

JOURNAL OF THE SA SPORTS MEDICINE ASSOCIATION

SPORTS MEDICINE

SPORTGENEESKUNDE

TYDSKRIF VAN DIE SA SPORTGENEESKUNDE-VERENIGING

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- 2nd Sasma Congress:
Report Back
 - Meniscal Injuries: Changing
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 - Dance Injuries

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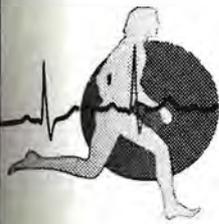


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JOURNAL OF THE S.A.
SPORTS MEDICINE
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SPORTGENEESKUNDE-
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- 2 EDITORIAL COMMENT**
 Congratulations
- 3 FEATURE**
 The History of the Marathon
- 4 INTERVIEW**
 Lower Limb Injuries in Dance
- 7 FEATURE**
 Meniscal Injuries: Changing Concepts in Management
- 10 CONGRESS**
 Opening Address
- 11 BOOK REVIEW**
- 12 ULTRA MAN**
- 14 CONGRESS**
 SASMA
- 16 CONGRESS**
 The Needs of the Dancer
- 19 FEATURE**
 The History of the Marathon Continued
- 20 ABSTRACTS**
 Anorexia Nervosa, Bulimia and the Dancer

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CONGRATULATIONS

Dr C. Noble MB BCh, FCS (SA) Editor in Chief

These are warmly extended to Dr Etienne Hugo who became the new president of the South African Sports Medicine Association at the annual general meeting in Cape Town in April. I am certain that under his guidance SASMA will go from strength to strength. More details of his committee will be found in SASMA news.

Dance:

At our second international congress a symposium on dance was held. This investigation into the problems of dance was long overdue. We were fortunate in having two overseas experts viz Drs John Bergfeld from Cleveland USA and Lyle Micheli from Boston USA. Dancers of all types are high perfor-

Boxing:

Recently the Minister of National Education suggested that the Boxing Act should be deregulated in order to possibly make the free enterprise system more efficient. Unfortunately in boxing tighter control and not lesser control is required. To this end the South African Boxing Board of Control has introduced a new Safety Code for boxing. This means more regulation but there is no doubt in my mind that this is fundamental in preventing a potentially dangerous sport from becoming more dangerous. Our assessing the Safety Code thus in itself is still not adequate in preventing death in the ring. During the fight the referee is still the only person who can determine whether a boxer is significantly damaged to stop the fight. The doctor is only allowed to intervene in the interval period i.e. be-

are again busy with injuries. Most of these injuries are part of any collision sport and may be reduced to some extent by a good preseason exercise programme and working at proper techniques.

Dirty play is still excessive at all levels of rugby including school. In my opinion leniency by the referee is a major reason for the continuation of dirty play. Far stricter penalties and reinforcement by the provincial unions is the only way we can possibly hope to reduce the carnage. It has also come to my notice that the high tackle which has been outlawed is still being allowed. It is important to enforce the laws. Rugby is a dynamic sport where improvements should always be welcomed. It is good to see that the new president of SASMA, Dr Etienne Hugo, is also the chairman of the medical committee of



Dr E. Hugo — New President SASMA.

mance athletes who suffer many intrinsic injuries and sometimes extrinsic overload injuries. Proper selection, correct training including strength and stretch exercises are essential to avoid injury. Awareness of these types of dances and their injuries will help the medical profession to assess and treat problems soon after they have begun.



tween rounds. This may well be too late. Nevertheless progress has been made when one realises that in all sport traditionalism is not easily broken down.

Rugby:

With the new season already in progress doctors' offices and hospitals

the South African Rugby Board. This should be an excellent opportunity to take a better look at rugby injuries.

Dr Clive Noble

THE HISTORY OF THE MARATHON HOW IT ALL BEGAN

Greek Marathon

The origins of today's marathon are wrapped up in the legends of Ancient Greece.

In 490 BC

In 490 BC on a plain 40km north-east of Athens near Marathon, the Greeks decisively defeated the Persians, sustaining a minor loss of 192 men, whilst the enemy lost 6400 men. What's known as a complete walkover!

Pheidippides, the Greek's swiftest runner, jogged in having just completed a 240km run to Sparta and back in full armour, and was told to nip back to Athens with the news of the victory at Marathon. Old "Phei", who by this time was fairly exhausted, gasped his way back to utter with his final breath, "Rejoice, we conquer!" Exit Pheidippides. Jogging in those days was an all or nothing affair!

The first Marathon Olympic Games were held fittingly in Athens. Here is an account of the first modern marathon that was run.

On 10th April 1896

A gun is fired

On the 10th of April 1896, 17 runners, among them four non-Greeks stood on the Marathon bridge and listened to the starter, a Major Papadiamantopoulos make a preliminary speech. Finally to the delighted anticipation of the watching Greek populace he fired the gun and the 1896 first modern marathon was on!

Through a triumphal arch

All along the route the runners were cheered by curious and enthusiastic peasants. Of the foreigners, only the Hungarian, Gyula Kellner, had ever run a race of such length, having qualified for the trip to Athens by winning a 40-kilometre trial in Budapest. The other three, Arthur Blake, Albin Lermusiaux and Edwin Flack set off relatively quickly and eventually paid for

their inexperience. Lermusiaux set the early pace and soon built up a huge lead, which he carried past the halfway mark. At the village of Karavati, the local people had built a triumphal arch. When Lermusiaux approached in first place, the villagers crowned him with a floral victor's wreath. By this time, Blake and several of the Greeks had already dropped out.

