as follows;
 - 1) Pre-hospital experience/portfolio review
 - 2) General medical experience/CV review
 - 3) Medical moulage station
 - 4) Trauma moulage station
 - 5) Fitness test

HEMS/MERIT Selection Panel

- The role of the panel is to ensure that applicants meet the MERIT/HEMS Doctor Person Specification. It will also review any issues identified during the observer shift.

The panel will usually consist of the following personnel:

- WMAS/MAA Air Operations/RTD/MERIT Manager
- WMAS/MAA HEMS Critical Care Paramedic
- WMAS/MAA Clinical Lead
- WMAS/MAA Governance Lead
- WMAS HR Representative

A check sheet will be completed for each applicant. Candidates must meet all the criteria set to be selected for HEMS/MERIT training. Cases where applicants have a high level of equivalent experience but fail to meet all criteria will be considered by the Clinical Lead and the WMAS Medical Director.

Fitness Assessment

- Due to the physical nature of the job applicants will be required to undertake a physical fitness assessment. The fitness test will consist of a 20m bleep test run in sports kit. The pass mark will be level 6.0 on the test for all applicants.

Further Requirements

- Successful applicants will be required to sign a training contract before commencing HEMS/MERIT training with MAA and WMAS. They must also satisfy the WMAS occupational health requirements and CRB clearance check



MERIT/HEMS Doctor Training

- Applicants that have been approved by the selection panel will be enrolled onto a MERIT/HEMS Doctor Training Program. Regardless of age or seniority within the NHS they will occupy the position of 'MERIT/HEMS Trainee' until signed off. They will be allocated a MERIT/HEMS Doctor training mentor and issued with a training file.

1) Aviation competencies

- This training module is designed to deliver the basic aviation competencies required by MERIT/HEMS practitioners operating as medical passengers with Midlands Air Ambulance. It will cover the following areas:
 - Aircraft Safety
 - EC-135 or/and H145 overview
 - Medical equipment
 - Stretcher operation
 - Harness operation
 - Loading/Unloading
 - Emergency procedures
 - Basic marshalling
 - Communication systems
 - Start-up
- These skills will be developed and tested on subsequent HEMS training flights.
- This module may be delivered as a one day course or during operational shifts depending on the number of trainees involved.

2) Medical Training modules

- These modules are designed to give the doctors and paramedics of the MERIT/HEMS service an opportunity to train together in order to standardise the level of care delivered on scene and improve medical Crew Resource Management.
 - a) Pre-hospital RSI Training
 - This is a one day training module (run typically twice a year) that teaches HEMS/MERIT doctors and paramedics a structure with which they can deliver, or assist in delivering, a safe pre-hospital anaesthetic in line with the PHRSI SOP. This module reinforces safe pre-hospital practice and is not designed to teach RSI, so substantial prior experience of RSI is expected (see person specification). New HEMS/MERIT doctors are expected to attend one of these days within their first year with the service.
 - b) Clinical Skills Module
 - This is a one day training module that aims to give the doctors and paramedics of the MERIT/HEMS service an opportunity to practice key clinical team skills together. This session will cover pre-hospital surgical skills



including surgical airway, thoracostomy, thoracotomy, chest drain insertion, field amputation, IO access and advanced IV access. The module is delivered in the anatomy cadaver labs and provides unique hands on experience. Courses are run up to three times a year and all new HEMS/MERIT doctors are expected to attend one of these days within their first year with the service.

3) MERIT and HEMS Training shifts

- These shifts give the trainee the opportunity to operate as part of the HEMS/MERIT team under the supervision of a HEMS/MERIT paramedic and doctor. Trainees will be expected to complete a set of aviation and medical competencies during these flights. The number of training shifts required will be determined by the speed at which these competencies are gained but should show an equal balance across both platforms. As an expected minimum, each trainee should have completed the following prior to sign off;
 - a) Two MERIT shifts
 - b) For those with prior HEMS experience a minimum of 5 missions to include 2 landings at scene and 1 MTC conveyance
 - c) For those with no HEMS experience a minimum of 10 missions to include 4 landings at scene and 2 MTC conveyances
 - d) Satisfactory feedback from base pilots

For those with prior experience there is an option, at the discretion of the Clinical Lead and Air Ops/RTD/MERIT manager, for selective sign off before these targets are met to allow the trainee to become operational on the night-time MERIT platform.

- A debrief will be completed at the end of each mission and documented in the trainees training file.

4) Personal Competencies

- These will focus on the attitudes and skills relating to safe HEMS and MERIT based pre-hospital work. They will also emphasise the importance of crew resource management and human factors.

5) Equipment Competencies

- Each trainee will be expected to demonstrate familiarity of all equipment carried by WMAS and MAA as part of their HEMS/MERIT training.



6) Knowledge Competencies

- The trainee will demonstrate the appropriate knowledge of clinical and operational matters in order to provide a complete HEMS/MERIT service.

7) Skills Competencies

- The trainee will need to discuss each of these skills in detail and cross reference these discussions with the MAA/MERIT SOPs which will be provided at the start of training.

