

Since many are imported the only effective control would appear to be at the port of entry and at the point of sale. A flourishing black market would no doubt spring up with such measures.

Are the boys on the common taking us another step back to the riproaring, gun-toting frontier society where a man is not a man without a gun? Or is there a chance that we can put some sanity and *santé* into our use of firearms?

I am grateful to Mr John Schofield, FRCS, for permission to publish details of this case.

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¹ Office of Population Censuses and Surveys, Medical Statistics Division. *Mortality surveillance: England and Wales 1968-76*. London: OPCS, 1980.

SIR,—Mr Andrew J G Batch's interesting paper "The air rifle: a dangerous weapon" (6 June, p 1834) serves to highlight the increasing abuse of pneumatic weapons in the United Kingdom and the potentially serious consequences of an air-pellet wound.

Mr Batch commented on the practice of "dieseling" the rifle to increase the muzzle energy. However, sophisticated air weapons are now marketed which, while exhibiting a muzzle energy less than 1.7 kg m, can achieve muzzle velocities in excess of 260 m/sec without the "rocket-fuel" boost. The .177 and .22 diablo-shaped lead pellets supply the soft metal flange to permit an adequate air-seal in the muzzle while avoiding damage to the rifling. However, a polished steel pellet has been introduced with a plastic skirt to fulfil these requirements, which has the potential of increased velocity, accuracy, range, and penetration.

Shaw and Galbraith collected five cases of intracranial airgun pellet wounds¹: two patients died as a direct result and one suffered permanent mental disability. I have reported 36 children with pellet injuries, 15 (42%) of whom sustained a wound of the head or neck, though no pellet penetrated the skull vault.² Only the conventional soft lead pellets were involved in both series.

Following another serious intracranial pellet wound in an 18-year-old boy in Bristol, Mr Michael Colvin, the MP for Bristol North West, recently asked the Home Secretary, Mr William Whitelaw, to review the law on the sale of pneumatic weapons. The weakest point in the law is obviously their sale through mail order catalogues.

Surely we should support any action to improve controls on specification and performance of both the weapons and their ammunition and encourage the introduction of airgun certification.

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¹ Shaw MDM, Galbraith S. *Br J Surg* 1977;**64**:221-4.
² Hutchinson GH. *Practitioner* (in press).

SIR,—Mr Andrew J G Batch (6 June, p 1834) is right to draw the attention of the medical profession, and through them that of the general public, to the dangers of 0.22 calibre air-rifles and the injuries that they can cause to children. A serious and potentially fatal

injury sustained by a 7-year-old boy was seen by me two years ago in the accident and emergency department of Whipps Cross Hospital, where I was the SHO in the ear, nose, and throat department.¹

The child was shot accidentally in the neck by his brother, the pellet entering the neck opposite the upper border of the thyroid cartilage, 2 cm to the right of the midline. At operation the pellet was found on the transverse process of C7, deep in the root of the neck and level with the front of the vertebral body just anterior to the neural arch. The proximity of the vertebral artery is obvious, but fortunately it was found to be undamaged. He made an uneventful recovery, but the pellet's location close to the stellate ganglion resulted in Horner's syndrome, which disappeared after two months.

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¹ Bruce-Chwatt RM, Al-Shihabi B, Dawkins RS. *J Laryngol Otol* 1980;**94**:1441-6.

SIR,—Mr A J G Batch rightly draws attention to the potential dangers of air rifles (6 June, p 1834). I fear that serious injuries caused by misuse of these weapons may be more common than is supposed; I have treated a 10-year-old boy who sustained a pneumothorax after being shot with an air rifle.

Such penetrating injuries may increase if the use of "hunting" pellets becomes more widespread. These pellets (for example, Prometheus, Milbro) are specifically designed for "exceptional penetration—extreme care is needed when using these pellets," to quote the manufacturers' catalogue.

Despite manufacturers' warnings such as this, misuse of air weapons will still occur unless parents or guardians assume their responsibility to ensure correct usage of air weapons by young persons.

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SIR,—I was interested to read the item on air rifles (6 June, p 1834). You may like to know the Home Office and the Shooting Sports Trust are currently having discussions with the intention of producing a leaflet on airguns that will better educate youngsters on the law relating to air weapons. The aim would be for this leaflet to be included with every air weapon sold and also for copies of it to be readily available in gunshops and through magazines.

I feel sure that most of us agree that better education is necessary and also, perhaps, better enforcement of the existing law. The latter is adequate but it will not be seen to work properly until people are aware of it and it is properly enforced

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Editor

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New evidence linking salt and hypertension

SIR,—Your leading article (20 June, p 1993) on the new evidence linking salt and hypertension

is most important and welcome, as there has always been extreme reluctance in the profession to accept salt as an important determinant in the aetiology of essential hypertension.

The link was first suggested in 1904¹ and subsequent milestones have included the work of Kempner on the low-salt diet, numerous epidemiological studies linking salt intake with the incidence of hypertension in different populations, and the monumental studies of Dahl² in the Rockefeller Institute. Among his many contributions, Dahl pointed out that excessive salt intake would produce hypertension only in genetically susceptible individuals; and recent studies by Garay and his group³ in Paris have shown that the cellular sodium pump is under genetic control, and that subjects with defective pumps are likely to be sensitive to a salt load and may eventually develop hypertension.

The link between salt and hypertension has always been disputed, and one of the reasons is that it has not been possible to reproduce the results of the interpopulation studies within a single population; thus salt intake does not appear to be related to blood pressure within a single population. We have recently shown such a relationship.^{4 5} Using a simple dietary survey we have demonstrated a link between table-added salt and mean systolic pressure. This effect can be separated statistically from the rise in systolic pressure with age, which is found only in populations with a high salt intake and is probably due to salt already present in the diet. Only about 30% of the total salt intake is added at table, but nevertheless a clear statistical relationship with table-added salt can be demonstrated. This finding suggests that even moderate reduction in salt intake, such as avoiding added salt, would reduce the risk of hypertension in genetically susceptible subjects.

Dahl pointed out that there is a similarity between the relation of salt and hypertension and the production of carcinoma of the bronchus by cigarette smoking. In both instances there is a long latent period, and avoidance of the aetiological agent is only of prophylactic value. Despite much reluctance on the part of the profession, surely the evidence is now strong enough to accept this link with its natural corollary; even a moderate reduction in salt intake will reduce the risk of hypertension in genetically susceptible individuals and could have a major influence on the incidence of cerebrovascular and cardiac disease.

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¹ Ambard L, Beaujard E. *Arch Gen Med* 1904;**1**:520-30.

² Dahl LK. *Am J Hum Nutr* 1972;**25**:231-44.

³ Garay RP, Degher G, Pernollet MG, Devynck MA, Heyer P. *Nature* 1980;**284**:281-3.

⁴ Finn R, McConnochie K, Box DEO, Fennerty AG, Green JR. *Lancet* 1981;*i*:1097.

⁵ Finn R, McConnochie K, Green JR. In: Rees AR, Purcell H, eds. *Disease and the environment*. Chichester: John Wiley and Sons (in press).

Emergency treatment of high blood pressure with oral atenolol

SIR,—Drs L T Bannan and D G Beevers (30 May, p 1757) obtained useful reduction of mean blood pressure in 10 patients with severe hypertension treated over 12 hours with a single 100-mg dose of oral atenolol, but additional drugs were needed after that.