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CONTENTS

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HEALTH CARE FOR THE FUTURE SPORTSMEN OF SOUTH AFRICA

In order to make progress in any field of medicine, research at both clinical and scientific levels is necessary. Sports medicine is in the same situation. Often established techniques have to be discarded as newer ones take their place. Ideas become out-moded because careful clinical or scientific investigation shows that they are incorrect. Unfortunately, the newer investigations are often expensive and in the South African context, they may be too expensive for the general public.

For example, Magnetic Resonance Imaging (MRI) is utilised worldwide (in the developed countries) as an accurate diagnostic tool in most parts of the body. This investigation costs in excess of R1 000 in South Africa.

But it may be necessary, e.g. using the MRI Scan it has been shown that in anterior cruciate ligament tears of the knee joint, bone on the lower end of the femur may also be damaged.

Retrospectively arthroscopic surgery, in itself an expensive technique, has been shown to make diagnoses of internal derangements of the knee with far greater accuracy than before. Not only this but surgical treatment through the arthroscope has markedly reduced the incidence of osteoarthritic damage to the joint caused by previous open surgical techniques. This will cause a tremendous reduction in long term morbidity and the possibility of having an expensive total knee replacement in the future.

At the present stage more and more black athletes are joining medical aids and will be able to afford first world medicine. Newer legislation may well greatly increase this number.

Obviously the level of good health care for all sportsmen is the most desirable but unfortunately the champions are in an elitist category and may well require a higher level of medical skills and investigations. There is no way, for example, that a top class sportsman with a torn meniscus can and should have to wait for a hospital bed as is the situation in state social medicine which often happens at the present stage.

The future holds interesting prospects for sportsmen and sports medicine.

Dr Clive Noble, MBBChB, FCS (SA).
Editor-in-Chief

CRICKET INJURIES WHILE ON TOUR WITH THE SOUTH AFRICAN TEAM IN INDIA

C Smith

Keywords: International tour, cricket injuries, physiotherapy.

ABSTRACT

This paper briefly discusses the injuries encountered and their management during the South African Cricket Team's inaugural 8 day tour of India in November 1991. The team consisted of a squad of 14 players and the team physiotherapist. The tour marked the return of South Africa to the international cricket arena after 21 years of isolation. The most commonly injured area was the lower limb (64%) with the bone/ joint structures accounting for 7 (50%) of the injuries. Continued research and interest in this field will contribute towards a better understanding and management of cricket related injuries.

INTRODUCTION

Cricket is a sport which is widely played throughout this country and the world, yet unlike running, cycling, swimming or rugby, little research has been done on the varied aspects of the game. However, the last few years has demonstrated a growth of interest in cricket which has specifically resulted in a recent spurt of local paper publications. The specific areas looked at include the injuries related to cricket,[1,2,3] injuries associated with cricket tours,[1] the complex motor skills of the cricketer (batsman)[4] and anthropometric profile and body composition of cricketers.[5,6] A fair amount of other published material on cricket injuries already exists in the literature, mostly eminating from Australia.[7-12] Even so, very little data has been captured on cricket injuries associated with touring teams with only one publication known to be reported on this topic.[1]

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Hopefully, this is changing in South Africa, as its cricket officials have championed South Africa's return to the international arena with full membership status in the International Cricket Council. This now means that South Africa can embark on tours to other countries and play host to touring countries, increasing the exposure of its players to international competition. This will in turn have the effect of further increasing the opportunity to investigate the area of injuries associated with touring international teams, as the research on cricket injuries in South Africa has, up till now, been confined to domestic level.[4] The purpose of this brief paper is thus to report on the injuries which were encountered during the South African Cricket Team's inaugural 8 day tour to India during November 1991 and to form a base for further data collection and research on cricket injuries in this country.

BACKGROUND

Within a day of deciding that the South African cricket team was to tour India for 3 one-day interna-tionals, the author was informed that he was to tour with the team as physiotherapist. The next two days were spent at high speed organising equipment and making necessary arrangements before the team met together for the first time. Only one practice was possible before departing for India. On arrival in Calcutta, the first stop, the team had two days to recover, adjust to the culture shock, acclimatise and practise before the first test match. In all, 3 one-day test matches were played with rest days inbetween each match. None of the players presented with any injuries which may have prevented them from playing the first match.

Before each practice session and match, the squad went through a warm-up period of jogging, arm loosening exercises and stretching to main-tain or improve their flexibility and prevent further injury. All the players were active participants in their provincial cricket programmes and thus did not require any form of exercise to improve their state of fitness.

INJURIES AND TREATMENTS

For the purposes of this paper, an injury was defined as any condition which required physiotherapy or medical treatment. Eight of the players received treatment while 6 players did not. The coach received treatment for his shoulder which had been operated on a week prior to departure (not included in the data). There were a total of 14 separate injuries which required treatment. Dividing the injuries into anatomical areas, 64% were to the lower limbs, 14% to the upper limbs, 14% to the head and neck and 7% to the trunk and back. There were 7 bone/joint injuries, 3 involving tendons, 1 muscle injury, 1 ligament injury and 2 soft tissue injuries (bursitis and haematoma). Four injuries occurred while bat-

Table 1: Anatomical injury profile

Anatomical Site			
Head and neck	(14%)		2
Upper limbs	(14%)	Hand	1
		Fingers	1
Trunk and back	(7%)		1
Lower limb	(64%)	Hip	4
		Thigh	1
		Knee	2
		Lower leg	1
		Ankle	1
		Total	14
Injured Structures			
Bones/joints			7
Muscles			1
Tendons			3
Ligaments			1
Soft tissue			2
		Total	14

ting, 4 as a result of bowling and 6 while fielding. One player was treated for 5 separate injuries, three players for 2 injuries, and 5 players for a single injury. Only 1 injury was considered a major injury which prevented the player from playing again on the tour.

The most common site injured was the hip region where 4 injuries occurred. One player developed a minor psoas bursitis which was treated with ice, ultrasound and laser. He did not request any further treatment for this injury as he could play again without pain. The other hip injuries involved two players during the last game, one straining his right psoas tendon and left rectus femoris tendon and the other player his right rectus femoris tendon.

Two reasons exist to explain the cause of these injuries. Firstly, both player had other minor injuries involving the same limb. These injuries may have subconsciously caused the players to compensate for the use of their injured muscles by overexerting and straining supplementary muscles of the same limb. The second reason is that the venue for the final game was an athletics stadium which included a tartan running track within the field of play. These two players fielded near to the boundary for most of the game and thus had to, at times, field the ball by running on the tartan track. It is proposed that the activity of having to quickly start running and then stop to field the ball as well as changing direction while using spiked cricket boots on the tartan track may have lead to the hip injuries involving the psoas and rectus femoris tendinous insertion sites.

Two hand injuries were observed. One player received a blow with the cricket ball to his right hand while batting, resulting in an undisplaced crack fracture of the base of the second metacarpal bone. He was forced to withdraw from the team for the final game and his hand was strapped for the duration of the tour and treated daily with ice, laser and analgesics when required. The other player whose position involved much catching of the ball sprained the distal interphalangeal joint of the little finger. His function in the team necessitated that he play all games and he was treated with ice, joint mobilisations, laser and ultrasound.

Two players developed symptoms arising from the cervical spine. One complained of unilateral headaches with retro and supero-orbital eye pain. This was treated with mobilisations to the upper cervical spine and acupressure to relieve pain and tension in the surrounding muscles. The symptoms were completely relieved after 2 days. The other player flared up a troublesome cervical spine injury which had plagued him for a few years. His injury was related to his bowling technique where upon delivery of the ball he would thrust his neck from the neutral position to right side flexion and then sharply back to left side flexion when releasing the ball. He experienced pain and tension in the trapezii, levator scapulae and rhomboides muscles and which was also aggravated by poor sleeping posture. He too responded favourably to spinal mobilisations and soft tissue acupressure.

One of the bowlers presented with a history of mild Scheurmann's disease and complained of lumbar discomfort, stiffness and tension in his low back muscles. He was treated regularly with soft tissue massage and acupressure to relieve the muscle tension, spinal mobilisations and ultrasound. Emphasis was also placed on warm-up back exercises before he bowled and stretching his hamstring muscles.