A spectator is knocked to the ground.

Shortly after Karavati, there was an incline, and Lermusiaux began to stagger from exhaustion. A French companion, riding beside him on a bicycle, revived his countryman with an alcohol rub-down, but this delay allowed Flack to

while he rushed off to get a wrap. The delirious Flack, thinking that he was being attacked, smashed the helpful Greek with his fist and knocked him to the ground. Flack was loaded into a carriage and driven to the dressing room at the stadium, where he was tended to by Prince Nicholas himself, and revived with a drink of egg and brandy.

The crowd's disappointment was great but not for long

As the race progressed, messengers were sent to the stadium on horseback and bicycle to convey the identity of the leaders. The last news that the 100 000 spectators in and around the stadium heard was that Flack was in front and their disappointment was

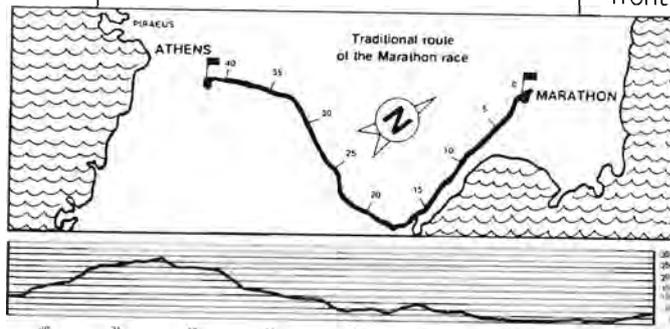
great. Then Major Papadiamantopoulos entered the stadium on horseback and rushed to the royal box, where the King and Queen and the rest of the royal family were anxiously awaiting the latest news.

The word spread "with the rapidly of lightning", according to the Official Report of the Games. Shouts of "Eleen! Eleen!" ("A Greek! A Greek!") announced the joyous news that

a Greek was in the lead. Then the Commissioner of Police appeared and formally announced what the growing roar of the crowd in the streets had already implied: the winner had arrived. At last a small, dusty runner, Spiridon Louis, appeared at the marble entrance to the stadium. Prince George and Crown Prince Constantine rushed down to greet him and, one on each side, ran with him the rest of the way to the finish line, where Louis summoned enough energy to bow to the delighted King George. Louis was kissed and hugged and hauled off to the dressing room upon the shoulders of his admirers, while a collective ecstasy spread from the stadium throughout the city.

An early example of cheating

Seven minutes later, a second Greek, Charilaos Vasilakos, crossed the finish



pass him and take the lead. Lermusiaux continued for some distance but finally collapsed. Flack, who had never before run more than ten miles, had over-extended himself in his attempt to catch Lermusiaux, and he too began to weave and sway four kilometres short of the stadium. Flack's companion, an Englishman, asked a nearby Greek to keep the Australian from falling over

Penthouse Travel are organising the 5th Annual Greek Marathon Tour. The tour includes 13 days in Greece and the Greek Islands and takes in the Athens International Marathon. For further details contact Penthouse Travel (021) 21-5670 or 25-3424.

Continued on pg. 19

LOWER LIMB INJURIES IN DANCE

Dr Bergfeld MD F.A.C.S.M.

Dr Bergfeld, a graduate from Temple University in Philadelphia did his surgical training and Orthopaedic Surgeons training at Cleveland Clinic, Cleveland, Ohio. He headed the department of Orthopaedics at the US Naval Hospital in Indianapolis, Maryland, where he served as a commander in the US Navy. He then returned to Cleveland Clinic where he was on the senior staff and has been there ever since. At present he is the head of the section of Sports Medicine at Cleveland Clinic. In addition to his busy schedule he is also in the team position for the Cleveland Browns Professional football team, Cleveland Indians Professional baseball team and Cleveland Cavaliers Professional basketball team and orthopaedic consultant to Cleveland Ballet.

Dr Bergfeld, a keen sportsman himself became interested in Sports Medicine while he was doing his surgical training. While doing orthopaedic training he came across many sports type injuries and this was an opportunity for him to continue his interests in sports and combine it with a profession. When he was stationed at the naval academy he was a physician for the naval academy and there became seriously interested in sports medicine, as his practice was almost all sports medicine in addition to the Vietnam casualties.

Q. Dr Bergfeld, how significant is Sports Medicine? Are more doctors specialising in this field?

I think that there is no question that there are more and more doctors specialising in the field of sports medi-

"the body is pushed beyond its physiologic capacity. The muscles and tendons are asked to do things that they are not quite prepared to do."



cine. In the USA, it's been primarily orthopaedic surgeons as opposed to Europe where there have been physicians who have specialised in sports medicine. Now in the USA we are catch-

ing up and we are beginning to train more and more family physicians, paediatricians and primary care non-orthopaedists specialising full time in the practice of sports medicine. In our clinic we have a fellowship in sports medicine for orthopaedic surgeons who have completed their training, where they can spend an additional year studying the specific problems of sports traumatology. We have a fellowship too for family physicians who have completed their training in family practice to spend a year studying all aspects of sports medicine including sports traumatology.

