scopy, and perhaps a willingness to convert these patients to ureteroileal conduit at the first sign of urinary tract trouble, when a carcinoma may be fortuitously discovered as in Case 1. Probably the ureteric stump and surrounding colonic mucosa should be removed at the time of this conversion, for Gillman (1964) described a case where an adenomatous polyp developed at the site of ureterocolic anastomosis seven years after the ureters had been transplanted into the colon, and six years after removal of the associated kidney.

We wish to thank Mr. R. K. Debenham, Mr. Victor S. Brookes, and Mr. G. H. Baines, under whose care these patients were

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Nail-gun Fatality

Brit. med. J., 1967, 4, 784

The rising incidence of industrial accidents in 1966 was pointed out in a leading article in the *British Medical Journal* (1967) which commented on the Annual Reports of the Chief Inspector of Factories (1967). The accidental death described below must surely be one of the more unusual kinds of industrial hazard.

CASE REPORT

A foreman in charge of a local construction project gave a demonstration to his men on how to handle the explosive cartridge hammer or gun and showed that, provided the muzzle was not placed against a solid object, firing would not occur when the trigger was pulled. The function of the gun is to fire nails into building materials such as wood in order that a firm attachment can be made to masonry or metal. The motive force in this particular instance was supplied by the explosive charge of a 0.22 cartridge. A little later one of the employees held the muzzle of the loaded gun against a rigid support but left the end of the barrel exposed, intending to fire a nail through chipboard held 6 ft. (1.8 m.) away by a workmate. The nail penetrated the chipboard and ricocheted into a young electrician as he was ascending the stairs from the floor below. He was hit in the chest, stumbled backwards down a few steps, and died in a short time.

NECROPSY REPORT

The body was that of a well-built young man with pink froth at the lips and blood on the clothes, face, and hands. The clothing was removed after photographs had been taken, and in the mid-clavicular line on the anterior chest wall just beneath the first left rib was a discoloured area 2 by 1 cm., in the centre of which was a circular hole 0.5 cm. in diameter. There was severe haemorrhage into the tissues of the root of the neck and also from the intercostal vessels of the first rib space. The neck bleeding originated from tributaries of the left innominate vein; the missile had also penetrated the innominate artery and then embedded into the parenchyma of the right upper lobe.

The missile was a nail 5.2 cm. long with a head 0.5 cm. in diameter. The direction of the nail's path was across the chest

from left to right with a posterior and slightly downwards tilt; the pointed end of the nail was the leading edge.

The pericardium was not involved; the heart valves were within normal limits and the coronary arteries were normal. There was 1 pint (570 ml.) of blood in the right pleural cavity and half this volume in the left sac. Bruising and local bleeding into lung tissue, particularly into the right upper lobe, were prominent features and vesicular emphysema was widespread. The trachea and the bronchi of the right lung contained blood and froth; the nail had cut into large pulmonary vessels and several bronchi. The stomach contained some swallowed blood, but the small and large intestines showed nothing of note; the liver and spleen were smaller than normal, but the adrenals, pancreas, kidneys, ureters, and bladder were within normal limits. There was no evidence of cerebral haemorrhage. Death was due to haemorrhage and mechanical obstruction to respiration.

COMMENT

The use of this relatively new tool is widespread in the building industry and will almost certainly increase; it is thus of vital importance to know how to handle it in absolute safety. At the inquest on this case there was a rider brought in which deplored the fact that the instructions issued by the manufacturers of the hammer had not been followed, and it was requested that the accident prevention officer should instruct all contractors using such mechanical devices to warn all their employees of its potential danger.

The workers involved in this incident were young men, and the Chief Inspector of Factories drew attention to the high accident rate in this group. Certainly the increase in fatal accidents by 12% in 1966 over the preceding year is of serious significance. There might even be a case for licensing the tool and limiting its use to workers specially trained in its operation.

I wish to thank the Bailiff of Jersey and H.M. Viscount, Mr. H. V. Benest, for permission to publish this case.

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