

Marathon medicine

The modern cult of marathon running owes more to Robert Browning and his Victorian romanticism than to any recognisable historical fact.^{1,2} The marathon was not an event in the classic ancient Olympic games, but the poet's licence with the story of the Greek messenger Pheidippides's heroic run, garnished with his death as he gave the message, led to the modern Olympic marathon and some 70 years later to the mass marathon phenomenon.

The myth of the runner's death is still perpetuated as a medical fact by Northcote, who advocates routine exercise electrocardiography on all novice runners over 40, and even some of 35-40.³ Indeed, the Victorian image of the marathon runner, close to death, is widely accepted and has been helped along by journalists. First came the collapse of Dorando Pietri in front of the royal box as he led the 1908 Olympic marathon, and the photograph of his being helped across the finish line became a sports classic. Pictures of Jim Peters disorientated and confused from hyperthermia as he led the 1954 Vancouver marathon in weather conditions far too hot for such an event are also frequently shown, giving the impression that marathon running is inherently dangerous.

The reality is very different. The common medical risks of marathon running and training are not alarming and they can be prevented (p 1355). For women marathon training produces a small "risk" of amenorrhoea, but the commonest reason for withdrawal from the London marathon (for either sex) in the four months to date has been pregnancy. Most problems on the day are trivial: blisters, chafing from constant friction with fashionable nylon running shorts and vests, muscle cramps, and exhaustion make up the vast majority of "casualties" recorded at popular marathons.⁴ These are preventable to some extent by adequate training, correct shoes and clothing, and perhaps use of petroleum jelly on friction points. Musculoskeletal problems are common during training, and more than a third of these are knee injuries, which often become chronic.⁵ Accurate diagnosis of musculoskeletal problems is not possible in a "major disaster" setting with 1000 or more casualties at first aid stations at popular marathons, so that the actual incidence of fatigue fractures is not known, but fractures of the neck of the femur as well as the commoner "march fractures" may occur.

Constitutional problems are usually related to the weather and dehydration. Heat stroke may occur even in mild weather

conditions, but hypothermia is commoner in Britain. Apart from advice on drinking frequently and wearing adequate clothing in cold weather, the prevention of real damage from hyperthermia probably requires education of the public not to encourage the dazed disorientated runner to carry on but to get him to first aid as soon as possible.

Major cardiac events are surprisingly uncommon, and the occasional death from heart disease is perhaps inevitable with the numbers of participants.⁶⁻⁸ Canadian experience of exercise testing has shown it to be of very limited cost benefit in mass screening of potential joggers. Such tests tend to give frequent false positive results in normal populations, and a better approach uses a preliminary health questionnaire to identify those at particularly high risk.⁹ The best form of prevention is better public knowledge of coronary disease and its symptoms. Inevitably occasional death in a marathon is given a great deal of press coverage⁸ but necropsy usually shows extensive coronary disease.^{10,11} Possibly we are all susceptible to the legend of Pheidippides, but over 96% of the 36 000 runners in the last two London marathons finished the course, and perhaps after a century this romantic legend will be laid to rest.

DAN TUNSTALL PEDOE

Senior Lecturer and Consultant in Medicine and Cardiology,
St Bartholomew's Hospital,
London EC1A 7BE and
Medical Director London Marathon

¹ Grogan R. Run Pheidippides, run. The story of the battle of Marathon. *Br J Sports Med* 1981;15:186-9.

² Martin DE, Benaria HW, Gynn RWH. Development of the marathon from Pheidippides to the present with statistics of significant races. *Ann NY Acad Sci* 1977;301:820-57.

³ Northcote RJ, Ballantyne D. Sudden cardiac death in sport. *Br Med J* 1984;287:1357-9.

⁴ Nicholl JP, Williams BT. Injuries sustained by runners during a popular marathon. *Br J Sports Med* 1983;17:10-5.

⁵ Maughan RJ, Miller DB. Incidence of training related injuries among marathon runners. *Br J Sports Med* 1983;17:162-4.

⁶ Williams RS, Schocken DD, Morey M, Koisch FP. Medical aspects of competitive distance running. *Postgrad Med* 1981;70:41-50.

⁷ Tunstall Pedoe DS. Cardiological problems in sport. *Br J Hosp Med* 1983;29:213-20.

⁸ Tunstall Pedoe DS. Exaggerated risk of marathon races. *The Times* 1983 June 27:9(col 7).

⁹ Shephard RJ. Can we identify those for whom exercise is hazardous? *Sports Medicine* 1984;1:75-86.

¹⁰ Parsons MA, Anderson PB, Williams BT. An "unavoidable" death in a people's marathon. *Br J Sports Med* 1984;18:38-40.

¹¹ Waller BF, Roberts WC. Sudden death while running in conditioned runners aged 40 years or over. *Am J Cardiol* 1980;45:1292-300.