

hours, after which it was found to have lost its toxicity.

Surprising results were obtained with heliotropin, which was effective for only forty-eight hours when worn. A study of why its toxicity should be lost so quickly, when it is not a very volatile compound, brought out the fact that the lubricating oil was being absorbed by other clothing, thus weakening the dose to a point at which it was no longer effective.

If heliotropin is used without oil, it crystallizes out and is soon rubbed off. It is therefore necessary to use some other compound of an oily nature that is too viscous to be absorbed rapidly by the underwear. Experiments with heavy lubricating oils, beeswax, petrolatum, spermaceti and oil of theobroma (cacao butter) were conducted. Results showed that a 5 per cent. solution of heliotropin in ether, to which 0.5 gm. of fat or wax was added, would remain effective for seventy-two hours. When increasing the amount of heliotropin, it was found to be most soluble in oil of theobroma. When 1 gm. of heliotropin to 3 gm. of oil of theobroma dissolved in ether, carbon bisulphid or benzene was used, spread over 48 square inches of underwear, the underwear could be worn for 168 hours before it lost its toxicity to lice.

Considering the results of all the experiments, it appears that 168 hours is the maximum time that an effective compound will remain in the underwear in sufficient quantities to kill the lice quickly. Using a less volatile compound, which would remain in the clothing a longer period of time, would result in a diminished toxicity, that is, an increase in the time required to kill the lice.

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ABSTRACT OF DISCUSSION

DR. AUGUSTUS WADSWORTH, Albany, N. Y.: I have not made any study such as Dr. Moore has made of the destruction of lice, but I stumbled upon a very effective and simple method of getting rid of these animals rapidly. We went ahead on the basis that the animal might feed on the solution, and I mixed alcohol, water and glycerin, in equal parts, and added mercuric chlorid in the solution of about 1:500 or 1:1,000. I was especially interested in Dr. Moore's remarks of figures by the government on the use of mercuric chlorid. The men in charge of the animals were directed to spray the ears of the rabbits with this solution, not carefully, but quite carelessly, in fact. Invariably, within a short time, depending on the amount of inflammatory action on the ears, they died—whether because of feeding on this solution or not I do not know. I sent a sample of this solution to Dr. Howard for investigation. It does not seem to me at all impracticable, at any rate, to give so effective and simple a remedy a trial, as in any event it would seem it can have no harmful effect. It is not necessary to use such large quantities of it. I should like to know if it would prove effective against the body louse.

The Secret of Longevity.—The late S. Wier Mitchell, himself an enthusiastic mountain climber and pedestrian, related to me an interesting conversation he had with the late John Biglow, who survived till he was 97. Mr. Biglow asked Dr. Mitchell how he had attained the then age of 80. Biglow being the elder, Dr. Mitchell urged him to divulge his cherished principles of life. Mr. Biglow replied with unction that he "had never smoked, never drank and never taken any form of exercise." Whereupon Dr. Mitchell replied, he himself had smoked since boyhood, had always taken wine and enormous amounts of active exercise. No man had ever lived a fuller, more agreeable or successful life than that of S. Wier Mitchell, and he ranged the hills till just before the end.—J. Madison Taylor, M.D.

Military Medicine and Surgery

IMMOBILIZATION OF PATIENT ON STANDARD ARMY LITTER

A METHOD OF SECURING THIS AND TRACTION ON
BOTH LEGS WITHOUT ANY EXTRA APPARATUS
EXCEPT THE PATIENT'S WAIST BELT

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FRANCE

To meet the needs of the Army for a litter in which the patient can be made secure and in which traction can be provided, this method has been designed:

1. The patient is placed on his back on the litter, and is moved upward until his head is off the canvas.

2. The litter sling is shortened at the head of the litter by sliding the buckle about 15 inches. This sling is then passed over the right shoulder, down through the right axilla, across under the back, up through the left axilla, over the left shoulder, and the end loop of the sling is slipped over the left handle of the litter.

3. The patient's waist belt (regulation length) is fastened fairly tight around his waist and forearms. If he is delirious the belt is passed through a slit cut in each sleeve of the blouse.

4. The patient is moved downward to the normal position on the litter, when the upper sling will become taut.

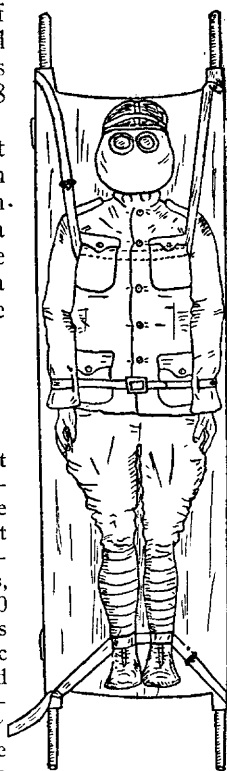
5. Strong traction is made on the patient's left foot, and at the same time a tight half hitch is made with the sling on the same foot. The sling is held taut, traction is made on the patient's right foot, and the sling secured with a similar half hitch. The sling is then tied securely to the handle of the litter at the patient's left foot.

ADVANTAGES

The patient is now secured to the litter. He cannot fall off in any position. He cannot interfere with his mask or dressings even if left alone during stress of work. If splints are not available, he can, if this method is properly applied, be transported for miles without injury or great discomfort. Additional traction may be applied to either leg by another belt or rifle strap being applied to the foot as a "Spanish windlass." In darkness or when going around turns in trenches, the patient cannot fall off the litter. The method can be learned in one trial.

This method, in addition to its use for purposes of fixation and traction, is of especial value as a ready means of restraint when the patient is delirious or maniacal.

A spiral puttee may be used instead of the waist belt, and may also be used to make traction on either arm, the upper litter sling producing effective counter-traction.



Method of securing immobilization of patient and traction on both legs on standard Army litter, without any extra apparatus except the patient's waist belt.