

# Commentary on “Surgical Experiences in the Battle of Jutland”

Surg Capt M J Midwinter



## Original paper

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**First published:** *J Roy Nav Med Serv* 1916;2(4):421-5.

## Introduction

*The conditions under which naval medical officers have to work in action differ so widely from any they can have encountered in other practice, that even a rough account of actual experiences may prove of interest. These vary so greatly in every type of ship according to the accommodation, the facilities available and the proportion of casualties that the following notes must be construed as the experiences of a single ship rather than typical of any. Classification is therefore difficult, but for the sake of simplicity the following headings have been chosen: (please see Table 1).*

<b>The Medical Organisation</b>	Accommodation of Wounded First Aid Ventilation
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**Treatment of the Wounded during Action**  
**Treatment of the Wounded After Action**

## The Medical Organisation

*The two distributing stations in H.M.S. “Lion” are used principally to shelter the staff, stretcher parties, instruments and medical stores, which are divided as equally as possible between the two. The lower conning tower and switchboard room act as subsidiary stations for a similar purpose. The forward one, though well protected is very inaccessible and could not accommodate more than a dozen wounded. During action only walking cases proceeded thither.*

*The after station is easy of access but so small that only stores and instruments are placed therein. During action the mess-deck itself, which is behind armour, received all stretcher cases who were placed out of the way in bathrooms or on mess tables. In this manner, parts of the mess-deck automatically became dressing stations as required. The*

*wounded were not carried any further than was absolutely necessary from where they fell. By this method of procedure we believe the amount of shock was greatly reduced. Those injured in turrets and isolated compartments were only removed during a lull or after the action.*

*Canvas bags with first-aid gear containing antiseptic and picric acid dressings, a tourniquet and bandage were placed in turrets, engine-rooms, boiler-rooms and other compartments, as well as on the mess-deck itself. These were replenished as requisite from the nearest station. The members of the first-aid parties comprising writers, cooks, stewards and canteen hands worked splendidly. In our opinion well-trained first-aid parties are essential. Little benefit is derived from instructing the ship’s company as a whole as, although the men will tend their fallen shipmates with a brotherly affection, they shrink from dressing their wounds and always seek aid from the trained staff.*

## Treatment of the wounded during the action

*Nearly all the casualties occurred within the first half hour. A few cases found their way to the foremost station, but the great majority remained on the mess-deck.*

*During the first lull the medical officers emerged from their stations to make a tour of inspection. The scenes that greeted us beggar description even were the censor to permit a detailed account. Most of the wounded had already been dressed temporarily. Tourniquets had been applied in one or two instances, but we were able to remove these later. Haemorrhage on the whole was less than we anticipated. In some who were terribly mutilated it was, of course, terrific, but in others with extensive lacerated wounds associated with much loss of tissue it was comparatively slight.*

*Water gave considerable trouble in some places, but the wounded were kept warm and dry on the mess tables. We did not experience the same difficulty from failure of the light as in the Dogger Bank action. Nevertheless, electric*

*lamps and pocket lanterns were invaluable.*

*Morphia in 2/3gr. doses was given hypodermically to all by the medical officers alone. This was in many cases repeated during the night. The Wildey's syringes were ideal but a stouter needle would render them more serviceable. Here we may state that these maximal doses acted like a charm. Pain was instantly relieved and haemorrhage controlled. Healthy men will stand these large doses of morphia well, provided they are seen immediately after injury when their reserve of stamina has not been drawn upon as corroborated by no symptoms of an overdose arising. Small doses are useless and morphia tablets appear a weak alternative to hypodermic injection. In dealing with a large number of severely wounded, we consider the best practice is to place them under the full influence of morphia as rapidly as possible.*

*The battle was thrice renewed during the evening, but in the lulls all the wounded were carried to the mess-deck. No splints were applied, since the Neil Robertson stretcher answered that purpose admirably. After the action was over the injured were nursed throughout the night and were kept warm with blankets and hot-water bottles; they were fed with Bovril and other medical comforts.*

*During the evening, ten of the desperately wounded and burned succumbed. These cases were hopeless from the start, some of the wounds being terrific, while the burns were very extensive and deep. It was impossible to move any in view of the probability of the action being renewed at dawn; besides, we considered absolute rest to be essential and the majority slept undisturbed. At 7.30 a.m. on June 1, we were informed that it would be safe to bring the wounded up from below.*

*The Vice-Admiral's and Captain's cabins were cleaned, dried and thoroughly ventilated. This process took considerable time, since both were full of water and smoke. The captain's bathroom was rigged as an operating theatre and by 8.45 a.m. we commenced. No difficulty was experienced in carrying the wounded to the deck above, since all were still more or less under the influence of morphia. As might be expected, lack of water was a source of anxiety. At first it was brought in mess kettles, all rusty and brown. Later the cold supply was laid on, and finally about noon a free supply of both hot and cold was at our disposal.*

*In all, fifty-one cases were dealt with, and a general anaesthetic, chloroform and ether in equal parts, was administered to twenty-eight. We were fortunate in steering clear of mishaps, and all were discharged without a further death. We were much helped by two officers who lent a hand in giving several of the anaesthetics. After operation*

*the men were placed on bedding on the decks of the Vice-Admiral's and Captain's quarters.*

*Only urgent operations were attempted; as all the patients had already waited a long time, speed was essential. Our work was severely handicapped by having 44 per cent of casualties among the medical officers and sick berth staff. Full exploration of some of the large wounds was rendered impossible owing to lack of time, while at least two amputations had to be postponed for a similar reason.*

