General

The Role played by Royal Navy Medical Assistants on Operation Herrick 9. Can we do more to prepare them for future operations in Afghanistan?

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Introduction

The first ever, independent review of the Defence Medical Services by the independent healthcare watchdog for England, The Health Care Commission(1) was published in March 2009. This review was commissioned by the then Surgeon General Lieutenant General Louis Lillywhite and in it, the trauma and rehabilitation services for military personnel hurt in battle were described as “exemplary”.

The review praised the care provided to casualties of war, highlighting the ability to quickly reach and treat casualties, innovations in the treatment of major injuries, the training of staff, design of field hospitals, clinical audits to feed back important lessons and rehabilitation for injured personnel. The review took place during Operation Herrick 9.

Royal Navy Medical Assistants (MAs) played a vital role in the delivery of medical care to 3 Commando Brigade Royal Marines on the Herrick 9 Operation in Afghanistan (OpH9) from October 2008 to April 2009.

3 Commando Brigade is expected to deploy to Helmand Province, Afghanistan on Operation Herrick 14 (OpH14) in 2011 and medical support should once again be provided by the Royal Naval Medical Services.

The training of MAs is longer than that of their peers in the Army and RAF. MAs initially undergo 8 weeks of basic training at HMS Raleigh(2). Twenty weeks are then spent at the Defence Medical Services Training Centre, Keogh Barracks, studying basic medical sciences, medical administration and pharmacy. Their next stage of training lasts 19 weeks and is mainly hospital-based. It is during this time that MAs are first exposed to a real clinical environment. Their practical work on the wards is reinforced with classroom teaching. The final stage of training consists of 3 months spent on a ship or at a shore-based RN Medical Centre consolidating learning and achieving key competencies. Following completion of initial training, MAs are posted to various locations at sea, at home and abroad.

MAs were pooled from throughout the Royal Navy for OpH9. Some were from the Medical Squadron of Commando Logistic Regiment (CLR) and had spent several months involved in pre-deployment training. The majority, however, were augmentees who were drafted in to the Medical Squadron, from other units, shortly before deployment.

Certain pre-deployment training targets were set. These included attendance on the Battlefield Advanced Trauma Life Support (BATLS) course, attendance at the 2 week Mission Rehearsal Exercise (one day of which was focused on medical training and used the ‘Amputees in Action’ for role-play casualty scenarios) and attendance on HOSPEX (a hospital exercise, the first few days of which focused on pre-hospital care).

On OpH9 all MAs were rotated through different posts of varying intensity. The vast majority, however, worked at Forward Operating Bases (FOBs), Forward Aid Posts at
Patrol Bases (PBs) and on Combat Logistic Patrols (vehicle borne patrols). MAs based at FOBs and PBs regularly deployed on foot patrols with front-line troops. The role of the MA on any patrol is to provide care under fire and initial life-saving treatment to casualties. When not on patrol, the role of the MA is to provide primary and emergency medical care to ISAF (International Security Assistance Force) troops, local nationals of all ages and ANSF (Afghan National Security Forces) personnel.

Aim
The aim of this study was to examine the roles that MAs had performed on OpH9 and to correlate this with their pre deployment experience and training.

We hoped to identify areas in which pre deployment training could be strengthened in order to ensure that an even higher level of care could be provided on OpH14.

Methods
MAs were presented with an anonymity-protected questionnaire as part of their leaving routine from Camp Bastion in early April 2009 at the end of OpH9.

The questionnaire aimed firstly to identify the MAs seniority, gender, background, previous military experience and whether they were augmentees or not. It also asked about their previous medical training and experience, specifically with regards to paediatrics and trauma as well as establishing whether they had attended a recent BATLS course. Questions were also directed towards establishing the roles that MAs played on OpH9, the locations in which they worked, their exposure to treating trauma, paediatrics and primary care and their level of supervision by medical officers. The number and type of medical procedures that they performed were also quantified. Two free-text answers encouraged suggestions for possible improvements to pre-deployment training and any further comments.

Results
Of the 120 Royal Navy Medical Assistant’s who deployed on OpH9, 65 returned completed questionnaires. The results for this survey have been quantified using percentages of MAs based on those who completed questionnaires.

Graph 1 Bar chart illustrating the percentage of Medical Assistants who had attended the BATLS course within certain time intervals prior to deploying on Op H9.
Personal Details
The vast majority of MAs (76%) were of the most junior rate of Medical Assistant (rate equivalent to private), 12% were Leading Medical Assistants (rate equivalent to corporal) and 12% were Petty Officer Medical Assistants (rate equivalent to sergeant). The male: female ratio was 1.2:1.0.

