technically than their colleagues; and some fail to supervise surgeons in training adequately. These factors may compromise survival. The results support the contention that surgery for colorectal cancer should be undertaken by surgeons with a special interest in colorectal surgery or surgical oncology; this observation has important implications for surgical training.

At present considerable effort and resources are being poured into large multicentre studies of adjuvant chemotherapy and radiotherapy in an effort to provide marginal improvement in survival of patients with colorectal cancer. If by more meticulous attention to detail the results of surgery could be improved, and our results suggest that this would not be difficult, the impact on survival might be greater than that of any of the adjuvant therapies currently under study.

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Golf related head injuries in children

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Golf is the commonest cause of serious sports related head injuries in children, despite it being a predominantly adult game.¹ Little attention, however, has been given to how the injuries actually occur. We report a series of children with head injuries due to golf who presented to a regional neurosurgical centre over one year.

Patients, methods, and results

We studied the case notes of all children admitted to our hospital over one year with head injuries. The hospital is a regional referral centre for children with head injuries. Jennett and Murray's definition of head injury was used.² Where the details of the cause of injury were incomplete further information was obtained by contacting the parents.

In all, the case notes of 232 children were studied (139 boys and 93 girls; mean (SD) age 6.7 (4.33) years). Forty one children were referred from outside Newcastle.

The causes of the head injuries fell into four main categories: 113 were due to falls; 84 to road traffic accidents; 27 to sports injuries, including leisure related activities; and eight to non-accidental injury.

Of the 27 cases of sports related head injuries, 11 were associated with golf; five with skateboards; five with football; three with horse riding; and one each with swimming, ice skating, and kite flying. The 11 children with golf associated injuries were all boys (mean age 9.89 (2.84) years). Of these, nine had skull fractures; the table gives details of the head injuries. Seven patients required elevation of the depressed skull fracture under general anaesthesia. None required admission to the intensive care unit. All were clinically well on discharge from hospital. The mean (range) duration of inpatient stay was 5.18 (1-8) days.

Nine of the children were injured when standing behind another child swinging a club; the head was struck on either the backswing or the follow through. Two children were hit on the head by golf balls struck by other children. In seven of the accidents the

children had borrowed a golf club and were playing in either parkland or local fields. In one case the child had found the club in a field. Only one of the accidents occurred on a golf course; another occurred at the practice range of a course, and a third on a crazy golf course. On no occasion was play supervised by an adult.

Details of golf related head injuries in 11 boys

Case No	Age (years)	Injury
1	8	Depressed compound left frontal skull fracture
2	10	Depressed compound right parietal skull fracture
3	6	Depressed compound left orbital ridge skull fracture
4	10	Depressed compound left temporal skull fracture. Extradural haematoma requiring left frontal craniotomy and evacuation
5	13	Depressed compound left supraorbital skull fracture
6	12	Depressed compound right parietal skull fracture
7	14	Depressed compound right parietal skull fracture. Cerebral contusion on computed tomography
8	10	Deep laceration to forehead
9	6	Depressed compound left parietal skull fracture
10	6	Cephalhaematoma (left frontoparietal region)
11	14	Depressed compound right frontoparietal skull fracture

Comment

In our series 40% of the sports related head injuries, 50% of all the depressed skull fractures, 18% of all skull fractures, and 4.7% of admissions were associated with golf. Strang *et al* found that the proportion of head injuries that were sports related in all patients attending Scottish accident departments was 12%, and for children under 15 years 21%.³ These injuries accounted for 14% of admissions to general surgical wards and 7% of admissions to a regional Scottish neurosurgical unit.² Neither of these studies gave a breakdown of the sports concerned.

In a study that did not include children at play only 2.7% of 1900 admissions to a regional head injury unit were due to sports injuries.¹ Golf was the commonest associated sport, causing 27% of all sports injuries. All were in boys under 16 (mean age 10). In a study of 400 patients with depressed skull fractures, sporting injuries accounted for 9%, with golf by far the commonest associated sport. The fact that the other studies included adults probably explains the differences compared with our study in the incidence of golf related injuries.

While golf is a predominantly adult game, the mean age of the subjects with head injuries was about 10 years in both our study and in that of Lindsay *et al*.¹ Most of our patients were playing around with golf

clubs as opposed to playing golf properly. It is not a dangerous sport if played properly. However, in the hands of children playing unsupervised, golf clubs are potentially lethal weapons. We recommend that children are supervised at all times when playing with golf clubs and that this should be done on a golf course.