MERIT/HEMS Sign-Off

- Once all training competencies have been achieved and minimum flying hours undertaken a trainee will be eligible for sign-off.
- A 360 degree feedback exercise will be undertaken to gather a broader understanding of the trainee.
- All documentation will be collated and checked by the Clinical Lead.
- A final 'sign-off' HEMS shift may be required to be undertaken with the Clinical Lead (or a nominated deputy) depending on trainee prior experience.
- The Clinical Lead will then make an application to the WMAS Medical Director. At this point they will progress from 'HEMS/MERIT Trainee' to 'HEMS/MERIT Doctor'

Policy Review

- This policy will be reviewed annually from the date of its approval, or sooner in light of organisational changes. The WMAS Medical Director (via the ICGG) will provide approval of the Policy.



Appendix 1 – MAAC/MERIT Doctor Competencies

Base familiarisation

FAM 1	Airbase Familiarisation – Accommodation
FAM 2	Airbase Familiarisation - Airfield
FAM 3	HART Base Familiarisation

Aircraft

AC 1	Aircraft – Medical Passenger Brief
AC 2	Aircraft - Ground Handling (Helilift)
AC 3	Aircraft – Start Up & Shutdown
AC 4	Aircraft - Preparation For Flight 1
AC 5	Aircraft – Preparation for Flight 2

Mission

M 1	Mission - Communications 1: General
M 2	Mission - Communications 2: Chelton Radio
M 3	Mission – Navigation 2: Hospital Choice
M 4	Mission – In Flight
M 5	Mission – Landing / Scene Safety
M 6	Mission – Use of Aerolite Stretcher (Cold

Administration

AD1	Administration – Post Mission
-----	-------------------------------



Appendix 2 – HEMS/MERIT Doctor Medical Competencies

1. All HEMS/MERIT doctors are required to meet a minimum set of medical competencies prior to sign-off.
2. Clinical Equipment competency assessments should be completed on-base during scenario/moulage training or on medical training days.
3. Clinical Knowledge competency assessments are based on the clinical HEMS/MERIT SOPs and are to be completed on-base between call-outs
4. Clinical Skills competency assessments may be undertaken on-the-job during HEMS/MERIT Training shifts, on-base during scenario/moulage training or on medical training days.

Clinical Equipment	
E1	Zoll X series
E2	EZIO
E3	Suction
E4	Medical gas therapy
E5	Parapac plus ventilator
E6	Kendrick traction device
E7	Vacuum splints
E8	Belmont Buddy Lite Fluid warmer
E9	SAM slings
E10	Haemostatic gauze
E11	Response bag layout
E12	Surgical equipment
E13	Pneumofix
E14	Braun Perfusor Syringe driver

Clinical Knowledge	
F1	Airway Management
F2	Pre-hospital Anaesthesia
F3	Thoracic Trauma
F4	Pre-hospital Thoracotomy
F5	Haemorrhage Control
F6	IV Access and Fluid resuscitation
F7	IO Access
F8	Brain Injury
F9	Maxillo-Facial Trauma
F10	Spinal Injury
F11	Extremity Trauma
F12	Amputation
F13	Crush and Suspension Trauma
F14	Analgesia & Sedation
F15	Death on scene
F16	Major Incident Response
F17	HEMS Alerting System

Clinical Skills	
G1	Adult Life support
G2	Paediatric Life Support
G3	Neonatal Life Support
G4	Endotracheal Intubation
G5	LMA placement
G6	Surgical Airway
G7	Needle Thoracentesis
G8	Finger Thoracostomy
G9	Intercostal Drainage
G10	Haemorrhage Control
G11	Intravenous Access
G12	Intraosseous Access - EZIO
G13	Pelvic & Limb splintage
G14	Spinal Immobilisation
G15	Minimal Handling Techniques
G16	Arrhythmia Recognition & Management
G17	Control of maxillofacial haemorrhage
G18	Pre-Hospital Rapid Sequence Induction
G19	Failed Airway Drill
G20	Maintenance of Anaesthesia
G21	Prehospital Thoracotomy
G22	Prehospital Amputation



MERIT/ MAA Confidential Observer Feedback form

Date of Shift:

Platform: 03 / 06 / 09 / MERIT

Observer name:

Observer background: Paramedic / Doctor / Other – specify

Knowledge of observer:

Interaction with operational crew:

Interaction with other WMAS staff:

Other observations:

Could you work with this observer as a colleague?

CCP Name:

Doctor Name:

Please email to mark.nash@midlandsairambulance.com



PHEM trainee sign off process

Scope

These guidelines are written to lay out the sign off process for Pre-Hospital Emergency Medicine trainees working with West Midlands Ambulance Service

Background

- Midlands Air Ambulance Charity (MAAC) and West Midlands Ambulance Service NHS Foundation Trust (WMAS) work in partnership with the University Hospital of North Midlands (UHNM) and University Hospital Birmingham (UHB) to host Pre-Hospital Emergency Medicine (PHEM) trainees on a one-year whole time equivalent training programme that can lead to a sub-specialty registration with the General Medical Council.
- Trainees may either start with MAAC/WMAS as novice practitioners or may rotate from our sister organization, The Air Ambulance Service (TAAS), where they will already be practicing in a solo role. This SOP will lay out the process that is put in place to ensure that trainees have had sufficient training and orientation to allow them to operate in a solo practitioner role.
- It should be noted that MAAC/WMAS support a commissioned Medical Emergency Incident Response Team (MERIT) which operates at a consultant equivalent standard and has pivotal roles in both major incident management and hyper-acute transfers of multiply injured patients. It is therefore necessary to ensure that any PHEM trainee operating solo has been trained to a similar level prior to sign off.