Q. How did you become interested in Dance Injuries?

I became interested in dance injuries when I was asked to be the physician for the newly formed Cleveland Ballet in 1976, which is a professional ballet company. At that time I was faced with dancers who had some very specific injuries. I then began to read and consult literature and talk to physicians in the USA such as Dr Hamilton and Dr Micheli who had experience in the care of dancers. I actually went and studied with them for a period of time and it's been a sort of self taught programme as to how I've learnt about dance injuries.

Q. Which Injuries occur most in dancing?

The injuries that occur most commonly in dancing are related to over use. By that I mean the body is pushed beyond its physiologic capacity. The muscles and tendons are

asked to do things that they are not quite prepared to do. The body then begins to breakdown and if it's the bones they have stress fractures, muscle tendon unit has minor tears of the muscle

or pulled muscles as it is commonly known and the tendons have tendonitis. All these situations are the muscle being pushed beyond its physiologic capacity. It then begins to break down microscopically and the reaction to the breakdown of the bone for the tendon causes an inflammatory response which then causes pain.

There are few hexogenous traumatic injuries which occur where a dancer may slip on the floor, be missed in a jump by their partner or actually a partner falling on their lower leg or extremity. The other causes for injury in dance are the alignment and body physical limitations, as you know in dance, the position of "turn out". Here the feet are turned out at 150°. This is not something the average person can do well and sometimes we see problems from forcing that position. We also find people who have a leg that is slightly rotated or knee cap sits a little to the side and as they do repetitive exercises, the small bio-mechanical abnormality causes significant problems. Around the knee joint we see such problems as condromalacia patella and that a condition with an irritation on the underlying articular cartilage of the patella, (1) from the over use, (2) from the mild bio-mechanical abnormalities. Around the ankle joint we see tendonitis of the Achilles tendon most commonly and all of the other tendons that are present peroneal tendons,

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cause very little disability. Once a dancer is treated she can go back to dancing and the goal is always to get a dancer back to dancing as quickly as possible. It is very rare to hold a dancer out for longer than 2 or 3 days from their routine. We may modify the routine, cut it back to 10 to 15% of what they normally do but we keep them as active as possible while treating their specific problem.

Q. What preventative measures should dancers take to avoid lower limb injuries?

1. Have proper technique and good teaching.
2. Not force the body beyond its physiologic capacity i.e. adding 10% to your activity each week is a good guideline. Finally, one needs to be strong in the lower extremities and the best way and most effective way to gain

Q. What treatment is recommended once these lower limb injuries are diagnosed?

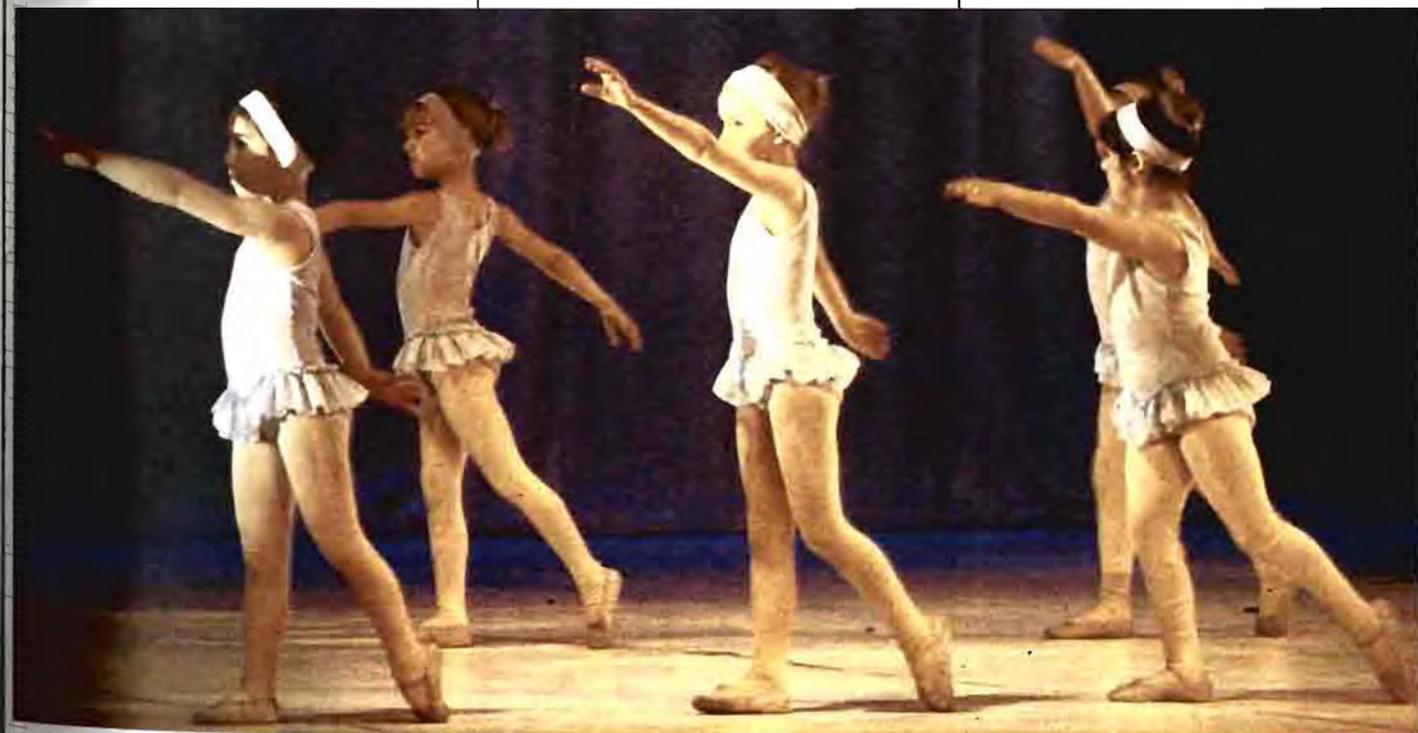
Firstly a period of relative not absolute rest. Thus a dancer with an overuse problem in the lower extremity would go through his/her dance routine lying on the floor rather than standing on his/her feet. We call it floor bar activity. If we have a swimming pool we get them to do their routine in the water as it neutralises some of the weight bearing effect on the legs.