Two players had injuries involving the knee joint. One player received a blow with the ball through the protective padding to the patella femoral joint while the other had a grade 1 medial collateral ligament sprain. Both responded well to treatment. One player was struck on the ankle with the cricket ball resulting in periosteal and superficial soft tissue bruising. He was treated with ice, ultrasound and laser therapy. Another player sustained a slight strain to his calf muscle which was treated with cross-friction massage, ultrasound and laser stimulation. Finally, one other player was struck on the thigh through his padding leading to a superficial haematoma. This too was treated with ice, ultrasound and laser.

DISCUSSION

The injuries associated with the South African cricket teams' inaugural 8 day tour to India have been presented. A total of 14 injuries were encountered with only eight of the players requiring treatment. Although the tour was brief in duration, these injuries need to be reported to supplement the already existing, yet limited data on cricket injuries.

In comparison with other tours of similar nature, the number of injuries appear to be quite low. On a previous tour of 5 weeks to this country,[1] a total of 40 injuries were incurred at an incidence of 2,5 injures per player. This tour encountered 14 separate injuries at an incidence of 1 injury per player. This statistic seems to be a lot lower than the previously documented tour, yet if the incidence of injury on the previous tour is assessed for only those players who were injured, then it appears closer at 1,8 per

Table 2: Physiotherapy treatment modalities

Players treated			8
Treatments given			31
Treatment modalities			
Electrical:	Interferential	1	
	Ultrasound	9	
	Laser	9	
		Total	19
Manual:	Mobilisations		
	Peripheral joints	8	
	Spinal joints	6	
	Massage		
	Non-specific	5	
	Cross-frictions	2	
	Acupressure	10	
		Total	31
Strapping		5	
Ice		14	
Exercises		3	
Injections (Voltaren)		2	
		Total	24
	Total treatment modalities		74

player. The other point which needs to be considered is that this tour was almost one fifth the duration of the previous tour and only 3 matches in total were played.

Table 1 shows that the incidence of injury was found to be greatest in the lower limb (64%) followed by the head and neck (14%) and the upper limb (14%). The trunk and back were least involved contributing only 7% of the injuries. The previous cricket tour[1] demonstrated similar results with most injuries occurring in the lower limb (46%), followed by the upper limb (27%), the back and trunk (19%) and the head and neck making up 8% of the injuries.

Stretch's[3] data on cricket injuries appears slightly different and more evenly spread, as he showed that in serious injuries during the domestic season, 30% were to the lower limbs, 32% to the upper limbs, 20% to the head and 18% to the back and trunk. These figures were slightly varied for less serious injuries with 27% to the lower limbs, 43% to the upper limbs, 16% to the head and 14% to the back and trunk. What can be inferred from these figures is that the incidence of injury to the different areas of the body encountered during domestic cricket and while on tour may differ quite considerably and thus special preparation should be made for this. These results also suggest the need for specific and individualised programmes to be prepared for each player during the off-season and before embarking on international tours of any nature.

Batting and bowling each accounted for 29% of the injuries with fielding making up the remainder (43%). These figures compared with the previously reported tour's unpublished data,[1] showing that 25% of the injuries resulted from batting, 39% bowling and 36% fielding. The study on cricket injuries during the domestic season[3] found that 42% of injuries occurred while batting, 33% while bowling, while only 19% from fielding.

For the 8 players treated, 31 treatments were given using 74 treatment modalities (Table 2). The most common modalities given were those involving manual treatment techniques, followed by electrical modalities, ice and then strapping procedures.

CONCLUSION

As cricket in our country can now only go from strength to strength, it is hoped that this data will contribute towards the scientific pool of evidence that already exists regarding the game. If the standard of cricket is to be maintained and improved, then so too must the input from research support this philosophy. The physical demands of the game and the unnecessary injuries which are so often suffered need to be minimised, especially when competing for ones country at international level. This can be achieved through player and coach education, as well as the medical management team keeping abreast with the latest scientific trends and information. Hopefully this short paper will add to the already existing knowledge and also remind us not to forget that "the message of modern sport is that you ignore science at your own peril".[4] □

References on request.

NOTES ON MUSCLE SPINDLES

M Frescura

Did you ever think that voluntary muscular movements are driven by a servomechanism similar in many respects to the automatic feedback system employed to control power-assisted steering in a car?[1] I shall endeavour in this article to demonstrate such a view point through a brief discussion of the role of muscle spindles.

Muscle spindles are muscle sense organs located amongst the fibres of a muscle with an important role in controlling muscular movement. They are composed of long thin bundles of modified muscle fibres with sensory nerve endings attached to a non-contractile central region. Spindles and main muscle fibres are innervated by independent motor nerve fibres (Figure 1).

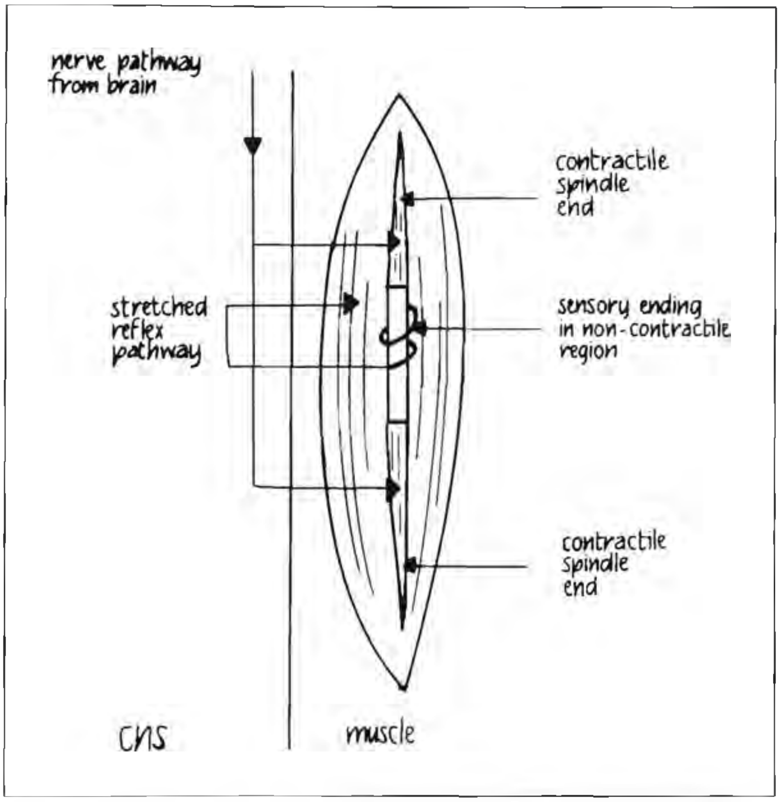

Figure 1: Schematic diagram of muscle showing a muscle spindle and nerve pathways to and from the central nervous system (CNS).

The sensory endings of the specialised central region are excited by being stretched. Stretching initiates a discharge of nerve impulses to the central nervous system which produces an automatic contraction in the main muscle - a stretch reflex. The spindle can be stretched either by a stretch in the main muscle as when an extra load is imposed on a muscle already bearing a weight (Figure 2) or by a contraction of the contractile component of the spindle (Figure 3). The stretch reflex mechanism will cause the main muscle to adjust its contraction appropriately. When contraction of a spindle is followed by a contraction of the main muscle, the stretch on the sensory region of the spindle will be relieved (Figure 4) and no further nerve impulses will be discharged. The spindle, in effect, is sensitive to the difference in length between itself and the main muscle fibres. By this sensitivity it behaves as a misalignment detector for automatic compensation.

Human muscles, in general, can be shown to be under the influence of the stretch reflex whenever engaged in steady contractions of a voluntary nature. This invaluable self-regulating property of a muscle

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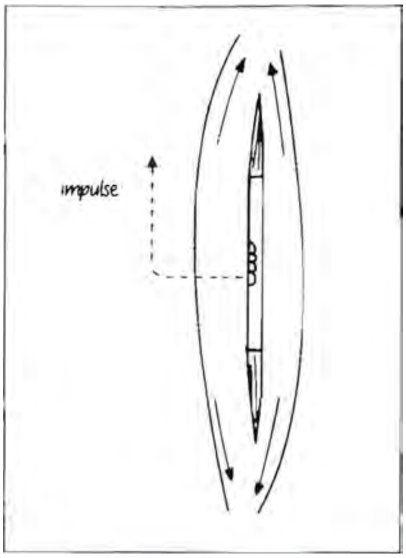

Figure 2: A stretched muscle (long arrows) stretches the sensory region of the spindle discharging a nerve impulse (dotted arrow line).

