

LETTERS

Two cases of near fatal airgun injury <i>E.C. Paraskevaides et al.</i> 274	Practice receptionists <i>G.W. Taylor</i> 276	Medicine in South Africa <i>Gerard Reissmann</i> 278
Screening for coronary heart disease risk factors <i>Malcolm Aylett and Deborah Gray</i> 274	Intimacy and terminal care <i>Tom Carnwath; Clare Wilkinson</i> 276	Role of the pharmacist <i>Steven Ford</i> 279
Record cards in general practice <i>Peter Ross</i> 275	Rubella prevention <i>Rosemary Dalton</i> 277	Problems in North East Thames region <i>Marie Campkin and Donald Grant</i> 279
Antenatal ultrasound in general practice <i>C.B. Everett</i> 275	Depression in the elderly <i>David Ames; S.J. Jachuck</i> 277	
Generic inhalers <i>R.H. Sloan; J.G. Waller</i> 275	Bacteriology of a rural practice <i>Catherine M. Royce; J.G. Miller; Robert K. Ditchburn</i> 278	

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Two cases of near fatal airgun injury

Sir,

Modern airguns have evolved into lethal weapons. Serious airgun injuries abound and involve almost exclusively young children. Lack of effective regulatory legislation and parental ignorance are to blame.¹ By British law anyone aged over 17 years can purchase an airgun for themselves or for someone aged 14–17 years.

Case 1

A 13 year old boy was admitted to hospital having been accidentally shot in the neck with an airgun by his brother. Although there was no loss of consciousness, his shirt was heavily blood stained and the tissue on the left side of the neck swollen. The left carotid artery was impalpable. The wound was explored and the airgun pellet was found plugging the lateral wall of the common carotid artery which was lacerated. An elliptical portion of the vessel was removed, its longest diameter placed horizontally. The vessel was closed obliquely with continuous 5/0 prolene. He made an uneventful recovery.

Case 2

An 18 year old boy was shot over the left loin with an airgun by another teenager while swimming in a reservoir. He kept the incident a secret for a week then fearing health repercussions he reported to his general practitioner who referred him to hospital. An airgun pellet entry site was seen on the left side under the twelfth rib, 3 cm from the lateral border of the vertebral column. Radiographs confirmed the presence of the pellet overlying the left psoas muscle, 1 cm lateral to the aortic wall. In view of the apparent well-being of the patient one week after the incident and the absence of peritonitis, laparotomy and removal of the pellet were not carried out.

In case 1, long-term sequelae such as

common carotid stenosis and cerebral embolization resulting from the development of age-related atherosclerosis at the site of surgical repair must be anticipated. Neck injuries such as oesophageal perforation and Horner's syndrome are well documented although no cases of trauma to the common carotid artery have been reported.

Fatal brain injuries are not uncommon. With less powerful airguns the eye and the frontal bone are the portals of entry.² Powerful airguns can penetrate the cranium and airgun pellets have been removed from the thalamus, third ventricle and intracranial internal carotid artery. Even when the patient does not die, permanent brain damage is common. Furthermore, the accepted principles of treatment of a compound depressed fracture of the skull are easily overlooked because of the apparent well-being of the patient, who is usually fully conscious with only a small scalp laceration.³

Pellets have been retrieved from the ventricular myocardium, right atrium and from the lung tissue. Abdominal injuries commonly involve hollow viscera and liver penetration has been described.

Airguns are becoming more powerful and ammunition increasingly sophisticated. New types of pellet have improved tissue penetration and a propensity to fragment in tissue. This makes them more dangerous in head injuries; furthermore the radiolucent sleeve stays in the wound track and will not appear on the preoperative X-ray.⁴ The maximal permissible pellet velocity in the UK is more than that necessary to penetrate skin as estimated using human cadaveric lower limbs.⁵

Legislation is urgently needed to control the availability and use of airguns by unsupervised teenagers.

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Screening for coronary heart disease risk factors

Sir,

Screening for coronary heart disease risk factors in general practice is increasing.¹ In a search for familial hyperlipidaemia in a single-handed rural practice population of 1546 patients we looked at two groups. First, all those with a history of coronary heart disease diagnosed when they were under 60 years of age. Secondly, the children of those in the previous group who were found to have raised lipid levels.

A search of major illnesses held on computer identified 93 patients with current or previous coronary heart disease and of these 31 had presented when aged under 60 years. At their next surgery visit or following an invitation to attend (without fasting), these 31 patients were given venepuncture, an explanation of the project and a check on the full family history. Those with raised random lipid levels were asked to reattend for a further test following fasting although we now know that this is unnecessary when the cholesterol level only is raised. None required exclusion because of secondary hyperlipidaemia.