Sign off of novice PHEM trainees

- Following an initial induction programme organised by the West Midlands PHEM training programme director, trainees will at the earliest opportunity have a meeting with their Education Supervisor (ES). At this meeting, the trainee and ES should identify a possible sign off month based on prior experience, working pattern (fulltime vs part time) and programme format (e.g. blended 70:30 or 50:50 mix etc.). This sign off month should be communicated to the Clinical Lead (CL) for MAA/MERIT who will reserve two HEMS flying shifts, at least 1 week apart, for potential sign off assessment. At any subsequent ES meeting this sign off month estimate should be reviewed in order that any adjustments in date can be incorporated into the staffing rota.
- The ES will monitor the PHEM trainee's educational progress via regular meetings, a clinical logbook and completion of Work Based Assessments. When the ES feels the trainee has had sufficient experience and training, they will present the trainee to the CL for potential sign off to undertake solo practice.



- In addition to the minimum standards set by the ES, all novice trainees should undertake the following as directed by the CL;
 - Undertaken a 360-degree feedback process coordinated by the CL. This assesses good Crew Resource Management ability.
 - Undertaken on line JESIP training and show evidence of a discussion session with a consultant level PHEM doctor. This ensures that the trainee is mission ready for the commissioned role.
 - All non-anaesthetic trainees should show evidence of an average of one day a month in theatres to maintain advanced airway and anaesthesia skills. This ensures that they remain confident and competent at being able to deliver a safe anaesthetic pre-hospital.
 - All trainees should have undertaken a discussion and practice moulages in transferring a critically ill/injured patient from one hospital to another. This will ensure familiarity with transfer equipment such as syringe drivers and ventilators as well as ensuring mission ready for the commissioned role.
 - To ensure issue of medical passenger card by the pilots, the trainees should show evidence of completing at least 10 hours of flying (taken as 2 mins before and after take-off and landing) as well as two conveyances to a MTC.

Sign off day

- Sign off day will be undertaken with the CL. After a brief introduction to the day's format, the PHEM trainee will effectively lead the day's operations with the CL maintaining a passive role unless, either the trainee gets into difficulty or the clinical situation requires more than one active clinician. During the day the following will occur;
 - Review of the trainee's logbook to assess range and complexity of cases already done
 - Discussion of clinical and operational Standard Operating Procedures (SOPs) to ensure good working knowledge.
 - Review of trainee MAA training portfolio to ensure completion of all operational and aviation competencies/training.
 - Debrief of any jobs that occur during the day
 - General discussion on topics such as major incidents, hyper-acute transfers and other areas to ensure mission ready for commissioned role.
 - Review of 360-degree feedback received from CCP and medical colleagues



- At least one working job must be undertaken on the sign off day to allow full assessment of on scene CRM and clinical ability. If the CL feels that all areas mentioned above are satisfactory then formal sign off will be confirmed and a certificate issued (appendix 1).
- If insufficient jobs have been observed on the first day, the second booked day will be used for sign off. Should sign off already be achieved on day one then day two will be used as a solo shift for the trainee with the CL based on land as senior cover.

Post sign off

- Following successful sign off for solo practice, solo shifts can be undertaken by the trainee but with the following staged steps to full autonomy;
- At least the first 2 pre-hospital Rapid Sequence Induction (RSI) should only be undertaken after discussion by phone with the senior on call consultant unless doing so would compromise patient safety. If discussion cannot take place prior to RSI then communication with the senior consultant should take place as soon as practically possible after the event. Depending on feedback received this phone based discussion prior to RSI may be increased as required.

All advanced surgical procedures such as thoracotomy and amputation should be discussed first with a senior consultant unless doing so would compromise patient safety. If discussion cannot take place prior to advanced procedure, then communication with the senior consultant should take place as soon as practically possible after the event

- For the first 6-8 weeks post sign off at least 50% of all shifts should be supervised to allow peer review of cases and further on scene assessment
- Ideally the same group of senior cover should be made available on the days the trainee does solo shifts to provide consistent senior support.
- All non-anaesthetic trainees must continue to undertake at least one day a month in theatres doing advanced airway and anaesthesia.

Sign off of rotating trainees from TAAS

- All trainees rotating from TAAS should already be operating on a solo practice basis. Therefore, on rotation to MAA/MERIT they will need a short period of orientation to the aircraft and operational practices.



- Orientation will be based on completion of the MAA training portfolio and the same operational and aviation competencies/training as novice trainees.
- To ensure issue of medical passenger card by the pilots, the trainee should show evidence of completing at least 5 hours of flying (taken as 2 mins before and after take-off and landing) as well as one conveyance to a MTC
- Having met with their ES, the following should be undertaken by the ES;
 - Review of their training portfolio and experience whilst with TAAS
 - Completion of their MAA training portfolio will be confirmed.
 - General discussion on topics such as major incidents, hyper-acute transfers and other areas to ensure mission ready for commissioned role.
 - Review of 360-degree feedback received from CCP and medical colleagues
- Following the above review process, the ES may elect to undertake a supervised shift with the trainee and/or refer the trainee to the CL for solo practice sign off.
- On receiving positive reassurance from the trainee's ES about this 'paper' sign off process, the CL will issue a certificate authorising solo practice at MAA/MERIT
- During time with MAA/MERIT, all rotating trainees without an anaesthetic background must undertake at least one day a month in theatres doing advanced airway and anaesthesia.



