function by reducing the pain and muscle spasm which so often hinders progress.

The third, or CHRONIC group of injuries includes all the typical sporting overuse injuries in which a "cold" fibrosis is established. Many of the procedures used in the Physiotherapy department to initiate an active inflammatory response in this fibrotic situation are painful in the extreme, and the counter-irritant and anaesthetic effects of ice can make the necessary treatments better tolerated by the patient.

BOOK REVIEW

GENETIC AND ANTHROPOLOGICAL STUDIES OF OLYMPIC ATHLETES

A. L. de GARAY, L. LEVINE and J. E. LINDSAY CARTER

1974 (Published in U.K. November 1976)
Academic Press Inc., New York, San Francisco & London.
$14.50 £8.85

The Olympic Games in Mexico in 1968 was the last chance there was of carrying out investigations upon Olympic athletes at the venue of the Games before the mass murder in Munich forced stringent security so that camps became military establishments instead of relaxed communities where there was freedom of movement and the ability of accredited scientific teams to undertake work. The altitude problem also meant that many of the competitors, especially in endurance events, took the chance of arriving early to undergo some degree of acclimatisation, and were willing to cooperate in being submitted to non-stressing investigations.

Of the 6,084 athletes at Mexico, the research team invited 4,168 to attend the centre for study. 1,265 (20.8%) actually attended, and it is upon this sample that the study is based though some pilot work was done before the Games on Mexicans of various racial backgrounds, both for comparison as a control group, and for the standardisation of techniques and apparatus. The response from the different countries varied a great deal; 54% from Mexico, 36% from Canada, 6.7% from the U.K., 0 from France! Most were caucasians, 718 compared with 235 negroids, 87 mongoloids and 221 mestizos. 148 were female. Athletes were drawn from all events except equestrian, in which horses played the main part. The studies made on these athletes were carried out by independent teams, working in close collaboration with each other, and carrying out a complete testing schedule on each subject. This was a big improvement on the methods adopted in previous studies where each team selected its own subjects, and frequently failed to pass the subject on to another team carrying out another type of investigation. The testing at Mexico obviously cost a lot of money, and was performed with an efficiency that can only be envied by those of us who have tried to carry out investigations on other occasions on a shoe-string budget and with little official backing from the organisers.

The first investigating team concentrated on the assessment of physique. The somatotyping technique used was that of Barbara Honeyman Heath and Lindsay Carter, both of whom carried out much of the work themselves, though the actual measurements were performed mainly by Johanna Faulhaber and her fellow Mexicans. Using a different somatotype technique makes direct comparison with Jim Tanner's "Physique of the Olympic Athlete" rather difficult, though there are no very big differences in rating between the techniques with young adults away from the extremes of physique. Well over half the book is devoted to the production of the results of this study, and most detailed tables are given, analysing these results. These tables will prove most useful to any future research worker wanting detailed comparisons, but to the casual reader they may appear no more exciting than reading logarithm tables.

Another team investigated the place in the family of the Olympic athlete. This did not lead to any firm conclusions; the parents' athletic ability did not seem to be of significance, and second children seemed to succeed better than eldest, but as this study was based upon athletes' statements, and they tended to belittle any excellence in sport of parents or siblings, accurate results could not be expected. The ability to taste such substances as phenylthiourea is an inherited characteristic, and might be linked to thyroid function. Again, the results were rather inconclusive, but the tests took little time to perform, were not unpleasant, and laid foundations for future research.

Genetic studies were also carried out on the distribution of blood groups, which showed a higher proportion of Group B than would be expected in an English population (15%). Of special interest were the haemoglobin studies which included the surprising observation that 11 of the negroid athletes displayed Haemoglobin A.S. phenotype.

usually associated with sickle-cell anaemia (though actual sickle cells were not detected in them), nor did the altitude of Mexico City cause detectable haemolysis.

Another genetic study included finger and hand prints, analthough these studies showed racial differentiation, they were inconclusive in showing any pattern between athletes in different classes of events.

Chromosome patterns were studied in buccal smears. Sex chromatin "Barr bodies" which can be found in tissue cells in females at all times, and not just at mitosis, were observed. There was a wide difference btween the numbers of cells displaying these amongst the women tested, but a few of the men also displayed the occasional Barr body as well. No apparent females with XY male chromosomes were found, nor did the team find any XYY patterns, (associated with tall violent criminals) among the 15 women and 227 men upon whom full chromosome counts were done. There was, however, a surprising variation in the tails of the Y chromosomes throughout the male population studied, which cannot be explained so far.

I enjoyed reading the book, partly for the scientific information it contained, both in studies that gave positive results, but also those whose results were inconclusive or even contrary to what was expected. It also brought back happy memories of the courtesy I received frm Dr. de Garay, Dr. Faulhaber and Professor Ford when I visited the laboratory in the Olympic Village, and the help and interest I had a few days later from Barbara Heath and Lindsay Carter. The published book perhaps failed to put across the dedication of the research teams, their struggle to do their work under very difficult conditions, and the excellent collaboration between the various teams. They worked hard in Mexico, but appeared to enjoy themselves whilst doing so. They also worked hard and fast to produce results as quickly as possible, and most of the somatotype ratings were completed and checked within a week of the measurements being made. It is a great pity that it then took six years for the published report to come out, according to the date of publication printed in the book, but actually eight years before it appeared in U.K. shops. As far as I understand, no communications to any scientific society (except a preliminary report about techniques from Dr. Faulhaber to the World Congress of Sports Medicine in 1968) have been made, nor anything arising from this project published up to the production of the book. I do not think it possible to lay any blame on any of the authors for this. There was no "mañana" about the way the scientific work was conducted.

It is inevitable that this book will be compared with J. M. Tanner's "Physique of the Olympic Athlete". It certainly lacks the latter's abundant illustrations, and is unlikely to be a somatotyper's aid to the extent that Sheldon's "Atlas of Man" or Parnell's "Behaviour and Physique" are, but it does contain the Heath-Carter technique in detail, and the necessary tables for making the calculations; information that so far has only appeared in journals as far as I know. As with most publications in "Sports Medicine", I learnt a good deal of general medicine, especially genetics and haematology, from this book, put over in a way that could easily be understood. It is well produced, and at a price that any medical or physical education college should afford.

H. Evans Robson

BOOKLET REVIEW

DECOMPRESSION AND NARCOSIS

by A. S. G. CURTIS

Scottish Sub Aqua Club NDC Paper 1, 35pp, 1974, 0.75p

This booklet is an important attempt to condense and promulgate information on two of the most difficult problems in diving physiology. The brevity means that there is little amplification or qualification of concepts so that statements may be startling in their starkness and underlying major assumptions are not clarified.

My heart sinks at the thought of yet another form for medical examination of divers. If only the Scottish Sub-Aqua Club and the British Sub-Aqua Club could combine! at least in their medical requirements. This passion for almost everything to be different in Scotland or elsewhere will lead to much unnecesary work for everyone.

The uninitiated may not realise how controversial the subjects are from this presentation.

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