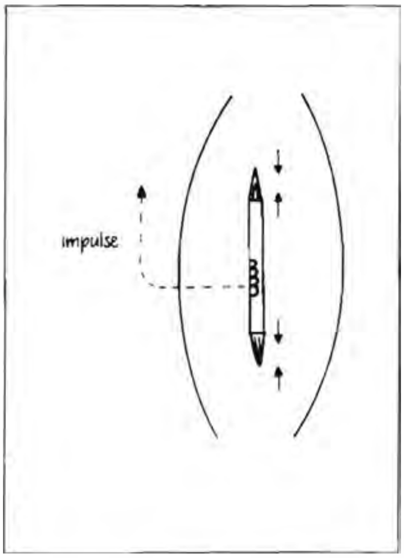

Figure 3: Contraction of the contractile spindle ends (short arrows) also stretches the sensory region discharging a nerve impulse (dotted arrow line).

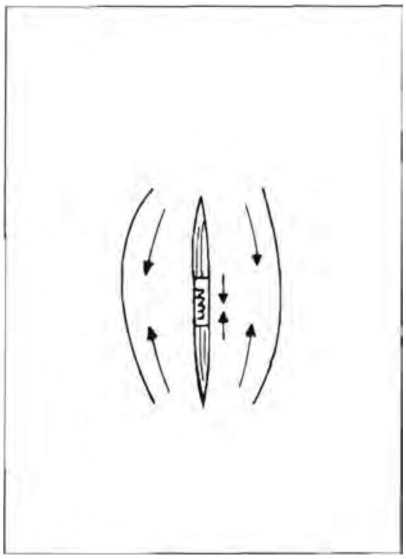

Figure 4: Contraction of the main muscle (long arrows) relieves the stretch on the spindle (short arrows) silencing the nerve impulse.

enables it to adjust automatically to changes in load. It is the muscle spindle sensor, by monitoring length differentials between itself and the main muscle which confers this subconscious self-regulating property on our muscles.

During continuous movement, the spindle contracts at the desired rate so that its sensory endings will only be excited if the main muscle does not keep up with the spindles. Contraction of the spindle effectively drives the main muscle by means of the stretch reflex which switches on more contraction if the rate of shortening loses synchrony with the spindle.

In summary, the stretch reflex controlled by the spindle is an automatic feedback response, a follow up servo-mechanism analogous to power-assisted steering in a car. Contraction of the spindle corresponds to turning the steering wheels, shortening of the main muscle to turning of the road wheels, with the spindle sensory ending acting as the misalignment detector. A subject can demand of his muscles either a certain limb position or a rate of change of limb position and his demands will be automatically met by his muscle servo.

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1. PA Merton. In: *Readings from Scientifice American.* Freeman: San Francisco, 1972.

Notes on muscle spindles is the last in a series of three articles written by M Frescura PhD, Medical Researcher at MRC, Tygerberg.

The first two articles in the series were titled:

1. Notes on the physiology of muscle contraction - *SAJSM,* volume **6**, No 4.
2. Isometric and isotonic muscle contractions - *SAJSM,* Volume **6**, No 5.

ERRATUM

Notes on the physiology of muscle contraction

SA Journal of Sports Medicine
Vol 6 No 4.

In the last paragraph of the above mentioned article, the word "asynchronously" was erroneously printed as "synchronously".

We apologise to our readers and the author.

MACRO-NUTRIENT INTAKE OF VARIOUS ATHLETES AS REPORTED IN THE LITERATURE

Mieke Faber

Athletes tend to experiment with different dietary regimes to find the optimum athletic diet. There is however, no evidence that such special dietary regimes improve performance. Dietary studies have indicated that there is extreme variability in the dietary intakes of athletes.[1-3]

Van Erp-Baart *et al*[3] studied the nutrient intake of various endurance and strength athletes. Male athletes had a mean energy intake ranging from 12,1-24,7 MJ/day. Female athletes had an energy intake ranging from 6,8-12,9 MJ/day. Male endurance athletes had the highest energy intake while female strength athletes had the lowest energy intake. A protein intake of 1,2 g/kg body weight for men and 1,0 g/kg body weight for women is recommended. Most of the studied athletes fulfilled these recommendations. Cyclists and runners averaged more than 55% of the energy as carbohydrates while the carbohydrate intake of strength athletes was as low as 40% E.

Brotherhood[4] has summarized the nutrient intake of athletes as reported by several authors. This summary shows that there is a wide range of energy intake between athletes. In general they appear to be high energy consumers, although some of the energy intakes seem to be surprisingly low. Endurance athletes consume at least 50 kcal/kg/day, while those involved in intermittent or high power activity sports consume less than 50 kcal/kg/day. It should however, be kept in mind that the latter athletes can weigh between 20 and 50% more than the endurance athletes.[4] Barr[5] summarized the nutrient intake of female athletes and she came to the conclusion that female athletes consume on the average 2069 kcal. Brotherhood[4] summarized that athletes consume approximately 16% of the energy as protein (although in some cases it was as high as 36%E), 36% of the energy as fat and 46% of the energy as CHO. This is in agreement with the values found by Barr[5] when she summarized the nutrient intake of female athletes. She found that female athletes consumed on the average 15% protein, 36% fat and 49% CHO. There were, however, big variations in energy distribution between different athletes.[4,5] When reporting nutrient intakes athletes can not be grouped together, but each specific activity group should be studied separately.

CYCLISTS

In contrast with the study of Van Erp-Baart *et al*[3] who found that female cyclists consumed a high energy diet, another study reported low energy intakes in highly trained female cyclists. This study reported an energy intake of 85% of the RDA. Sixty percent of the energy intake was supplied by carbohydrates, 14% by protein and 26% by fat. Normal albumin levels indicated that the protein intake was 1,1 g/kg body weight in this study was sufficient to meet the protein needs of these athletes.[6] Higher energy intakes of 26282 kJ per day have been reported in male cyclists. These male cyclists were shown to have a nibbling eating pattern, characterized

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by frequent eating and drinking.[7]

BODY BUILDERS

It has been found that body builders follow a high energy diet.[8,9] In the study done by Kleiner *et al*[9] the mean energy intake of male body builders was 5739 kcal, with the highest energy intake a very high 19760 kcal. However, directly prior to a competition body builders cut down on their energy intake. The mean energy intake of males before a competition was 2347 kcal and that of females 1535 kcal.[10]

Although it has been found that body builders consume a high protein diet (as high as 31% E),[8,9,11] a high percentage of these athletes supplemented their diets with high protein powders.[9,12] Compared to other athletes with similar energy intakes, body builders consumed a high protein diet expressed in terms of g protein per kg body weight. This can be explained by the use of extra protein supplements.[3] Before a competition body builders follow a higher protein diet (34% E for males and 26% E for females). For the males and the females respectively, these protein intakes equal 2,4 and 2,0 gm of protein per kg body weight.[10] It has been stated that body builders follow an even higher protein intake months prior to a competition (40-50% of the energy intake).[13]

Conflicting data regarding the fat and cholesterol intake of body builders has been reported. While Baldo-Enzi *et al*[11] reported that these athletes consumed a diet low in fat (less than 30% E), Faber *et al*[8] found that body builders consumed a diet high in fat (up to as high as 46% of the energy intake). Before a competition body builders cut down on their fat intake. Their fat intake before a competition was as low as 15%-16% E for men and 13%-14% E for women.[9,10] This high protein, low fat intake was maintained through the consumption of mostly white chicken meat, lean fish, egg whites and white tuna canned in water. Very few body builders consumed red meats or dairy products before a competition.[10]

Faber *et al*[8] reported that body builders consume a diet high in cholesterol due to a high egg intake (up to as high as 3992 cholesterol mg per day). The maximum cholesterol intake of body builders studied by Kleiner *et al*[9] was 9393 mg per day. In contrast with this, Baldo-Enzi *et al*[11] reported a much lower cholesterol intake in body builders (477 mg). This lower cholesterol intake was also reported before a competition.[10]

BALLET DANCERS

Female ballet dancers consumed too little energy. The mean energy intake of female ballet dancers was 71,6% of the RDA. An alarming 20% of the dancers consumed less than 50% of the RDA.[14] These low energy intakes are not only seen in adult dancers, but also in adolescent dancers. Adolescent dancers consumed an average of 350 kcal less each day than is recommended to support normal growth.[15] One-third of dancers reported having eating problems (self-reported anorexia nervosa or bulimia).[16] Dancers believe that carbohydrates are high energy foods. The carbohydrates in their diets are mainly simple rather than complex carbohydrates.[15]

