Every campaign presents problems peculiar to itself in the management of casualties, and the recent operations to eradicate the rebellious Mau Mau elements of the Kikuyu tribe in Kenya were no exception. This proved to be a campaign against a hidden enemy, the militant members of whom worked in gangs in the more inaccessible parts of the country, often hidden in forests at heights of up to fourteen thousand feet. Hence the gangs had to be searched for, and were rarely encountered in open country, so that anything in the nature of a fixed battle was unlikely.

As a consequence, casualties occurred sporadically, but when they did they were often in remote country far from a main road, at a considerable altitude, and exposed to wet and cold. The numbers involved were luckily small, although a second enemy in the shape of wild game was a constant source of danger, and charging rhinoceros accounted for several accidents, some of them fatal.

In circumstances such as these, the main problem was to enable the patient to reach a surgical centre with the minimum delay. Apart from the siting of two small hospitals well forward in the active areas, a solution was found in the use of a helicopter ambulance which could be summoned by wireless, could carry a medical officer with resuscitation equipment, and could land in forest clearings at a height of ten thousand feet. In this way serious casualties were back in the base hospital in Nairobi in an hour or two, and lives were saved which undoubtedly must have been lost, had the alternative of a journey lasting six or eight hours over indifferent roads been the only choice.

Clinical aspects. As might be expected, the major portion of the surgical work was unrelated to the nature of the campaign, and was such as would be found amongst any similar body of men elsewhere. The next largest group of cases were due to accidents, either gunshot wounds or accidents to vehicles, the latter being largely accounted for by the difficult conditions in many parts of the country. Finally a small but interesting number of cases resulted from big game accidents (see Table 1). The total numbers of operations performed in the East African Command during the years 1953 to 1956 are given in Table 2.

Table 1 shows statistically, the operative work done in the Command during the period.

Several points of general surgical interest arise from a study of the cases seen during the period under review.

Shock. The rapidity with which patients received adequate treatment, including transfusion (sometimes at the site of the accident) and the short lapse of time before they were admitted to hospital, played a major part in the preven-
Surgery and the Mau Mau

Table 1. **Patients treated in the Military Hospital, Nairobi, 1953-1956; British and African Troops**

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<thead>
<tr>
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<th>1953</th>
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<tbody>
<tr>
<td><strong>Road Accidents:</strong></td>
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<tr>
<td>Causing fractures</td>
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<tr>
<td>Causing head injuries</td>
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<tr>
<td><strong>Gunshot wounds:</strong></td>
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<tr>
<td>Involving bone</td>
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<tr>
<td>Not involving bone</td>
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<tr>
<td><strong>Big game accidents</strong></td>
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<tr>
<td><strong>Other surgical conditions</strong></td>
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</table>

Table 2. **Number of Operations performed in East Africa Command, 1953-1956: British and African Troops and Others**

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<th>1953</th>
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<tbody>
<tr>
<td><strong>Total operations performed</strong></td>
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<tr>
<td><strong>Open operations for fracture</strong></td>
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</table>

tion of the stage of "irreversible shock" and very few cases of this nature were encountered. Adequate supplies of blood were always available from the Red Cross Blood Bank in Nairobi, and no patient died for lack of it.

**Wound sepsis.** This was no problem because the cases came to operation early. The general principles of toilet and "debridement" were carried out, but more primary wound closure was successfully attempted than would have been justified in the war of 1939-1945. The reasons for this were twofold. Firstly, there was no necessity to evacuate the patient after operation. He remained in the same hospital under the continuous supervision of the same surgeon until he was fit for discharge. Secondly, the antibiotic cover available was far greater than was the case fifteen years ago, and adequate facilities existed for laboratory control. Large muscle wounds were encased in padded plasters, and were found to fill in, or reach a suitable stage for skin grafting, more rapidly by this method than if subjected to frequent changes of dressing.

Gas gangrene was not seen at all during this period, and no case of tetanus occurred amongst British troops, though one fatal case occurred in an African. No major amputation was carried out during the whole campaign because of wound infection.

**Tropical diseases.** Surgery for conditions peculiar to the tropics has almost ceased to exist in the army, as judged by the cases seen in the period under review. Amongst British troops no single case of amœbic abscess of the liver came for surgical drainage. One or two cases of hematuria proved on cystoscopy to be due to bilharziasis. An even more remarkable change has occurred amongst the Africans. Fifteen years ago, in the same hospital in Nairobi, 25 per cent of the surgical beds were occupied by cases of tropical ulcer of the legs and ankles. In the past four years this condition has been a rarity. This change can be attributed to several factors: firstly, the general improvement in the standard of hygiene; secondly, the more careful medical selection of recruits who are not suffering from years of malnutrition; thirdly, the provision
of a better balanced diet; fourthly, the fact that all African troops are now protected from the precipitating trauma which precedes tropical ulcer, by wearing boots and gaiters; and lastly, that any case of trauma which showed signs of infection received controlled antibiotic therapy. It is probably this last factor which has been mainly responsible for an improvement which has saved thousands of man-hours for the King’s African Rifles, for previously cases of ulcer occurred even in the well-clad and well-nourished askari.

Big game accidents. No exact figures are available for this small but interesting group of cases, but five such casualties were treated at the Military Hospital, Nairobi, during the period under review. One of these accidents was due to a buffalo, and the remainder to charging rhinoceros. The presence in the forest of these beasts, which weigh about a ton and can travel at thirty miles an hour, caused more anxiety to the troops than did the Mau Mau themselves. Four of the cases involved extensive wounds of the thigh with associated fractures. One of these died. The remaining case—a remarkable one—had the vault of his skull fractured like an eggshell, with lacerated brain tissue protruding from a parietal wound. He survived with no other disability than a mild spastic hemiplegia.

All but one of these cases were evacuated by helicopter and there can be no doubt that the rapidity with which they reached hospital was a major factor in saving their lives.

The following account of the method of dealing with the case of head injury, caused by a charging rhinoceros, is extracted from the personal report of the unit medical officer concerned:

“Lance-Corporal K. of the 7th(K) Battalion King’s African Rifles was injured at 1000 hours on the edge of a clearing in the Mount Aberdare Forest... the platoon commander who was with the patrol realised the seriousness of the head injury, and informed Company H.Q. some fifteen minutes later that he wanted the helicopter ambulance. I... received the news further down the forest track... and decided to set out on foot... leaving at 1100 hours, and reaching the site at 1150 hours.

I found the injured man on his back in the bushes near a clearing... conscious but dazed... with a hernia cerebri in the right parietal region. He had been given morphia gr. $\frac{1}{2}$ at 1015 hours... I decided that shock was imminent after his severe head injury and therefore cut down on his leg and gave him a pint of intravenous saline, followed by Dextran, which was still going as he was put in the aircraft. I also gave him brandy and phenobarbitone intramuscularly at 1225 hours, and covered the hernia cerebri with a shell dressing. The helicopter landed twenty minutes after my arrival and took off with the patient at 1225 hours.”

This patient was in the operating theatre in Nairobi within four and a half hours of his injury in the forest, a hundred and twenty miles away.

I gratefully acknowledge the encouragement and help of Colonel J. C. Barnetson, O.B.E., in the preparation of this article.
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Wilfred Barber

_J R Army Med Corps_ 1958 104: 41-43
doi: 10.1136/jramc-104-01-09

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