promote contraception through safer sex campaigns have undoubtedly been successful in increasing the proportion of teenagers who use condoms. Most people have assumed that increasing the use of contraception leads to a reduction in unplanned teenage pregnancies.⁴ Yet my analysis shows that this has not happened. A plausible explanation is that the main factor in unplanned teenage conceptions is contraceptive failure, not the lack of contraceptive knowledge and availability. The findings of Pearson and colleagues support this view.

A further question is whether increasing the availability of contraception leads to an increase in sexual activity. If this is the case—and the national survey of sexual behaviour reports a large increase over the past two decades in the proportion of teenagers who are sexually active—then it is not surprising that the rate of teenage conceptions continues to increase. The answer is not more contraception or emergency contraception but a change in attitude towards sexual behaviour.

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The needs of older women are just as great

EDITOR,—The contraceptive practices of, and reasons for contraceptive failure among 629 women attending an NHS unplanned pregnancy counselling clinic in Portsmouth were surveyed between September 1994 and February 1995. Our findings are similar to those of V A H Pearson and colleagues in Devon (table), although the mean age in our study was 25.2 years (range 14-40). Both these studies are in line with previous work showing a rising association between unplanned pregnancy and use of condoms.^{2,3}

	Devon ¹ (n=167)	Portsmouth (n=629)
Age range (years)	13-19	14-40
No with unplanned pregnancies	147	629
Used condoms at time of unplanned pregnancy	67/147 (46)	301/629 (48)
Knew why condom had failed	53/67 (79)	153/301 (51)
Using contraceptive pill at time of unplanned pregnancy	45/147 (31)	134/629 (21)
Knew why pill had failed	32/40* (80)	96/134 (72)
Patients for whom postcoital contraception was suitable		310/629 (49)
Patients who had heard of postcoital contraception	135/167 (81)	450/566† (80)
Patients who had used postcoital contraception	16/167 (10)	42/310 (14)

*Combined oral contraceptive only.
†Question not completed by all those who attended.

In our study the main reasons given by the 268 patients who were not using postcoital contraception were ignorance of the method (59 (22%)), the woman not thinking about it at the time of conception (72 (27%)), and the woman underestimating her fertility (86 (32%)). Our study included older women and shows that their needs are as great as those of teenagers. We also concluded that much more education of patients and the public is needed to increase use of postcoital contraception.

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Serum cholesterol concentrations in parasuicide

Depression may cause low cholesterol

EDITOR,—Massimo Gallerani and colleagues report low serum cholesterol concentrations in people who attempt suicide.¹ Their findings are consistent with those of our systematic review of the possible hazards of lowering serum cholesterol.² The question is whether the association arises because a low serum cholesterol concentration causes depression and so causes suicide or because a low serum cholesterol concentration is a consequence of depression since depressed people eat less on average and this will reduce their cholesterol concentration. The evidence indicates that the latter is the case.

Effective treatment of depression leads to an increase in serum cholesterol concentration.³ Recent large randomised trials of 3-hydroxy-3-methylglutaryl coenzyme A reductase inhibitors, which achieve large reductions (about 25%) in serum cholesterol, have established that lowering cholesterol does not lead to depression⁴ or increased mortality from accidents and suicide.^{4,5} Earlier trials, which lowered serum cholesterol by about 10%, are also reassuring.² Two trials gave rise to concern despite their results not being significant (11 v 4 and 9 v 5 deaths from accidents and suicide in the treated versus the control groups respectively), but the excess was concentrated in patients who did not take the cholesterol lowering drugs (so that cholesterol reduction cannot have caused it) and in patients with pre-existing psychiatric illness.⁶ In the remaining 25 trials in our review there was no excess mortality from accidents and suicide (78 deaths in treated patients v 77 in controls).²

Prospective observational studies support the conclusion that low cholesterol concentration does not cause suicide: there was no excess mortality in studies of working men, who, because they were in work, were less likely to have had serious psychiatric illness such as depression.² In studies of cohorts in the general community, which necessarily include people with illness on entry, the excess mortality was concentrated in the first six years of follow up, with no significant excess during years 7-20.²

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Scottish study does not replicate findings

EDITOR,—Massimo Gallerani and colleagues found lower cholesterol concentrations in subjects after parasuicide than in control subjects matched for age, sex, diabetes, hypertension, heterozygote β thalassaemia, drug misuse, and alcoholism.¹ These results suggest an association between low cholesterol concentrations and suicide. The control population—331 non-suicidal subjects—was recruited from a population attending a general hospital outpatient laboratory.

