THE TOBRUK PLASTER.

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The Tobruk plaster is basically so simple that any attempt to trace its origin would be highly controversial. It consists of an attempt to immobilize the lower limb by a combination of a Thomas' splint and plaster of Paris bandages, a method which was doubtless used in the last war at any time after the Thomas' splint was introduced.

In this war the method was used extensively during the latter part of the siege of Tobruk, and since then the name has stuck. It has been used in every subsequent campaign and is now regarded as the method of choice for early lower limb fixation.

It is the purpose of this article to indicate the reasons for its use and some of the modifications through which it has passed before it reached its present form in the C.M.F. and the B.L.A.

In October, 1941, the Australian troops, who formed a large part of the garrison of Tobruk for some six months, were replaced by a British Force and No. 62 B.G.H. relieved No. 4 A.G.H. The journey up from Alexandria on Destroyers and the disembarkation via wrecked vessels moored to damaged jetties gave some idea of the difficulties which would be encountered in the evacuation of casualties, and the division of the hospital into four sections further complicated the situation.

The factors, therefore, which encouraged us to experiment with this type of immobilization were, first, the length of the trip and the physical strains and stresses to which patients were subjected and, secondly, the fact that no proper medical attention was possible during the journey to the Base for a period of two to four days. Indeed, such was the press of work on the personnel of this 600-bedded hospital working without Sisters that, except in a few selected cases, little post-operative supervision could be undertaken. In sixteen weeks approximately 16,000 patients were admitted, 10,000 were evacuated and 2,500 operated on.

Before the relief, Destroyers could only reach Tobruk on thirteen days out of every twenty-eight, when there was no moon, and during this period it was essential to clear the hospital. In spite of this policy up to 2,000 patients were frequently accommodated. On the morning of "E" day all stretcher cases were assembled in an underground building in the docks. This was filled with three-tiered bunks on which the stretchers were placed. At about midnight, in absolute blackout, the stretchers were carried out by the bearers, generally the personnel of a native pioneer corps, and placed on the decks of the Destroyers. This operation had to be completed in about forty minutes, and there the patients remained until they arrived at Alexandria some twelve hours later. They were then dispersed by ambulance or hospital train to the various base hospitals. After Tobruk was relieved the Destroyers were replaced by hospital ships, but as these could only come to within half a mile of the shore the patient's passage was not much easier. Stretcher cases were loaded on to the ship's boats which were then towed out, hoisted up in the davits and there unloaded before returning for "fresh cargo." The hospital ship took some forty-eight hours to get back to Alexandria as opposed to the Destroyer's twelve hours.

No Thomas' splint without frequent adjustment will remain effective under these conditions. General Monro, then Consulting Surgeon, M.E., had noted this during the road evacuation from Mersa Matruh in the previous year and had suggested that some combination with P.O.P. would be more effective. Lieutenant-Colonel Littlejohn, officer-in-charge surgical division of No. 4 A.G.H., who had himself relied principally on spicas, was coming to the same conclusion.
Very few Thomas' splints were available, but there was an unlimited number of Italian pattern splints, which consist of a half ring and a fixed metal foot-piece; these are ideal for the combined method. Our first method consisted of attaching adhesive strapping to the leg, enclosing the limb in plaster, attaching the extension to the bottom of the splint and fixing the limb into the splint with a further turn or two of plaster. The disadvantage of this method was that the pull on the leg shifted the limb inside its plaster case and was apt to produce sores around the ankle-joint. Next we encased the limb in an unsplit plaster cast and fixed this to the splint by means of further plaster bandages. No patient treated in this way was evacuated for a minimum period of four days to make sure that no swelling of the foot was occurring. The resulting immobilization was extremely effective; no adjustment of any sort was necessary and I think for the Destroyer type of evacuation this was ideal. Later, when hospital ships were being used and some amount of supervision and adjustment was possible, we returned to the strapping extension and surrounded the whole limb outside the splint with plaster bandages.

The final of "Mark 4" model as used in later campaigns is a modification of this last method. In this the Thomas' splint is applied in the ordinary way. The malleoli are protected by felt and plenty of cotton-wool padding is placed between the limb and the bars of the splint. Six-inch plaster bandages are put on in loose turns from just above the felt cuff to the ring of the Thomas' splint. These are moulded closely to the outer side bar. The ring of the splint is kept in firm apposition with the tuber ischii by an upward and outward pull while the plaster is being applied and until it has set. The foot is supported with a well-padded plaster slab and, when travelling, the splint is tethered securely to the top and both sides of the stretcher suspension bar and down to the stretcher itself.
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