West Midlands Ambulance Service



NHS Foundation Trust

Appendix 1



West Midlands Ambulance Service



NHS Foundation Trust

Midlands Air Ambulance
and WMAS MERIT
Trainee Sign Off for Solo Practice Certificate

This certificate is to confirm that

Has completed suitable training and assessment within Midlands Air Ambulance and WMAS MERIT to be able to undertake solo practice shifts with distance consultant supervision

Signed;

Dr Mark Nash
Clinical Lead
Midlands Air Ambulance
WMAS MERIT

Trust us to care.



West Midlands Ambulance Service



NHS Foundation Trust

Midlands Air Ambulance Charity

and

West Midlands Ambulance Service MERIT

DOCTOR TRAINING PORTFOLIO

Name:

Date Training Commenced:

Original document to be kept at Cosford Base once
sign off complete

Trust us to care.



Contents

Section:

1. Individual Information
2. Certificates
3. Administration
4. Competencies
5. Medical Equipment
6. Training Days
7. Training Summary



Section 1

Individual Information

Contents:

- Curriculum Vitae

Rationale:

- This section provides a brief summary of previous experience, training and background information. Please insert the relevant paperwork behind this sheet.



Section 2

Certificates

Contents:

- GMC certificate of registration Copy
- Medical passenger briefing certificates
- Any other relevant certificates

Rationale:

- This section provides evidence of meeting minimum standards of training and registration required to operate as part of the MAAC/MERIT team. Please insert copies of relevant certificates behind this sheet.



Section 3

Administration

Contents:

- Airfield and HART base Security
- Controlled Drug Management
- Patient Report Forms
- Rotas and claims
- Sickness & Untoward Incidents
- Standard Operating Procedures
- Database
- Infection, Prevention and Control

Rationale:

- This section needs to be completed in order to fully understand, participate in and comply with administrative duties expected of all MAAC/MERIT members. Please complete each section with your mentor.



Administration

MAAC operate from three bases with varying levels of security. In addition, MERIT operate out of the HART operational base. This form should be completed to demonstrate an awareness of measures in place to protect the aircraft and bases, and when appropriate passes have been obtained.

Airbase and HART base Security	Mentor Signature	Date
Discuss and ensure all Health and Safety briefings have been completed and understood		
Discuss security risks and awareness of base security		
Discuss codes and locks in use		
Discuss opening up and locking down bases		
WMAS Access Card Working correctly		
Demonstrate evidence of access procedures for RAF Cosford for training etc.		



Administration

All drugs including controlled drugs must be handled in strict accordance with current West Midlands Ambulance Service policy. This form indicates awareness of the different requirements that apply to MAAC/MERIT teams.

Controlled Drug Management	Mentor Signature	Date
Discuss storage and checking of drugs on MAAC and MERIT bases, including drug audits		
Discuss booking CDs out of and into the CD safes using the registers		
Discuss safe carriage of CDs on duty and procedure in event of loss or breakage		
Discuss the recording of administration of CDs to patients		
Discuss disposing of unused CDs safely		
Discuss and ensure all staff are aware of and comply with the WMAS Medicines Management Policy		



Administration

Every patient encountered requires a full and clear patient report form to be generated. In addition, other specialist forms are occasionally used. It is of utmost importance that these forms are filled correctly.

Patient Report Forms	Mentor Signature	Date
Discuss EPRF usage. Needs to have full understanding of completion of PRF electronically. Ensure has log in number		
Discuss recording specialist procedures (ketamine, RSI etc) on SharePoint site		



Administration

Rotas are usually generated 2 months in advance to allow staffing levels and clinical grades to be optimised. This form demonstrates an awareness of MAAC/MERIT operational requirements and how to claim for payment if applicable.

Rotas and claims	Mentor Signature	Date
Discuss allocation of shifts & bases		
Claiming payment on GRS		
Rota Amendments and shift swaps		
Understands the EWTD and WMAS restrictions of no clinical practice for 12 hours prior to shifts		



Administration

It is essential that any injury or untoward incident that occurs whilst on duty is reported to ensure appropriate support and advice is offered, and that the circumstances can be examined.

Sickness & Untoward Incidents	Mentor Signature	Date
Discuss reporting injury and sickness		
Discuss reporting untoward incidents and completion of WMAS ER54 on line		
Discuss available sources of support and advice		
Discuss debriefing incidents locally and through formal reviews		
Discuss case reviews and monthly meetings as ways to examine incidents		



Administration

The nature of the incidents attended and the way MAAC/MERIT is staffed means that the use of reproducible and safety-orientated Standard Operating Procedures and guidelines is essential. This form ensures understanding of and access to, current SOPs.

Standard Operating Procedures	Mentor Signature	Date
Ensure knowledge and access to current MAAC/MERIT operational SOPs and guidelines		
Ensure knowledge and access to current MAAC/MERIT clinical SOPs and guidelines		
Discuss access to SOPs on base and on line through team SharePoint site		
Discuss reporting variance to SOPs		
Completion of SOP register (see below)		

Overleaf is a form that should be completed as each SOP/guideline is read, to ensure that all trainees are up to date with current practice



Administration

Standard Operating Procedure Register

SOP Number	SOP Title	Date Read	Initial





Administration

MAAC/MERIT complies with WMAS IPC policy and procedure. Staff are responsible for correct IPC adherence which is required at all MAAC bases.