Background Experience
95% of the MAs came from general service backgrounds (i.e. had worked within Fleet), 3% were submariners and 2% were commando-trained. 66% were augmented to Medical Squadron prior to deployment. 17% had served on a previous land operation and 55% had been on a land exercise before. Details of the number of medical assistants to have fulfilled the target of completing the Battlefield Advanced Trauma and Life Support (BATLS) course are illustrated in Graph 1.

Paediatric Training
89% of MAs had received less than 2 hours of paediatric training during their basic training, 86% of MAs had received less than 2 hours within the year preceding their deployment on OpH9 and only 3% had received more than 5 hours of paediatric training during this time.

Roles of MAs on Op Herrick 9
Medical Assistants on Op H9 performed a wide variety of medical duties. These ranged from administrative roles at Camp Bastion to foot patrols in highly kinetic areas of operation. The high-risk roles where MAs were more likely to treat casualties included the following: foot patrols, Combat Logistic Patrols (vehicle borne patrols) and Forward Operating Base medical support. The percentage of MAs who performed these high-risk duties is illustrated below in Graph 2.

Previous Clinical Experience
46% of MAs on OpH9 had never been involved in the treatment of a real-life trauma casualty and only 21% of them had done so within the 10 months prior to deployment on OpH9. Graph 3 illustrates these findings in more detail. Further to this, 20% of all MAs questioned had not observed real-life medical trauma management.

Adult Trauma management on Op Herrick 9
During OpH9, 88% of MAs were directly involved in the delivery of trauma care at the point of injury or at Role 1, with 38% of them...
treating more than 10 trauma casualties during their 6-month operational tour. Table 1 shows which trauma care procedures were most commonly used during OpH9.

**Paediatric Trauma management on Op Herrick 9**

During OpH9, 62% of MAs were directly involved in the management of paediatric trauma, with 9% managing more than 10 cases.

**Primary Health Care on Op Herrick 9**

All MAs were involved in primary care during OpH9 with 65% delivered primary health care in a setting that did not have a medical officer present. 55% were involved in delivering paediatric primary health care with 20% treating more than 6 cases.

<table>
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<tr>
<th>Airway Procedure</th>
<th>% Medics</th>
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<th>% Medics</th>
<th>Circulation Procedure</th>
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*Table 1* The Percentage of Medical Assistants who used particular clinical procedures during real life trauma management on OpH9. * Intra-osseous Cannulation Devices

**Graph 3** Bar chart showing the percentage of Medical Assistant’s who had treated real life trauma casualties within certain time frames (months) prior to deployment on OpH9.
Recommendations for improvement

MAs were asked to identify areas in pre-deployment training for future land operations that they thought required improvement, based on what they had experienced on OpH9. Graph 5 illustrates the most common recommendations made.

Discussion

The vast majority of the MAs questioned had a background in General Service and had not worked with 3 Commando Brigade before. Very few MAs were commando-trained and less than a fifth had been on a land deployment prior to OpH9. This was to be expected, given that the majority of them were from general service backgrounds and of low seniority. Perhaps more surprising, however, is that prior to deployment on OpH9, 45% of the MAs had never been on a land exercise. Whilst on OpH9 many were involved in extremely hostile, kinetic patrols that required a high level of infanteering skill. The majority were augmentees and had received a shorter pre-deployment training package than those drafted to Medical Squadron prior to deployment.

The key pre-deployment target of attendance on a BATLS course was achieved by 83%, but 17% had never attended a BATLS course and, of those that had, 26% had attended a course more than 6-months prior to the deployment. Augmentees had sometimes found it difficult to get time off from their units to attend a BATLS course, as they could not be released due to the deleterious impact that their absence would have on medical service provision to their unit.

The authors feel that whilst the BATLS course offers an excellent introduction to the principles of trauma care it must be re-enforced by real-life, first hand experience or at least practice. Prior to OpH9 almost half of MAs had never treated a patient with injuries resulting from major trauma. Of those that had, only a fifth had done so within the previous 10 months and 20% of the total questioned had never even observed trauma care.

Almost 90% were involved in delivery of trauma care at remote locations during OpH9. It is therefore possible that on OpH9 that an MAs’ first ever exposure to treating trauma would have been when required to provide life-saving care to a critically injured battlefield casualty at the point of wounding in a non-permissive environment. Take into consideration the lack of previous land
experience possessed by the majority of MAs, that often there is more than one casualty and that the MA may not have attended a BATLS course and one can appreciate the magnitude of the challenge that MAs faced on OpH9.

