SAVING COTTON-WOOL AND USING SAWDUST

BY

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Among the schemes brought forward by the different professions for saving shipping space, it is strange that the medical profession should have overlooked one that could be very effective. It is the saving which might be made in the use of cotton-wool. Cotton-wool is a light and therefore bulky commodity and must take up considerable space. As it is grown chiefly in America it must be imported either in the raw state or as the finished article. An enormous quantity is used in hospitals, surgical centres, surgeries, and for many purposes throughout the country.

Cotton-wool has two great qualities for which it is used in surgery. First, it diffuses the pressure of bandages, splints, and apparatus over certain areas of the body. Fat people, therefore, scarcely require any of this "padding," as their own fat carries out this function, but wont and custom dictate that we should apply rather more to them than to thin people, because they are larger and have a greater surface. Splints used to be padded with cotton-wool, but with the application of plaster to fractures this is no longer necessary; and our results are better, as the apparatus does not slip out of position, showing that it was largely custom which dictated the use of cotton-wool. Fomentations are always covered with large quantities of cotton-wool, which is thrown away when the fomentation is removed, but a folded soft towel is just as good and can be applied again and again.

The second reason for the use of cotton-wool is its absorbent qualities for septic wounds or where there is discharge, but how many septic wounds do we see to-day? If we consider why we apply huge quantities of wool over a simple appendix wound we shall find that we do so because the theatre sister hands it to us. If it must be used the quantity might well be cut down to one-quarter. The same thing could be said of nearly all clean operations.

Enormous saving could be made in the dressing of clean wounds; often the whole dressing is discarded, and a big wodge of cotton-wool applied over a new one, even when the wound is already practically healed. If there is any need for wool over a fresh wound, there can be little need for it when the wound is nearly healed. Some saving might also be made in the amount of gauze used. This saving of shipping space can only be brought about by the thoughtful co-operation of the surgeon, the assistant or house-surgeon, and the sister or nurse, chiefly the sister, as she can control the nurse and the amount the surgeon applies; but it should be remembered there is no more conservative body of people than hospital sisters. The surgeon would do well to give orders on the subject.

Dressings from Sawdust

Some time ago the B.B.C. broadcast a request for suggestions for the use of sawdust. Perhaps the following experience might prove useful, for my brother and I managed a hospital of 100 beds in Rumania during the last war for many months without any dressings at all except sawdust, and a better dressing could not be asked for. We had no surgical equipment except our pocket surgical cases and the housewife of the matron; this may sound romantic, but was nevertheless a fact. How the other needs were supplied makes interesting reading, but cannot be gone into now. I will deal only with the sawdust dressings.

We had nothing except an ambulance; the buildings and bedding were of course supplied. The shops throughout Rumania were supposed to be completely denuded of material of every kind, but it was found that material could be produced when it was learned that we belonged to the British Red Cross, and it spoke volumes for the reputation and credit of this country that we obtained what we wanted, although we had little money and could only give "chits." All the shopkeepers were Jewish, and most of their goods had been sold to the Germans before they came into the war. What was left had been commandeered, and there was little chance of their being paid for it. Small wonder, then, that we were

right when we thought that there might be something hidden away if we could get at it. Through an accommodating person we bought all the linen, gauze, and muslin we wanted, and smuggled it into the ambulance.

Next a meeting of lady volunteers was called, and their help and their sewing-machines were asked for. They had nothing: we had even to supply the thread; but they were set to work to make linen or muslin bags of different sizes. The material was torn into various lengths and widths and then folded over so that only three sides needed sewing. Coarse black thread was used because it showed up against the white material. One-quarter of the last side was left unsewn and open.

Preparing the Sawdust

We arranged for cartloads of sawdust to be delivered from the saw mills, which abound throughout Rumania, and dumped on clean sheets laid on the floor of a previously cleaned shed. It was then put through a large sieve, which removed all the coarse pieces of wood mixed with it. These were thrown away, and the remainder was sifted well through moderately fine sieves; this process was repeated twice so that all the fine dust was removed. The sawdust from these mills consists partly of real fine dust and the rest is crushed wood in the proportion (speaking from memory) of about one of the former to three or four parts of the latter. It was important to remove as much dust as possible to prevent it getting into the wound, so this fine sieving was done very thoroughly twice.

What was left was a coarse granular substance consisting of crushed wood pulp torn from the interior of the tree trunks by the great broad teeth of the circular and band saws. Considering its source I should imagine that the amount of septic organisms in it was very small. This granular substance was put into the bags through a funnel, until the bag was between one-third and one-half full. The opening in the bag was then sewn up with thick coloured thread, usually red, in such a manner that when the bag had to be emptied, all we had to do was pull the knot at the beginning and the thread came out, thus restoring the opening. The bag was then shaken, turned inside out, washed and boiled, and used again.

The bags varied from about 6 in. by 4 in. for small wounds to 12 in. by 10 in. for large ones or those with much discharge like empyemata. Most of the wounds were horribly septic and discharged freely, and this coarse granular material proved to be highly absorbent. The sawdust swelled as it got wet, so that the pads were always larger when removed than when first applied; hence it was necessary that they should be only one-third to one-half full.

In our improvised hospital the bags were put in tins in the oven, and people were assured they were sterile. Whether this was true or not I do not know; they were never tested bacteriologically, but they were all we had. Layers of material, which had been sterilized by boiling, were first applied to the wounds, and then the bag of appropriate size was added, and the whole fastened in place with improvised bandages. There were no other dressings of any sort, but the hospital was filled to capacity.

I can vouch for the fact that we came to regard these dressings as almost ideal for their simplicity and effectiveness, and we only relinquished them with regret. The credit for the idea should be given to that extraordinarily inventive genius Charles Cathcart, F.R.C.S., of Edinburgh, who mentioned the possible use of sawdust in surgery in an article either in the *British Medical Journal* or the *Lancet* before the last war. I had read this article with great interest; probably it would pay others to look it up.

Since 1932 a specific dietary disease of silver foxes has been recognized as one of the important problems of the fur industry. Its pathological characteristics are similar to those of Wernicke's disease or haemorrhagic polio-encephalitis in man. In foxes the disease is called Chastek paralysis, and it first appeared among the animals on the Chastek fur farm in Minnesota, where in one month it killed one-third of the entire ranch population of more than 200 foxes. Apparently the disease appears among foxes when 10% or more of certain types of fresh whole fish are included in the ration, and it can be prevented by adding large amounts of thiamine. Necropsy reveals severe damage to the liver. The brain lesions are bilaterally symmetrical, and occur in the grey matter, especially in the paraventricular region.