

# Special Feature

## Commentary on “The vital importance of efficient training of naval ratings in first aid”

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### Original article

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### Introduction

*In the British Medical Journal of November 21, 1914, Sir W. Watson Cheyne emphasized some important points in the treatment of wounds received in naval actions. His experience showed that:*

- (1) *In naval actions all the wounds he had at that time come across were septic.*
- (2) *The immediate treatment of wounds is of supreme importance, for early treatment is the only means of diminishing the likelihood of the occurrence of septic processes.*

*We must consider first of all the conditions under which we work in action. Up to the present war, our plans from lack of actual experience had been based on a careful survey of the happenings in the wars which Japan waged against China and Russia. Japan learnt by bitter experience the hopelessness of segregating the wounded, the medical officers, their assistants and medical stores in exposed positions. In 1903 the Durnford Committee laid down many excellent axioms; among them must be noted one which emphasizes that nothing but first aid should be attempted during action.*

*The medical staff with their assistants have to remain below at their stations as long as the ship is fighting; should a lull occur they may be permitted to come up, but their value after the action is so great that it is deemed inadvisable to expose them to danger while the action is in progress. Thus at the start it becomes obvious that the immediate treatment of wounds will have to be carried out during action by the men themselves.*

*Consequent on Sir Watson Cheyne's article the question very properly arises whether our men are properly trained to deal with the situation in a really efficient manner? We*

*in the medical profession know how weighty is the problem of dealing with wounds under such conditions. Anything short of thorough training such as we receive as students in hospital is inadequate to deal with wounds under the most favourable conditions yet upon the shoulders of our men is placed the burden of dealing with severe wounds under conditions than which it is not easy to imagine worse!*

*But it is not with flesh wounds only that they will have to deal. Immediate first aid measures will have to be undertaken by the men themselves to deal with burns, scalds, fractures and the various degrees of haemorrhage; all of this while under fire and with other duties to attend to. How are they to get the necessary instruction, and acquire the knowledge which alone can fit them for their task? It is the medical officer's duty to see that they are fitted for the task which has been allotted to them.*

*Life can be saved by the arrest of haemorrhage and by the prevention of shock. Surely it is a duty we owe our country to save every life we can, and shorten the period of our men's ineffectiveness through wounds, and thus to increase the efficiency of our fighting force. What I plead for most earnestly is the adoption of the following measures which I will call "The ideal to be strived for":*

- (a) *First aid to be a compulsory subject in the syllabus of instruction of all naval and marine ratings; the knowledge to be thorough and practical.*
- (b) *All ratings to be examined by examiners who have given special study to the subject from a naval point of view. On passing it should be noted on the Service certificate. If a failure occurs, it should debar from advancing to a higher rate; as would a failure in seamanship or gunnery.*
- (c) *Each rating to become acquainted with the practical side of dressing and purifying wounds etc. by attending for at least twelve occasions at the sick berths of ships and barracks or at the hospitals, where he should be given every*

opportunity of seeing every type of accidents and injuries. I attach the greatest importance to the institution of practical instruction on actual cases. The men have got to deal with real fractures, real haemorrhage, and real wounds; they are instructed only on imaginary ones. Might we not as well instruct our gunlayers entirely theoretically, put them in ships and expect them to work real guns (which they see for the first time) and yet to get good results? Really the parallel is not very much exaggerated, and it makes one realize the present state of affairs. At present we have to be content to do our first aid instruction under bad conditions, for our only means of effecting it is by means of lectures.

First-aid lecturing to naval ratings is not at all easy to accomplish successfully. The medical officer who goes to his lectures unprepared is bound to meet with many failures; experience teaches one that failure is only too ready to appear, unless preparations are very thorough. The various classes differ entirely in intelligence, keenness and temperament; the same class may vary in all these ways on different occasions. The best way to learn is to be always at it and soon it becomes a duty of very great interest. The language one employs should be very simple, lucidity is the quality to be aimed at, and the lectures should be made as practical and interesting as possible; anecdotes bearing on the subjects should be collected, and are most useful to spur a flagging interest.