ICE SKATERS

Another group of athletes for whom thinness is a requirement, are ice skaters. In a study done on competitive ice skaters it was found that the female skaters had a very low energy intake (55% of the RDA). The lowest energy intake was a very low 373 kcal per day. Forty-eight percent of the females had EAT scores within the anorexic range. These low energy intakes and high EAT scores were not found in the male ice skaters, indicating that male and female ice skaters should be studied as separate groups. The author of this study concludes that this study has shown the need for nutritional education for competitive ice skaters.[17]

GYMNASTS

Another sport where leanness is considered as an essential requisite is gymnastics. Not only should she be lean for practical reasons, but also for aesthetic reasons. In order to maintain these low body weights young female gymnasts have reported a low energy intake of 1552 kcal.[18] A group of older gymnasts (mean age 19,2 years) also averaged a low energy intake. Their mean intake of 1827 kcal per day did not meet the RDA for energy intake.[19] Gymnasts have reported to have a lower energy intake than inactive controls, but expressed as kcal/kg body weight there was no difference between the gymnasts and controls.[20] Their energy distribution has been reported to be 15,3% E protein, 47,7 % E CHO and 36,0% E fat.[18] This kind of energy distribution was also found in a group of high school gymnasts.[21] The young female gymnasts studied by Benardot *et al*[22] reported a slightly higher carbohydrate intake (approximately 53% E) and a slightly lower fat intake (approximately 32% E). There was however, a wide variation in CHO intake, ranging from 97,7 to 377,8 g/day. Only two of the gymnasts did not meet the RDA for protein.

RUNNERS

Runners reported significantly higher total energy intake than sedentary controls. The male runners averaged an energy intake of 2950 kcal while the female runners averaged 2386 kcal per day.[23] This range of energy intake by female runners were also reported by Duster *et al*[24] The leaner runners consumed 40-60% more kcal/kg than the fatter controls. The increased calorie intake by runners appeared to be primarily from fats and carbohydrates, however, expressed in terms of percentage energy distribution, there was no difference between the carbohydrate and fat intake of the runners and the sedentary controls. The runners averaged a fat intake of 40,8% E (SD = 6,7) for the males and 41,4% E (SD = 5,8) for the females. Carbohydrate intake expressed in terms of percentage of total energy intake for the male and female runners were 39,8% E (SD = 7,7) and 39,5% E (SD = 6,9) respectively.[23] These high fat intakes were confirmed by Manore *et al*[25] in female runners, but they found that the female runners had a slightly higher CHO intake of approximately 50% E. Deuster *et al*[24] reported an even higher CHO intake of 55% E in highly trained female runners, accompanied by a lower fat intake of 32% of the energy intake. Kirsch *et al*[7] not only confirmed the higher energy intake in runners as compared to sedentary controls, but they also found that cyclists have a higher energy intake than runners. The total energy intake of the runners and cyclists exceeded the basic metabolic rate of 103% and 250% respectively. Although the study of Nieman *et al*[18] confirmed the higher energy intake in runners (2526 kcal for males and 1868 for females) as compared to the average population, these differences were very small, especially for men (4% for men and 16% for women). However, their energy intake fell below the levels recommended by the Food and Nutrition Board for men and women doing light work (2700 and 2000 kcal respectively). Energy intake, expressed in terms of kcal per kg bodyweight increased with an increase in km run per week.[18] Although Blair *et al*[23] as well as Pate, *et al*[26] could find no difference in energy distribution between runners and sedentary controls, the study by Nieman *et al*[18] indicated that runners consumed far less energy as fat and more energy as CHO as the general population. The male runners averaged 30,9% E fat and 51,8% E CHO while the females averaged 32,0% E fat and 52,7% E CHO. These lower fat intakes and higher CHO intakes by runners were confirmed by a later study.[26] Cholesterol intake for males as well as females fell below the recommended maximum of 300 mg per day.[18,26] The cholesterol intake and the intake of saturated fatty acids of the runners were much lower than the cholesterol and saturated fatty acid intake of the average American population.[18]

When asked about the changes that they have made in their diets since they have started running, the runners stated that they consumed more fruits, vegetables, whole grains, poultry and fish and less red meat, eggs, salt and fats.[18] The high fibre intake by highly trained runners reflected the consumption of large quantities of fruits and vegetables.[24] Although none of the runners studied by Manore *et al*[25] were vegetarians they generally consumed less than 3 oz of meat, fish or poultry per day. In a study done on the feeding patterns of endurance athletes, it was found that runners showed a nibbling pattern, characterized by frequent eating and drinking.[7]

SWIMMERS

Young female swimmers consumed 21,5% more energy than

Continued on page 16

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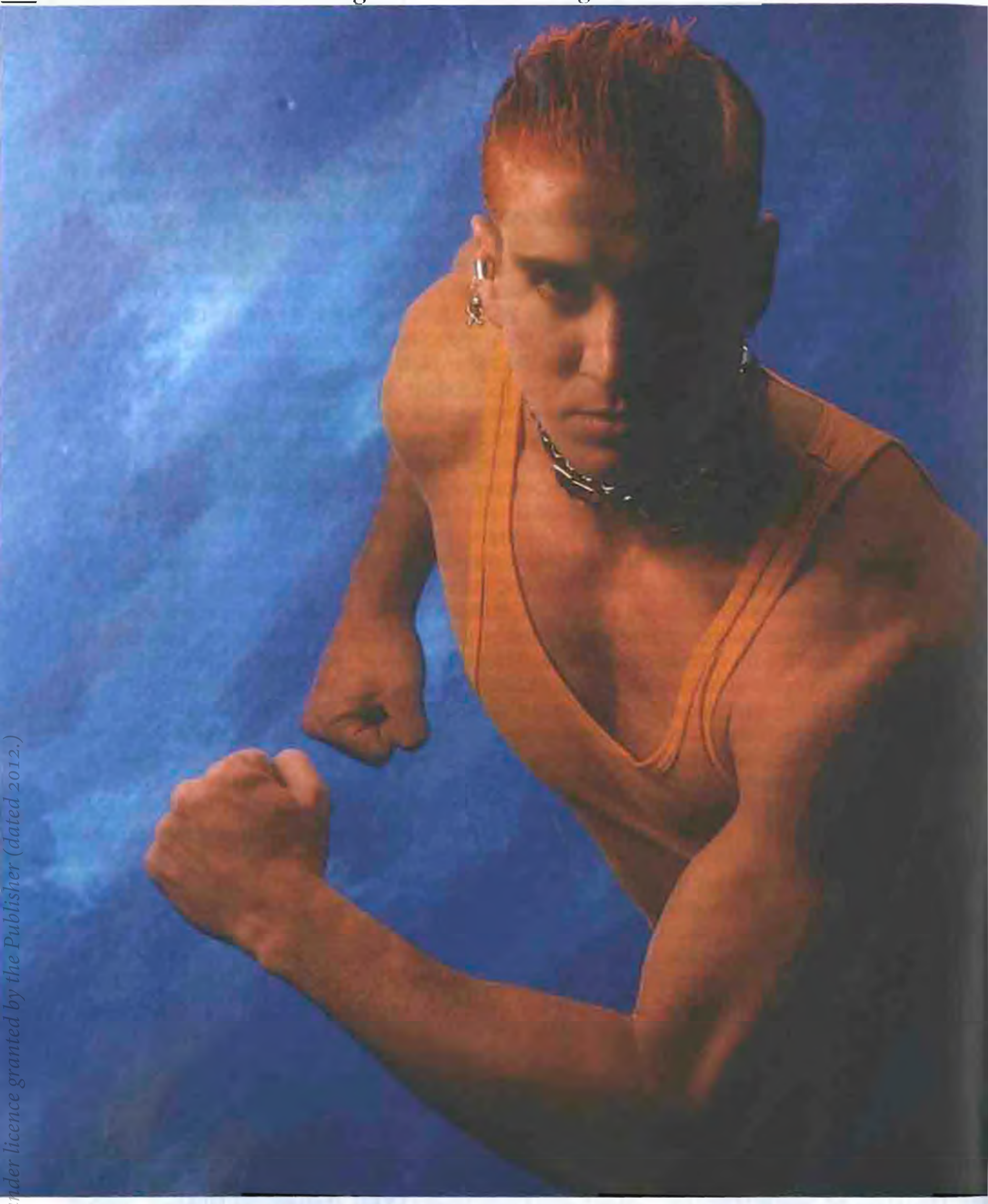

