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INTRODUCTORY.

THE MEDICAL DEPARTMENT OF THE ROYAL NAVY

IN the Royal Navy, where service in times of peace approximates so closely to the conditions in war, the organization of the Medical Department, in common with that of the other permanent branches, suffers no radical change when hostilities are declared. Such re-arrangements and extensions as occur have been rehearsed to a degree sufficient to test all the machinery required for a rapid mobilization to full war strength. Beyond the redistribution of a limited number of active service medical ranks and ratings, the admission of reservists, temporary service auxiliaries, and volunteers, and the extension of hospital accommodation, there is no disturbance of existing arrangements. The same organization which augments the personnel for the grand manœuvres of peace time is employed on occasions of war. The Medical Service required for new units and new formations arising during the progress of hostilities, such as the battalions of the Royal Naval Division and the Armoured Car and other detachments serving ashore, is but an extension of that supplying the Royal Marines and the Royal Naval Air Service which is permanently under Admiralty control, while the arrangements for the transport of wounded are but expansions of the system of collecting naval invalids and hospital cases from ports and fleets by hospital ships, a system that has been in existence for many years. The provision of hospital trains for the distribution of wounded to the naval hospitals, and the appointment of medical transport officers to control this service, is practically the only part of the programme of transport that has not been rehearsed.

This easy transition from peace to war is in marked contrast to the violent dislocation and re-organization which of necessity attend the mobilization of large military expeditionary forces and the creation of huge armies from raw material. In the Navy, fortunately, the expansion, great as it is, has not proved overwhelming. The many hundreds of civil entries—surgeons, nursing-sisters, and sick-berth ratings—have been absorbed into its system

without upsetting the medical organization or diverting the regular medical staff from the duties for which they have been specially trained. In the naval hospitals, establishments, hospital ships, and in all large fighting ships, administration, responsibility for the care and attention of the sick and wounded, together with the greater part of the practical work—surgical, medical, bacteriological, etc.—remains under the immediate care of the regular medical officers. Fortunately, indeed: because, however skilled and capable a civilian may be, it takes many years of close association with the Navy to acquire that intimate knowledge of the Service and to develop to the fullest value those qualities required to mould the man to fill his part in that complex machine the modern battleship, or to perform with efficiency his share of the administrative work of a naval hospital.

To deal adequately with the surgical organization in the present naval war it would be necessary to describe the normal organization in more detail than space permits. It must suffice to limit the review to a consideration of certain special features, and to the focal point of interest—the naval surgeon himself, his general efficiency, and his ability to apply the resources of modern surgery to the benefit of the wounded sailor at the time of injury and after.

As a Health Officer of the Navy, the Surgeon—to give him his official title—has stood the test. Year by year the sick rate has steadily decreased. In this, the third year of war, the ratio in the Grand Fleet is but little more than one per cent. Many factors have combined to produce this immunity from sickness. The share of the medical officer in the achievement is not to be overlooked. One is tempted to dilate upon so important a subject, and to contrast the present with past occasions of war which have kept large fleets in being; but in a journal devoted to surgery matters of hygiene are of subsidiary interest.

The Navy is proverbially a silent Service. The reticence of the medical branch accounts, perhaps, for the ignorance of the public concerning the naval medical officer, his duties, his opportunities, and his aspirations. With the exception of some admirable work in the study of tropical diseases, he is rarely to be found as a contributor in the pages of professional literature. Until the birth of the *Journal of the Royal Naval Medical Service* some two years ago, his written word has lain buried in official records and reports. It is no exaggeration to say that in the popular fancy he is still the 'cockpit' surgeon of Smollett's novels, rough, and over-ready to probe a wound or amputate a limb. That he should have opportunities for practising any but 'cockpit' surgery is unimagined by the general public. The humour of *Punch's* illustration of a sailor mildly expostulating that the surgeon has dragged him round the sick-bay with the dental forceps attached to his tongue instead of to his tooth, lies in the indulgent acceptance, by the patient and the public, of the operator's limitations.

We are often reminded that the lay medical profession is not more enlightened than the general public concerning the Naval Medical Service. Of some six hundred and fifty young men who, at their country's call, have joined the Navy as temporary surgeons, few had any conception of the nature of the Service they were entering. A medical officer of a fighting-ship was to them but a glorified variant of the 'qualified surgeon' of the passenger ship's advertisements. They learned with surprise that they were not to be drafted at once for service afloat. They found themselves appointed temporarily to one of several huge naval hospitals—institutions hitherto unheard of by them. They were to learn that these establishments are complete in every up-to-date detail; that in the several departments, medical, surgical, *x-ray*, bacteriological, venereal, zymotic, etc., the work is carried on, and for years has been carried on, with that eager aim to obtain the highest efficiency which is traditional in the Naval Service. They were to learn that these departments are staffed and administered by naval surgeons who, with the exception of those of the higher ranks, are taking their turn at hospital work after a recent term of service afloat.

