

The Girls' "Carry On" Column

By BETTY O'HARA.

Girls: Twelve Thousand Scientifically Trained Women Are Needed
For Every Million Soldiers—We All Must
Work If We Would Win.

The Interesting Story of Physio-Therapy

Hart House has been the centre for research along the line of functional re-education of soldiers for some time past, and so successful have been the treatments and so marvelous the cures that the Canadian authorities have now decided to place it in the various military hospitals throughout the country.

To do this it is necessary to have, as in the case of massage, a number of girls to give these treatments, and it is for this reason that many girls from all over Canada are now flocking to Hart House.

The plan for girls who are to help in this work is rather different than for many courses heretofore given. It lasts about four or five months, and is entirely voluntary except for a small allowance which is to cover your laundry and car fare. The girls must provide their own uniforms and be responsible for their own subsistence. For this reason the applicants are brought from all the hospital cities to Hart House, where they will take the course, and when finished they will return to their home towns and give the treatments in the military hospitals; which by that time will be provided with the apparatus.

These girls, as a rule, are procured through the St. John's Ambulance Brigade of the different military districts, a V. A. D. course being necessary for the completion of the course. The studies are varied and just about as difficult as one would wish. Physiology and Anatomy, with special study of nerves and muscles, is taken; kinesiology, the study of muscles; psychology and the best way to treat patients physically; at the same time not losing sight of the fact that, if the best results are to be obtained a mental interest and stimulus is absolutely necessary. A special study is made of all wounds, their nature, treatments, and the results of such. A class is also given in which the typical and difficult cases are impressed on the minds of the pupils by seeing the actual patients. Orthopedic movements are also taught to some extent, this being necessary when a soldier's wound has rendered the part affected so useless that he is unable to move it himself. To complete the study a thorough knowledge of the apparatus used is essential, and the study of this, needless to say, plays a large part in the course.

This apparatus is of a mechanical nature, the movement of which is obtained solely by the patient's own effort. There are over one hundred and fifty of these devices, each one of which is calculated to bring about the exercise and use of some particular joint or muscle of the body. Apparatus for co-ordination of movement is also a very important factor in this work. In many cases of head injuries, the brain sometimes loses the power to send the messages to the nerves and muscles; and although the part affected may be in itself perfectly normal, yet on account of the brain not functioning properly the movement is jerky and sometimes entirely gone. Sense of distance and direction of movement are

often destroyed by these brain injuries. There are three different kinds of treatment given in this re-educational work: passive, active and resistive. In passive work the operator gives orthopedic movements or helps the patient to move or exercise the part affected by moving the machine. Active—when the patient becomes stronger he moves the machine and does the exercises himself under the careful eye of the operator. Resistive—when the brake is put on the apparatus which makes the machine harder to operate, and this tends to strengthen still more the weakened part.

One splendid part of the apparatus is a foot piece, which is designed to bring back the circular movement of the ankle joint. The patient's foot is strapped in the machine which is adjusted to a larger or smaller circle, according to the power of movement of the patient. An apparatus which brings back the movement of the hip joint is another splendid invention. The man's ankle is strapped into the apparatus; he stands perfectly straight and swings his leg backward and forward

without bending the knee; this indirectly has a tremendous effect on the movement of the hip joint. Another use for this apparatus is for the knee joint, in which treatment the patient assumes a sitting posture. In this case the knee joint is bent, as he brings his leg backward and forward. This loosens the joint as well as strengthens the muscles which control all movements of the leg. The same principle applies to the apparatus of the arm and shoulder. For the co-ordinative movements a man is instructed to touch a button with his fingers and then touch different holes. You will be much surprised to know that this is very difficult for some of these men, and much hard work and patience are required to bring this simple everyday movement back to normal. The same thing with the foot. Some men cannot put their foot on a certain step or mark you have laid out for them, and the result is a jerky hit or miss movement which is painful to witness.

One case particularly interested me. It was that of a soldier who had received a wound in the head, affecting the brain. As a result, he was partially paralyzed; his speech had entirely left him and his movements when he took a step resembled those of a child just after it had learned to walk. However, he is improving wonderfully, and in time will get back the use of his limbs to a considerable extent. Efforts are now being made at Hart House to bring back his power of speech.

Often as a result of having splints on the arm or leg for an indefinite time the part becomes stiffened and useless. Treatment is given to cure this. Adhesions from scar tissue often cause trouble, and the use of the member is brought back by means of exercise with the apparatus. The difference in the result of the treatment between this and massage is: the massage feeds the nerve or muscle by increasing the circulation, but functional re-education strengthens and brings back the use of the limb by the exercise of the part affected. For this reason, both treatments are sometimes given the same patient. The idea of a dial on each piece of apparatus does much to stimu-

Uniform worn by the girls on whom the success of the new treatment of Physio-Therapy largely depends.



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