Clinical and other Notes.

THE USE OF THE ELASTIC ADHESIVE DRESSING (ELASTOPLAST) DURING ANNUAL TRAINING IN CAMP.

By THE MEDICAL OFFICERS OF THE 51ST (HIGHLAND) DIVISION.

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The use of the elastic adhesive bandage (Elastoplast) in the treatment of varicose ulcers has been widely known for some years but its usefulness in the treatment of many other conditions is probably not fully appreciated. Experience with this type of dressing in hospital and private practice led me to realize its peculiar advantages for military purposes and, accordingly, it was arranged to try it out on a somewhat large scale during the annual training in camp of the various units of the Highland Division. The medical officers of the units concerned combined to furnish reports and suggestions as to its future use and an ample supply of Elastoplast bandages was kindly put at our disposal by the makers for the purposes of this test.

The main test we wished to make was the efficiency of this dressing on broken skin, whether infected or not, and its advantages in helping to keep men fit for duty or shorten the period off duty. The advantage of simplicity is obvious. No lotions or cumbersome dressings are required, strict attention to asepsis is not necessary. Elastoplast is simple to apply, light, and small in bulk.

The use of this dressing on septic lesions is perhaps against one’s medical teaching and, personally, when I first used it I had considerable qualms as to what might happen underneath when it was left undisturbed for several days, but such fears proved groundless even in extensive infection of the scalp [1]. Others have had similar experiences in the treatment of impetigo [2], cellulitis and other septic conditions [3] and even in the treatment of severe mutilated wounds [4]. The use of Elastoplast for the treatment of boils [5] is probably now widely adopted.

For clean injuries this dressing seems equally suitable. For burns it can be used at any stage and with any degree of severity [3]; I have personal experience of its value both in burns and friction blisters.

It has also been found useful in various types of fracture and in sprains, though these cases were kept apart in the present investigation as not including broken skin and requiring, as a rule, considerably more dressing.

Possible disadvantages were:

(1) Sensitization.—Certain skins are sensitive to the chemicals incorporated in this bandage as some are to ordinary strapping, but in my experience this is only a minute percentage, especially when only a small area of skin is covered. No cases of this kind arose during the present investigation.
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(2) Sepsis occurring under the bandage.—This is occasionally found and the reason is not obvious, as sepsis usually disappears with its use. Only one case of this kind occurred in the present series when a bandage removed on the eighth day from a sprained knee disclosed a superficial inflammation behind the knee which cleared up in a few days. The sprain had benefited by the bandage. Mechanical irritation due to movement was probably a factor in producing this inflammation.

(3) Difficulty in removal, especially from a hair-bearing area of the skin. Where this is likely to be experienced the part may be shaved before application of the bandage, but the use of an organic solvent such as carbon tetrachloride, which is more efficient than alcohol or ether, helps in the removal. Removal from septic lesions is usually easy as a film of serum or pus prevents the bandage adhering to the actual wound, and the infrequent change of dressings required compared with more ordinary applications is of importance both to the medical staff and patient.

The small amount of bandage and the fewer number of dressings required make this method economical as well as saving of time and man power.

RESULT OF TEST.

Two 3 inch Elastoplast bandages were issued to the officer in medical charge of each unit, along with a pro-forma designed to give as much information as possible, consistent with simplicity.

The information we attempted to gather was:

1. The types of lesion dealt with and the result of the treatment.
2. The number and frequency of dressings required.
3. The amount of duty for which each man was fit while under treatment.
4. The amount of this dressing used during camp.
5. The amount of other dressings used during camp, in order to elicit any saving of material by this method of treatment. It is however doubtful if any definite conclusion can be drawn from the information obtained regarding this point.

The following suggestions for using the dressing were also issued:

"This dressing can be used for such lesions as blistered heels, boils, septic fingers, etc., wounds of all kinds such as are likely to be encountered in camp, burns of any extent or severity. No hesitation need be felt in covering a septic wound even if lymphangitis is present. In this case the bandage should be extended to cover the lymphangitis. It is not considered necessary to cleanse thoroughly the lesion prior to application of Elastoplast, but if very dirty it may be swabbed with methylated spirit. This may be repeated when the dressing is changed. Iodine should not be used. Once applied the dressing should be allowed to remain in situ as long as possible; this varies from two to three days in the case of blistered heels, etc., up to three weeks or so in the case of burns. Where blisters are present they may be incised but there is no need to clip away all loose skin."
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Reports were received from fourteen units. Two units used no Elastoplast and no pro-formas were returned from a further two units but the medical officers concerned reported that they had used this dressing and approved of it.

