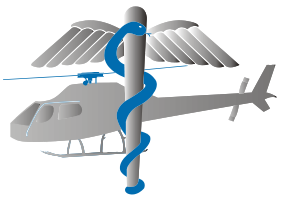

UK HEMS

Clinical Excellence in Helicopter Medicine

HEMS Equipment

Aims

To outline the issues related to the selection, storage and maintenance of HEMS equipment

Background:

The HEMS service is reactive to emergency calls, may provide critical care interventions at a scene that are usually performed in a hospital setting, may see some of the sickest and most severely injured patients in the county, and must efficiently and safely work on scene in order to reduce the time taken to deliver the patient to definitive care. For these reasons, is essential to carry appropriate equipment, be completely familiar with its use, ensure that it is maintained in an operational state, and ensure a suitable resupply chain in the event of stock shortages. The selection and appropriate use of personal protective equipment is mandatory in any service.

Policy:

Familiarity with equipment

- The HEMS team must be completely familiar with any equipment carried, and also with the equipment carried by the local emergency services. This includes a thorough knowledge of the location of equipment on the aircraft/response car and within the equipment bags
- In general, manufacturers' guidelines for equipment use should be followed. There may be some cases when these guidelines are not followed – in this case, the reasons for variation should be clearly defined and understood
- For each piece of equipment, the indications, contraindications, and potential complications should be appreciated

Maintenance

- Equipment should be professionally maintained and serviced as per manufacturers' guidelines. Examples would be the ventilator, monitors, and AED defibrillators
- There should be a named person designated with overall responsibility for ensuring that servicing and maintenance is up to date

Daily and weekly checks

- It is good practice to check all medical equipment at the start of a shift and adequate time should be built in to the morning routine to ensure that the checks are complete by the time the service is online to accept jobs. This daily check aims to ensure that all necessary equipment is on board and functional. A tagged bag system facilitates these checks
- The safest way to check equipment is to use of a standardised challenge-response check list with one member of the crew reading from the list and the other one performing the checks
- In services operating a response car, the daily checks may incorporate streamlined mechanical checks of the car. This might include checking the tyre pressures, brake function, lights and sirens, oil, and windscreen wash
- The pilot with be responsible for checking serviceability of the aircraft, but the medical team should check any medical equipment installed onboard
- A thorough check of the medical equipment can be scheduled to take place on a weekly basis, a specific piece of equipment being checked on each day of the week. In addition to checking that all kit is appropriately packaged, this check aims to pick up impending expiry dates and damaged equipment

Shortages and ordering

- Stores should be maintained and a regular stock check completed
- There should be robust processes in place to identify stock shortages and efficiently procure any necessary equipment

Introduction of new equipment or withdrawing equipment surplus to requirements

- There should be a formal process of review of equipment carried. In particular, deficiencies and niches in clinical care experienced during missions should be considered with regard to potential changes to or augmentation of the equipment used by the HEMS service
- Purchase of new items should follow a rigorous procurement process, and changes should be implemented according to locally-agreed policies, especially with regard to training in the use of any new product
- Changes should only be made after appropriate consideration and consultation with senior members of the service

Reporting adverse events

- The HEMS service should have a robust reporting procedure for adverse events.
- Certain equipment-related issues or problems will be suitable for in-house reporting to make other members of the HEMS crew aware
- More serious equipment failures should be reported to the Medicines and Healthcare products Regulatory Agency (MHRA) using their approved reporting systems
- In all cases, appropriate immediate actions should be taken to ensure patient safety

Personal issue equipment

- The maintenance and appropriate use of personal protective equipment issued by the service is the responsibility of the HEMS crew member
- Personal medical equipment may be carried but should be approved by the service for use and not added to any of the general equipment bags without prior permission (as above)

Equipment end-of-the-day readiness

- At the end of a shift, medical equipment should be left in a state of general mission readiness in preparation for rapid daily checks the following morning
- Batteries may require charging ready for use during the following shift (in particular, for communications devices, monitors and battery-powered suction units)

Drugs

- The choice of which drugs to carry is dependent on the type of incidents attended by the individual services and is a matter for local agreement and review
- Drugs should be stored and carried on missions according to legal requirements and manufacturers' guidelines (for example, relating to refrigeration and shelf life)
- If it is decided to pre-draw certain drugs (typically anaesthetic agents or analgesics), this should be done in a standardised manner and it is the responsibility of the duty crew to ensure that these drugs have been drawn up safely and correctly