#### **Scheme of instruction in H.M.S. "IRRESISTIBLE"**

The Senior Medical Officer handed over to me at my request the entire instruction, and gave me a free hand to do what I considered best, as far as was possible under existing conditions. He had already instructed a considerable proportion of the ship's company, but there was a large number of extra ratings, many of them Royal Naval Reserve and Royal Fleet Reserve men, who had never been instructed at all. My scheme was in principle as follows: Four lectures (not longer than one hour each) to every twelve men, until the whole ship's company had been instructed. I allow for no lecture on Sundays and only one on Saturdays. Six months then before we could say that everyone was ready, and at any moment we might go into action!

Hence it was necessary to draw up a subsidiary scheme, which took precedence of the original one. This was:

- (1) Instruction of all Officers
- (2) Instruction of all guns' crews.
- (3) Instruction of the stretcher parties and men told off to assist at the dressing stations.
- (4) Instruction of a proportion of the engine room ratings.

By the end of the year this was practically accomplished. I was given every facility by the Commander and was greatly assisted by the Lieutenant (G), who himself kept a record

of each gun's crew's progress. The work was continued, circumstances governing its regularity or otherwise. Despite the large number of lectures given, the work, far from becoming monotonous, carried with it an increasing interest - and the lecturer reaped the benefits of improved delivery and facility of self-expression which constant practice confers.

#### **The four lectures in outline**

##### Lecture 1

In order really to interest the men in first aid, it is very important that the initial lecture should not bore them, but rather it should give them a relish for the three to come. Therefore I devote the first hour to a narration of the way in which first aid has come to be of such vital importance in the Navy. I review the Chinese-Japanese and Russo-Japanese Wars, the horrors which occurred in the first as the result of segregating the wounded in exposed positions, of stores (drugs etc.) being destroyed, and of loss of the medical staff through exposure in action: the lessons we learnt from the Russo-Japanese War, and the important findings of the Durnford Committee of 1903.

I impress upon them most earnestly that they themselves and they alone will have to render first aid during the action; that it will be no use calling for the medical officers; they must learn to rely on themselves; this they owe as a duty to themselves, their own relatives, their messmates and their country. How are they to prepare for this? By careful attention at these lectures, in order to acquire all the knowledge they can. I then look back at past experience and draw a picture of the probable conditions under which we shall be, and of the various injuries which will most likely occur. This includes a consideration of all the circumstances which lead to burns and scalds (high explosive shells, burning paint and woodwork, bursting of steam pipes; etc.), to fractures, wounds of a very severe nature, haemorrhage and shock, just touching on these with a few general remarks. Having thus made up our minds what we are to be prepared for, and again laying emphasis on the fact that it is of vital importance for them to learn all they can - since in action they have to help each other - I tackle the first subject, "Burns and scalds". We consider the causes, dangers and treatment on general lines. "Shock" is mentioned but I deal with this in greater detail later on, since I find it is not a suitable subject for a first lecture, being not easily understood by most classes. The importance of covering up a burn at once is insisted upon and the various ways in which this can be done are detailed, special instruction being given in the use of the picric acid dressing. I keep one of these dressings open for demonstration purposes. This lecture is usually listened to with great interest, and sometimes oversteps the hour by a few minutes.

Lecture II on fractures

First a demonstration on the human skeleton using the diagram supplied. Some interesting comparative anatomy points are used to gain the attention, while only necessary elementary facts are stated in very simple language. Fractures are defined, and the simple and compound varieties explained. I teach them the signs which are present when a bone is broken, and give them an easy way of memorising these. Having learnt how to tell when a bone is broken, I take them on to the first aid treatment. Various fractures are imagined. Bandages, splints, etc., are applied to, and by members of the class, until proficiency is attained.

Lecture III on wounds

Experiences in the present war culled from medical papers, letters, etc., are narrated, showing how immediate first aid treatment and purification of the wound prevent poisoning, and thus get the men back to the fighting quickly, and so increase our chance of victory. Sir Watson Cheyne's sad experiences of naval cases are told them. Signs of poisoning, nature of poisonous germs, how to prevent their access to wounds and how to kill them or prevent them acting if once they have gained admission. Necessity of strict cleanliness in dealing with wounds, antiseptics and their use.