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sedentary controls. The swimmers consumed 2468 kcal per day.[27] This kind of energy intake was confirmed by a study done by Tilgner and Schiller[28] who found that swimmers consumed 2493 kcal which was also higher than the energy intake of non-athletes. In a later study however, it was found that swimmers did not have a higher energy intake as compared to inactive controls.[20] Percentage energy distribution was similar for the swimmers and the controls namely 49% E to 54% E carbohydrate, 33 to 35% E fat and 12 to 15% E protein.[27,28]

BASKETBALL PLAYERS

Male basketball players averaged a daily energy intake of 3558 kcal while female basketball players averaged a daily energy intake of 1730 kcal. Both males and females averaged similar energy distributions. The energy distribution for the males was 17% E protein, 34% E fat and 48% E CHO while that of the females was 16% E protein, 32% E fat and 52% E CHO. Protein was generally higher than necessary. Some of the men had very high cholesterol intakes (as high as 1482 mg per day). Both men and women had low fibre intake. This reflected the limited consumption of whole grains, fruits and vegetables.[29]

HOCKEY PLAYERS

Field hockey players averaged a daily energy intake of 1956 kcal. Their energy distribution was 15,5% E protein, 46,8% E CHO and 38,6% E fat.[28]

VOLLEYBALL PLAYERS

The dietary intake of female high school athletes between the ages of 13 and 17 was determined. Eighty-one percent of the athletes indicated a concern with their weight, while 73% wanted to loose weight. That might be why they averaged a low energy intake of 1799 kcal (84% of the RDA). Their energy intake was lower than other teenage girls in the United States. Food consumption analysis showed that of total servings, the milk and meat groups accounted for only about 10% each and that more than 30% came from the "others" group.[30]

FIELD ATHLETES

One study reported the macronutrient intake of male field athletes. They averaged an energy intake of 3528 kcal. They had an energy distribution of 13% E protein, 28% E fat and 55% E carbohydrates.[1] It should, however, be kept in mind that these field athletes were grouped together with track athletes. It was also not state whether the field athletes were jumpers or throwers. This is important to keep in mind since, although no dietary differences have been reported, it was found that these athletes differ in anthropometric measurements.[31] The dietary intakes of throwing field athletes might be more accurately displayed by those values reviewed by Brotherhood (1984). In this review the dietary intake of shotputters (as reviewed by Saltin) and discus throwers (as determined by Ward *et al*) are reviewed. The energy intake of these athletes was higher than that reported by Short and Short.[1] The shotputters averaged an energy intake of 4300 kcal while the discus throwers averaged an energy intake of 4663 kcal. Where the track and field athletes as studied by Short and Short[1] consumed a diet that fulfilled the requirements for a prudent diet,[32] the throwing field athletes consumed a diet that was high in fat (44% for the shotputters and 40% for the discus throwers) and low in CHO (42% for the shotputters and 39% for the discus throwers).

SUMMARY

It is therefore clear that there is a wide variation in the macronutrient intake of athletes. When studying the nutrient intake of athletes it should always be kept in mind that conflicting results have been reported for some athletes. It should also be kept in mind that the athletes diet before a competition may differ from the usual eating pattern. Brotherhood (1984) summarized the nutrient intake of various athletes and came to the overall impression that national dietary customs have the predominant influence on the athletes' diet. He came to the conclusion that there is no evidence that athletes follow a more healthy diet than less active people. □

A REVIEW OF THE McCONNELL APPROACH TO THE MANAGEMENT OF PATELLOFEMORAL PAIN

Joyce Morton

If one asked a number of physiotherapists of the ways in which they treat Chondromalacia Patellae or Patellofemoral pain, their answers would be varied from mobilization of the patella, quadriceps strengthening exercises either isotonic or isokinetic, faradic stimulation of the vastus medialis, electrical modalities such as laser and ultrasound, ice or specific muscle stretching. As the aim of all physiotherapy treatment for this condition is to achieve a full range and pain free function of the joint, if any of the above modalities achieve this, then the aim of treatment has been meet. However, if this is not the case and the McConnell approach is not known to you, then you may find the following of interest.

Jenny McConnell, an Australian sports physiotherapist, first advertised her approach in the mid 1980's. It has subsequently become popular throughout a greater part of the physiotherapy world. I was amused to discover how much it is used by the British physiotherapists in the NHO. Not, obviously, by too many sportsmen and women with acute pain, but by patients with chronic anterior knee pain. Chronic, needless to say, because it takes so long to get an appointment.

BIOMECHANICS OF THE PATELLOFEMORAL JOINT

The normal patella with the knee fully extended, lis laterally and does not touch the femoral condyles. As the tibia flexes on the femur, the patella moves medially and at 45 degrees the maximum surface contact with both femoral condyles is made within the trochlear notch. As the knee continues to flex, the patella again moves laterally so that at full flexion the lateral femoral condyle is covered by the patella. The femur and patella are separated by the articular cartilage of the patella.

The patella is stabilized by the quadriceps tendon above, the patella tendon below, the lateral retinaculum, vastus lateralis and the iliotibial tract on the lateral side and by the medial retinaculum and the vastus medialis oblique on the medial side.

Should there be any malalignment of the patella causing altered mechanics, then the patella cartilage is at risk to injury.

The physiotherapist divides her examination into two parts. The first is the subjective examination where the patient's pain is identified and its behaviour pattern is noted. Past and present history is included. The patient's shoes and sports shoes must routinely be examined for any abnormal strike pattern.

In the objective examination many factors are taken into consideration including observation of the patient standing, walking and running. One is looking at the alignment of the lower limb, foot posture and structure, the tibia-femoral joint and the patella-femoral joint.

The patellofemoral joint reaction force is the force created when the patella is pressed against the femur. This force increases with flexion of the knee from 0.5 times the body weight in walking to 3-4 times the body weight when ascending or descending stairs and 7-8 times the body weight during squatting. Pain and joint range is carefully noted during the testing of these movements as they are most likely to be painful.

As it is possible that the pain may be referred from the mid lumbar spine, this too is assessed. Tightness of structures are checked and include rectus femoris, iliotibial band, hamstrings, gastrocnemius and soleus. The normal Tibia-femoral examination as well as all movements of the patella-femoral joint are moved passively and compared to the other leg. The fact that the medial plica may cause symptoms must not be forgotten.

Other clinical evaluations are carried out including measurements of the following with the knee fully extended and relaxed:

1. The Q angle. This is the intersection of a line drawn from the anterior superior iliac spine through the middle of the patella, and a line drawn from the tibial tubercle through the middle of the patella. The normal angle is between 13 and 15 degrees. Greater or lesser degrees may be the cause of patella cartilage degeneration.

2. The Patellar Glide is the passive movement of the patella either laterally or medially.

3. The Patellar Tilt is the comparison of the height of the medial facet of the patella to the lateral facet of the patella in relationship to the underlying femur. Under normal circumstances they are equidistant.

4. Patellar Rotation can be calculated using the inferior pole of the patella as the guide. If the pole moves medially the patella has rotated internally and if the pole moves laterally then the patella has rotated externally.

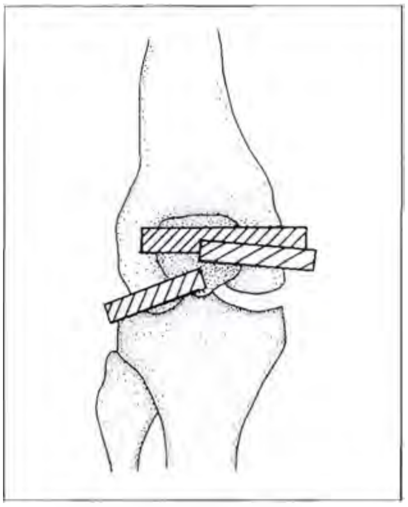
Finally the quadriceps muscle itself is examined with particular emphasis on Vastus Medialis Oblique. Vastus Medialus consists of two parts. The proximal has large fibres directed vertically and only deviating 15 to 18 degrees from the long axis of the femur. The distal part named Vastus Medialis Oblique (VMO) has smaller fibres which are more horizontal, deviating 50 to 55 degrees from the femoral axis. They form the bump readily seen and palpated when the quadriceps contracts strongly with the leg in full extension. The VMO muscle is also seen on dissection, to originate partially from the adductor longus muscle and the adductor magnus tendon.

Although there are numerous factors such as an incorrect Q angle which may create cartilage trauma leading to Patellofemorral pain or Chondromalacia patellae, Jenny McConnell postulated that the reasons may also be:

1. A lateral gliding of the patella due to tightness of the lateral structures such as the iliotibial band and the lateral retinaculum and a weak VMO.