WMAS Infection, Prevention and Control	Mentor Signature	Date
Discuss safe disposal of clinical waste (on base and in aircraft)		
Location of IPC cleaning equipment shown to candidate		
Discuss IPC base Food Hygiene and cleaning requirements		
Briefed about dangers of using WMAS cleaning products on the aircraft and understands the need to consult with duty pilot before any attempts at cleaning of the air platform		



Section 4

COMPETENCY DESCRIPTION	✓
------------------------	---

Base Familiarisations

FAM 1	Airbase Familiarisation – Accommodation	
FAM 2	Airbase Familiarisation - Airfield	
FAM 3	HART Base Familiarisation	

Aircraft

AC 1	Aircraft – Medical Passenger Brief	
AC 2	Aircraft – Helipad practices familiarisation	
AC 3	Aircraft – Start Up & Shutdown	
AC 4	Aircraft - Preparation for Flight 1	
AC 5	Aircraft – Preparation for Flight 2	

Mission

M 1	Mission - Communications 1: General	
M 2	Mission - Communications 2: Chelton Radio	
M 3	Mission – Navigation Hospital Choice	
M 4	Mission – In Flight	
M 5	Mission – Landing / Scene Safety	
M 6	Mission – Use of Aerolite Stretcher (Cold)	

Administration

AD1	Administration – Post Mission	
-----	-------------------------------	--

Students Name..... Signature.....

Mentor’s Name:..... Signature.....

Date.....





BASE Familiarisation							
FAM1 – Airbase accommodation							
Criteria for assessment	Initial Training by:	Date	Discussed	Observed	Competency Demonstrated		
					1	2	3
1. Base familiarisation including fire escapes/ extinguishers 2. Ensures all operational documentation and familiarisation is carried out 3. Maintains drugs stock and rotation 4. Continual conditioning of equipment battery management systems and records							
Candidate Signature:				Competency Achieved YES / NO			
Mentor Sign Off:				Date:			



BASE Familiarisation						
FAM2 – Airfield orientation						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
1. MOD ID card requested. 2. Gate Keys / Codes 3. Open & Close Down procedures. 4. Foreign Object Debris Hazard. 5. Base Access / Security 6. Helipad Lighting 7. Helipad Fire Fighting Equipment 8. Visitors to Airbase 9. Domestic Waste and bin store. 10. Clinical Waste 11. Oxygen Storage 12. Grit and de-icing equipment						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



<p align="center">BASE Familiarisation</p> <p align="center">FAM3 – HART base orientation</p>						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none"> 1. Base orientation including fire escapes/ extinguishers 2. Understanding of safe movement within base whilst vehicle movement undertaken 3. Can access all security doors and safely operate vehicle doors 4. Familiar with stock and drug store location and resupply process 5. Familiar with MERIT vehicle, shift checks and layout 6. Familiarisation with Terrafix data terminal 						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



AC1 - Midlands Air Ambulance PHEM Trainee Briefing Record

Ref: AMC1 SPA.HEMS.135(a) HEMS medical passenger and other personnel briefing.

PHEM trainees typically undergo supervised medical training during their initial 6 months with Midlands Air Ambulance. They are given a full medical passenger briefing at the start of their operational experience (reference above) and will be issued a medical passenger briefing card.

The medical passenger brief can be refreshed daily if the Captain is satisfied with the following briefing record and level of operational experience (as listed on page 2) or the full medical passenger brief can be given if the Captain is unfamiliar with the trainee or there has been any break from HEMS operations.

This process needs to be repeated on a daily basis until formal solo practice is achieved.

PHEM trainee name		Telephone number(s)	
Address			
		Next of Kin	
		Relation	
Postcode		Contact Number	

Date of initial briefing		Weight (clothed in kg)	
---------------------------------	--	-------------------------------	--

Pre-flight briefing (to be completed by authorised person):

I certify that _____ has been briefed on the above date on the following:

- a) Familiarisation with the helicopter type operated (delete as applicable: EC135 / H145)
- b) Entry and exit under normal and emergency conditions both for medical passenger(s) and patient(s)
- c) Use of the on-board specialist equipment
- d) The need for the commander's approval prior to the use of on-board specialist equipment
- e) Method of supervision of any other medical staff
- f) The use of the helicopter inter-communication system
- g) Location and use of the on-board fire extinguisher
- h) The operator's crew co-ordination concept including relevant elements of crew resource management

Captain name and signature:



Declaration:

I _____ confirm that I have received the above briefing and I am aware that I operate/ observe completely at my own risk whilst with the air ambulance unit.

PHEM trainee signature:

<u>Date of training</u>	<u>Refresher or full training</u>	<u>Captain name and signature</u>





West Midlands Ambulance Service



NHS Foundation Trust

<u>Date of training</u>	<u>Refresher or full training</u>	<u>Captain name and signature</u>



Trust us to care.



