

## THE ORIGIN AND ORGANIZATION OF THE U. S. NAVY HOSPITAL CORPS SCHOOL, PORTSMOUTH, VIRGINIA.\*

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Years ago when life was much less complicated than it is to-day, nursing in civil life was dependent upon the services of women who, by their temperament, attitude and association with the sick, were regarded by their community as the personification of the last word in nursing.

Aboard ship in the old Navy of "wooden ships and iron men" medical attention was rendered by the ship's surgeon assisted by surgeon's mates, who were more or less in the relationship of preceptor and student, and by men from the ship's company who were assigned to duty with the surgeon. The latter had little if any nursing or medical knowledge and their ultimate proficiency depended almost entirely upon the instruction they received from their officers and their experience with the sick aboard ship. With the development of medicine and surgery and the evolution of the hospital, the modern training school and the efficient graduate nurse of to-day appeared. Obviously, female nurses are not suited for service aboard combatant ships. In keeping with the trend of the times, however, better treatment of the sick in the Navy became necessary and resulted in the organization of the Hospital Corps in 1898. Likewise, the need of a more comprehensive, thorough and systematized course of instruction became imperative and led eventually to the establishment of the institution now known as the U. S. Navy Hospital Corps School, Portsmouth, Virginia.

*Evolution of the Hospital Corps.*—Coming into existence during the Revolutionary War, the U. S. Navy was virtually disbanded by July 1785. Depredations by the Barbary Corsairs upon the commerce of the United States resulted in the construction, through an Act of Congress, of three ships which were completed in 1797. The Constitution or "Old Ironsides" was one of these ships, and having been rebuilt several times, is still in existence. This act also provided for the appointing of surgeons and surgeon's mates, thus forming the anlage of the Medical Corps and the Hospital Corps of the United States Navy. Congressional legislation enacted on March 3, 1901, and April 21, 1906, provided for a peace time organization, thereby firmly establishing the U. S. Navy as a permanent public service. We now come to the real precursor of the modern hospital corpsman, the "loblolly-boy," a term formerly applied to gruel or porridge. Old regulations provided that "a surgeon shall be allowed a faithful attendant to issue under his directions, all supplies of provisions and hospital stores, and to attend the preparation of nourishment of the sick." Thus from his connection with the preparation of porridge for the sick this "faithful attendant" gradually earned the appellation of "loblolly-boy" which, according to his proficiency in the culinary art, became either a term of endearment or reproach or worse.

The term "Steward" as applied to attendants of the sick first appeared about the time the Bureau of Medicine and Surgery was organized in 1842. Men of this title or rating were called "Hospital Stewards" at hospitals, where the position was

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one of dignity, and "Surgeon's Stewards," aboard ship. Additional attendants for the sick were detailed as needed from landsmen employed in the waist of the ship and known as "waisters."

In 1861, the loblolly-boy dropped out of the picture and was replaced by a man holding the rate and title of "nurse." In 1863, the title "Surgeon's Steward" was changed to "Apothecary" and about 1873, the term "nurse" was changed to "bayman," so-called from his association with the sick-bay which, in the old wooden ships, was a space or bay on the main deck between two gun ports.

With the establishment of the Hospital Corps in 1898, the title "Apothecary" was changed to "Pharmacist" for the warrant grades while, for enlisted personnel, the old title "Hospital Steward" again appeared for the chief petty officer grade. Other enlisted ratings were Hospital Apprentice, first class (petty officer, third class) and Hospital Apprentice. In August 1916, the three ratings were changed to the present enlisted grades of Chief Pharmacist's Mate (chief petty officer), Pharmacist's Mates, first, second and third classes (first, second and third petty officers, respectively) and Hospital Apprentices, first and second class. For a long time, members of the Hospital Corps had not fully approved of the title "Steward" as it smacked too much of the culinary or mess-men branch and did not clearly indicate the true character of their responsibility.

*Development of the Hospital Corps School.*—The establishment of the Hospital Corps in 1898 created for the first time an organization to which a system of training and discipline could be given with reasonable hope of success.

Under the title "School of Instruction, Hospital Corps, U. S. Navy," the first formal course of instruction for members of the Corps was started on August 11, 1902, at the Naval Hospital, Norfolk, Virginia.

