

Washing-machine and Electric Wringer: A Domestic Hazard to Children

Mechanical devices in the home, particularly those which are electrically driven, carry occasional risks. The admittance of two patients with injuries from mangles attached to washing-machines to the paediatric department of one hospital within a short time led us to believe that similar accidents may not be infrequent, and the two cases present so many similarities that note should be made of them.

CASE 1

A boy aged 4 years caught his left arm between the rollers of the electric wringer attached to his mother's washing-machine on November 7, 1958. The machine had inadvertently been left running unattended. His arm was drawn in as far as the elbow, and the rollers continued to turn until his mother found and released him, a period estimated at four minutes.

On admission to hospital one week later he was found to have a clear well-demonstrated friction burn, obviously of full skin-thickness, approximately 3 by 2 in. (7.5 by 5 cm.) on the antero-medial aspect of his left elbow. At operation on November 18 this area was excised, and covered with split skin obtained from the left thigh.

This graft took successfully (Fig. 1), and when the boy was finally seen in the out-patients department on February 2, 1959, the area was well healed, with only a small amount of keloid formation. He had full function, and there was no evidence of contracture.

CASE 2

A girl aged 8½ years was admitted on January 12, 1959. Two days previously she had caught her left arm in the electric wringer of her mother's washing-machine, which had been running unattended. In this case also the rollers continued to turn and her arm was drawn in as far as the elbow, where it remained until her mother switched off the machine a minute or so later.

The patient had a very well demarcated friction burn approximately 3 by 2 in. (7.5 by 5 cm.) on the antero-medial aspect (Fig. 2) of the elbow with considerable surrounding bruising and oedema. There was also marked weakness of flexion and extension of the fingers, with impairment of skin sensation along the ulnar border of the hand. Flexion and extension of the wrist were full.

At operation on January 23, after the swelling had largely subsided, the burned area was excised, and covered with split skin obtained from the left thigh. The whole skin was coagulated and beneath it was necrotic subcutaneous fat and blood-stained fluid. This graft took successfully and healing was rapid.

Recovery of finger movements was slow, however, and wasting of thenar and hypothenar muscles became evident. She was thought to have median and ulnar nerve palsies, and has been receiving physiotherapy.

When last seen in the out-patient department there was evidence of commencing recovery from these nerve lesions, while the burned area was completely healed.

COMMENT

Both cases show that these friction burns are produced very rapidly and in a short time involve the full thickness of the skin. Only the area actually in contact with the roller is affected and the lesions are very sharply defined. The destruction being very rapid, pain was not severe. The similarity of the situation of the burns is very easily explained. The hand is caught between the rollers in the prone position and the arm is drawn in as far as the elbow, being stopped then as the child is pulled against the washing-machine. The lower roller produces the damage as it rotates in contact with the inner part of the elbow. The drive is on the lower roller only in the types of wringer involved. The upper is idle and can

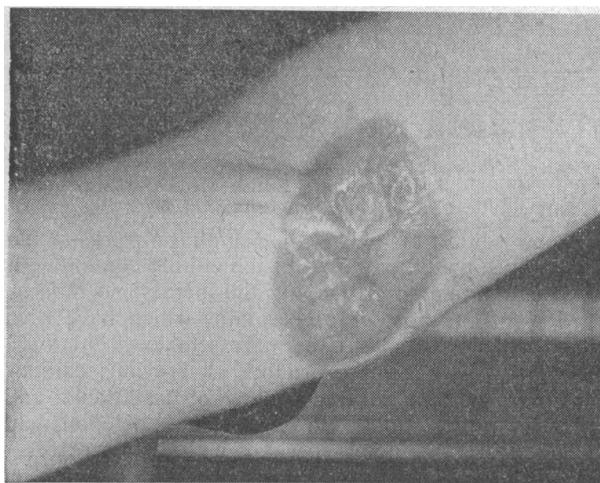


FIG. 1.—Case 1. Grafted area healed.

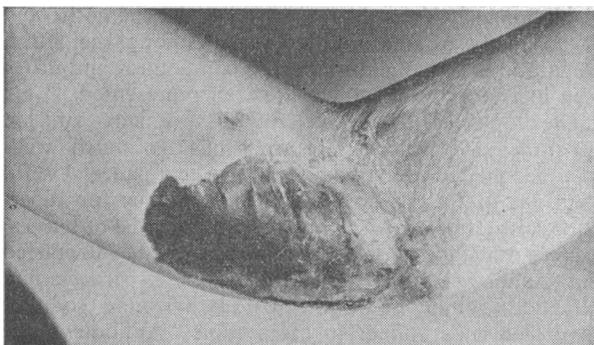


FIG. 2.—Case 2. Coagulated burnt skin at time of admission to hospital.

do no harm. In neither case was it appreciated at once that the full thickness of the skin was involved, and admission to hospital was delayed. The older child received severe soft-tissue damage as well, which may be explained by the larger size of her arm, and had the machine gone on for a longer time much worse damage might have been produced. As regards the skin, these cases were ideal for early excision and grafting on account of the very sharp demarcation of the lesions, and the absence of sepsis.

The washing-machine with electrically driven wringer is becoming increasingly popular, and, with the present relaxation of hire-purchase regulations, is likely to be found in more and more households. To avoid such accidents, both of which occurred when the mother was out of the room, the machines should never be left running unattended when children have access to them until or unless a foolproof safety device is provided. Similar machines in a factory would have to be guarded. It is not within our province to suggest technical details, but in a small household it is impossible for the children to be kept away from the washing-machine, and the mother must on occasion be called away to attend to other matters. A "dead man's handle" type of switch, which would go into the off position as soon as the person operating the machine leaves, might make the device safer. It must be realized, however, that it is almost beyond the wit of man to defeat a determinedly inquisitive child.

B. BRENDAN HICKEY, T.D., M.A., M.Ch., F.R.C.S.,
Consultant Surgeon.

D. L. CROSBY, M.B., B.Ch.,
Surgical Registrar.
Morrison Hospital,
Swansea.