<p style="text-align: center;">AIRCRAFT</p> <p style="text-align: center;">AC2 – Helipad practices familiarisation</p>						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none"> 1. Familiarisation with Helilift given by Duty Pilot. (Helilift to be operated by Babcock Pilot or Engineer only). 2. Considers safety around the aircraft at all times. 3. Assists Operator by monitoring disk and tail during aircraft movements. 4. Familiarisation with the refueling process and can identify the Emergency Stop button. 						
Candidate Signature:				Competency Achieved YES / NO		
Pilot Sign Off:				Date:		



<p style="text-align: center;">AIRCRAFT AC3 - Start Up & Shutdown</p>						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none"> 1. Wears appropriate PPE 2. Identifies a safe environment prior to engine start. 3. Keeps a good awareness of the disk area and can identify danger areas. 4. Maintains awareness of Foreign Object Damage (FOD) 5. Identifies the Correct engine to be started based on Pilot hand signals 6. Shows awareness of Emergency hand signals for Fire 7. Identifies appropriate fire extinguisher for use on engines. 8. Recognises the danger of Blade sail during Start and shutdown 						
Candidate Signature:				Competency to undertake solo start up process at the discretion of duty pilot Achieved YES / NO		
Pilot Sign Off:				Date:		



AIRCRAFT

AC4 - Preparation for Flight (1)

Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none"> 1. Ensure that the aircraft is internally and externally clean and free from dirt. 2. Understands the need to keep Aerolite equipment clean to ensure correct operation 3. Maintains a clean working area within the aircraft 4. Ensures Disposal of soiled equipment as per WMAS IPC Guidelines 5. Ensures safe disposal of sharps/clinical waste as appropriate. 6. Has knowledge of location of Emergency exits and ensures that they are kept clear 7. Ensures that Equipment is correctly stowed and not forced into place. 						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



AIRCRAFT

AC5 - Preparation for Flight (2)

Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none">1. Wears appropriate PPE.2. Put on Alpha Helmet and adjust fit as appropriate.3. Identifies microphone lead and can troubleshoot connection problems with NATO jack plug.4. Able to adjust aircraft seat positions and ensures correct positions for take off and landing.5. Identifies the correct position for the stretcher for take off and landing.6. Secures all loose items for takeoff.7. Aware of aircraft handling points and areas of 'No Step'						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



MISSION						
M1- COMMUNICATIONS GENERAL						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
1. Familiar with Station box and TAC radio controls. 2. Understands ability to isolate Pilot comms from cabin comms 3. Shows knowledge of correct radio channels for Ground / Air and RTD communications. 4. Maintains comms with air desk at all stages of flight. 5. Shares information and pilot re intended destinations etc. 6. Demonstrates Point2point ARP handheld use for aircrew communications. 7. Demonstrates Air Traffic Awareness and the need to avoid talk over other monitored channels 8. 200' Sterile cockpit awareness						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



MISSION

M2 - COMMUNICATIONS (2) CHELTON RADIO

Criteria for assessment	Initial Training by:	Date	Discussed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none"> 1. Understands and can describe the concept of the Chelton Radio Unit 2. Understands the concept of Airwave and 'Air Cells' 3. Can navigate around the unit using hotkeys and arrow buttons. 4. Can select and change to a requested talk group 5. Can make an ISSI Point to point call to a ground based ARP 6. Can demonstrate how to make a mobile or phone call from the air 7. Can demonstrate switching between channels through use of and appropriate TAC setting 8. Ability to reset talk group back to Air Ops channel after use 						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



MISSION						
M3 - NAVIGATION HOSPITAL CHOICE						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none">Shows knowledge of hospital capabilities within the area of operation.Familiarises themselves with local HLS procedures at each Hospital, including night capability, elevated etc.Enroute to incident identifies nearest DGH / TU and MTC and transfer times and informs crew.Assesses patient against WMAS Trauma Tool and identifies suitable receiving unit.Discusses case with RTD for advice if complex or specialties involved.Considers need for security / fire and secondary transfers.Anticipates time to hospital and provides early alert to air desk if required.Provides pre alert of patient details to Air desk prior to lift						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



MISSION						
M4 - IN FLIGHT						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none"> 1. Ensures safety throughout operations. 2. Displays good situational awareness and maintains good external observation for dangers. 3. Anticipates equipment required at scene and formulates a brief plan prior to landing. 4. Ensures Patient welfare and comfort, provides treatment as required. 5. Anticipates landing and ensures cabin and equipment stowed ready for landing if patient condition allows. 						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



MISSION						
M5 - LANDING/SCENE SAFETY						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
1. Wears appropriate PPE 2. Maintain good situational awareness throughout and observes potential and actual dangers 3. Safety in and around the aircraft at all times 4. Takes instruction from Pilot and other crew 5. Awareness of hazards sloping ground/ wires / animals/ people/ aircraft 6. Considers access to and from aircraft 7. Actively controls bystanders and other emergency services 8. Considers ear protection for crew and bystanders if near the aircraft 9. Tail rotor awareness 10. Maintains good Crew Resource Management						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		





MISSION						
M6 - USE OF AEROLITE STRETCHER						
Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none">1. Ensures safety in and around the aircraft at all times2. Appropriate use of stretcher locking mechanisms & straps3. Provides reassurance to the patient at all times4. Communication with all team members5. Ensures appropriate lifting and handling skills are demonstrated using the correct kinetics.6. Ensures the patient is secure and comfortable.7. Ensures that the patient is lying down flat for take off and landing as per Operator Ops manual8. Transport options for paediatric patients						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