The course extended over a period of three months, later increased to four months, with six hours a working day devoted to instruction. Upon graduation, the men were transferred to the various naval hospitals for practical experience and then to general service.

After about thirteen classes had been graduated, it was realized that the available space at the Norfolk Hospital was inadequate and with plans in course of preparation to rebuild the hospital, the school was transferred in 1907, to the old naval hospital in the southeast section of Washington, D. C., which had been vacated upon the completion of the present hospital near the Lincoln Memorial.

Largely because of the shortage of men in the hospital corps, it was decided, in 1910, to send all hospital apprentices after enlistment direct to Naval Training Stations for general training except that first-aid and special instruction supplanted gun drills and target practice. Those who survived the weeding out process were assigned to the medical departments of the various ships and to the hospital ship where their instruction was continued.

At the end of a year's service afloat, the men were sent to the naval hospitals at New York, Norfolk, Mare Island, Calif., and Canacao, P. I., for practical training under the guidance of members of the Navy Nurse Corps (female) which corps, it may be stated, had not been organized until May 1908. In accordance with this new policy, the Hospital Corps School, Washington, D. C., came to an end in January 1911, with the graduation of the twentieth class since the school was first organized at Norfolk.

With most of Europe embroiled and with the probability of the United States being drawn into the conflict of the World War, a hospital corps training school was opened at San Francisco, California, in 1915, and another at Newport, R. I. In preparation for actual hostilities, two additional schools were opened in 1917, one at Great Lakes, Illinois, and the other at Hampton Roads (Norfolk), Virginia, and the hospital corps increased in strength from 1505 in 1916, to 7000 in 1917, and to a total of 14,718 in July 1918. Figures relating to war-time activities of these schools are shown in the following table.

School.	Normal Capacity.	Average Emergency Capacity.	Greatest Number at Any One Time.
Newport, R. I.	250	500	900
Great Lakes, Ill.	300	1500	2200
San Francisco, Cal.	250	500	900
Hampton Roads, Va.	300	300	300

After the war the Hospital Corps schools at Great Lakes and San Francisco were closed and the one at Newport consolidated with the school at Hampton Roads. Another school to furnish trained personnel for West Coast activities was opened at the Naval Hospital, San Diego, Calif., in September 1928, but with the reduction of the Navy during the "Great Depression" it was discontinued on June 1, 1932, and but recently has been re-opened.

*The Hospital Corps School, Norfolk, Va.*—Located near a port of embarkation, the special function of the Hospital Corps School at Hampton Roads was to give advanced work to rated men with some experience and foundation and train them for service aboard transports and particularly for independent duty aboard overseas cargo carriers, hence the name was changed to the U. S. Navy Pharmacist's Mates School. The merging of the school at Newport after the close of the World War with the Pharmacist's Mates School, Hampton Roads, added a third course, the basic, primary or preparatory course for the hospital apprentice to the curriculum of the school. There was then consolidated in one institution for the first time, the equipment and personnel for the instruction and training of all groups of the personnel of the Hospital Corps of the Navy.

In December 1920, the school was transferred back to its original location at the Norfolk Naval Hospital, Portsmouth, Va., and in 1929, the name was changed to its present title "U. S. Navy Hospital Corps School."

*Equipment.*—When the school was transferred back to the Norfolk Hospital it was housed in a group of 13 buildings in the far northwest corner of the reservation. These buildings, of hollow tile and of the semi-permanent type of construction, were erected at the beginning of the World War as an extension of the hospital proper, were gradually vacated after the armistice, and were unoccupied at the time they were assigned to the school. All but one, the mess hall, now the hospital laundry, are two stories in height. Although built some sixteen years ago, they are in a fairly good state of preservation to-day and are ideal for school purposes.

At the present time, the plant consists of the administration building, the two buildings housing the laboratories and class rooms, and two dormitory buildings. Other buildings are available for dormitories and can be assigned to that purpose upon a few minutes' notice. The buildings are heated by steam and lighted by electricity from a central station which reduces fire risk and ensures continuity of

service. Students are subsisted in the general mess of the hospital and march to and from their meals in formation. The building which formerly served as mess hall and commissary has been converted into a laundry and shops for the hospital. All recruits now admitted to the school have passed through the detention period and have received their preliminary instruction at the various training stations where they are given their outfit of Navy clothing and vaccinated against small-pox and typhoid fever. Each lecture room provides seating accommodation for about 90 men. The laboratories are roomy and well equipped. Chemical, pharmaceutical, bacteriological (including microscopes) and other apparatus have been provided by the Bureau of Medicine and Surgery in ample quantities for the purpose intended.