We have studied the proposed association between serum cholesterol concentration and parasuicide in our catchment area of Scotland (Tayside) and found no such association. We studied 216 healthy patients who had committed parasuicide (age range 25-54) and 286 healthy volunteers matched for age and sex who were not attending hospital for any reason and were receiving no drug treatments. All patients who had committed parasuicide who were receiving prescription drugs or had abnormal results of biochemical tests of liver or renal function were excluded. The patients who had committed parasuicide had a higher serum total cholesterol concentration than the controls (mean (SD) 5.68 (0.41) mmol/l v 5.41 (0.80) mmol/l; $P < 0.001$).

We suggest that a hospital outpatient population is not ideal for comparison with subjects who commit parasuicide, who until the parasuicide generally yield normal results on biochemical testing, have no concurrent medical condition requiring treatment, and are not receiving any drug treatment. The findings of Gallerani and colleagues may be misleading and do not seem to apply to the Scottish population.

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No association between low cholesterol and violent death

EDITOR,—The study by Massimo Gallerani and colleagues is the latest to investigate whether there is an association between low cholesterol concentration and violent events.¹ However, no causality has been shown, and the associations in different studies seem to be inconsistent. For example, in the Honolulu heart programme there was a direct relation: the higher the baseline serum cholesterol concentration the higher the risk of suicide during 23 years' follow up.² Gallerani and colleagues incorrectly cite the Helsinki businessmen study in the context of cholesterol and violence³: the higher incidence of violent events in the group treated multifactorially was not due to low serum cholesterol concentration or cholesterol lowering drugs.⁴ The results of the Scandinavian simvastatin survival study are a strong argument against a true association between cholesterol and violence: the study showed no difference in violent deaths or deaths due to suicide between the placebo and simvastatin groups despite a 35% reduction in serum low density lipoprotein cholesterol concentration for 5.5 years in the simvastatin group.⁵

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Broader definitions of clinical effectiveness are needed

EDITOR,—We are impressed with the move to evidence based medicine and clinical effectiveness. We strongly urge that the concept of clinical effectiveness¹ should be broad enough to include the alleviation of patients' anxiety and their satisfaction with care, not just improvement in clinical status. This broader view of effectiveness might be termed "doctor effectiveness."

The skill of doctors is not only what they do but the way they do it. Spending more time with a patient may be the most clinically effective procedure if they feel a "second opinion" from the accident and emergency department unnecessary, or that they don't need a scan or their prostatectomy yet.

Primary care has put greatest effort into this area, so far with results that are difficult to interpret. The potential gains include an improvement in patient satisfaction and understanding and a reduction in unnecessary referrals and treatment. Let's look at "doctor effectiveness"—but perhaps someone can think of a better term for it.

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Risk factors for acanthamoeba keratitis

Population study is required to confirm results

EDITOR,—Cherry F Radford and colleagues¹ highly publicised paper concerning possible risk factors for acanthamoeba keratitis in contact lens users contains some potentially misleading comments.¹ Their extrapolation of limited data into sweeping generalisations seems unhelpful in providing a rational approach to understanding of the multiplicity of factors associated with acquisition of this rare but potentially sight threatening condition. Frequent replacement of storage cases will not alone prevent acanthamoeba growth and replication if chlorine based disinfection is used, since these products do not generate sufficient active chlorine to destroy the activity of the amoeba cysts. We reported this two years ago.²

Their recommendation that hydrogen peroxide based systems with proven cysticidal effects be used is not novel³ and has been the subject of considerable debate.³ So called multipurpose solutions that both clean and disinfect soft contact lenses mostly depend for their antibacterial and

acanthamoebicidal action on the inclusion of polyhexamethylene biguanide (polyhexanide) in the product formulation. 0.0005% Of this agent has an acanthamoebicidal action but it is limited to a 2 log reduction only; at concentrations of less than 0.0005% there is no effective and consistent acanthamoebicidal action, especially against cysts. We have also advised that tap water, which may contaminate the contact lens storage case with microbes including acanthamoeba, should never be used as part of contact lens hygiene, and should not be recommended by manufacturers for use with their products, as currently occurs.

