Table 1—Correlation coefficients between height and waist circumference in subjects identified by waist circumference action level 1 (94 cm in men and 80 cm in women)

Age (years)	Men				Women			
	Waist <94 cm		Waist ≥94 cm		Waist <80 cm		Waist ≥80 cm	
	No	r	No	r	No	r	No	r
20-	285	0.198**	48	-0.001	363	0.123*	85	-0.125
30-	386	0.202***	158	-0.043	442	0.153**	202	-0.038
40-	374	0.138**	298	0.092	417	0.120*	400	0.032
50-59	267	0.157*	367	0.120*	259	0.102	529	-0.022
All ages	1312	0.053	871	0.049	1481	0.056*	1217	-0.040
All ages after adjustment for age	1312	0.192***	871	0.080*	1481	0.131***	1217	-0.018

*P<0.05, **P<0.01, ***P<0.001.

Intuitively, it makes sense to correct associations with waist circumferences for height. Taller people would be expected to have larger waist circumferences than shorter people. We have therefore analysed the relation between height and waist circumference in our sample of 2183 men and 2698 women aged 20-59 according to their "waist action level" as previously proposed.² Table 1 shows that there are weak but significant associations between height and waist circumference in men and women with waist circumferences below the action level. The proportion of variance in the waist circumference explained by height in those with a waist circumference above the action level was 0.64% in men and 0.03% in women.

We therefore conclude that height does not have an important role in explaining variations in the waist circumference, especially in people who need weight management. This and the simplicity of using the waist circumference argue against the use of more complex measures such as the ratio of waist circumference to height, particularly in a public health or health promotion context.

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1 Ashwell M, Lejeune S, McPherson K. Ratio of waist circumference to height may be better indicator of need for weight management. *BMJ* 1996;312:377. (10 February.)

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Shackling prisoners in hospital

Is unnecessary and avoidable

EDITOR,—Luisa Dillner's editorial and Beverley Beech's personal view, giving an account of the effects of shackling a pregnant woman from Holloway Prison, sickened me.

From 1962 to 1982 I was by the invitation of a succession of senior medical officers and governors of Holloway Prison the consultant to the prison for gynaecology and obstetrics.

During those 20 years about 800 women prisoners were delivered in the City of London Maternity Hospital and later the Whittington Hospital, in beds for which I had clinical responsibility. We lost only one baby—a remarkable perinatal mortality considering that the mothers were so disadvantaged. Much valuable research work was carried

out on the gynaecological cases, particularly on cancer and precancerous conditions.

Special attention was paid to avoiding prisoners on remand escaping—because the judiciary would rightly object if the prisoner was not available for trial at the correct time. Shackling was never contemplated. Women on remand were accompanied by two female warders, and violent women were very rarely accompanied by a male warder as well. It was sometimes a help to a prisoner in labour to have a sympathetic female warder with her. If she objected, or the warder was disturbing her, the warder was asked to wait outside the labour ward with her colleague.

When I retired I tried to persuade one of my colleagues at the Whittington to take over what I had been doing, which included conducting a weekly antenatal clinic in the prison where I saw, at the medical officers' request, especially worrying cases and each pregnant woman every month or so—only two or three at each visit. These women went to hospital only for special tests such as ultrasonography. If one consultant at the Whittington Hospital would take responsibility for these prisoners' care, much journeying with warders could be avoided and much money saved, especially if the consultant would go fairly regularly to Holloway.

Most women are in prison for crimes that do not pose a serious threat to society. The unknown ambulance driver who refused to drive a prisoner in shackles is the true hero of the story and gives a splendid example to the doctors and nursing staff at the Whittington Hospital. They are not stooges of the prison service; and never should be. Above all doctors should and can refuse to allow shackled patients into the hospital, and particularly into the labour wards.

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1 Diller L. Shackling prisoners in hospital. *BMJ* 1995;312:200. (27 January.)

2 Beech BAL. How could I breast feed with a man in the room? *BMJ* 1995;312:256. (27 January.)

Is a breach of human rights

EDITOR,—Luisa Dillner's proposed scheme for managing prisoners in hospital¹ can work well, at any rate for outpatients, given a clear policy by clinicians and enlightened prison staff. Before my retirement in 1993 from Ashford Hospital, Middlesex, I regularly saw detainees from the nearby Feltham Youth Custody Centre. After an episode when warders insisted on sitting in on both history and physical examination of a patient, I wrote to the principal medical officer, copied to the governor, that (as implied by the subtitle of the editorial: "contravenes international law") this was a breach of human rights and I would see referrals only if they were permitted exactly the same degree of confidentiality

that the custodians themselves would expect. As Dillner also notes, I accepted that exceptions might have to be made if there was thought to be a significant risk of escape (possible only by jumping through a double-glazed window) or violence to hospital staff.

With only the occasional quiet word to accompanying warders, this arrangement worked uneventfully for several years; the let out clause was never invoked, and no violence or escapes were attempted. As Dillner suggests, most prisoners can indeed be treated as presenting no threat.