*Administration Policies.*—The instruction in the school is largely theoretical and, because of the limited time available, every effort has been made to concentrate upon essentials and to endeavor to standardize courses so that each subject follows in a logical sequence. There are certain basic facts which must be mastered before the student can become an efficient hospital corpsman and the faculty endeavors to teach these fundamentals through the use of appropriate apparatus or demonstrations upon manikins or members of the classes themselves. Practical instruction at the bedside and in the operating room and experience in the actual treatment of the sick must, of necessity, be acquired by the students subsequently at naval hospitals and in general service.

Discipline of some sort or other and by whatever name it is called, is enforced in every school and organization worthy of the name. In the Navy, the fundamental rules of discipline which make obedience a matter of habit are instilled into the recruit at naval training stations and this process is continued at the school. Students are treated as men and not children and are given such responsibility as they can assume. If and when punitive measures become necessary they are reasonable and fair and awarded to actual offenders, not to the class as a whole. Special privileges are granted as a reward for good work, while those who cannot stand prosperity receive none or forfeit such privileges if granted before they demonstrate their unworthiness. Backward but conscientious students are given encouragement and special attention but those whom the majority of the faculty regard as unsuitable material are recommended for transfer to other duty.

The Virginia State Board of Examiners of Nurses, placed the school on an accredited list in February 1924. This entitled applicants who were graduates of the school and who had completed a four full years' enlistment in the Hospital Corps to registration in the State of Virginia by examination.

*The Personnel Office.*—This office is the repository for all records, schedules and other papers. Its files contain the scholastic records of all students who have graduated since the school was transferred to its present location. Statements showing the work performed by each student, together with the grade attained, are given to this office by the instructors bi-weekly and at the end of each four-week period. From these marks the final average for the entire course is computed. Relative standing at graduation is therefore competitive and stimulates the student to apply himself. The final average is entered on each diploma. Students attaining a general average of 95 or above are classed as "Honor Graduates." Scholastic records are also of value in assisting students to secure employment after they leave the service. The number of requests for transcripts and recommendations received

in the course of a year from corporations, Nursing Bureaus and other agencies to whom graduates have applied for employment has been surprising.

*Athletics.*—Students have always been encouraged to engage in athletic sports not only on the assumption that a healthy mind and a healthy body go hand-in-hand but also because athletics tend to make a student more contented, to increase the morale of the individual and of the school, to foster a better school spirit and to dispel the humdrum monotony of ordinary routine. A member of the faculty who has shown unusual aptitude in developing the best in athletics devotes part of his time to this work.

#### COURSES OF INSTRUCTION.

Students entering the school must, obviously, have a sufficient educational background to properly comprehend and assimilate the work given them. Thus a man who understands neither decimals nor fractions can hardly be expected to do much with weights and measures in the time allotted. Ordinarily those selected for the course of instruction should have had two years of high school work or its equivalent and are given a written examination and intelligence test at the training station prior to selection.

The commanding officer of the Naval Hospital is also in command of the Hospital Corps School, and in addition, one medical officer, two Chief Pharmacists (commissioned warrant officers), five Chief Pharmacists' mates, two Pharmacists' mates, first class, and one member of the Navy Nurse Corps are attached to the school as instructors.

The elementary or Basic Course extends over a period of sixteen weeks. Classes are held each day except Friday afternoons, Saturdays, Sundays and holidays between the hours of 8:00 A.M. and 12:00 noon, and 1:00 P.M. and 3:00 P.M. The period from 3:00 P.M. to 4:00 P.M. is given to drills while Friday afternoon is devoted to the preparation of buildings, equipment and personnel for inspection by the medical officer in charge on Saturday mornings. Practical work in laboratories is given during the fourth month.

Subjects taught and hours of instruction are shown in the following table:

	Hours.	
	Practical.	Theoretical.
Anatomy and physiology	..	56
Hygiene and sanitation	16	40
Pharmacy (a)	36	36
First aid and minor surgery (b)	36	36
Materia medica	20	60
Nursing (c)	40	40
Laboratory (d)	16	16
Hospital Corps drills	64	..
Total	228	284
Grand Total	512	

(a) Includes weights and measures.

