

deaths and there must be a place for resuscitation. The doctor faced with a frightened mother who has just read an article on cot deaths has to explain that all living is dangerous and that at least her baby has got past the more dangerous stage of birth. Fear will not help a mother to feed her baby.

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- ⁴ Ray, C. G., and Hebestreit, N. M., *Pediatrics*, 1971, 48, 79.
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- ⁶ James, T. N., *American Journal of Cardiology*, 1968, 22, 479.
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Sharman and his colleagues at Loughborough,² in a controlled trial with 400 mg vitamin E daily, examined the performance of adolescent schoolboy swimmers. They found no significant differences at the 5% confidence level in the effects of the vitamin as such, and in particular no evidence was obtained of its suggested ergogenic properties.

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- ⁴ *Report of Medical Research Project into Effects of Altitude in Mexico City, 1965*. London, British Olympic Association, 1966.
- ⁵ Cureton, T. K., *American Journal of Physiology*, 1954, 179, 628.
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- ⁷ Cureton, T. K., *Journal of Physical Education*, 1959-60, 57, 27 and 59.
- ⁸ Cureton, T. K., *Science of Sport*, Tokyo, 1964, 481.
- ⁹ Cureton, T. K., *British Journal of Sports Medicine*, 1971, 5, in press.
- ¹⁰ Thomas, P., *The effects of vitamin E on some aspects of athletic efficiency*, 1957. Ph.D. Thesis, University of Southern California, Los Angeles.
- ¹¹ Prokop, L., *Sportärztliche Praxis*, 1960, 1, 19.

Vitamin E in Athletics

The provision for athletes of a diet rich in nutrients known to have either a direct or indirect effect on muscular performance has been tried,¹ and there are several reasons why vitamin E has attracted interest in this respect.

Recently I. M. Sharman and colleagues² have studied the question whether α -tocopheryl acetate can increase the output of energy and whether it can help sportsmen to perform better and so win their events. Thus in some animals deficiency of the vitamin causes muscular dystrophy,³ and it might therefore be reasonable to assume that when the muscles of competitors are subjected to strain, as in athletic contests, their requirements might be increased and not met by the amounts provided by an ordinary diet. A further reason for expecting that vitamin E might benefit athletic performance is based on the evidence that in experimental animals resistance to both hypoxia and hyperoxia can be influenced by their vitamin E status. The possible protective effect of vitamin E in relation to hypoxia gained importance from the venue of the Olympic Games at Mexico City in 1968. In an investigation organized by the British Olympic Association strong evidence was obtained that the performance of athletes, particularly long-distance runners, is adversely affected by competition at high altitudes.⁴

There have been several claims that vitamin E can improve performance. T. K. Cureton, in a series of papers,⁵⁻⁹ has found beneficial effects when giving athletes doses of either vitamin E or wheat germ oil. On the other hand P. Thomas¹⁰ could find no significant differences between dosed and undosed people in cardiorespiratory and motor-fitness tests. L. Prokop,¹¹ who subsequently investigated the short-term effects of dosing people with the vitamin, found that when they performed a standard exercise task those who had been dosed recovered quicker after exercise. These claims and attempts by other workers to improve performance, mainly swimming, by vitamin E therapy have been made, and while the conclusions have usually been favourable to the value of the vitamin the results have generally been unconvincing on scientific and statistical grounds. Furthermore the effects of training during the trials have not always been taken into consideration, nor has sufficient care been taken to eliminate any psychological influences which might motivate a bias in the results.

"The Loose Back"

Lumbago continues to be a major cause of disability and consequent loss of work. Thus in the year ending June 1967 there were 9.63 million certified days of incapacity from this cause in men and 0.31 million in women.¹ Nevertheless, the word "lumbago" merely signifies low back pain, and its causes range from ligamentous injury and protrusion of an intervertebral disc to secondary neoplasm and osteomyelitis, or psychological upsets.

One little discussed cause of backache is generalized hypermobility of the joints. Well described in 1967 by J. A. Kirk and his colleagues,² this condition is characterized by hypermobility in the hands and wrists, and to a lesser extent in the legs. The hypermobility of the joints is an isolated phenomenon, and is thought to be the result of generalized familial laxity of the ligaments. The symptoms vary in duration and severity, but usually patients complain of pain in the muscles and joints. Often, however, the symptoms are so mild that sufferers do not seek medical attention. Nevertheless, out of 19 of the 24 patients studied by Kirk and his colleagues in whom the sites of joint pain were recorded, four had experienced pain in the back.

R. G. Howes and I. C. Isdale³ have now applied for concept that hypermobility and ligamentous laxity may produce skeletal pain to a study of backache. They have analysed their findings in a study of 102 consecutive cases of "problem" backache. In most of the 59 men the authors were able to satisfy themselves about the cause of the backache, and this group contained no more patients with joint hypermobility than would have been expected from a control series also studied. Nevertheless, the group of 43 women with problem backache contained a subgroup of 20 in whom no definite cause for backache could be found, and in them there were many more patients with hypermobile joints than would have been expected by chance; 17 had increased ranges of movement by two of the criteria used and nearly all of these had hypermobility of the spine.

Lumbago is a symptom, and to be certain of its cause there must be a characteristic history, specific and objective physical signs, or a diagnostic radiological or other abnormality. In most soft tissue lesions only the history and signs are relevant, and it is logical to assume that while both ligamentous strain and a disc protrusion will produce pain and