CASE REPORT

RUNNER'S STRESS FRACTURE PRODUCED BY AN
AEROBIC DANCE ROUTINE

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ABSTRACT

Astride jumps in an aerobic dance routine has produced a "runner's" stress fracture.

Key Words: Stress fracture, Fibula, Aerobic dance, Unilateral.

INTRODUCTION

Stress fractures occur in normal bone of a normal person with normal use and no injury (Devas, 1969) and are caused by repetition of the same movement. Fibular stress fractures are most common in athletes (Devas and Sweetman, 1956) and those located just proximal to the tibio-fibular syndesmosis are caused by running (Orava et al, 1978), hence the synonym "runner's fracture". "Aerobics" dance exercises maintain a raised pulse rate by modified exercise to music, and this case introduces the "aerobics" dance instructors to this causative group.

CASE

A 31 year old dance instructress presented with a 5 month history of pain over the left fibula, 6 cm proximal to the tip of the lateral malleolus. She had rested for 7 weeks prior to consultation, and radiograms confirmed a stress fracture with callus formation (Fig. 1). The diagnosis had not been made by previous doctors or physiotherapists. She also had a longstanding left adductor muscle strain of the thigh.

The adductor muscle was treated with stretching and ultra sound, and astride jumps were reduced and landed on flat feet. Later pointed toe landing was re-introduced.

DISCUSSION

The fibular stress fracture just proximal to the tibio-fibular syndesmosis is well documented by the authors already mentioned and by McBryde, 1975, and the

author believes that pain 4-6 cm above the tip of the lateral malleolus is always a stress fracture, until proved otherwise by radiograms and scintigraphy (Pratha et al, 1977; Rosen et al, 1982).

Jumping from feet together, to feet apart and back

again, "astride jumps", "jumping jacks", is a common aerobics exercise, and when landed on pointed toes, a must for dancers, the foot inverts and plantar flexes. This moves the strains bilaterally over the fibulae. Professional instructresses may repeat astride jumps regularly over the day.

Why a unilateral injury? The often unilateral nature of the runner's fracture may be caused by mechanical misalignment, such as genu varus, tibial torsion, and varus deformities of the feet during running. Perhaps the primary lesion in this case was the left adductor strain. To produce a visually correct movement, the body weight was biased to the left allowing increased range of compensatory abduction in the right leg, but producing a secondary stress fracture on the left. A primary stress fracture would also require asymmetrical overload, but the adductor strain would be caused by actively resisting transference of load over the injured fibula.

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BOOK REVIEW

Title: PRESENTATION OF DATA IN SCIENCE

Authors: Linda Reynolds and Doig Simmonds, 1983

Publishers: Martinus Nijhoff, The Hague and Lancaster

Price: £13.50 soft cover £21.50 hard cover 209 pages. Numerous figs, Bold. Index. ISBN 90 247 3054 6

As the autumn sun streamed into the room on Eastbourne seafront, the class of some two dozen sat around the tables arranged in a rectangle, the teacher moving around constantly to help or criticise, while his pupils drew, awaited their turn with the drawing boards, or examined the stencils, dry transfers and instruments. It was not an art lesson for the Lower IVth, but a group of ageing editors of medical and scientific journals from the UK and other parts of Europe, not excluding the BMJ's breezy Chicago correspondent, Dr. George Dunea. The teacher was Doig Simmonds, Chief Medical Artist at the Royal Post-graduate Medical School, Hammersmith, who had, the previous evening, shown us some of his extensive collection of really bad lecture slides, graphs and other figures from journals, often reputable ones, as examples of how NOT to produce illustrations for books, articles or lectures, or, for this particular audience, the types of illustrations editors must reject.

Even in Universities and Colleges with a good audio-visual aids studio, the pressure upon these departments to produce teaching material means that research reports may have to take low priority, so authors should, and could, produce illustrations of good quality with a little time, patience, £30-£50 of equipment, and precise guidance, even if they have had no previous art training.

This book gives the precise guidance needed.

The first chapters describe varieties of printer's type, legibility, and the lay-out of tables to give information, and to differentiate between the details of a published table and the few words and figures that make a point in a projected slide or overhead transparency. Later chapters deal with the technique of drawing graphs, the use of such aids as stencils, dry transfers, self-adhesive tape to make continuous or dotted lines of various widths, and how to correct errors. They lay-out of slides is described, and the need for designing slides to suit the size of auditorium, the strength of the projector lamp and other factors, the book ends with a useful glossary of words used in printing and the graphic arts.

As an editor, I wish all contributors would have the chance to study this easily read book. As a lecturer I have already found its advice invaluable in the preparation of slides. I am sure others will find it of value even if they have already published extensively and have wide experience as lecturers.

H. E. Robson