Warm up

Welcome to the future
An interesting study that should both reassure and inspire us was recently published in the journal *Circulation* (2001;104:1350–66). This study raises the issue of the role of sports and exercise medicine in the broader context of public health.

Many of us who see ourselves as “couch potatoes” or “mouse potatoes” to use the appropriate computer jargon, lament the passing of our former fitness. Well, hope is at hand. A study with a remarkable name, the Dallas Bed Rest and Training Study, has found in a 30 year follow up, that just six months of exercise can reverse the decline in cardiovascular capacity associated with aging. However, just three weeks of bed rest has a far more profound negative effect on cardiac fitness than aging alone.

The study findings showed that men who undertook a six month endurance training programme of walking, jogging, or stationary cycling were able to completely recover the aerobic fitness they had lost in the previous 30 years. None of the men had complications from the exercise and all managed to stick to their exercise regimen. Their training level increased weekly until at the end of six months they were exercising four hours per week over four to five sessions.

The study focused on five healthy men who at the age of 20 originally took part in the landmark Dallas study, and then participated in the 30 year follow up study. In the 1966 study, they did eight weeks of intensive exercise training after 20 days of bed rest. In the follow up, they were evaluated for the effects of age on cardiovascular response to exercise testing and cardiovascular adaptation to an exercise programme.

Researchers found that 20 days of bed rest at the age of 20 had a far more profoundly negative impact on cardiovascular fitness than did 30 years of aging. Over 30 years, the men’s body weight increased by 30% and their body fat doubled. Their Vo2 max decreased by 11% but unexpectedly the decrease was mainly due to an impaired efficiency in the peripheral oxygen extraction. There was no decline in maximal cardiac function despite the three decades of aging, with a decline in maximal heart rate balanced by an increased in maximal stroke volume.

The researchers concluded that physical activity accounted for as much as 40% of the age related decline in aerobic fitness. In the second phase of the study, the men’s loss of cardiovascular fitness in the previous 30 years was completely restored by the six month training programme. The *Circulation* study adds to the body of information on exercise and health but it also provides hope that one of the groups with the highest levels of cardiovascular problems—that is, middle-aged men—may be amenable to remarkably simple exercise prescription.

How then do we take this information into our clinical practice? This study is in line with previous studies demonstrating that in older patients relatively low intensity exercise can have a significant effect on health, injury prevention, and well being. Interestingly, another recent study (*Rheumatology* 2001;40:772–8) demonstrates the value of exercise in injury treatment. This study suggests that regular aerobics classes may be effective therapy for chronic low back pain. Although intuitively sensible, the far more interesting aspect of the study was that aerobics was equally as effective as either muscle reconditioning programmes and physiotherapy treatment.

Our duty then as sports physicians should be to consider the wider public health setting and to encourage exercise in all our patients. What a strangely simple idea in this new millennium!

Raiders of the lost dream

The following amusing aside has been developed from an email circulating through the ether. I am assured by English cricket team medical staff that it originated in Australia. Even cursory inspection of the note reveals this not to be the case. Within Australia, the note is suspected to be an official communique designed to “sound out” the cricket public as to some proposed changes in a vain attempt to even up the current whitewash being repeatedly experienced by the English national team. Please note that individuals from non-cricket playing countries will not understand the concepts expressed herein. Please note that citizens of non-Commonwealth countries may not understand the concepts and terminology used in this article.

Memo
Following the crushing defeat of England in the last seven Ashes series, the International Cricket Council has imposed a new set of rules to make the contest more even: (1) England has been granted an automatic “wickie”, freeing up current wicket keeper, Alex Stewart, to defend the boundary. Under the rule, Australian batsmen will be deemed out “caught behind” if the ball nicks their bat and

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lands in the immediate area behind the wicket. The rule is a compromise from the original English proposal that had pushed for automatic slips as well. The ICC refused that request on the grounds that “someone has to go and get the ball when an Australian misses it.” An alternative proposal that Australian batsmen field their own misses behind the stumps was firmly rejected by Australia.

(2) Australia is under strict “tip and run” restrictions that require they take a run off every single ball they hit. The Australian captain, Steve Waugh, was apparently happy to accept this rule, as it meant no change to his current game plan. As a compromise, it was agreed that the Australians would also have to shout out the word “wickets” when completing a run to make run out decisions by umpires easier.

(3) Following the performance in the first test, all Australian batsmen now have “six and out” restrictions imposed on them. This particularly applies to wicketkeeper, Adam Gilchrist. In addition, following complaints from the English fieldsmen, Gilchrist will have to get the ball if it goes across the road.

(4) Instead of using a bat, both Adam Slater and Adam Gilchrist will now be obliged to use their arm with their jumper wrapped around it.

(5) Additional rules applicable only for the English team include “one hand, one bounce” while they are fielding, and the provision of “last man carries” when batting. Australian captain Steve Waugh has vigorously opposed the “last man carries” rule and has launched an appeal. Waugh says Australia will only agree to the rule if there are “electric wickets” allowing Aussie fielders to throw to the stumps at either end.

(6) In response to a request from the English team, the “can’t get out first ball” provision has been amended to “can’t get out first ten overs”. Although intuitively attractive from a television spectacle standpoint, both the ICC and the Australian Cricket Board have pointed out that the extra runs gained would hardly be worth the effort.

(7) In response to English batting prowess, any English batsman who has more than three “ducks” in a series cannot get out for a “duck” for the remainder of the series.

(8) All English bowlers, both spinners and slow medium pace bowlers, will also be allowed to scratch the ball with a bottle top, wrap the ball’s seam with electrical tape, or use vaseline on the ball at their discretion to improve their chance of taking a wicket.

(9) There will be no LBW decisions given against English batsmen unless “it is really, really obvious.” For Australian batsmen, an LBW decision will be allowed if the ball strikes the batsman anywhere on the pad, thigh guard, or arm guard.

(10) Australian bowlers are required to bowl underarm at the English tail end (batsmen from five to eleven in the batting order). Shane Warne has conceded that it is “fair enough” and does not think it will slow his wicket taking considerably.

(11) In the unlikely event of an English batsman remaining at the crease for any significant length of time, any individual score above 70 will be automatically designated a “century” and recorded as such in the official match statistics.

(12) Glenn McGrath is not allowed to bowl at Michael Atherton at any time.

(13) The “front foot rule” for bowlers will only apply to the Australian team.

(14) Shane Warne must nominate the type of delivery before bowling if a wicket is to be claimed. If he fails to nominate the delivery or bowls a different delivery, then the delivery will be deemed a “no ball” by the umpire.

Despite the changes, Australia remain firm favourites for the next series and are at unbackable odds to win “eight in a row”.

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