Clinical

Maritime Pre-Hospital Emergency Care Primary Retrieval Team – Operational Considerations

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Abstract

This article examines the non clinical skills and training required for effective maritime pre-hospital emergency care provision within a Role Two Afloat facility, allowing for a Primary Retrieval Team to be deployed in support of boarding operations. The provision of pre-hospital emergency care and sending a retrieval team forward has been trialled in various forms. In 2010 and 2011 a R2A team was deployed aboard RFA FORT VICTORIA. This included a Primary Retrieval Team consisting of an Emergency Nurse Specialist, a Medical Assistant which can be enhanced when required by an Emergency Care or Anaesthetic Consultant. This differs from the land operations support provided by the airborne Medical Emergency Response Team (MERT) as the maritime environment requires a bespoke solution for casualty retrieval as the method of deployment and the type of casualties and their locations may be more varied, requiring greater flexibility of approach.

Introduction

In 2010 and again in 2011 RFA FORT VICTORIA deployed on Operations to the North West region of the Indian Ocean, focusing around the Somali Basin, contributing to OP CAPRI as part of the United Kingdom’s commitment to counter piracy. Deployed aboard was the Fleet Protection Group Royal Marines’ Fleet Contingency Troop (FCT) which is trained in the ability to conduct complex boarding operations (1) To enable them to conduct these higher risk levels of boarding a Role Two Afloat Medical Team (R2A) was also embarked to allow for a greater flexibility and to extend the area of operations. The team capabilities included resuscitation, surgery, ITU and a casualty Primary Retrieval Team (PRT) for forward medical evacuation which could be enhanced if required with a consultant from the R2A.

The PRT should not be considered the same asset to that of the MERT currently operating in Afghanistan. This paper will look at the non clinical skills and training required for a maritime pre-hospital emergency care provision and will refer to the casualty evacuation role as a Primary Retrieval Team (PRT).

Primary Retrieval Team (PRT)

The PRT has to remain flexible and able to adapt to any medical emergency and may be deployed during boarding operations on to anything from a skiff to a Super Tanker, but could be deployed to retrieve casualties from other shipping vessels within the vicinity of operations. These casualties may be trauma related but may also be medical under the obligation to provide care for other mariners (Safety of Life at Sea convention).

During the 2011 period the Role 2 onboard RFA FORT VICTORIA was declared as an asset for NATO anti-piracy operations. It was on standby to receive casualties for operations being conducted by other NATO nations, as well as requests for medical assistance by merchant vessels. The consequence of this was that timelines to reach other members of the task group were extended (casevac times of 2 hours) and the team received one casualty from a British flagged merchant vessel who required emergency surgery.

The ability of the PRT to deal with these situations depends on the versatility of the team, the capability of transferring the team and their equipment, and the ability to react quickly using the variety of transportation modes available. During OP CAPRI the two main options for the PRT were to use a Rigid Inflatable Boat (RIB) (either the ships crash boat or one of the Fleet Contingency Troop boats), or via Lynx Helicopter. Both these methods required training to enable safe transportation and disembarkation and re-embarking with a casualty(s).

Deployment by RIB

During boarding operations the quickest way to get the PRT forward is via a RIB. This could be by launching the crash boat or more likely by putting the team into one of the RIBs that has already been launched. This can be done by climbing 3-4 meters down a pilot ladder on the side of FTVR, and lowering the kit via a rope. Depending on the freeboard height of the Contact of Interest the team may then have to cross deck, climb a boarding ladder or a longer and narrower caving ladder (Figure 1).
climbing off a RIB which is bouncing around and ascending a swinging boarding ladder that may not be fully secure, whilst wearing heavy and restrictive clothing and PPE. Any lack of confidence or fitness needs to be addressed through training prior to doing this in a real emergency to avoid generating further casualties.

