Treatment of Ulcers by Plaster Casts

The Meru district of Kenya is inhabited by about 120,000 Africans and is heavily infected with yaws. The standard of living is very poor, and food shortages periodically lead to outbreaks of ulcers, some of which approximate to a nutritional type; others are simply yaws, and no doubt many are of mixed type. In the comments that follow no endeavour is made to distinguish the types, as all are equally intractable in certain cases and all react equally well to plaster-of-Paris treatment.

Late in 1943 several bad ulcer cases were admitted about the same time. One was so severe that amputation seemed the likely solution. All meant dressings, which were a misery to the nurses, the patients, and the wash-boys who had to deal with piles of filthy dressings. They were also a heavy expense, as doubtless many of the worst dressings were thrown away surreptitiously by the wash-boys. All these patients were getting N.A.B. and bismuth, a diet sufficient to increase the weight in the other patients, tonics, and treatment for worms if required. Locally, we rang the changes on eusol, hot foments, dry dressings, hydrarg. perchlor., cod-liver-oil ointment, elastoplast, copper sulphate, and carbolic (which usually required morphine preparation). There was no specific, and some patients treated earlier in the year had long spells in hospital.

Then we tried plaster-of-Paris casts (P.P.) and the whole situation changed. Six of the worst cases were scraped or encased without scraping, and their reactions were watched carefully. The pain eased within two days, and the temperature dropped within about five days; but the most noticeable thing was the mental change—from despair to cheerfulness and joking. This treatment has not failed, in any of some 40 cases, to lead to the casting off of sloughs, formation of healthy granulations, and proliferation of skin. The following are brief notes of 5 typical cases.

CASE HISTORIES

Case 1.—Chuka female aged 35, admitted Nov. 4, 1943. Large ulcer 7 in. in length, extending almost right round the leg, leaving a strip of healthy skin 2 in. wide over peronei. Greenish base, with sloughing muscles. Offensive smell and very painful. Warned probably need amputation unless case reacted unexpectedly well. On Nov. 10, under ethyl chloride general anaesthesia, the sore was scraped, powdered with sulphanilamide, covered with lint on which zipp had been smeared, and encased in P.P. Two days later she had no pain; her temperature was lower, though the pulse continued at 120. Her general condition showed rapid improvement; her face filled out, and on Nov. 19, impelled by curiosity, we removed the cast. Almost the whole area was covered with healthy granulations. There was no smell, and no sloughs were present except one small tag, which was cut off. New P.P. was applied: 17 days later, when this was removed, the whole area was healthy and new skin had proliferated for half an inch all round. She could walk with a slight limp. Next day she was skin-grafted with Thiersch grafts, and mosquito netting was superimposed. Hot foments were applied. After a little delay owing to blebs forming under the new skin, she walked off home, healed, 6 weeks from application of the first P.P.

Case 2.—Meru male aged 1. Big toe amputated by ulcerative process. Head of metatarsal exposed. Smelly, with oedematous undermined edges. One month's duration. Dressings applied for 14 days. Some improvement, but still very unhealthy. P.P. applied, and patient discharged. Returned in 14 days. The mother said the child was happy and had had no pain. On removal the sore was reduced from 1½ in. diameter to half that size. Healthy granulation over metatarsal. Sent out with dressings.

Case 3.—Meru male aged 20. Shallow ulcers round toes. Feet very sweaty. Treated with salicylic spirit, as considered possibly fungous. No improvement after 15 days. P.P. applied. Patient sent out. On return in a fortnight was soundly healed. No return in 3 months.

Case 4.—Meru male aged 23. Admitted Nov. 19, 1943. Ulcer 8-shaped, the centre being over the head of the second metatarsal; 5 in. in length—half on dorsum and half on sole; second toe gone. Foul and very painful. Edges raised and indurated. Swelling had caused big and third toes to be separated by 2 in., which area was occupied by the ulcer. On Nov. 20, without scraping, zipp and P.P. applied up to above the ankle. Much oozing necessitated more P.P. being added. A good patient, he waited for a month. On removal of plaster only a small linear sore remained—1½ in. by 1/2 in. He left rejoicing.

Case 5.—Embu female aged 10. Ulcers of toes and nail-beds extending on to dorsa and soles; raised oedematous edges and purulent bases; 9 months. Pain severe; much weeping over dressings. On Nov. 2, 1943, nails avulsed and ulcers scraped: no improvement. On Nov. 10 zipp and P.P. At once the whole picture changed. The patient had no further pain, and when the P.P. was removed on Nov. 29 most of the ulcer was healed and there were healthy granulations over the rest. The nail-beds were healthy. (This is an important point, as nail-bed infections usually prove most intractable.)