We agree with the Irish Opticians Board and Italian workers in recommending that wearers of soft contact lenses, especially those marketed as "disposables" but actually worn on one, two, or four weekly regimes, should ideally use a hydrogen peroxide disinfection system which is known to be effective against cysts of acanthamoeba.⁴ If peroxide is not used, then chlorine disinfection and multipurpose solutions that contain either polyquaternium-1 as currently available or ineffective polyhexamide formulations should be avoided. We realise that this includes many commercial products available for sale to the public but believe that the overriding criteria must be efficient acanthamoebicidal activity to prevent the occurrence of keratitis.

We are also concerned about the inference that Acuvue (Johnson and Johnson) "disposable" soft contact lenses provide an increased risk of acquisition of acanthamoeba keratitis. There is at present no evidence of a direct cause-effect relation between these contact lenses and microbial or acanthamoeba keratitis. In a particular area, these contact lenses may be prescribed more often, so that they seem to have properties predisposing their wearers to increased risk from acanthamoeba keratitis. Until data is available from carefully conducted, population based incidence studies, we contend that the observations made by Radford and colleagues, though important, can only be considered preliminary and may actually be artefactual.

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Single use disposable contact lenses should cut risk

EDITOR,—Cherry F Radford and colleagues show that the use of daily wear disposable contact lenses is a major risk factor for acanthamoeba keratitis, attributable largely to inadequate disinfection.¹

Analysing type of disposable contact lenses, the authors claim a crude minimum relative risk for Acuvue of 2.63. Acuvue were the first disposable lenses introduced into Britain and have been marketed nationwide from 1988. Since then the number of other makes has increased: in 1991, the contact lens yearbook listed 47. Infected cases for the study were collected over a three year period, for much of which Acuvue were the only disposables available. This was not the situation for the last six months, when controls were collected.

The use of disposable lenses is developing; single use one day disposables, where the users open a new sterile set in the morning and throw them away in the evening, were introduced into Britain in February 1995. The correct use of such lenses, which do not rely on disinfecting solutions, should dramatically reduce the risk of acanthamoeba and other infections. As no contact lens cleaning solution for conventional daily wear lenses is capable of eliminating acanthamoeba cysts, daily disposables may even prove safer than conventional daily wear soft lenses. This, as postulated by the authors of the study, may depend on any role that the different physical properties of disposables play in infection risk.

Any potential advantages, however, would be negated by incorrect use. Little work has been done on why people are drawn to use disposable contact lenses. A major factor must be the apparent, but misguided, idea that they require less arduous cleaning. Single use daily disposable lenses should avoid this problem, but may expose other dangerous practices. If, as backed by staff at Moorfields Eye Hospital, education is improved, it remains to be seen whether these new lenses will change the incidence of acanthamoeba keratitis.

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Nurses could halve GP workload

EDITOR,—There are two urgent reasons for promoting courses for a new breed of nurses: the shortage of applicants for general practice training, and stress imposed on general practitioners by an obligation to deal with trivia.

When local authority nurses were attached to practices I became aware of the Peter principle, which urges those in business to ensure that everyone in an organisation rises to the level of their incompetence. Accordingly, I began to delegate to nurses procedures such as cervical cytology, ear syringing, electrocardiographic recording, blood pressure recording, peak flow measurement, suturing simple wounds, and routine immunisations and maintenance therapy. I then saw all patients who made appointments, but audit showed that more than 60% of those attending reported with minor routine conditions, often self limiting and likely to lead me to lose skills acquired over 10 years.

Ten doctors served a population of 20 000 patients; one had special experience in paediatrics, one in geriatrics, and one had a higher medical qualification, enabling many referrals to be made internally. This led me to calculate that our practice population needed three full time doctors and 15 nurses, with three part timers able to step up their hours for study and holiday leave, and a deputising service could be used for out of hours calls when needed.

The editorial by Pamela Venning and Martin Roland¹ was right to suggest there may be a range of clinical roles for nurses to perform as well, if not better, but certainly more cheaply than highly trained general practitioners.

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