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1 Dillner L. Shackling prisoners in hospital. *BMJ* 1996;312:200. (27 January.)

Causes problems for doctors

EDITOR,—Until I read Luisa Dillner's article on shackling prisoners in hospital¹ I was not aware that doctors have the right to request the removal of restraints for the purpose of treatment, and I wonder whether prison officers are aware of this.

At this hospital we often see and treat prisoners from the nearby prisons in Durham; recently one of them was a man with small cell lung cancer. I requested that I should be allowed to talk to him in private about his condition with his two warders outside the door (they were aware that he had cancer from what had already been said). This was refused. I insisted that they should ring up the duty governor for permission. They did this unwillingly because they felt it to be pointless; it was. I suggested that the patient should be chained to the examination couch so that I could talk to him alone but was told this would not be allowed under any circumstances. The best I could achieve for this man was that his short chain was replaced by a longer one so that the warders could wait outside an open door.

What can a doctor do in this situation? What is the legal position?

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1 Diller L. Shackling prisoners in hospital. *BMJ* 1995;312:200. (27 January.)

Nocturia may be due to growing old

EDITOR,—Minerva says that the most common reason why elderly men get up at night to urinate is benign prostatic enlargement, and she refers to sleep apnoea.¹ I hope she will not find me wanting in chivalry if I question why, after so many centuries, she seems not to be aware of another cause—that is, growing old. Older women have the same incidence of nocturia as men.² While nocturia may result from enlargement of the prostate, more often it results from an inability to concentrate urine at night, when old people secrete less pituitary antidiuretic hormone and more natriuretic peptide.³ A simple record of the time of urination and volume voided over 24 hours may avert a needless operation on the prostate.⁴

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1 Minerva. *BMJ* 1996;312:454. (17 February.)

2 Lepor H, Machi G. Comparison of AUA symptom index in unselected males and females between 55 and 79 years of age. *Urology* 1993;42:36-41.

- 3 Kikuchi Y. Participation of atrial natriuretic peptide (hANP) levels and arginine vasopressin (AVP) in aged persons with nocturia. *Japanese Journal of Urology* 1995;86:165-9.
- 4 Blandy JP, Fowler CG. *Urology*. 2nd ed. Oxford: Blackwell Science, 1996:237-8.

Nomogram for number needed to treat will be of limited use

EDITOR,—Gilles Chatellier and colleagues suggest that in calculations of the "number needed to treat" a nomogram based on the formula $\frac{1}{P_c \times \text{relative risk reduction}}$ should be used in preference to $\frac{1}{P_c - P_i}$.¹ The two formulas are, however, equivalent and will both suffer from the same problems when P_c and P_i differ by an amount greater than P_c . The nomogram is consequently useful in only a limited number of circumstances—for example, when published study results have been adjusted for confounding effects and only relative risks or odds ratios are reported. In these cases such estimates could then be combined with an estimate of the baseline risk to yield the number needed to treat.

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1 Chatellier G, Zapletal E, Lemaitre D, Menard J, Degoulet P. The number needed to treat: a clinically useful nomogram in its proper context. *BMJ* 1996;312:426-9. (17 February.)

Children and sport

De-emphasise team sport

EDITOR,—The report *Raising the Game*¹ is, as Helen Trippe notes,² a start. Unfortunately it is a start down the wrong path. The report places the emphasis firmly on developing competitive team sport at the centre of physical education. In doing so it intensifies the connection between healthy exercise and vigorous sport. The evidence shows that vigorous exercise is neither necessary to provide a health benefit nor suitable for all people in society.

Competitive sport is not liked by a sizeable number of children, particularly girls. As children get older, they tend to stop participating in sports outside school. For boys, participation in soccer outside school drops from 59% in 11 year olds to 42% in 16 year olds, and similar falls are seen in sports such as rugby and cricket. For girls, the participation in netball decreases from 19% to 6% between ages 11 and 16. This fall continues as people age, and *Social Trends* identifies that at 45-59 participation in team sports is 11%.³

As has been shown by a number of surveys, such as the Allied Dunbar National Fitness Survey,⁴ as a nation we are not taking enough exercise. Though team sport can be a beneficial source of exercise for some individuals, it is a minority interest. It would not be physically possible to increase the use and provision of facilities to allow the nation to get its exercise from team sports. Concentration on team sport at school will also confirm the link between exercise and health with sport and make the message of increasing moderate activity more difficult. It will alienate the substantial number of children who for one reason or another dislike sports and will reduce the time available for wider activities, such as dancing, walking, or cycling.

Policies must be developed that take the range of activities that will provide healthy exercise into account, and action developed to ensure that

these occur. In a recent report from the Royal Society of Health we set out several recommendations for action in various settings to encourage an increase in activity.⁵ These settings included the family, the community or local authority, schools, the workplace, and health bodies. It is by developing a wide range of measures to encourage and facilitate moderate exercise such as cycling and walking that we will be able to achieve a healthier nation.