ADMINISTRATION
AD1 - POST MISSION

Criteria for assessment	Initial Training by:	Date	Discussed Observed	Competency Demonstrated		
				1	2	3
<ol style="list-style-type: none">1. WMAS EPRF completed for each patient seen by crew2. Peer review spreadsheets completed appropriately.3. Suitable team debrief and contact with senior cover if required4. Ensure all Controlled drug administration is recorded correctly in the approved manner.5. Consider contacting press office or social media if appropriate.						
Candidate Signature:				Competency Achieved YES / NO		
Mentor Sign Off:				Date:		



Section 5

Medical Equipment

Contents:

- Zoll X series
- Suction
- Medical gas therapy
- Parapac Plus Ventilator
- Kendrick splint
- Belmont Buddy Fluid Warmer
- Pelvic binders
- Haemostatic agent
- Layout & restocking of MAAC/MERIT response bags
- Surgical Equipment
- Syringe Drivers

Rationale:

- A significant exposure to pre-hospital care is expected of MAAC/MERIT trainees prior to commencement of training, but there may be local differences in equipment - this section ensures familiarity with specialist equipment carried on MAAC aircraft and MERIT vehicles over and above standard WMAS vehicles.



Medical Equipment

Zoll X series

The safe, confident and effective use of the monitor / defibrillator is essential to effective medical care in the pre-hospital area. Complete confidence of all functions must be demonstrated before this form is completed.

	Mentor Signature	Date
Demonstrate User & Shock Test, change batteries and printer paper		
Check ECG leads, NIBP hoses, SpO2 probes, electrodes, cuffs, capnography tubing and defib pads		
Demonstrate use of 12 lead ECG, defibrillation and pacing		
Demonstrate use of Capnography and discuss ETCO2		
Demonstrate use of pressure transducer system for measuring arterial blood pressure		
Demonstrate removal and replacement in aircraft/RRV using the appropriate mountings		



Medical Equipment

Suction

Suction is a commonly used device in pre-hospital practice and familiarity with MAAC/MERIT equipment is essential.

	Mentor Signature	Date
Demonstrate location of powered suction and hand suction equipment		
Demonstrate daily user check of Laerdal suction unit		
Demonstrate removal and replacement of powered suction units from the airframe		
Demonstrate assembly of powered and hand suction units		
Discuss cleaning / replacement of component parts as applicable		



Medical Equipment

Medical gas therapy

A thorough working knowledge of all aspects of medical gas therapy would be expected prior to training, but aircraft specific issues must be addressed.

	Mentor Signature	Date
Identify oxygen outlets and supply within aircraft		
Demonstrate checking Oxygen content of aircraft cylinders, and procedure for changing them		
Demonstrate location of aircraft Entonox and method for securing the cylinders		
Identify base medical gas store and process for exchanging cylinders.		



Medical Equipment

Parapac Plus Ventilator

This ventilator type is now common across all WMAS platforms but staff should have an expert user knowledge of this device before sign off.

	Mentor Signature	Date
Identify aircraft/RRV ventilator position, controls and assembly		
Equipment check: Confirm ventilator and consumables in working order		
Perform Power-up / daily user test		
Demonstrate settings - high pressure, air mix, frequency, volume and PEEP controls, and attachment of circuit		
Demonstrate basic ventilation and how PEEP is safely applied		
Demonstrate actions in case of recurrent alarms (hi/low pressure, O2 failure, abnormal capnography)		
Ventilator care Demonstrate appropriate cleaning and resetting of ventilator following use		



Medical Equipment Kendrick Traction Device

Performance Criteria	Mentor Signature	Date
Lists indications and contraindications for Kendrick Traction Device application		
Gains informed consent where appropriate and administers analgesia as required.		
Removes footwear. Checks distal pulse, motor and sensation. Assistant applies manual traction to affected limb.		
Apply ankle hitch tightly around leg just above malleoli. Tighten Stirrup by pulling green tabbed strap until snug under heel.		
Apply upper thigh system by sliding male buckle under the leg at the knee and see-saw upward until positioned in the crotch area. Engage the buckle. Assure male genitals are clear of strap. Cinch the strap until the traction pole receptacle is positioned at the belt line / pelvic crest.		
Snap out traction pole. Make sure that each joint of pole is securely seated. Place traction pole alongside the leg so that one section of tubing (20cm) extends beyond the bottom of the foot. Adjust pole length as required. Insert pole end(s) into traction pole receptacle.		
Secure elastic strap around knee.		
Place yellow tab over dart end. Apply traction by pulling red tab. Traction may be applied smoothly by grasping strap on each side of the buckle and simultaneously feeding and pulling with equal pressure. Primary objectives are patient comfort and restoring leg length (compare to uninjured if possible). Traction should be approximately 10% body weight (estimated) per limb.		
Apply the upper (thigh) and lower (ankle) elastic straps. Recheck distal pulse, motor and sensation.		
Awareness that devices can be used bilaterally, over SAM Pelvic Sling, and in close quarter configuration.		



Medical Equipment

Belmont Buddy Fluid Warmer

It is assumed that the trainee will be familiar with Fluid Administration prior to commencement of training. Completion of this form ensures competence with the current MAAC/MERIT-preferred product.