(b) Includes bandaging and application of splints.

(c) Includes dietetics.

(d) Includes bacteriology, hematology and urinalysis.

All work is based upon the Hospital Corps Handbook, United States Navy, which is used as a textbook, while the faculty have ready access to recently published works of reference in the school library. Additional books are furnished by the Bureau of Medicine and Surgery as required.

*Anatomy and Physiology.*—The first two periods in the morning during the first month and the first period in the afternoon during the second month are devoted to this subject, making a total of 56 hours of instruction. In order that practical demonstrations may be given with the lectures the class room is equipped with an articulated skeleton, wax models and numerous enlarged charts of the various organs and parts of the human body. It is impressed upon the men that the time allowed only gives them a groundwork in the subject, and in order to gain advancement in their rating they must continue their studies after graduation and improve themselves in the details.

*Hygiene and Sanitation.*—A total of 56 hours is apportioned to this interesting subject. Instruction is given in personal hygiene, ventilation with reference to the effects of temperature, humidity and circulation of the air, heating, lighting, clothing and sewage and refuse disposal. Field sanitation is fully discussed as is personal hygiene of the march with special attention to the care of the feet. Preventive medicine occupies a prominent place in this course and considerable attention is given to the modes of transmission of communicable diseases and methods of control, relation of pathogenic micro-organisms to disease, epidemics, disinfection and disinfectants, the principles of isolation and maritime quarantine. Insect-borne diseases are studied with reference to the manner of spread and, moreover to the habits, breeding places and destruction of the transmitting agents. Destruction of insects, rodents and vermin in general is also taken up. In so far as time permits, consideration is given to susceptibility and immunity, vaccination and immunization and to the prevention of the common communicable diseases.

*Chemistry.*—The short time allotted to chemistry (40 hours) permits of instruction only in the most basic principles of this subject. Even the little time devoted to the subject, however, is found to be of great value to the student both during his period of instruction and after he has been returned to the general duties of a hospital corpsman. The period allotted to chemistry comes in the first month and hence precedes the study of Pharmacy, Materia Medica and laboratory methods. After elementary basic principles are taught, the student is introduced to volumetric solutions and titration, and the last week of the course is devoted almost entirely to practical work along this line.

*Pharmacy.*—At shore stations and aboard ship the dispensary or pharmacy is in the charge of a man in one of the higher ratings and with long years of service and experience. It is not expected that this school will turn out experienced pharmacists but it does give the man a general course in the principles of pharmacy such as will equip them to act as assistants under the supervision of a trained pharmacist. The course in pharmacy covers a period of eight weeks of two hours a day. Of this, the first two weeks are devoted entirely to weights and measures as experience has shown that this particular part of pharmacy is one of the most difficult for new students to understand. Such experience, it might be added, is not confined to this school. While the Medical Department of the Navy uses the metric system there are, frequently, occasions when it is necessary to convert from

the apothecary's to the metric system and this seems to present the greatest difficulty to the inexperienced student. The course includes theoretical and practical pharmacy based upon the U. S. Pharmacopœia, National Formulary and the Dispensatory, general precautions in regard to dispensing, and practical work in making pharmaceutical preparations and in filling prescriptions.

*First Aid, Minor Surgery and Bandaging.*—Men of the Hospital Corps of the Navy are expected to be proficient first aid men. Special attention is given to this subject at the Hospital Corps School. The course covers a period of eight weeks, two hours a day being devoted to this particular subject. Of this sixteen hours are devoted to practical bandaging. Other subjects discussed and demonstrated are artificial respiration, the treatment of shock hemorrhage, wounds, sprains and fractures and first aid in medical and surgical diseases and conditions.

*Nursing.*—Students taking the elementary course are young and have had very little, if any, contact with sickness and sick people so that it is necessary to give a very minute and detailed description of all procedures. Professional etiquette and obligations are discussed and the value of honesty, truthfulness, faithfulness, obedience and courtesy impressed. Students are shown the practical application of what they have learned in other preceding courses. For instance, having learned about the importance of cleanliness, ventilation, the prevention of disease and its spread and disinfection in Hygiene and Sanitation, they are now shown the application of these measures to the care of the patient and to his surroundings.