Patients are placed on a progressive resistant exercise program and a stretching program for the injuries.

Q. At what age do lower limb injuries occur the most?

They occur in 2 age groups:

1. In the early beginning dancer who has not been taught properly and has



post acitival, flexor, halusis — longest tendon of the ankle joint.

Q. How disabling are these injuries? Once treated, how soon can a dancer go back to dancing?

Majority are of minor significance. They

strength is to do resistive exercise and possibly doing a weight-lifting exercise to strengthen the muscles. In addition to proper technique, strengthening the lower extremities is definitely the best preventative measure.

been forced to do things that her body is not able to accommodate e.g. a young girl who has natural turning in of the feet being forced to turn them out beyond her capacity.

2. In the older more mature dancers

who are in their early 30's or perhaps 40's where they begin to get a breakdown of the musculoskeletal system from the ageing process if you will.

Q. At what age should children start dancing – is age important?

I think they should start dancing when they're ready to start dancing. By that I mean if they feel they want to take a dance class when they're 3 years old, that's just fine. If it happens to be that they're in junior high school or high school its whenever they feel they want to start dancing. You're never too young to start dancing and never too old to start dancing. If you're thinking of a career in dance usually the girls have started much earlier and studying the profile of professional dancers most of them started taking serious dancing class when they were about 5. A male dancer normally starts taking ballet class seriously after puberty, at about age 12 to 13.

"Yes, age is important because if you're 20 years old and you're not established as a dancer nobody is going to hire you."

The emphasis is on youth and you have to be an expert by the time you become a fully mature adult. Once you've become a fully mature adult there's no reason why you can't do dance but its going to be just for fun and your own self enjoyment. It would be very difficult to become a professional if you don't start dancing early.

Q. Is there scientific research being done in this field in the U.S.A.?

Yes, there is. We're studying the bio-mechanical forces of dance and how much force is placed on the leg when let's say a dancer is on a point. We've been doing some bio-mechanical studies to analyse the effect of motion. There are several studies being done on the nutrition of dancers and others that show the effects of weight training in dancers as to whether or not it improves dancing. (Y)



MENISCAL INJURIES: CHANGING CONCEPTS IN MANAGEMENT

I.M. Rogan MB BCh FCS (SA) ORTH.

I am sure that most of us can remember the following.

"A young man is playing rugby and injures his knee with a twisting force and presents to his

doctor with a painful swollen knee, pain along the medial joint line and lack of full extension. The X-ray is normal. A clinical diagnosis of a possible torn medial meniscus is made and the patient is referred to an Orthopaedic Surgeon who books the patient for an arthrotomy. At the arthrotomy the meniscus may or may not be seen to be torn but nonetheless is removed". This cavalier approach to the meniscus was most prevalent at the time of the Second World War and for approx-



imately thirty years thereafter. The major reasons for this attitude were largely as a result of the teachings of Sir Reginald Watson-Jones and Ian Smillie which held sway at that time. It was common to be taught that the meniscus was functionless, that it was merely a vestigial remnant that remained in the joint and could be dispensed with. It was also felt that a torn meniscus inside the knee joint was damaging to the articular cartilage. It was taught that multiple tears of the meniscus were common and difficult to identify and therefore a total meniscectomy should be done in order to see that all these tears were removed. It was also felt that the hardest tears to see were horizontal tears in the postero-medial horn of

the medial meniscus and these too could only be removed at total meniscectomy. And finally it was put in that total meniscectomy allowed meniscal regeneration although I am never really sure why this was put in as a pro factor in view of the fact that the meniscus was regarded with such disdain.

We now know that the meniscus is not functionless and it is a matter of controversy as to whether the torn meniscus does in fact damage the knee. It is quite true that multiple tears are common and difficult to identify as are the horizontal tears in the postero-medial horn, but it is far better to leave these if they are not seen and take them out at a later stage than to remove an entirely normal meniscus on the supposition that one of these tears is lurking at the back of the meniscus.