By having a role specific training course suitable candidates can be trained and master this method of deployment and be fully conversant with the potential hazards involved. It should also be part of the training to practice the drills for coming off a ladder during boarding and knowing how to react with the extra weight. Fleet Contingency Troop conducts a swimming test in full kit and undertakes the drill for man overboard. This provides them with confidence in their kit and the knowledge and skills to stay afloat despite the added weight they carry. An aptitude test could easily test individual’s ability to respond to these challenges. Consideration should also be made to training the PRT as coxswains for the RIB’s, in case the one transporting them becomes injured.

Deployment by Helicopter

As with the MERT on land based operations the PRT have access to a helicopter for forward projection or casualty extraction once deployed. In 2010 the airframe was a Merlin, in 2011 this was changed to the faster more agile, but smaller Lynx, but still with an option of using a Merlin from HMS SOMERSET. Each aircraft will have unique constraints.

Basic training for flying only includes helicopter underwater escape training (the dunker), however this doesn’t prepare the personnel undertaking PRT for being winched (straight winch and via high line) day or night on or off a vessel, or even just treating a patient in the back of a cramped airframe. By being exposed to different airframes prior to deploying, personnel can appreciate the constraints that will be imposed on them. This will give them the opportunity to run through the equipment that

None of these are trivial tasks when wearing body armour, helmet, knee pads and assault troop life jacket. Issue of the correct personal protective equipment (PPE) is essential. Royal Marine boarding parties have special dispensation to use lighter weight body armour and less cumbersome life jackets and the same level of equipment would allow Medical personnel to operate more freely.

Movement can be aided by personnel involved in boarding using bespoke products as may be used by some Special Forces units. These can provide additional pockets and built in kneepads, both highly desirable for a medic boarding a large ship. Leather gloves are advisable to protect hands from sharp metal (such as razor wire used as a piracy deterrent by merchant vessels) and ropes when hauling kit.

Any equipment used must be fit for purpose. The current standard issue medical Bergen has to be hoisted on board and needs to be robust but the shoulder strap buckles pop undone regularly even if taped up (Figure 2). More suitable Bergens are on the market that are more versatile and role specific, these have been purchased locally by some units for front line medics. Many of these would allow equipment to remain stowed but readily available on a moving deck.

Another option is to have leg drop bags for essential equipment to enable personnel to treat the casualty(s) whilst waiting for their Bergen to come up.

Suitable training in the art of boarding vessels, in a variety of sea states should be a prerequisite for any personnel undertaking the PRT. This will allow for the appreciation of
can be carried which has been cleared for flying in different airframes and they can see how patients and equipment can be loaded and the limitations of what can be achieved during a flight. This is also an opportunity for the PRT to practice packaging patients into lightweight airframe stretchers ready for the helicopter to collect.

Other Training Requirements
The PRT will generally operate on a scoop and run principle, unless there are multiple casualties or perhaps a highly unstable patient who could not be transferred immediately. The PRT should therefore be proficient in all methods of casualty extraction from vessels of various size and different retrieval platforms. This is a dynamic environment where assets are frequently re-tasked and therefore alternative planning for casualty extraction and good communication with command is required.

Training in casualty handling needs to range from simple carrying to more technical helicopter winch training or even using ropes to lower a patient down the side of a ship (Figure 3). The Fleet Contingency Troop use simple climbing and abseiling techniques for casualty extraction to raise and lower stretchers up and down the side of a superstructure or ship’s hull. These skills were taken from Mountain Medical Training Course. It should not be up to the boarding team alone to have these skills as they may be the personnel who require them, the PRT should be proficient and familiar with these techniques, the risks involved and be able to take control of the evolution for the best interest of the casualty.

Summary
Role 2 Afloat is a versatile asset, which provides medical support for maritime, amphibious and littoral operations. The PRT requires a different skill to that of the MERT, and therefore requires a bespoke training package focussed on the maritime operating environment. This will require training in a number of skills besides clinical skills. For this reason instruction should be delivered by personnel who have current experience of the skills required for this role.

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