cribe exercise offer a potential strategy to help patients change their lifestyle. The general practitioner identifies a sedentary patient with a disease that would benefit from exercise and writes a prescription for the patient to attend the scheme. This ensures that over 90% of those receiving the prescription present to the leisure centre to start the programme. An exercise specialist makes an initial assessment of the patient, which includes a submaximal test of exercise fitness, and tailors the prescribed exercise to the patient's fitness and disease. The aim is to educate the patients about how to exercise and to understand their body's response (for example, by rating perceived exertion) such that at the end of a three month programme they can more safely exercise in the manner of their choosing. They are empowered to control their health.

It is important that any such scheme is evaluated, and a database for collecting data is now established in East Sussex to examine the changes in health and any changes in prescribing that may result. East Sussex Family Health Services Authority and Health Authority have recognised the need for such evaluation, and all schemes now developing in East Sussex under the name of the Health and Leisure Organisation will have the same method of collecting data and staff training scheme (under the guidance of the University of Brighton) and will provide educational programmes for referring doctors.

I agree with Iliffe and colleagues that primary health care teams need to examine what their local scheme offers, but in response to their conclusion that "there may be many far more effective ways for [the teams] to use their resources to increase the fitness of their practice populations" I say, "tell me what and show me how."

A D J WEBBORN
Medical adviser

Exercise on Prescription,
East Sussex Family Health Services Authority,
Lewes,
East Sussex BN7 2PB

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Fitness for older people

EDITOR,—As Archie Young and Susie Dinan state, the improvements of older people's aerobic capacity, endurance, strength, and flexibility with regular exercise are similar in percentage terms to those seen in younger people.¹ These improvements have clear advantages, allowing a more active lifestyle, and if exercise is continued they should help the person to maintain his or her independence and delay the approach of critical functional thresholds that herald immobility.

Perhaps less well recognised are some of the other improvements seen in older people after exercise training. The ventilation threshold—the point at which anaerobic metabolism begins to augment aerobic metabolism during exercise—rises as a percentage of maximum oxygen consumption with age.² Yet critical power—the highest sustainable workload as a percentage of maximum workload—in trained older people is similar to that in young people.³ Healthy older people are therefore capable of prolonged submaximal "work." The dynamic responses in oxygen uptake, carbon dioxide exchange, ventilation, and heart rate at the onset of exercise slow with inactivity and aging.⁴ In exercise trained older people the kinetics of these responses accelerate and approach those of younger trained people.⁴ Similarly, I have shown that the kinetics of the ventilatory response to hypoxia are faster in trained

than sedentary older people (unpublished MD thesis).

The approach to exercise training for older people in Britain is quite different from that which I have seen in Canada, reflecting the demands and expectations of North American practice, the greater availability of suitable facilities, and the greater interest shown by the retired population. There, in contrast with the rather informal procedure in Britain, entrants to exercise training programmes undergo a medical examination and supervised treadmill exercise to a functional maximum to identify factors of importance during exercise—for example, critical coronary artery disease. This permits the calculation of an effective and safe personal training heart rate, within the training sensitive zone, from the person's maximum heart and work rates. The use of target heart rates during exercise training in older people does not seem to be common in Britain but would be advantageous in monitoring the intensity of exercise, as a guide to increments in the intensity of training, and for safety. Which practice is thought correct or appropriate will depend on the country of practice, target intensity of exercise, and subject's risk factors.

W D F SMITH
Senior registrar

Health Care for the Elderly,
Derriford Hospital,
Plymouth PL6 8HD

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Initial management of suspected meningococcal infection

EDITOR,—The overall mortality and morbidity in childhood bacterial meningitis have changed little over the past three decades despite the availability of an effective range of antibiotics. Since the introduction of *Haemophilus influenzae* type b vaccine the incidence of serious haemophilus infections has fallen dramatically. The initial management of meningococcal infections has therefore become relatively more important and may even have to be modified.

The chief medical officer continues to emphasise the importance of early administration of parenteral benzylpenicillin by a general practitioner before the patient's transfer to hospital to minimise the mortality and morbidity in meningococcal infections.¹ However, the assumption that prompt antimicrobial treatment greatly improves the outcome of meningococcal infections remains controversial.²

The use of dexamethasone as adjunctive treatment is now accepted as routine policy in many paediatric units in Britain despite the dramatic reduction in *H influenzae* infections. Few data from published studies are available to show any benefit resulting from administration of dexamethasone in meningitis due to any organism other than haemophilus. The meningitis working party of the British Paediatric Immunology and Infectious Disease Group advocated caution in the use of adjunctive steroid treatment in children with meningococcal disease until more evidence was available.³

The ideal timing of the initial dose of steroids for optimal benefit is also not well understood. Several studies, however, have reported a beneficial effect when the first dose of steroid is given before antibiotics.⁴ The chief medical officer's advice

on early administration of benzylpenicillin by the general practitioner may therefore be inappropriate and even harmful.

In the light of these changes and the conflicting information available, can we justify the insistence on early administration of penicillin by the general practitioner and the use of adjunctive steroid treatment? These issues should be reviewed, and a set of guidelines based on clear, rational, and scientific data should be agreed nationally.

C S NANAYAKKARA
Consultant paediatrician

R COX
Consultant microbiologist

Department of Paediatrics,
Kettering General Hospital NHS Trust,
Kettering,
Northamptonshire NN16 8UZ

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Tuberculosis and slim disease in Africa

EDITOR,—S B Lucas and colleagues found that tuberculosis was associated with the wasting that is characteristic of so many deaths related to HIV infection in Africa.¹ They conclude that the aim should be prophylaxis or earlier diagnosis and treatment.

Preventive treatment for tuberculosis in Africa continues to excite controversy. The International Union against Tuberculosis and Lung Diseases and the World Health Organisation issued a joint statement in October 1993 which recommended "isoniazid preventive therapy for individuals with both tuberculosis and HIV infections."² Meanwhile, in December 1993, one of the final recommendations of the African regional meeting of the international union was that "Preventive chemotherapy of HIV seropositive individuals infected by the tuberculosis bacillus is not a cost-effective measure in programmes in Africa, and is not possible in countries with a high prevalence of tuberculosis."³

These positions are not contradictory: rather, they emphasise the different priorities for individual people and control programmes. Preventive treatment is likely to be effective in reducing the incidence of active tuberculosis in those infected with both HIV and *Mycobacterium tuberculosis*,⁴ although the only African data have yet to be published (D Wadhaven *et al*, eighth international conference on AIDS, Amsterdam, 1992). Prevention of opportunistic infections has led to considerable improvements in life expectancy of those found to be HIV seropositive in the industrialised world: the prevention of tuberculosis could have similar benefits in Africa. Whether it will prove feasible to implement preventive treatment for more people is not clear. Data from Uganda emphasise the large number of people who have to be screened for HIV antibodies to get one person on to isoniazid (T Aisu *et al*, ninth international conference on AIDS, Berlin, 1993). Without data on how efficacious or feasible treatment is, it is clearly not possible to derive cost-benefit analyses. Simplistic calculations make it clear, however, that giving four patients treatment might be hoped to prevent one case of active disease, which would result in a saving on drug costs,⁵ although this does not consider the costs of screening the four patients or investigating and caring for the one.

There is considerable ambivalence about being