In 1969 Tapper & Hoover presented a significant retrospective series from the Mayo Clinic. There have been many similar presentations with similar conclusions but I would just like to look at this one particular series. They followed up all unilateral meniscectomies carried out in the period between 1936 to 1956. They excluded all patients who showed osteochondritis dissecans, a loose body, osteoarthritis, chondromalacia patella or had a torn ligament. This left them with 213 patients for evaluation of whom 113 reported back for personal interview and examination and 100 responded to a Questionnaire. They graded their results as excellent, good, fair and poor

- Excellent Being no symptoms and no disability
- Good Some symptoms and no disability
- Fair Symptoms interfering with everyday activity
- Poor Clearly disabled

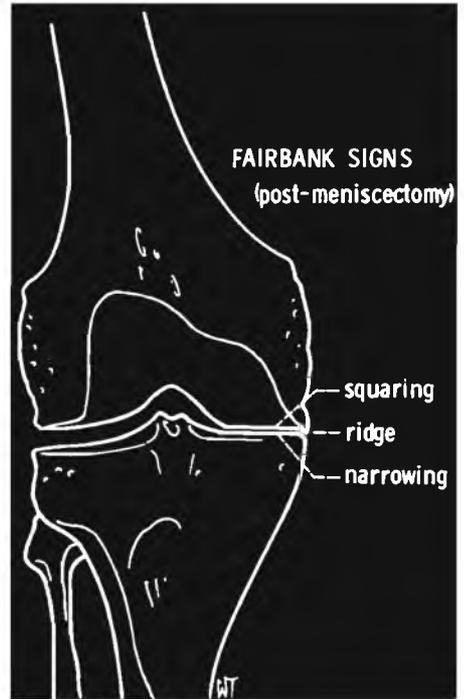
The results were as follows:

38 % Excellent > 68 %
30 % Good

19 % Fair > 32 %
13 % Poor

That is roughly 2/3 were excellent or good but 1/3 - which is a significant number - were fair or poor. The fair or poor results were mostly due to osteoarthritis or chondromalacia and not to a torn anterior cruciate as may have been expected.

Also coming out of this series they noted that there were fewer good or excellent results in patients who had the meniscectomy when they were twenty years of age or less. 85% of all patients in this series showed Fairbanks changes at follow up (Fig.1).



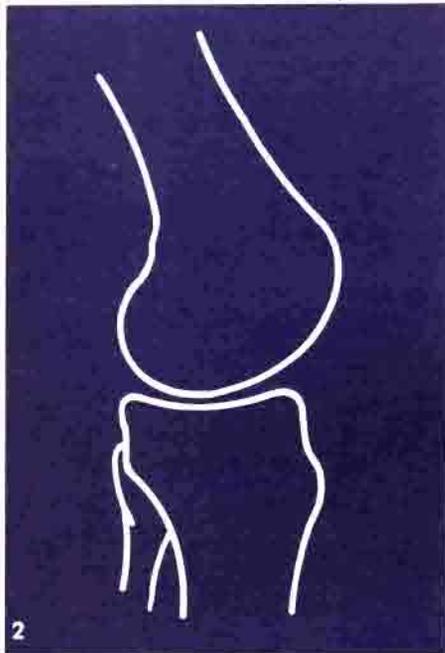
These are indicative of early osteoarthritis. There was no significant difference between the trauma interval and surgery up to two years. The length of follow-up made no difference after ten years, i.e. those patients that were doing well at ten years continued to do well.

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he patients who had sustained the injury as a result of minor trauma did better than those who sustained injury as a result of major trauma. It is noted in other series, although not mentioned

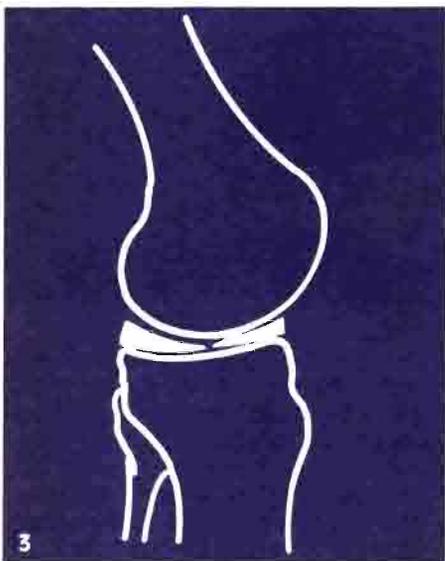
in this series, that medial meniscectomy does far better than lateral meniscectomy. In fact the worst results of meniscectomy are lateral meniscectomies carried out in teenage girls.

John Insall from the hospital for Special Surgery also reports a very interesting figure on his observations of patients with a clinical diagnosis of a torn meniscus managed by a trial of function while awaiting arthrography, namely only 25% of these patients later came to meniscectomy.

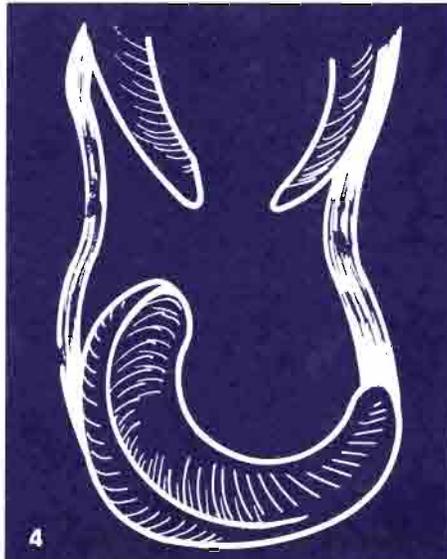


Let us look at the functions of the meniscus.