2. A lateral tilting of the patella due to tight deep lateral retinacular fibres.

3. An incorrect rotation of the patella associated with a weak VMO.



Taping technical to control patella lateral glide, medial tilt and internal rotation.

Her treatment consists of mobilization to stretch the lateral retinaculum, physiotherapy modalities for pain, stretching of tight structures and retraining of the VMO. At the same time, the patient is taught to strap his patella in such a way as to correct abnormal tilting, rotation and gliding. The tape is applied very firmly and is kept in position for a few hours a day. Longer may cause breakdown of the skin.

Finally the VMO is trained to contract first in a non-weight bearing programme of exercises. The instruction to the patient is to tighten the medial quadriceps by using the adductors isometrically with extension of the knee and slight external rotation of the hip. Training is then progressed to weightbearing with the knee flexed to 30 degrees, the body weight over the foot and the foot itself in mid position but slightly supinated. It is extremely difficult to train this muscle without contracting vastus lateralis. By flexing the hip, rectus femoris is partly inhibited. For this reason the exercises are first done in sitting position.

Once the patient can successfully contract and hold the contraction of the VMO with 30 degrees of knee flexion, the exercises are progressed to 75 degrees knee flexion, then half squatting, three quarter squats and stairs with the muscle working both concentrically and eccentrically. Finally functional exercises are performed while concentrating on contracting the VMO.

Physiotherapists are often accused of lack of research and although this is often true, in this case, on perusal of the literature, there seems to be adequate evidence to support the success of this type of treatment as one way of dealing with Chondromalacia Patellae. A clinical trial of the McConnell Programme for 116 patients produced excellent to good results within five treatments of 86 percent of patients and these results were maintained for one year after cessation of the treatment. Sceptics will argue that it is impossible to alter patella tracking by taping. However it is seen in the literature that the taping must be part of the programme in order to obtain good results.

The subject of the McConnell approach to the management of Chrondromalacia Patella, is on the programme of the forthcoming congress of the International Federation of Manipulative Physical Therapists to be held in America this year. I look forward to hearing the outcome of the papers presented there. If anyone would like more information about the McConnell approach contact The Chairman, Sports Interest Group, South African Society of Physiotherapy, 7 Nyala Road, Amanzimtoti 4125.

References on request.

RESTRICTION OF ANKLE AND FOOT MOVEMENTS USING THE STANDARD ELASTIC ANKLE GUARD

I Seels, J Begley, F Futcher and J Mitchell

ABSTRACT

A pilot study was conducted to compare the range of movement of ankle dorsiflexion and plantarflexion, and foot inversion, without and with the use of a standard elastic ankle guard. A sample of nine normal, healthy, physically active, Caucasian males, aged 19 to 21 years, with no history of ankle injuries, was used. The results of this study showed no significant differences (p = 0,05) between the ankle and foot movements performed without and with the use of the ankle guard in any of the basic movements measured. It was concluded that the standard elastic ankle guard does not significantly restrict these movements and, therefore, is not effective for this purpose in the prevention and/or rehabilitation of ankle injuries.

INTRODUCTION

The increased participation in various sporting activities today's society is concomitant with an increase in sport-related injuries. Ankle injuries, particularly lateral ligament complex sprains, are the most frequently seen.[1-7] In the rehabilitation of such injuries, patients are often advised to use the standard elastic ankle guard. This regime of therapy implies that the ankle guard has a dual function: to prevent excessive movement so as to promote healing during the initial stages of rehabilitation, and to prevent excessive movement on return to normal sporting activities, thereby preventing a recurrent injury. However, the question arises: does the ankle guard sufficiently restrict the basic ankle and foot movements and enhance ankle stability?

This pilot study was designed to measure and compare the normal basic ankle and foot movements of dorsiflexion, plantarflexion and inversion in physically active subjects, without and with the use of a standard elastic ankle guard, with the aim of establishing its effectiveness in the rehabilitation/prevention of ankle injuries.

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MATERIALS AND METHODS

Sample selection

To obtain the sample for this study, questionnaires were distributed to 75 Caucasian males between the ages of 19 and 21 years, randomly selected from third-year medical and allied medical classes at the University of the Witwatersrand, Johannesburg. Of the 48 questionnaires returned, 22 indicated that the subjects were healthy and physically active, with no previous ankle injuries. However, only 15 of these subjects were prepared to participate in the study. On examination of their ankles, it was found that a further six subjects had to be eliminated due to above average ankle circumference (the range accepted for this study was 17-23 cm) (n = 2) and hypermobile ankle joint movements (n = 4). The final sample consisted of nine subjects, with an average age of 20,4 years. Informed consent was obtained from each of the subjects prior to commencement of the study.

Figure 1: Neutral position of ankle and foot

Figure 2: Measurement of ankle plantarflexion

Testing procedure

The subjects were each tested in three sessions:

- **Session 1**
  Each subject followed a warm-up programme consisting of cycling on an exercise cycle for three minutes at a speed of 120 revolution per minute and a workload of 400 kilopond-metres per minute. Thereafter, the muscles of the posterior and anterior compartments of the dominant leg were stretched for 30 seconds each. The foot was passively circumducted for the same period and then placed in a warm foot bath for up to 30 seconds, after which the subject performed the required ankle and foot movements on the dominant side. These were ankle dorsiflexion, ankle plantarflexion, and inversion of the foot, each of which was measured.

- **Session 2**
  The following day, each subject participated in the same warm-up programme. The dominant foot was dried well and powdered with a fungicidal powder to prevent any possible cross-contamination of undetected skin infections and to ensure ease of application of the ankle guard. The guard was applied according to the manufacturer's specifications and each subject again performed the required ankle and foot movements, as above.

- **Session 3**
  The same procedure as that of Session 2 was repeated

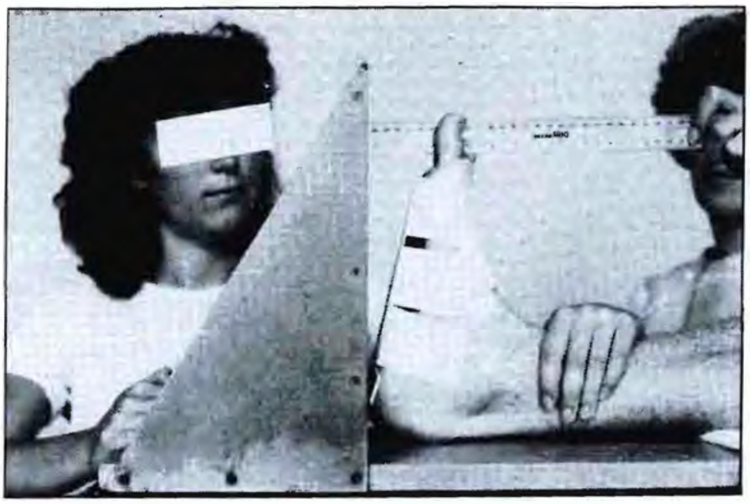

Figure 3: Measurement of ankle dorsiflexion

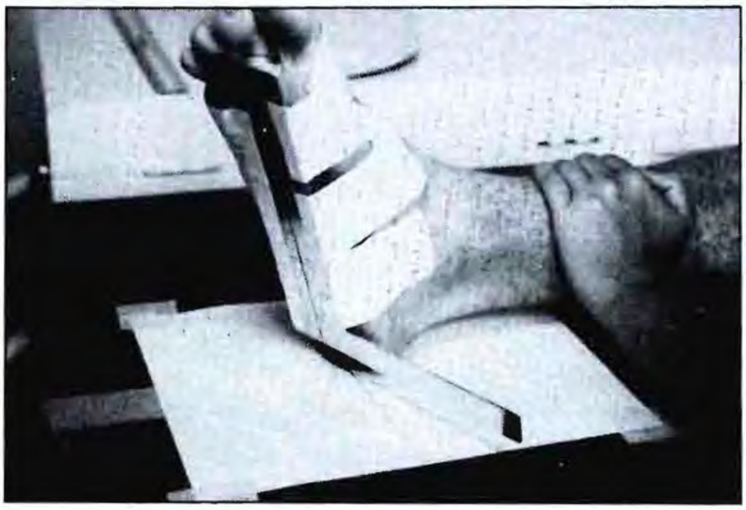

Figure 4: Measurement of foot inversion

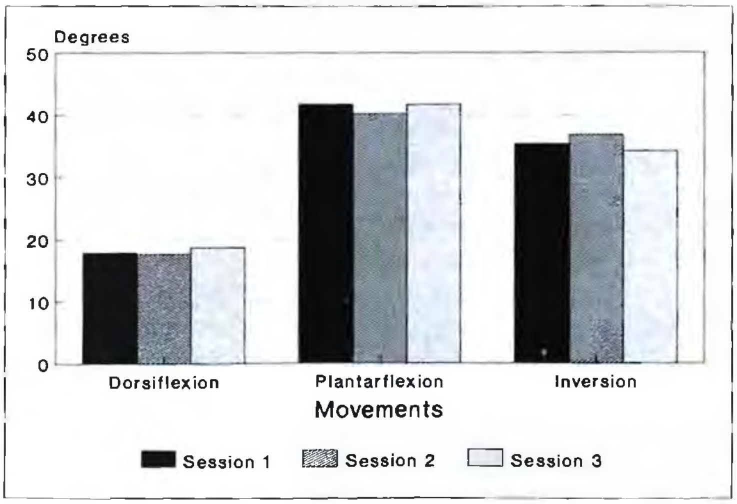

Figure 5: Ankle and foot movements

the following day.