From the remaining units thirty-nine cases were reported.

Analysis of the returns shows that the following lesions were treated by this method.

(1) Blistered feet: 19 cases. Fourteen had only one application of Elastoplast and of these 9 remained fit for duty, 4 had one day's light duty and 1 three days' light duty. The blisters in this last case were infected. One man had two applications of Elastoplast on the first and second days and one on the first and fourth days; both remained fit for duty. One man with septic blisters had three applications on the first, third and sixth days but remained fit for duty. One man had daily applications of Elastoplast for five days and four days light duty.

In the Field Ambulance the following procedure was adopted after a route march. The men's feet were inspected immediately after the march by the orderly medical officer who had an Elastoplast bandage and a pair of scissors. If he discovered any blister or signs of abrasion of the skin, he cut off the requisite amount of dressing and applied it straight away. The man was told to report sick if the foot troubled him and to allow the dressing to remain in place as long as possible. Though it is preferable that the feet should be washed before inspection this was not found necessary for success with the method and the feet could be washed in cold water after the dressing had been applied without disturbing it. This routine was found very satisfactory.

Abrasions knee: 1 case; 1 dressing, fit for duty.
Abrasions heel and knee: 1 case; 1 dressing, fit for duty.
Septic hands or fingers: 4 cases; 3 dressed first and third days, 1 first, third and fifth days; all remained fit for duty.
Septic arms or legs: 4 cases; 1 dressed first and third days, 1 first and fifth days, 1 first, third and fifth days; all remained fit for duty. One case dressed first and third days had five days light duty.
Lymphangitis: 1 case, dressed first and third days and incised. He was given one day excused duty.
Boils—head and neck: 4 cases; 1 dressed first and second days, 1 first and fourth days, 2 first and fifth days. All remained fit for duty. Body: 1 case, dressed first and third days, fit for duty. Arms: 4 cases; 2 dressed first day, 1 first, third and fifth days, remained fit for duty. One dressed first day had one day excused duty and two days light duty. Legs: 3 cases, 1 dressed first day, 1 first and third and 1 first and fifth day. All remained fit for duty.
Cut fingers and hand: 3 cases, each one dressing. Fit for duty.
Cut eyebrow: 1 case, 1 dressing. Fit for duty.
Insect bite, face: 1 case, dressings first and third days. Fit for duty.
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Spiked heel: 1 case, dressed first, fourth and eighth days. Seven days light duty.

Contused finger: 1 case. Dressed first, third and fourth days. Fit for duty.

Contused wound forehead: 1 case; 1 dressing, fit for duty.

Torn arm: 1 case; 1 dressing, fit for duty.

Sprained knees: 3 cases; 2 had three days light duty; 1 excused duty.

Sprained ankle and foot: 2 cases; 1 full duty, 1 light duty.

Weak knee: 1 case; full duty.

Fractured metacarpal: 1 case; four days' light duty.

No cases of burns were reported.

Conclusions.

This analysis, though it is of necessity brief, shows, I think, that this method of treating such conditions is effective and simple to use. No medical officer reported against its use. One thought that inability to observe how a septic lesion was progressing under the dressing was a disadvantage, but experience shows that this is not so. One case of sprained knee (mentioned previously) showed that in the flexure of a joint movement may cause mechanical irritation of the skin and this appears to be a point worth noting.

The explanation of the beneficial results of this form of treatment is not obvious, but must largely lie in the protection and support given to the damaged tissues. Two factors are of importance to obtain the best results. First the dressing should extend for some distance beyond the margins of the lesion, and, secondly, the bandage must be in contact with the lesion, the interposition of some dressing such as plain or medicated gauze appears to interfere with the process of healing and is definitely a disadvantage.

If these two factors are observed in applying the dressing, the patient will experience an immediate sensation of relief, the blister, boil, burn or other wound is less painful because it is protected and supported, further injury is avoided and the vix medicatrix naturae allowed to act under more or less ideal conditions.

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REFERENCES.