Here, in these self-contained hospitals naval surgeons perform daily many surgical operations. A total of nearly 5000 operations—exclusive of dental operations and salvarsan intravenous injections—were placed to the credit of the naval hospitals during the last year of peace, and all were performed by naval surgeons who had acquired their operative experience and skill while in the Service. Since the beginning of the war the number of operations has greatly increased.* The surgical work has been assisted by the consultant surgeons who have supplemented the senior ranks, and by temporary surgeons who have relieved many of the junior operators.

It may appear surprising that in peace time there should be such a large amount of surgical material in a service composed of picked men, the majority in the prime of life. It is to be noted that this material is drawn not only from the Service afloat, but also from the large naval establishments ashore, such as the Royal dockyards—where many thousands of workmen are employed in shipbuilding, etc.—from training schools, and, to a limited extent, from

* During the year 1916 over 9000 surgical operations (exclusive of dental operations and intravenous injections) have been performed in the naval hospitals and hospital ships. Of this number over 800 were abdominal cases, including 627 cases of appendicitis and 55 of gastric or intestinal perforation. Operations for the relief of disabilities were numerous. Hernia is represented by 1341 cases. Less common operations are mastoid-ectomy (89 cases), operations on the nose and eye, on the kidneys, bladder, and prostate and on the liver, gall-bladder, and gall-ducts. Many cases of bone plating and wiring are recorded. Spinal analgesia has been employed on several occasions, and local anæsthesia is becoming more frequently used for rib resections, varicose veins, etc.

among pensioners and officers on the retired list. From these sources a wide surgical practice is obtained in the treatment of diseases and injuries arising in males after the age of thirteen years. The addition to the Navy of many thousands of auxiliaries of a lower physical standard than the active service ratings has extended the variety of diseases coming under surgical treatment.

It has been the aim of the Administration to give a period of hospital experience to as many medical officers of the fleet as circumstances permit. By this means a large and increasing proportion become well practised in modern methods, and not a few develop surgical skill of a high order. Consequently, in every fleet are to be found officers thoroughly capable of meeting all surgical requirements.

The growth of surgical efficiency in the Navy has been very marked during the past twelve or fifteen years. Up to that time major surgical operations were rarely undertaken. There was a great loss to the Service of men invalided for such disabilities as hernia, varicose veins, etc. Coincident with the more general employment of surgical means elsewhere, the spirit of surgical enterprise arose in the naval hospitals. It did not originate, as might be supposed, from the influx of new blood, or from suggestions by the Administration. It arose from the enterprise of a few pioneers, men of several years' seniority, who, developing a latent ability, with courage and determination fought down prejudice, and laid the foundation for that confidence in the surgical work of our hospitals that is now shown by all ranks of the Service. This growth of efficiency was fostered by the Administration. The hospitals were provided with every surgical necessity. Old operating rooms were re-constructed and new rooms added. X-ray departments were instituted. The new hospital at Chatham, built during this period, was furnished with the latest surgical apparatus. Officers were selected and appointed to all the large hospitals as anæsthetists and radiographers. As many medical officers as arrangements permitted received post-graduate courses at recognized schools. These courses included special instruction in operative surgery. Selected sick-berth ratings were trained as operating-room attendants. No difficulty was found in obtaining a succession of senior medical officers capable of taking up the surgical work. There seems to be no doubt that a close association with the strenuous activity that exists in the fighting branch of the Navy develops the qualities of handiness and adaptability. In such practical subjects as surgery, radiography, and bacteriology, the seasoned naval medical officer quickly becomes efficient.

While the practice of surgery was being encouraged in the hospitals by the provision of all requirements, the surgical equipment of the ships was greatly improved. Special stations for the treatment of wounded during action were considered in the design of the vessels, and not left to be

extemporized as had been the custom. These stations were fitted with a supply of hot and cold water, special ventilation, lighting, and equipment generally. Formerly the surgeon had to provide himself, at his own expense, with a regulation set of surgical instruments, a stomach pump, splints, and a few other necessary articles. For some years past all the larger ships have been supplied by the Admiralty with a liberal outfit of instruments, including microscopes, and sterilizing, *x*-ray, and bacteriological apparatus: recently a medical library of reference has been added. These stores are supplied from the naval hospitals, where they are kept ready packed to be issued at a moment's notice.