Measurement procedure

All measurements were taken with each subject reclining in the half-lying position on a plinth. The dominant leg was flexed at the hip and knee and the leg supported below the knee on a re-education board, on a stool. The neutral position of the limb as regards rotation at the hip or knee was maintained by applying manual pressure to the leg just above the ankle. Prior to each measurement, the neutral position of the ankle and foot was determined using an L-shaped aluminium piece, strapped to the foot with non-elastic adhesive tape, and an adjustable triangle (Figure 1).

The following movements were then measured three times and the mean value obtained:

- **Plantarflexion**
  The maximum plantarflexion of the ankle joint was measured using the adjustable triangle as shown in Figure 2.

- **Dorsiflexion**
  In order to measure the maximum dorsiflexion of the ankle joint, a right-angled foot board was placed against the sole of the foot and the subject was asked to perform the movement. The distance between the footboard and the upper end of the L-shaped aluminium piece was measured (Figure 3). The degree of dorsiflexion was then calculated using trigonometric ratios, viz. sin Ø) = opposite side/

Table 1: Ankle and foot movements

	Dorsiflexion			Plantarflexion			Inversion		
	A	B	C	A	B	C	A	B	C
Sample mean (degrees)	17,9	17,6	18,6	41,8	40,2	41,7	35,4	36,8	34,2
S.D. (degrees)	4,0	4,9	4,1	2,0	2,5	1,9	4,3	9,0	7,9

hypotenuse.

- **Inversion**
Because the inversion injury of the lateral ligament complex of the ankle occurs most often when the foot is rotated inwards while in plantarflexion, this position of the foot and ankle was taken to represent inversion for the purpose of this study. In order to measure inversion of the foot, the subject's heel was placed on an A5 sheet of paper and a movable lamp positioned so that the light cast a sharp image of the arm of the L-shaped aluminium piece on the paper. The subject first plantarflexed the ankle and a line was drawn along the shadow on the paper. The foot was then inverted and a second line drawn over the shadow (Figure 4). The angles made between the two lines were measured, using a protractor. This measurement was taken as the degree of inversion of the foot in each subject.

Data management

The data obtained by this measurement procedure was statistically analysed using the Wilcoxon signed-rank test, to establish if there was a significant difference (p = 0,05) between the various ankle and foot movements with and without the use of the ankle guard (Sessions 1 and 2). The data collected in Session 3 were similarly compared with that from Session 2 (both involving the use of the ankle guard) to establish if there was any significant change in the degree of ankle and foot movement which may have been attributed to changes in elasticity of the ankle guard with time and use.

RESULTS

The means and standard deviations for the sample (N = 9), for each of the ankle and foot movements (dorsiflexion, plantarflexion and inversion) are shown in Table 1. The data obtained for the movements performed without the ankle guard (Session 1) and for movements with the ankle guard worn (Sessions 2 and 3) are shown in Table 1 and Figure 5.

On statistical analysis of these data, it was found that there was no significant difference (p = 0,05) between the ankle and foot movements performed with and without the use of the ankle guard. Neither was there a significant difference between those movements performed during Sessions 2 and 3.

DISCUSSION AND CONCLUSIONS

Comparison of ankle and foot movements during Sessions 2 and 3

The fact that no significant difference was shown between any of the ankle and foot movements performed during Session 2 and Session 3 indicates that there was no demonstrable change in the state of the ankle guard during the period that these measurements were taken.

Comparison of ankle and foot movements with and without the use of the ankle guard

The fact that there was no significant difference demonstrated in dorsiflexion, plantarflexion or inversion movements of the ankle and foot, without and with the use of the ankle guard, suggests that the standard elastic ankle guard does not restrict these basic movements significantly. These findings concur with those of Malina, *et al* (1962)[8], Myburgh & Vaughan (1984)[9], Myburgh, *et al* (1984)[10] and Rarick, *et al* (1962).[11]

This implies that the presumed function of the ankle guard, that is to prevent or restrict excessive ankle and foot movements, is not effectively carried out. Therefore, this pilot study concludes that the standard elastic ankle guard cannot be used effectively for this purpose in the rehabilitation of the common ankle injuries nor in contributing to the prevention of recurring ankle sprains.

However, a possible role of the elastic ankle guard may be to assist in the control of post-trauma swelling in the initial stages of rehabilitation. Furthermore, the ankle guard may supplement proprioception by stimulating sensory receptors around the ankle, hence making the patient more aware of the injured body part, and consciously try to prevent excessive movement and possible further injury.

ACKNOWLEDGEMENTS

The authors would like to thank the subjects who participated in the study, as well as Mr B Seels and Mr J Crawford for suggesting the means to measure and record the ankle and foot movements studied. This study was approved by the Committee for Research on Human Subjects, University of the Witwatersrand, Johannesburg.

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THINK GLOBALLY, ACT LOCALLY

Prof Tim Noakes
President SASMA

At present the challenges and opportunities for the development of Sports Medicine in this country have never been greater or more exciting.

As of March 1992, the South African Sports Medicine Association will be invited to become a full member of the International Federation of Sports Medicine (FIMS). It is a tribute to our former Presidents, Drs Clive Noble, Etienne Hugo and Dawid van Velden that finally we have achieved this breakthrough. Of related interest is the invitation to Dr Martin Schwellnus to serve as the African representative on the Educational Committee of FIMS. This provides an important opportunity for our Association to be of assistance to the development of Sports Medicine throughout Africa.

The other source of excitement is the possibility of Olympic and other international competition in the near future and the demands and opportunities that will arise as a result.

THE CURRENT POSITION OF SPORTS MEDICINE IN SOUTH AFRICA COMPARED TO OTHER SIMILAR COUNTRIES

In all countries, Sports Medicine has a common origin: A group of enthusiastic doctors/athletes get together to discuss how their hobby (sport) relates to their profession (medicine). For most of these enthusiasts, their interest in sports medicine is peripheral to how they earn their livings in medicine.

Two different models of Sports Medicine Associations have evolved at least in the West, with a third possible model arising in Eastern Europe.

In the first, the Association is more of a "club" with an exclusive membership. The principal function of the "club" seems to be to insure that the interests of its members are served; the service that the "club" offers to the athletes is entirely peripheral to its role in satisfying the needs of its members. Such organizations are not likely to gain either academic credibility or the support of their countries' athletes. This model is a recipe for disaster and must be avoided at all costs.

The second model is the type exemplified by what has happened in the United States and Canada. In these countries, Sports Medicine has evolved with a very strong scientific and clinical background led by persons who are respected as leaders in their medical fields either as Orthopaedic Surgeons, Cardiologists, Psychologists, Exercise Scientists, etc. The result is that Sports Medicine in those countries has achieved credibility amongst the scientific and academic communities and is moving rapidly to being accepted as a medical speciality. In addition because the Associations have evolved principally to aid athletes not doctors, they have also gained the credibility and support of the athletes.

The third model is that provided by the former Eastern European countries, in particular the former East Germany (German Democratic Republic - GDR). In that country, Sports Medicine thrived not so much because of a strong scientific background, but because it was the political mission of that country to succeed in sport. As a result whatever resources necessary to achieve that goal were dedicated to that purpose. The end result was that, of all countries, it was probably the athletes from the GDR and other East European countries who received the most scientific and medical support.