Firstly, lubrication. The meniscus evenly spreads and distributes the synovial



fluid across the joint. It also co-opts the femur onto the tibia. The rather rounded knuckle of the femur fits poorly onto the flattened plateau of the tibia (Fig.2). It is only after the insertion of the menisci that this becomes a stable arrangement (Fig. 3). The meniscus also further stabilises the joint in that the peripheral collagen fibres of the meniscus are circumferentially arranged on the periphery of the meniscus and the two menisci are joined by transverse ligaments (Fig.4).

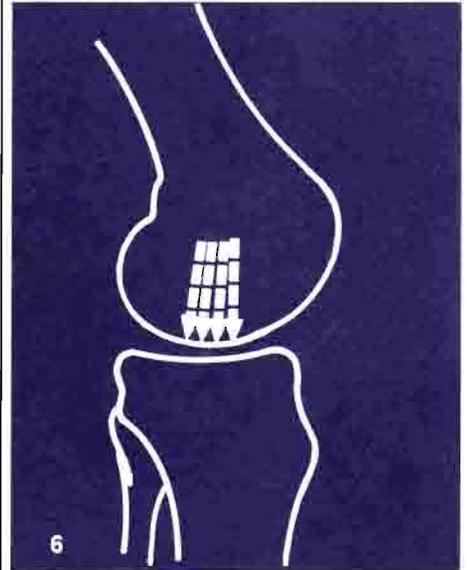


This in effect gives a ring of tissue which locks the femur onto the tibia when the condyle presses down onto the plateau.

If this arrangement becomes disrupted then the meniscus becomes extruded from the joint much as a pip squeezed between one's fingers and has no stabilising effect at all. The meniscus accounts for 50% of the load distribution. Load distribution with the meniscus leads to even distribution of pressure throughout the joint (Fig.5) whereas low distribution



without the meniscus leads to concentration of high forces in the centre of the joint with peak loading and articular cartilage damage (Fig.6).



Classifications of meniscal tears are becoming more and more complex as arthroscopies seek to standardise techniques of treatment. However, unless one is involved in the intraca-

| | |
|----|--------------------------------------|
| I | MEDIAL/LATERAL |
| II | VERTICAL LONGITUDINAL RADIAL |
| | HORIZONTAL |
| | IRREGULAR |

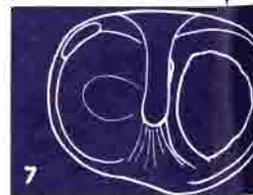
Table A

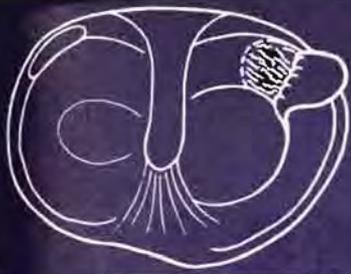
cies of arthroscopic meniscal surgery there is no need to get involved in these complicated classifications and so one would classify tears simply into medial and lateral,

vertical, horizontal and irregular (Table 1). Examples of vertical tears are bucket handle tears of the meniscus which may be graded into three types according to Dandy type I, II and III and radial tears (Fig. 7,8,9,10). Horizontal tears are the flap tears that occur and also the fissures (Fig. 11,

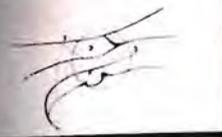
12). Irregular tears occur in the degenerate posterior horn of the meniscus and also in the unusual shattered meniscus (Fig. 13, 14).

With regard to the controversy about total meniscectomy versus partial meniscectomy it is probably just as





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well for the development of arthroscopy that partial meniscectomy is now in vogue as this is a relatively simple procedure to carry out through



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the arthroscope whereas total meniscectomy through an arthroscope is an extremely difficult procedure! However, this fortunate occurrence is based on

sound clinical observation and we now know that as a result of the previously listed functions of the meniscus, a total meniscectomy should only be carried out in those rare instances of shattered meniscus. With regard to open meniscectomy versus arthroscopic meniscectomy the most important part of the arthroscopic meniscectomy is the diagnostic appraisal of the joint. The arthroscope affords us a view of the interior of the joint which was previously not appreciated. With the arthro-



scopy one gets a view of both menisci and an excellent view of the cruciate ligaments together with the articular surfaces. Many of the advantages of arthroscopic surgery can be achieved by keyhole surgery, but keyhole surgery is rather blind in that it does not afford one an adequate view of the interior of the joint at all. Arthroscopic meniscectomy has come to the fore in view of the fact that it allows early rapid rehabilitation which is so valued by sportsmen, but also by anybody who is a breadwinner or homemaker and cannot afford long periods of time in recuperation. It is not yet certain whether arthroscopic meniscectomy gives better long term results than open meniscectomy and to date most of our evidence is that the superiority of the arthroscopic technique is in the short term. However, there are now reports coming out which would suggest that the arthroscopic procedure in the long term is giving better results and this is presumably due to the fact that there is less capsular scarring and less neuronal damage and interference with reflex arcs that are normally present around a joint. However, at all times the aspirant arthroscopist should remember that a good arthroscopy is better than a bad arthroscopy and if one uses the arthroscope to achieve the superior diagnostic accuracy there is no disgrace in completing the surgery by a routine limited open procedure. In view of these findings on the poor results of meniscectomy a much more conservative attitude to the meniscus has developed and this has culminated in a resurgence of interest in meniscal suture, a technique first described in 1889 by Annandale. Crucial to the technique of meniscal suture is an understanding of circula-