	Mentor Signature	Date
Equipment check: Confirm battery, casing, cable, fluid warming plate and consumables in good order		
Identify Battery 100% (5 bar) charge		
Insert fluid set correctly within device		
Run set through in situ, expelling bubbles		
Demonstrate activation of device		



Medical Equipment

SAM Slings

It is assumed that the trainee will be familiar with pelvic splinting prior to commencement of training. However, several products are available and so this form ensures competence with the current MAAC/MERIT-preferred product.

	Mentor Signature	Date
Demonstrate the features of the SAM II pelvic sling		
Discuss indications, cautions and contraindications of use		
Discuss technique for application, including minimising secondary movement		
Discuss importance of clear hand-over on arrival in hospital		



Medical Equipment

Haemostatic Gauze

	Mentor Signature	Date
Demonstrates a basic knowledge of how haemostatic gauze works		
Explains step wise approach to external haemorrhage (direct pressure, elevation, pressure points).		
Explains haemostatic gauze indication: Haemorrhage uncontrollable by above means and <u>NOT</u> amenable to a CAT tourniquet:		
The assistant maintains direct pressure to wound whilst practitioner opens haemostatic gauze and a fresh dressing		
The assistant removes pressure dressing from wound when directed by the practitioner		
The practitioner unravels and inserts haemostatic gauze into the wound (packing the wound tightly)		
The assistant then applies direct pressure through the fresh dressing to the site for 3-5 minutes		
Explains the need for observation of the wound site during resuscitation to detect further bleeding		



Medical Equipment

Layout and restocking of MAAC/MERIT Bags

The response bags have been laid out to provide a sensible balance between weight and urgency of access to their contents. The layout is standardised across both land and air assets of MAAC/MERIT. It is important that all staff have a thorough working knowledge of the bag layout, and understand the correct checking and restocking of all bags.

	Mentor Signature	Date
Demonstrate the layout of the fully stocked bag		
Discuss methods and importance of checking stock and expiry dates, as well as tagging of bags		
Demonstrate layout of stores and availability of spare equipment		
Discuss methods of disposing of / cleaning equipment as appropriate		
Discuss reporting of faulty / missing equipment		



Medical Equipment

Surgical equipment

Surgical equipment is carried on board the aircraft to enable certain pre-hospital surgical procedures to be performed where necessary. This equipment should be familiar to any doctor prior to commencement of duties.

	Mentor Signature	Date
Discuss surgical procedures and availability of equipment		
Identify location of surgical equipment within the response bags		
Ensure familiarity with surgical SOPs		
Discuss importance of recording procedures on PRFs and for informing Air Ops Manager / Clinical Lead		



Medical Equipment

Braun Perfusor Syringe Driver

It is assumed that the trainee will be familiar with fluid administration prior to commencement of training.

	Mentor Signature	Date
Equipment check: Confirm battery, casing, cable, in good order		
Demonstrate Loading and selection of correct syringe.		
Demonstrate selection of rate and how to start and stop infusion		
Demonstrates how to change a syringe and change settings during use		
Demonstrates how syringe is secured in the aircraft mount		



Section 6

Training days

This section provides space to create a log of cases undertaken during the candidate's training shifts, and to record discussion and learning points that occurred during each day.

This will provide evidence that adequate exposure to learning opportunities has occurred during training days and provide details on the cases that the trainee has been involved in.

In addition, this section contains a record of training flights undertaken and will be used to confirm that the minimum flying criteria have been met as defined as;

- a) Previous experience with HEMS - 5 missions to include 2 at scene landings and one MTC conveyance case
- b) No previous experience with HEMS - 10 missions to include 4 at scene landings and two MTC conveyances

This log may be continued with additional sheets if required:



Training Diary

Date:

Mentoring doctor:

Paramedic:

Pilot:

Incidents Attended

Training Undertaken / Discussion Points Arising:



Section 7

Training Summary

This summary section ensures that this portfolio is fully completed, and that all areas of training and administration are complete before formal sign-off occurs.

Training Summary

Section	Completed (✓)	Trainee Signature	CL Signature	Date Completed
1				
2				
3				
4				
5				
6				



Portfolio review and sign off

Has completed minimum number of shifts:

MERIT date 1:

MERIT date 2:

Prior HEMS experience - 5 missions including 2 at scene landings and
1 MTC conveyance

No HEMS experience - 10 missions to include 4 on scene landings and
2 MTC conveyance

Team feedback forms reviewed for all

shifts and satisfactory:

Yes/ No

Sign off shift satisfactory:

Yes/No/Not applic

Portfolio reviewed and satisfactorily

completed:

Yes/No

Sign off approved by Clinical Lead MAAC/MERIT

Yes/ No

Signed:

Date:



West Midlands Ambulance Service



NHS Foundation Trust



West Midlands Ambulance Service 

NHS Foundation Trust

CERTIFICATE OF COMPLETION OF TRAINING

This certificate (as part of the Portfolio of Training) confirms that:

has completed a period of training with MAAC/MERIT and has satisfied us that all areas contained within this portfolio have been satisfactorily completed.

Dr Mark Nash

Clinical Lead

Date: _____

Trust us to care.



Change History:

Date	Change	Completed by
June 2017	SOPs on PHEM training, doctor selection and training portfolio combined into one guideline document. All sections reviewed in process	Dr M Nash MERIT/MAA clinical lead
Sept 2017	Version 2 with new flying experience standards and review of aviation competencies.	Dr M Nash MERIT/MAA clinical lead