Practical demonstrations are given in making the various kinds of beds such as open and closed beds, fracture beds and ether beds. The model ward makes an ideal class room for this purpose. A dummy is useful in showing how to make a bed holding a helpless patient. Bathing of bed patients and administration of enemata are demonstrated using students as patients. Fowler's position is shown by means of a Gatch frame and the advantages explained. Pre-operative and post-operative care are gone into in detail, as are lavage and gavage. Students are taught the various methods of adding to the comfort and well-being of the sick such as alcohol rubs, changing of position, and the care of the mouth and back. The proper care of furniture, linen, rubber goods and other articles of hospital equipment is discussed.

The importance of hypodermic medication is recognized and each student is required to give a hypodermic injection. They are also instructed in the preparation for and the precautions to be used in assisting in hypodermoclysis and the administration of drugs by the intravenous method.

In the practical demonstration of catheterization and the application of surgical dressings, the hospital corpsmen are trained in the practice of asepsis, a difficult subject for one who is not familiar with it to understand.

Having studied counterirritants as drugs in *Materia Medica*, the students are now taught the proper application of these drugs, and other agents such as heat and cold, in the treatment of disease and the dangers connected with their use.

Instruction in dietetics consists more in the proper manner of serving food than in the theory of food values, though the subject of food values and a balanced diet are discussed. Especial emphasis is laid upon variety for a patient on liquid diet and how to prepare various kinds of fluid nourishment. The relation of food to the deficiency diseases is also discussed.

Corpsmen practice on each other in taking their temperature, pulse and respiration. The findings are recorded on charts. They are also trained in observing and recording symptoms. Accuracy and neatness are stressed. Emphasis is placed upon the types of respiration and the quality of the pulse.

To acquaint students with the materials required, trays are equipped with outfits for twenty-four different routine procedures and their use demonstrated before the class.

*Materia Medica.*—The time allotted to this course is divided into 40 lecture periods of 2 hours each or a total of only 80 hours. It is obvious that only the most common drugs can be studied. Since it appeared undesirable to devote valuable time to the detailed description of crude substances which the hospital corpsman might not see during his future naval career, instruction is largely confined to the drugs listed on the supply table of the Bureau of Medicine and Surgery. The Hospital Corps Handbook is supplemented by the United States Pharmacopœia, National Formulary, United States Dispensatory and other recognized works. Instruction is given in as vivid a manner as possible in order to lay a firm foundation and to stimulate interest and future study in this subject.

*Clinical Laboratory Procedures.*—Obviously, it is neither necessary nor desirable that all men of the Hospital Corps be laboratory workers. It is very desirable, however, in fact absolutely essential, that every Hospital Corpsman be trained in the ordinary routine laboratory procedures which he might be called upon to do from time to time while in the service. With this in mind the following curriculum is used at this school during the last month of the course on four afternoons a week from 1:00 P.M. to 2:00 P.M., for a total of 32 hours.

The men learn by practical work in the laboratory the use and care of the microscope, the difference between chemical and bacteriological cleanliness, certain elemental chemical and bacteriological procedures and the fundamentals of hematology and urinalysis. The preparation of the various types of bacterial culture media is demonstrated before the class and each student inoculates culture tubes with the more common bacteria, observes the growth of the culture and makes transplants and stained smears. Each student also makes blood cell counts, makes, stains and examines blood smears and stains and examines thick and thin blood smears received from cases of malaria in the tropics.

Thus it will be seen that the Basic Course as given in this school covers a variety of subjects and is as comprehensive as the time allotted will permit. It is believed that the course lays an excellent foundation for the hospital corpsman to build upon but his future development depends, as well as in other walks of life, upon the interest he shows in his work and his will to go ahead. If he possesses these qualities he should, with the practical instruction received later at a hospital, develop into an efficient hospital corpsman and be well on his road to promotion and even greater possibilities. It may also be stated that the Bureau of Medicine and Surgery requires continuous and progressive theoretical as well as practical instruction of hospital corpsmen at hospitals, naval stations and aboard ship.

#### REFERENCE.

"A Century with Norfolk Naval Hospital" (1930), by R. E. Holcomb, Captain (M.C.), U. S. Navy (Ret.).