tion of the meniscus which can be shown on injection studies to have adequate vascularity in its peripheral one third (Fig. 15). Tears therefore occurring in the peripheral one third can be sutured with satisfactory results. Tears occurring at the junction between the peripheral one third and the inner two thirds may also give reasonable results, but those tears

occurring in the inner one third are not amenable to suture at all. In selecting patients for meniscal suture one needs to take into account the following aspects. Firstly the age of the patient. As we saw from the Mayo Clinic series those patients who had meniscectomy under twenty years of age did badly and so therefore this group in particular should have a suture if at all possible. One could probably extend the indications to thirty years of age, but it is doubtful whether there are any benefits to be gained from this technique in the over thirty year group. The age of the tear is also important. The fresher the tear the more likely one is to get healing and it is also probably obvious that in bucket handle tears that have been present for a long time and are dislocated into the notch and cannot be reduced, a meniscal suture is technically not feasible. The site of the tear as I have already mentioned is important and it must be "in the red" that is in the peripheral one third where one is suturing "red to red". It is permissible to suture red to white, i.e. at the junction of the peripheral one third and inner two thirds, but it is useless to suture white to white, i.e. in the inner two thirds. And the last point I would like to make on suture is that the knee must be stable. There is no point in suturing a meniscus that is torn as a result of a chronic anterior cruciate injury. If one is wanting to suture such a meniscus it is mandatory to repair the ligament as well.

A final word on meniscal suture techniques. Open techniques of meniscal suture are well described but are technically difficult and in particular if the meniscal tear is slightly central rather than peripheral, they can be extremely difficult to do. It is easier to carry out a meniscal suture arthroscopically placing the needles from the centre of the joint and passing them through the back of the joint. Unfortunately this technique has a fairly high incidence of damage to neuronal structures, in particular the lateral popliteal nerve and the saphenous nerve and for this reason it is probably best to do a combined technique placing the sutures arthroscopically and retrieving them by an open technique in the back of the knee. Arthroscopic suture is an exciting new technique which will be coming much more to the fore in the future.

In conclusion, the meniscus is an important structure in the knee. Removal leads to symptoms due to osteoarthritis. Conservatism is the keyword in management. A trial of function is permissible. The arthroscope is a simple way to look and see rather than wait and see, if the patient and surgeon so desire.



occurring in the inner one third are not amenable to suture at all. In selecting patients for meniscal suture one needs to take into account the following aspects. Firstly the age of the patient. As we saw from the Mayo Clinic series those patients who had meniscectomy under twenty years of age did badly and so therefore this group in particular should have a suture if at all possible. One could probably extend the indications to thirty years of age, but it is doubtful whether there are any benefits to be gained from this technique in the over thirty year group. The age of the tear is also important. The fresher the tear the more likely one is to get healing and it is also probably obvious that in bucket handle tears that have been present for a long time and are dislocated into the notch and cannot be reduced, a meniscal suture is technically not feasible. The site of the tear as I have already mentioned is important and it must be "in the red" that is in the peripheral one third where one is suturing "red to red". It is permissible to suture red to white, i.e. at the junction of the peripheral one third and inner two thirds, but it is useless to suture white to white, i.e. in the inner two thirds. And the last point I would like to make on suture is that the knee must be stable. There is no point in suturing a meniscus that is torn as a result of a chronic anterior cruciate injury. If one is wanting to suture such a meniscus it is mandatory to repair the ligament as well.

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OPENING ADDRESS

Dr F. Retief,

Director-General of the Department of National Health and Population Development.

Dr F. Retief, Director-General of the Department of National Health and Population Development, officially opened the 2nd International Sports Medicine Congress.

He reminded the audience of South Africa's achievement in the world of competitive sports.

"Even our strongest competitors give credit to our honourable contribution to Olympic Sports since 1908. From 1908 to 1960 South Africans won 72 medals of which 17 were gold".

He went on to say that Sport has achieved a remarkable status in modern society.

Thirty four million Americans apparently jog at least three times a week and there are 18 million aerobic dancers.

As a result of society's increased interest in sport, that sport medicine has achieved its high-profile. Additional factors which have promoted sports medicine are the financial implications of professional sports.

In 1983 over 400 million dollars were spent on running shoes in the United States.

The financial implications are also with regard to the need for adequate provision of medical care for sportsmen and the general move to fitness throughout the community which has increased the need for trained personnel to care for those with sports-related medical and other problems.

"It is therefore essential to train appropriate personnel adequately to provide acceptable medical services to all sport persons in the community and to do the research necessary to stay abreast of developments in the rest of the world. It is important to bear in mind that the majority of patients requiring sports

medicine help have conditions which require neither surgery nor intensive investigation. Therefore education in sports medicine must, in the first instance, be broad based and, if possible, be introduced into under-graduate medical training."