In addition to being hospitals proper, and centres for distribution of stores, these establishments are training-schools for the sick-berth ratings. In peace time, courses of lectures are given by the staff to medical officers attached to or in the vicinity of the port. For over thirty years the Royal Naval Hospital at Haslar has been a training centre for newly entered surgeons. Within recent years the newly entered have been required to pass an examination at the end of a period of probation before receiving their commissions. During the war all regular courses of instruction at Haslar and Greenwich have been suspended.

At the outbreak of hostilities, fighting-ships in commission, and those newly commissioned, received their war complement of medical officers, sick-berth ratings, and medical stores. The hospitals were brought up to their full war accommodation and staff, and the pre-arranged scheme for overflow to the subsidiary naval infirmaries and temporary hospitals was put into force. This scheme has been considerably expanded, especially in Scotland, to meet the growing necessities of the fleet. Hospital ships have been equipped and staffed. Private yachts, fitted out by their owners, have been taken over by the Admiralty as hospital ships for the transport of the sick and wounded over short distances. A great deal of surgical work has been undertaken in hospital ships, both while acting as mobile base hospitals to the fleets, and while carrying naval and military wounded. A share of this operative work has been borne by temporary surgeons. The employment of hospital ships as mobile base hospitals enables the fleet to use suitable bases without regard to considerations as to the disposal of the sick and wounded: and as these bases or rendezvous may be a considerable distance from the naval establishments ashore, the transport of the acutely sick and wounded is reduced to a minimum. During the military operations in the Gallipoli Peninsula, naval hospital ships in the Mediterranean were employed chiefly in receiving the wounded direct from the dressing stations and transporting them to base hospitals in Egypt, Malta, and elsewhere. Although the number of casualties coming under treatment after naval actions afloat have been comparatively few, the naval home hospitals

have been very full at times, since accommodation has been given to our own and Belgian military, as well as to the sick and wounded from the battalions of the Naval Division fighting ashore. In addition to the arrangements made for overflow to subsidiary hospitals in the vicinity of the ports, provision was made for the reception of cases in some of the London hospitals.

Afloat, the organization for the immediate treatment of the wounded varies with the class of fighting-ship. In all ships the sick-berth is situated in too exposed a position to be used during action. Two main stations are selected, one forward and the other aft, in the best protected and most accessible situations. Here the wounded are brought by collecting stretcher-parties during pauses in the fighting. After treatment they are passed on by distributing stretcher-parties to disposal stations. Many of the cases receive first-aid treatment at the hands of their comrades before they arrive at the receiving stations. For in all turrets and isolated positions dressings, tourniquets, etc., are provided.

The experiences gained in the present war have proved the value of the instruction in first aid given to the ship's company; this is especially noted in unarmoured ships, where it is practically impossible for the wounded to be collected or for the surgeon to reach the wounded during action. In the work of attending the injured the surgeons and staff are assisted by officers and men of the non-combatant branches. All details of this organization are rehearsed frequently in a realistic manner. Of the many forms of apparatus for removing wounded from difficult places, the Neil-Robertson stretcher has proved most suitable.

Before going into action, the men are required to change into clean clothing in order to lessen the liability to septic infection. Sepsis from the presence of virulent micro-organisms rarely occurs afloat. This freedom has permitted the complete closure of severe shell wounds to be made after excision of damaged tissues, with results that are most encouraging. The large proportion of burns on uncovered parts of the body have called for special measures for the protection of the face and hands. The treatment of burns by recent and improved methods is receiving careful attention.

Scientific investigations have been made in the laboratories of the hospitals as to the relative bactericidal power and tissue penetration of various anti-septics; and the practical value of the Dakin treatment of wounds has been the subject of a special commission of experts. In this experimental work, as well as in surgery, medicine, bacteriology, and anæsthetics, the regular medical officers have received the greatest assistance from consultants and temporary surgeons. The services of the probationary surgeons—i.e., advanced students, not yet qualified, engaged during the war—must not pass unnoticed. These young men, in medical charge of scouts, destroyers,

and other small craft, have accepted the responsibilities and the risks of their dangerous employment with courage and devotion to duty.

When peace is restored and stock is taken of our professional experiences, we shall realize to the full how greatly the Naval Medical Service has benefited by the close association of its members with representatives of all grades of civilian fellow-workers. We may anticipate with confidence that not the least of the advantages arising from this comradeship will prove to be a more general appreciation of the wide variety of practice, the certain recognition of merit, and the many opportunities for professional advancement, that are offered with a surgeon's commission in the Royal Navy.

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