Increasing the emphasis on competitive sport ignores those who do not enjoy it or cannot participate and alienates them from all forms of exercise. We should pay attention to the World Health Organisation and the International Federation of Sports Medicine who noted that "daily physical activity would be accepted as the cornerstone of a healthy lifestyle. Physical activity should be re-integrated into the routine of everyday living. An obvious first step would be the use of the stairs instead of lifts, and walking or cycling for short journeys."⁶

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- 1 Department of National Heritage. *Sport: raising the game*. London: DNH, 1995.
- 2 Trippe H. Children and sport. *BMJ* 1996;312:199-200. (27 January.)
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- 4 Allied Dunbar National Fitness Survey. *A report on activity patterns and fitness levels*. London: Sports Council and Health Education Authority, 1992.
- 5 Royal Society of Health. *Take a Walk*. London: Royal Society of Health, 1995.
- 6 WHO/FIMS Committee on Physical Activity and Health. Exercise for health. *Bull WHO* 1995; 73:135-6.

Walking to school has future benefits

EDITOR,—Helen Trippe highlights the important role of government policy in encouraging physical activity in schoolchildren.¹ The government's new policy statement on sport, *Raising the Game*, proposes a minimum of two hours of sport and physical education a week for all children up to age 16.² For Trippe, the policy statement is a start but is not enough: "Interventions to change children's preferred activity levels need to start early, probably in primary schools, or better still at home," she writes. Here she, like the government, is missing out on the action. The journey to school accounts for 35% of all journeys made by children and has the potential to make an important contribution to levels of physical activity. However, since 1975, the average distance walked by schoolchildren has fallen by 27%, largely because of the increasing proportion of journeys to school made by car, which has risen from 12% in 1975 to 23% in 1989-94.³

The change in childhood travel patterns has important implication for health and equity. Firstly, patterns of physical activity forged in childhood may carry over into adult life. The school-home journey of childhood melds seamlessly into the work-home journey of adulthood. With only a handbrake and a handful of birthdays between the passenger's seat and the driver's seat, it may be unrealistic to expect the chauffeured children of today to become the ambulant adults of tomorrow.

Secondly, driving children to school increases the risk of injury, as pedestrians, for the children who walk. As might be expected, poorer children, from families without a car, are more likely to walk. Traffic volume is the strongest environmental risk factor for child pedestrian injury, and the Department of Transport estimates that 20% of traffic during the weekday morning travel period is made up of children being driven to school.³ Taken together, this

amounts to the motoring equivalent of second-ary smoking.

Two hours of sport a week is a step in the right direction, but a healthy transport policy would do far more to encourage physical activity.

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- 1 Trippe H. Children and sport. *BMJ* 1996;312:199-200. (27 January.)
- 2 Department of National Heritage. *Sport: raising the game*. London: DNH, 1995.
- 3 Department of Transport. *National travel survey: 1992/94*. London: HMSO, 1995.

Not all schoolchildren prefer team sports

EDITOR,—I read Helen Trippe's editorial on sport in schools in my mother's copy of the *BMJ*.¹ I am writing as a sixth former with an inside view on physical education in schools.

There are two main points. First is the question of team games as the main form of physical education in schools. While many people do enjoy "the fun of playing as a member of a team," this is often true only of those with an aptitude for the game. For those without this aptitude, physical education lessons can become an experience in abject humiliation, without there being any exercise benefit. I have found netball to be like this. For many of us, it is better if we can exercise at our own pace without the competitive element—for example, playing games on the understanding that the rules do not have to be strictly observed, or dancing, or doing aerobics to music. As well as being more enjoyable, this sort of physical education allows us to use all the time available in actual exercise, which rarely happens in a team game.

Second, we "sedentary 16-18 year olds still at school" are there because we are studying for our A-levels, and time is precious. Most of us do appreciate the benefit of exercise on the body and for mental relaxation, but physical education in school can add to stress rather than relieve it; it is unpleasant to spend parts of the working day hot and tired, and physical education lessons bring considerable extra hassles, practicalities that may not be obvious to policy makers, such as having the correct kit and changing and being late for lessons. Exercise outside the school day is a good alternative, but practical matters such as transport often make this difficult.

From my own experience, I have found some of our most successful physical education sessions, in terms of exercise done, enjoyment, and attendance levels, were the aerobics to music. These taught us exercises which we were able to do at home if we chose, and they encouraged some people to start attending step classes in the evenings.

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- 1 Trippe H. Children and sport. *BMJ* 1996;312:199-200. (27 January.)

Health care rationing

Oregon asked people about moral values

EDITOR,—David Price's tale about rationing of health care based on the case of child B, who had leukaemia, conveys sorrow for the child, grief for the parents, empathy for the physician, sympathy for the judges and administrators, and even pity for the barristers who struggle over the fate of a sick child in a strange dialect of legal abstraction.¹ They seem, together, to be helpless victims of a system without moral direction.

With regard to the Oregon health plan, I must point out that the author has both the name of the commission and the question it asked wrong.