The basis for a successful Sports Medicine programme is the right combination of the following factors: dedicated practitioners who are committed to the help of athletes; a strong scientific basis for the work so that academic credibility can be achieved; a basis for professional sport so that doctors can be employed full-time in the profession; and political will that sport is important to the national interest.

With this background, it is appropriate to consider how South Africa currently ranks and what needs further improvement.

THE CURRENT POSITION IN SOUTH AFRICA

Positive factors

- South Africans do live in a "sports-mad" society in which sport enjoys a high profile including and most importantly, at schools.
- The standard of training of doctors and the professionals allied to medicine, is very high so that any potential recruits into the Sports Medicine discipline are likely to have been highly trained, disciplined and very competent in their work.
- South Africa is about to enjoy the benefits of a return to international competition and this is likely to be followed with increased public support of, and interest in sport and therefore also in Sports Medicine.
- South Africa has a viable Sports Medicine Association with its own Journal. Furthermore, scientific research in sport does at least have a firm base in this country, although much still needs to be done.

Negative factors

- There is no official national political mission to make international success in sport an important priority in this country. Until this happens, state funding for sports medicine and the exercise sciences, on a decent scale, will not be priority.
- There is no teaching of sports medicine in the undergraduate medical curriculum which is, unfortunately, an indirect measure of the importance that our colleagues in academic medicine ascribe to our interest.
- We do not yet have a sports medicine programme that leads to specialist qualification in this discipline. In the long term this must be addressed. In the short term we need to develop the concept of group multidisciplinary practices in sports medicine.
- There is no really professional sport in this country. Nor are many of our sports administrators sufficiently professional to be planning ahead in particular by investing in scientific studies in their sports.
- We have the problem of regional and ethnic parochialism. We must work very hard to eradicate these negative influences which will get in the way of our real mission which is to promote our speciality to the benefit of all in this country.

Sports medicine is a global enterprise and if South Africa is to make its mark at an international level, we must pool our resources.

IMMEDIATE PLANS TO ADDRESS THESE ISSUES

As the famous Chinese proverbs states, "A journey of a thousand miles must begin with a single step". Here are the single steps that we will be emphasizing in the next 2 years:

Further development of our Journal

The Journal will take on more of a Continuing Medical Education flavour. It will become more substantial and published on a more regular basis. Whilst most of the effort for this development will come from the full-time academics, it is hoped that members will be encouraged to contribute material for publication.

Increasing the activities of the regional committees

At present the Association has active regional committees in the Southern Transvaal (Chairman: Dr Joe Skowno), Northern Transvaal (Chairman: Dr Uli Schmidt), the Orange Free State (Chairman: Dr Ras Venter) and the Western Cape (Chairman: Dr Wayne Derman). We hope to extend these branches to Natal and the Eastern Province in the near future.

Regional branches can only be successful if they are supported by members from all the major groupings making up our Association including physiotherapists, biokineticians, exercise scientists and doctors.

Upcoming congresses

In collaboration with the South African Rugby Football Union the Association will be holding a two day congress on April 9th and 10th, 1992. Topics that will receive special attention will be traumatology and sports nutrition.

The Association's next International Sports Medicine meeting will be on the week of the 9-13th March 1993 in Cape Town.

During the year, a series of regional meetings on Olympic Sports Medicine will be coordinated.

Extending ties with colleagues in the professions allied to Medicine

Physiotherapist and members of the other professions allied to medicine make an important contribution to our Association.

The rights of these colleagues will be discussed at the next Annual General Meeting in March 1993.

Development of a regional Olympic Sports Medicine programme

Should South Africa be represented to any great extent at the Barcelona Olympic Games, there will be a need for the provision of sports medical care on a regional basis to the athletes preparing for those Games. The Association is presently in consultation with the Federation of Movement Sciences (formerly SAASPER) who have been given the mandate to develop this programme.

REPORT BACK FROM THE REGIONS

Southern Transvaal - Dr Joe Skowno

The Southern Transvaal Regional Branch of the South African Sports Medicine Association held three meetings in the latter half of 1991. The last one on November 6th was particularly well attended, with over 60 people present. The subject under discussion was management and rehabilitation of shoulder injuries. Drs Pierre Roussouw and Bryan Noll discussed the anatomy, pathology and management of rotator cuff and instabilities. A practical demonstration of examining a patient with supraspinatus impingement syndrome was given. Mrs Joanne Sklaar covered rehabilitation most comprehensively. An encouraging feature of the evening was the tremendous amount of audience participation.

Meetings held in 1992 to date include:

Alternative medicine in sports injuries
22 January 1992
The modern approach to ankle injuries
11 March 1992

An important objective of the Southern Transvaal Regional Sports Medicine group will be to establish a roster of emergency sports care personnel in the Southern Transvaal. The aim is to train doctors and physiotherapists to deal with any emergency one might reasonably encounter during any sports activity. The idea is to supplement existing first aid services currently available at most large sporting occasions, and not to replace them. The aim will be to work with St Johns and Noodhulpliga who supply general medical care and ambulance services. Dr Skowno has expressed the opinion that the Sports Medicine Association should be actively involved in the establishment of an independent body to co-ordinate doping control in South African sports. Any doctors who are actively involved in this area are encouraged to contact Dr Skowno. Dr Skowno's address is PO Box 67196, Bryanston 2021.

PARKE-DAVIS MEDICAL 10 ROAD RACE BOOSTS VICTORIA HOSPITAL FUND

The popular Medical 10 Road Race, sponsored and hosted by Parke-Davis, a division of Warner-Lambert SA (Pty) Ltd, for the forth consecutive year, took place of 7 December

1991. The 10 km Medical 10 Road Race for medical doctors and 3 km fun run for cardiac rehabilitation patients, known as Heart Throbs, started and finished at Parke-Davis' head office in Retreat.

For the first time this year, there was an entry fee of R10. Agreed to last year by 300 entrants who completed a questionnaire, it was decided that the proceeds of this year's race would be earmarked for the Victoria Hospital Casualty Unit Fund. Earlier this year, Parke-Davis announced their decision to come to the aid of the hospital and this event is part of their on-going effort to raise the R1,3 m required to rebuild the casualty unit.

Seen at the finish of the popular Parke-Davis Medical 10 Road, Race are, (l-r): Dr Adrian Morrison from Victoria Hospital, Dr Helmut Elmau and Dr Kelly Seymour, medical director of Warner-Lambert SA (Pty) Ltd.

Approximately 228 medical doctors and 70 Heart Throbs completed the Medical 10 Road Race and 3 km fun run respectively. This year runners were again handicapped 30 seconds per year of age from 40 upwards.

A Metro helicopter, Pri-Med Ambulance as well as medical staff from Victoria Hospital were on stand-by for the first time this year, contributing to the high standards that have come to be expected of the Parke-Davis Medical 10 Road Race.

At the prize giving breakfast following the race, Councillor Bronnie Harding accepted a cheque on behalf of Victoria Hospital. Ian Robertson, marketing director of Parke-Davis and Tim Largier, managing director of Warner Lambert SA (Pty) Ltd, awarded prizes to winners in various categories.

The specially designed Medical 10 floating trophy for the fastest runner overall on handicap was presented to Dr Francois Hofmeyr from Wynberg who completed the 10 km run in a time of 31 minutes and 7 seconds. For the first time in the history of the race, gold medals were awarded to the first male as well as female on handicap and medals were presented to Dr Hofmeyr and Dr Clare Stannard from Rondebosch.

Silver and bronze medals for second and third positions on handicap for males were presented to Dr Eric Bateman from Rondebosch and Dr Robbie Truter medical superintendent of Tygerberg Hospital respectively, while medals for the second and third female runners were awarded to Dr Lana van Zyl and Dr E Goddard respectively.

Gold medals for the fastest male and female runners were presented to Dr Andrew Leary who completed the race in an outstanding actual time of 33 minutes and 6 seconds and Dr Lana van Zyl, the first female runner to cross the finishing line in an actual time of 43 minutes and 29 seconds.

The Heart Foundation of Southern Africa nominated Edwin King to receive the Ian Taylor Memorial Award which is presented annually to the most deserving cardiac rehabilitation patient.

During the awards presentation, Ian Robertson, marketing director of Parke-Davis, commented, "We've received a record number of entries for this year's race and we would like to thank all doctors who took part for their much-needed financial support. We also thank those who made further donations to Victoria Hospital today. We look forward to an equally successful 1992 Medical 10 Road Race."