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Intravenous drug misuse among prison inmates: implications for spread of HIV

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Although the Prison Reform Trust estimated in 1988 that 350-500 prisoners in England and Wales were infected with HIV,¹ only 63 were known to be positive for HIV antibody in 1989.² Some indication of intravenous drug misuse within British prisons has come from surveys of former prisoners while outside prison (K Dolan *et al*, unpublished data).³ No definitive research has been reported from within the British prison system. As Edinburgh has a high background rate of HIV infection among intravenous drug misusers we conducted a pilot survey of inmates in an Edinburgh prison to characterise intravenous drug misuse and risk of HIV infection within prison.

Subjects, methods, and results

The study was performed in Saughton Prison, Edinburgh, which houses about 500 male prisoners in different halls according to length of sentence; many inmates had been sentenced or were on remand for drug related offences. We carried out structured interviews consisting of personal questions and questions related to drug misuse and HIV infection after distribution to all inmates of a letter explaining the study; three halls were excluded because of time constraints. Volunteers informed their gallery officer if they wished to participate, but only we and the prisoner were present at interview.

Many drug users complained about their treatment in prison; others may not have volunteered because of worries over confidentiality, thus the sample may be unrepresentative of the prison population. Random selection was thought likely to introduce bias because of refusals. There were also obvious shortcomings in using self reported behaviour and HIV status. The study, therefore, in giving a glimpse of the behaviour of intravenous drug misusers in prison, identified the nature of the problem rather than gave a strict estimate of the prevalence of HIV or of risk behaviour.

In all, 123 inmates were interviewed (32% of the available prison population), of whom 43 (35%) admitted to having previously injected drugs. Twenty nine (24% of the sample and 67% of the injectors) had injected drugs in prison. The table gives a breakdown of the responses. Drug injecting in prison was more common in short term and remand inmates than in long term prisoners. Forty nine (40%) of the study group had been tested for HIV; of these, 15 had never injected drugs, and 13 reported themselves as being HIV positive. Four prisoners had shared needles but had never been tested. The prevalence of HIV infection was significantly higher among short term prisoners ($\chi^2=6.72$, $p<0.01$).

A total of 42 out of 43 intravenous drug misusers had injected outside prison, of whom 38 (90%) had shared needles outside prison, 29 out of 43 had injected in

prison, of whom 22 (76%) had shared needles inside prison. Forty one inmates had shared needles at least once either inside or outside prison. Of the 13 inmates positive for HIV antibody, 12 had injected while in prison and 11 had shared needles in prison. This compares to the 30 HIV negative or untested intravenous drug misusers, of whom 17 had injected and 11 had shared needles in prison. Of the 13 HIV positive inmates, six reported taking more oral drugs and injecting less both inside and outside prison than in the past, emphasising the changing pattern of drug misuse within the Lothian area.⁴

Data on intravenous drug misuse and HIV antibody status by category of prisoner

Category	No of inmates	No questioned	No (%) intravenous drug misusers	No (%) injecting in prison	No positive for HIV
Short term*	92	40	17 (43)	13 (33)	8
Remand	83	24	13 (54)	8 (33)	2
Holding†	78	22	5 (23)	4 (18)	2
Long term‡	64	14	2 (14)	2 (14)	1
Served >5 years§	62	23	6 (26)	2 (9)	0
Total	379	123	43 (35)	29 (24)	13

*Sentence of <18 months.

†Inmates at beginning of sentences of >18 months.

‡Sentence of >18 months.

§Figures for one of two accommodation halls (plus one inmate from the other).

Comment

This study underlines the fact that intravenous drug misuse occurs to a worrying degree in prisons. We found that such behaviour is particularly a feature of short term and remand prisoners and that the prevalence of HIV infection was higher in short term inmates. This is probably because drug related offences mainly carry sentences of less than 18 months. Many remand prisoners were awaiting trial for similar offences. Furthermore, as more visits are allowed to remand prisoners there is a greater opportunity for obtaining drugs.

Although our study is unlikely to be representative of all prisons and may also comprise a somewhat skewed sample, it provides a valuable insight into the increasing problem of HIV and injecting drug misuse in prisons. To begin to tackle this problem further research on a much wider scale is required to document the extent of HIV risk activity within prisons and to determine optimal means of intervention to reduce the risk.

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