*Three amputations of the lower limb were performed. Five compound comminuted fractures of the leg were treated and splinted. The surgical toilet of wounds consisted of swilling them thoroughly with eusol, draining, trimming and suturing when needful. Abdominal injuries were conspicuous by their absence. With regard to the control of sepsis, we would point out that all cases went sixteen hours with only first-aid dressings on, while many others remained twenty-four, or even thirty hours, before attention could be given to them. We consider that sepsis was much less frequent than the conditions warranted us to expect.*

*Eusol was the only antiseptic applied to wounds. All were examples of extensive wounds; in many instances multiple with considerable loss of tissue, and compound comminuted fractures. Summarized briefly nine were aseptic and five septic; of the latter pieces of clothing were found in the wounds of three, which had been missed owing to the limited time at our disposal in dealing with such a large number. Altogether the results, if not good, may be considered encouraging and appear to justify our choice of antiseptic. We fully realize the many shortcomings of our surgical technique under such conditions and therefore assign any reproach for the occurrence of sepsis to ourselves rather than to the failure of the antiseptic properties of eusol.*

*General burns, invariably due to cordite fires, were very severe and fatal. It was a striking fact that almost 50 per cent of the wounded suffered from burns of the face and hands alone. These were caused by the flash of high explosives in a confined space, which was so momentary that clothing completely protected the rest of the body. The ankles were scorched in a few instances, but this might be prevented by tucking the trousers inside the socks. The eyes, being closed in time, escaped injury. Masks and gauntlets of non-inflammable material would probably save a very high percentage of casualties among repair and fire parties on the lower deck.*

*Notes on every case were taken at the time in shorthand, including name, age, rating, nature of injuries and treatment adopted. These proved extremely valuable afterwards. Prior to leaving the theatre each patient was labelled,*

*either green, yellow or white, according to the degree of injury with the above notes. We worked continuously till 12.15 a.m. on June 2, when the last case received attention. By this time both our assistants and ourselves were pretty well exhausted.*

*The cheerfulness and pluck of the wounded were simply magnificent. Content to be alive, they waited to be dressed with a silent patience admired by all. In every case we found that the wounds were far more severe than we had been led to anticipate by the demeanour of the patient. On arrival at the base on June 2, forty-six wounded were transferred to the hospital ship "Plassy," five of the slight cases being retained on board. The transport arrangements worked without a hitch. Our brief description would be incomplete without referring to our sick berth staff. Sadly depleted in numbers they worked untiringly throughout and set an example of cheerful kindness amidst a very trying ordeal. They were well supported by their first-aid parties, most of whom had seen no suffering before, who nevertheless held on and rendered invaluable help. Finally, once the action was over we acknowledge with pride the sympathy and practical assistance of the executive branch. Everything that could be done was carried through at once and thus our arduous task was considerably lightened.*

### Commentary

It is timely to consider the experiences of the surgical response reported by Fleet Surgeon McLean DSO MB RN and Surgeon Horace Stephens RN on board HMS LION at the Battle of Jutland.

The Battle of Jutland was fought by the Royal Navy's Grand Fleet, including ships and individual personnel from the Royal Australian Navy and Royal Canadian Navy, against the Imperial German Navy's High Seas Fleet during the First World War. The battle was fought on 31 May and 1 June 1916 (1). HMS LION was the lead ship of the *Indefatigable* class and VAdm Beatty's Flagship in the Battle of Jutland (see figure 1). Most of the casualties were sustained onboard HMS Lion in the early phases of the battle when her 'Q' turret was hit at approximately 1600 on the 31 May by a 305 mm shell fired at a range of 15 km by Adm Hipper's flagship SMS HIPPER (2, 3).



Figure 1. HMS LION with HMS PRINCESS ROYAL astern in 1913.

Over the last ten years, the operational focus of the Royal Naval Medical Service (RNMS) has been on delivering medical support to land operations. Return to contingency makes it even more pertinent to consider how care has been delivered in a maritime action in the past and how recent experiences may inform this for the future in light of the lessons and experiences from recent land campaigns.

Regarding the medical organisation for action, the primary and secondary positions for medical headquarters, with casualties being cared for in locations distributed through the ship, often sited at mess decks, is one that is familiar to RNMS personnel.

The management of the casualties described at these locations is much along the lines of the 'Care under Fire' and 'Advanced Field Care' doctrine of current Battlefield Advanced Trauma Life Support (BATLS), the 'Advanced Resuscitation' / Damage Control phase being conducted in lull in the action at the pre-designated areas of the Vice-Admiral's and Captain's cabins (equivalent to 'Role 2'), before evacuation to the Hospital Ship PLASSY (equivalent to 'Role 3').

What is striking is the recognition of the importance of haemorrhage control reflecting the current <Catastrophic haemorrhage>, Airway, Breathing, Circulation paradigm, including the use of tourniquets. The preponderance of extremity injury with severe tissue loss is an injury pattern familiar with the experience of those in the RNMS with recent operational experience.

The tactical considerations meant that surgical treatment was delayed by 16-36 hours; something that would be considered to pose a great risk of infection today. Another difference is the use of non-medical officers to assist with administration of anaesthesia; something that is fortunately not required today.

One common injury which the medical staff on HMS LION faced, and which in the recent conflicts of the last ten years has not been prevalent, is severe burns, especially as part of a poly-traumatic injury pattern. This is a lesson for us to reflect on and train for as we prepare for the future.

There have been significant advances from experience gained in the last ten years of conflict such as Damage Control Resuscitation and early aggressive haemostatic resuscitation with blood products, Tranexamic Acid and the use of nerve catheters etc., which were not available to McLean and Stephens. However, it is worthwhile reflecting on how these would have been best deployed in the type of action they describe in this fascinating report and how we may wish to do so in the medical response afloat in today's fleet.

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