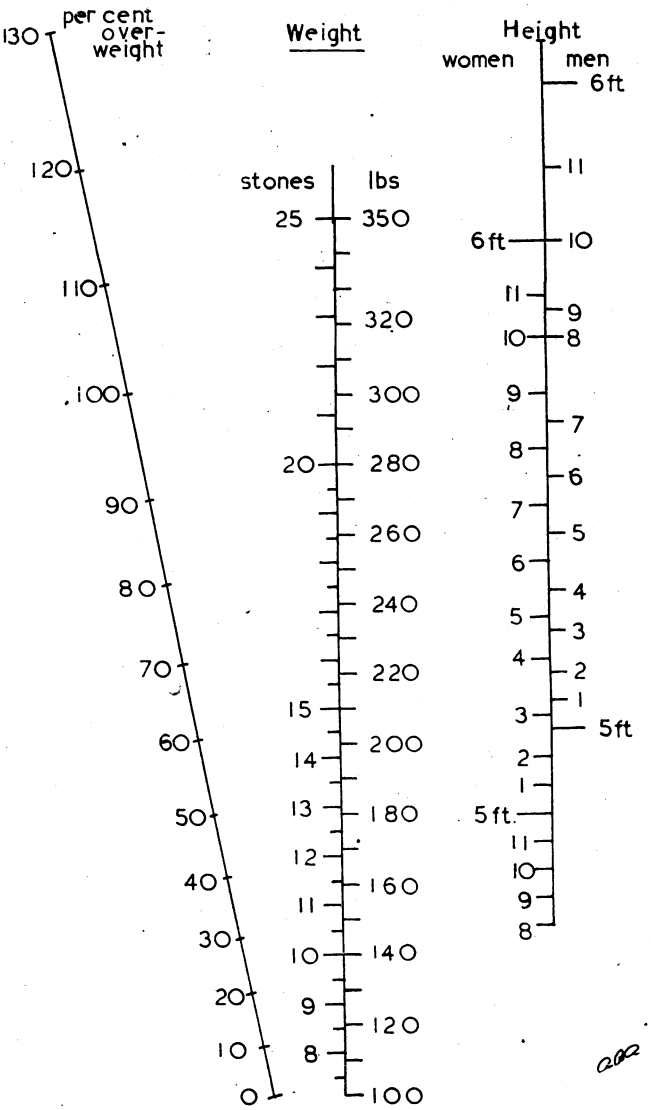
Other cases successfully treated include a leper with a linear crack across the sole, at the base of which the os calcis was exposed. Nothing had availed to heal till P.P. was tried. Case 10 in my series, which it would take up too much space to give in full, was similar to Case 1, except that she continued to have pain and a temperature—forcing us to take down the P.P. at weekly intervals. The result, however, was the same, and after 14 days' P.P. she was ready for grafting. At the moment of writing, on the 20th day, grafts have taken well and she is having treatment for foot-drop due to the position of the foot at rest while in her village. A high degree of anaemia did not prejudice the cleaning up or the taking of the grafts.

To summarize: by means of plaster-of-Paris casts, with or without scraping and application of sulphonamides and zipp, ulcers can be treated with comfort to patient and staff and much saving of expense. Some that would otherwise have to be admitted can be treated as out-patients. Granulation tissue forming under the casts takes grafts very well, and the growth of the skin edges is rapid and healthy.

Chogoria Hospital. CLIVE IRVINE, M.D.

A Nomogram for Percentage Increase of Body Weight over Ideal Weight

The nomogram illustrated has been designed to enable a rapid estimation of the degree of overweight in adults to be made. The scales have been prepared from the ideal weights given in a table by Newburgh (1942), which are adapted from those given by Fisk for average weights at age 30. The weights include clothes and the heights include shoes.



To use the nomogram, the height and weight are measured and a straight line joining the points on the height and weight scales is produced to cut the percentage scale. The point of intersection gives the percentage over ideal weight. If the zero point on the percentage scale is joined to the appropriate point on the height scale, the intersection on the weight scale gives the ideal weight.

A. B. ANDERSON, B.Sc., Ph.D., M.R.C.S.

REFERENCE
Newburgh, L. H. (1942). *Arch. intern. Med.*, **70**, 1037.