Whilst Chapter 16 of the BATLS manual (3) does deal with aspects of paediatric trauma care, paediatric training is given very little time during MAs basic training and very few received much in the year leading up to the deployment. Yet over 60% were involved in treating paediatric trauma casualties and over 50% in the delivery of primary health care to children whilst on OpH9. The authors feel that it is often poorly recognised that paediatric health care forms a significant proportion of the workload of frontline medical staff in Afghanistan. It is not surprising, therefore, that almost a quarter of MAs felt that more time should be dedicated to paediatrics training during pre-deployment training.

Conclusion
Whilst only a little over half of the MAs on OpH9 completed the questionnaire, we feel that the findings are significant.

Our results suggest that a revised pre-deployment training package should be considered for MAs deploying to Afghanistan for future operations.

Earlier drafting of all deploying MAs to Medical Squadron, a longer pre deployment package and ensuring that all MAs complete BATLS within given time lines are certainly areas that merit consideration.

In preparation for the approaching Herrick 14 deployment in 2011, the RNMS must continue to strive to do even better so that the medical care given to frontline ISAF troops, Afghan National Security Forces and the local population of Afghanistan continues to be of the highest possible standard.

Acknowledgements
The authors would like to thank Surg Cdr R Thompson RN (CO UK JF Med Gp on OpH9) for his support of this project and POMA D Pearce RN for his help in the data capture.

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2. Provision of Medical Training. In: Allen J (author), Rogers S (checked by), Manwering R (approved by) BR1991; Ch 5

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Commentary on Medical Assistant preparation for role in Afghanistan

Surgeon Captain A S Hughes

As Navy Command commences the detailed work necessary to generate the Joint Medical Gp for H14 (Apr 2011) the author’s observations are timely and well taken. There is no doubt that as an organisation predominantly configured for maritime medical support that operating in the Land environment presents us with specific challenges; starkly illustrated by the role of our frontline medics in Afghanistan. Together with developing our Command Team I see preparing our Role 1 medics as our two biggest risks on H14. Whilst both issues were taken very seriously for H9 we intend to build on that experience (incorporating lessons identified from all subsequent HERRICK deployments) in order to mitigate the risks even further this time round. It is worth observing that whilst we angst about the lack of ‘green’ skills in our blue beret MAs it is well acknowledged that they bring more to the party in terms of their broader clinical skills – noting that DNBI and not trauma makes up the bulk of the Role 1 medic workload. Whilst the Army medic may have better honed infantry drills the widespread use of CMT2s has highlighted gaps in their ability to deliver the necessary level of care in isolated locations and is something the Army are seeking to address!

Leaving paediatrics and military skills aside for the moment I am heartened by Graph 4 of the paper which indicates that >90% of the MAs questioned felt that they were adequately prepared for their deployment including pre-hospital care and BATLS training. This seems at variance with the author’s implied view elsewhere in the paper that not enough people were BATLS trained. The theatre locations of the survey respondents is not known but it should be remembered that of the ~120 lines on the HERRICK manpower table to be filled by an MA only ~75% of these are deemed by PJHQ to require BATLS training. The remainder are either employed ‘behind the wire’ or are working as part of a larger team under medical officer supervision. For H9 we trained in excess of this requirement and I can confidently say that every MA filling one of the ‘higher risk’ lines was in date for BATLS – this was also carefully managed in Theatre by the Command team during periods of R&R, surge operations and the inevitable times when personnel had to be moved around. There is of course an issue about how current an individual needs to be to manage trauma but recognising this, the currency rules for BATLS changed from three years to two years during the time of the H9 deployment.

Nearly 25% of the H9 respondents stated that they felt more paediatrics and more military skills training were warranted. Turning to paediatrics, the gap is well recognised across the DMS. This is being addressed within the nursing cadre now through additional training attachments and work is ongoing within the JMC to deliver a ‘Level One’ paediatric knowledge e-learning package for all DMS clinical personnel, as well as ‘Level Two’ and ‘Level Three’ paediatric training for certain deploying personnel, tailored to their operating environment. The ‘green’ skills observation is also fully supported. One of the key lessons
for the RN from H9 was the need to form up a more robust Medical Command element earlier in order to plan and supervise the delivery of ‘special to role’ individual and collective training. We are on track to stand up the core elements for this team in June 2010 giving us the necessary manpower and lead time to deliver a targeted training package (with suitable validation) for those that will need these skills.

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