Lecture IV on haemorrhage and shock

This I find the most difficult of the series, because of the impossibility of making clear in a few minutes the true nature of the vascular system; it is all imaginary to them. One cannot show them real bleeding and its actual arrest. First, then, I give them a rough outline of the heart and vessels and their functions. Stoppage of all kinds of bleeding by immediate pressure to the bleeding spot is a maxim I ram well home again and again; similes and illustrations with watertap are given. Compression of vessels by the fingers and by tourniquets next occupies our attention. All the principal vessels are compressed and I do not rest content until each member of the class satisfies himself that the pulse below can be obliterated. The signs of internal bleeding are pointed out, and this takes us on to the subject of shock, its recognition and the many means of combating it. If time permits I quickly run through the salient points of all the subjects dealt with in the four lectures. I call attention to the valuable Service Manual of First Aid which is supplied to the ship's library. To this little book I am indebted for many useful hints.

At general quarters the Lieutenant (G) arranges with me a number of supposed cases in various positions; to them labels are attached indicating the nature of their injuries. Opportunities are thus offered not only for demonstrating the results of strict attention at classes, but of showing independent action in lowering them to the dressing stations. It has been interesting to observe the gratifying improvement which has resulted; bad errors are

now seldom seen. When the cases arrive at the stations I give a short demonstration on them to those who are able to attend, pointing out good work as well as mistakes. I have had excellent opportunities of doing all I could under the present Service conditions, and the results obtained convince me that with the adoption of "the ideal" I have put forward we should be almost perfect in our preparations for all emergencies.

**Commentary**

If the reader were able to disregard this article's dated language they could be forgiven for thinking it was contemporary. The concepts of preparing Service personnel to dress each other's wounds, splint fractures, and apply tourniquets to bleeding extremities would not be out of place today in HMS RALEIGH'S or DMS Whittington's classrooms.

The most striking of these however is the recommendation to use tourniquets to control limb haemorrhage not amenable to a dressing alone. Subsequent to Parnell's article, after the Second World War, concern was raised that the benefit of limb tourniquets was out-weighted by the potential to cause irrecoverable limb damage and as a result they were no longer used routinely. Four decades after this article was published the failure to use tourniquets is believed to have led to 9% of fatalities in the Vietnam War (1), and nine decades later approximately half of all potentially survivable deaths during Operation Iraqi Freedom (2).

The use of tourniquets is one intervention, amongst many, that has led to significant advances and improved outcomes in trauma care over the last ten years (3). Predominantly these lessons have been learned on land operations in Iraq and Afghanistan. It can be tempting to credit these improved outcomes to advanced care from medical professionals. However, a key difference between civilian and military trauma is that every soldier goes into battle with a trained 'first-aider' at their side (4). In a ship the same principle of buddy first-aid is crucial to the overall outcome in trauma; a misplaced tourniquet might make the abilities of the medical officer or military hospital irrelevant, particularly with reference to Parnell's observation that medical staff are not in a place to provide care during action.

The value of in situ scenario training for the men is emphasized in this article from 1915. The Flag Officer Sea Training (FOST) team has been providing such valuable exercises afloat for some time but the first Battlefield Advanced Trauma Life Support (BATLS) course was not undertaken in a Ship (HMS BRISTOL, Portsmouth) until January 2014. Army personnel, (and Royal Marines) regardless of rank or specialisation are required to undertake annual first-aid training as a component of the Army's Military Annual Training Tests (MATTs). An equivalent

Royal Navy continuation-training programme is currently being developed – Core Maritime Skills (CMS). CMS 3 ‘First Aid’ will form part of new entry training and annual training requirements. It includes basic life support, and management of bleeding and unconscious casualties via an online e-learning and testing programme, followed by a practical exam led by non-medics but with their oversight (5). In an ever more tri-service culture it should be increasingly possible to share experiences between land and sea operations in order to maximise the potential of medical lessons identified in each environment. Additionally a new General Duties Medical Officer or Medical Branch Rating

could benefit from Parnell’s sage, time-tested advice when planning first-aid training in a 21st-century Royal Navy.

Unfortunately it is likely that Parnell did not have time to complete his proposed training. Shortly after this article was published - on the 18th March 1915 - HMS IRRESISTIBLE was struck by a Turkish mine in the Dardanelles, resulting in the loss of the ship and 150 of her men, as shown in Figure 1. Fortunately Parnell was one of the men who survived to be taken off by HMS OCEAN, herself later sunk in that campaign. He died, after a long career as a physician, in 1934.



Figure 1: The Formidable-class battleship HMS IRRESISTIBLE listing to starboard after she struck a mine in the Dardanelles narrows at 16:16, 18 March 1915. She sank with the loss of 150 men.

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