The results of screening this group are shown in Table 1. The precise lipid levels to use in defining risk groups were not clear but after studying the literature, particularly the main British and European

reports,^{2,3} the levels shown in Table 1 were decided on. No action was taken with the 10 patients who had slightly raised levels of cholesterol or triglycerides and it was noted that many of the slightly raised triglyceride levels were secondary to obesity or to treatment with thiazide or beta-blockers.

Table 1. Details of lipid levels found in 31 patients with coronary heart disease.

Group	Lipid values (mM ⁻¹)	
Normal (n = 15)	Cholesterol	3.2 -6.5
	and triglyceride	0.79-1.97
Slightly raised (n = 10)	Cholesterol	6.6 -7.0
	or triglyceride	1.98-5.00
Moderately raised (n = 6)	Cholesterol	>7.0
	or triglyceride	>5.00

n = number of patients.

The six patients with moderately raised lipid levels had 15 children and the three children who were patients of the practice were screened immediately. Letters were sent to the other 12 children via their parents, telling them of the finding, reassuring them that this did not represent any change in their parents' health, but recommending them to see their doctor. Only four of these letters have been returned to us with screening results. Because the discussion of possible risks to their children caused some anxiety to the patients, we have not sent out reminders. We therefore have seven results from 15 children and these are all normal — no familial hyperlipidaemia has been discovered.

This practice has a cardiovascular prevention programme covering smoking, blood pressure, lipid levels, alcohol and exercise. The part dealing with lipid screening comprises seven stages:

1. Review patients known to have hyperlipidaemia and screen relatives.
2. Incorporate lipid screening into regular diabetic review.
3. Screen those aged under 60 years with coronary heart disease and, where lipids raised, their children.
4. Screen all hypertensive patients.
5. Screen those with a close relative known to have coronary heart disease when under 60 years of age.
6. Screen all smokers and the obese.
7. Screen all other adults.

Stage four is currently in progress and is facilitated by existing follow-up routines for hypertensive patients which often involve regular venepuncture. Stage five requires full ascertainment of family histories and continues on an opportunistic basis. None of this work would

be feasible without computerized records and to date 936 (72%) of the 1293 adults aged over 20 years in the practice have family histories on file and 732 (57%) have smoking status recorded.

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Record cards in general practice

Sir,

An essential aspect of good primary care is the development of good records, including the use of record cards. Indeed, in the Oxford region this is a requirement of training practices. There are few studies that demonstrate that record cards change behaviour.

I have undertaken a small project to evaluate the introduction of a record card on a random basis into the notes of hypertensive patients undergoing treatment. The trial was conducted over a nine-month period. I studied the recording of smoking habit, hypertensive complications and the results of three examinations before and after the period of introduction of the card (Table 2).

Table 2. Items recorded about hypertensive patients before and after introduction of a record card.

Items recorded	% of patients with record card (n = 68)		% of patients without record card (n = 44)	
	Before	After	Before	After
Smoking habit	28	56**	27	36
Complications	13	51**	30	39
ECG	9	12	5	7
Urine test	7	10	5	7
Fundus examination	6	22**	9	5

**P<0.01

Table 2 demonstrates that the introduction of a record card increases the recording of important risk factors associated with hypertension, even though these factors were mostly absent. The record card also prompted doctors to undertake other examinations more frequently, although this trend was only significant in the examination of fundi.

The introduction of a record card also meant that information about hypertension management could be extracted immediately from the notes instead of taking about nine minutes, on average, in notes without a record card.

A structured approach is necessary if primary care is to improve its management of chronic disease and the use of a record card is a simple and effective way of doing this. A record card can also allow more of this work to be delegated to practice nurses.

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Antenatal ultrasound in general practice

Sir,

In Alton we have been using a Pie Data 400 machine for the last two years for antenatal ultrasound and I would be interested to hear from anybody else who is using a portable machine in this way.

We have a part-time midwife who is employed by the district health authority and she holds five clinics a week. During the last two years she has carried out nearly 2000 examinations for routine gestational assessment of expected date of delivery at 20 weeks and for those women who bleed in early pregnancy. Each examination costs about £10, which is about half that of the same scan done in the local district general hospital 15 miles away.

I am particularly interested in evaluating women who bleed in early pregnancy (threatened miscarriages) and if any practitioners have information about their management of this condition, particularly with the use of a portable ultrasound, I would be grateful if they could get in touch with me.

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Generic inhalers

Sir,

Like Dr Anthony (Letters, February *Journal*, p.78), several asthmatic patients have commented to me that their generic