Dr Retief pointed out that with regular physical activity, the following rewarding factors result:

- The feeling of achievement. One of the strongest positive reinforcers.
- The numerous forms of secondary gain associated with regular exercise. Most obvious is the satisfaction of feeling active and in good physical condition.
- A decrease in the feelings of depression and release of tension. This is mainly due to release of aggression.

- Peripheral blood circulation increases during exercise and will, within limits, enhance cerebral blood flow which in turn relieves feelings of mental exhaustion and depression.

It is evident that regular physical exercise forms an essential part of the prevention and treatment of mild anxiety and depression. It also plays a key role in the prevention of "executive stress".

Utilizing the body to improve the functioning of the mind, should be a priority.

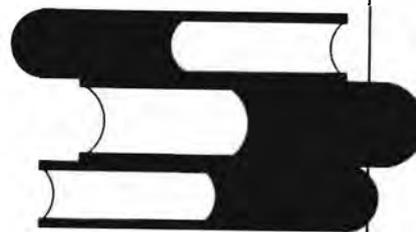
Dr Retief reminded his audience that "prevention is better than cure".

South Africans are desperately in need of protective measures against a number of life-style related health hazards. Very prominent on this hazard list, is ischaemic heart disease.

In the age interval 35 to 74 years the mortality rate among White and Indian male South Africans is among the highest in the world. South African Blacks are still very fortunate in this regard with a low mortality rate, but among the Coloureds the proportional mortality of ischaemic heart disease seems to be on the increase.

Health care authorities and planners accept the beneficial role of exercise and physical activity and it might even prove eventually to be the mainstay of interventive action in the fight against heart disease mortality.





The Pursuit of Sporting Excellence, A Study of Sport's Highest Achievers

by David Hemery, Collins, 1986.

It took David Hemery more than two years to interview in person 63 top performers, selected from 22 sports and a dozen different countries.

His aim was to see whether there was any common factors which separated the highest achievers from all the other competitors. He asked over 80 questions, taking each person through their childhood and upbringing until they reached the pinnacle of their sport: and in getting there, how they coped with the pressure and stress.

The results of the study go beyond sports and into the area of human endeavour. There is much to be gleaned by parents, teachers and coaches - and of course all those striving to fulfil their own potential.

The Anterior Cruciate Deficient Knee, New Concepts in Ligament Repair

by Douglas W Jackson and Dr David Drez, Mosby International. 1986. pp 350.

This textbook opens with a discussion of the anatomy, bio-mechanics and vascularity of the anterior cruciate ligament (ACL). One of the most interesting sections discusses the use of the arthroscope in the repair of the anterior cruciate and the factors influencing its use.

The following topics are discussed: clinical examination of the patient, mechanism of injury, traditional surgical ways of dealing with anterior cruciate instability and why they are not really successful, and the factors affecting the choice of materials used when replacing or augmenting the patient's ACL.



For anybody interested in the anterior cruciate deficient knee this well illustrated book is a must.

Handbook of Bioengineering

by R. Skalak & S. Chien, Lexicon Publishers. 1986. pp 932

Bioengineering — the rapidly evolving field wedding engineering principles to medical problems — is the focus of this exceptional and authoritative new references.

Richard Skalak and Shu Chien offer a sound distillation of the best available information, enhanced by extensive references, specific applications, and case histories. They have chosen experts in each division of bioengineering research and technology — from orthopedics, cardiovascular mechanics and blood rheology, to respiration

mechanics and mechanical properties of soft and hard tissues — to create a totally up-to-date sourcebook. Much of the data are presented in tabular or graphic form to make the material more accessible.

Topics of special note include ●lubrication of diarthrodial joints ●mechanics of the uterus in pregnancy and labor ●rheology of leukocytes ●interstitial fluid pressure and lymph flow ●fluid mechanics in atherosclerosis ●artificial lungs ●neural conduction ●stereology ●implantable cardiac pacemakers ●circulatory assist devices ●total joint replacement, and ●biomechanics of the human spine and trunk.

Bioengineering is coming of age. How it will impact on medical problems — even sickle cell and AIDS — is clearly illustrated in this all-inclusive handbook.



ULTRA MAN

SPONSORED BY CIBA-GEIGY
CONCEPT, DEVELOPMENT AND IMPLEMENTATION BY

Iain Banner Director — Sports International

The comrades Marathon between Durban and Pietermaritzburg was regarded as the first "ultimate" endurance test. Then came the advent of triathlons, with the Iron

Man and Ohlssons being the toughest and most prestigious. The challenge of participating in and completing these ultra distance events has captured the imagination of an ever increasing number of sportsmen over the past decade. The initial concept of staging the Ultra Man revolved around two factors; one — the belief that athletes who participate in a host of ultra distance events should be rewarded for their efforts and two — that in 'ultra distance mad' South Africa, a competition should be devised to see who really is South Africa's ULTRAMAN.

At this point, the pharmaceutical division of CIBA-GEIGY was approached for sponsorship. Their response to the basic concept was most positive and from that point on the task of selecting an appropriate combination of events that satisfied our objectives had to be addressed.

The following combination of compulsory (c) and optional (o) events was finally decided on:

1. J.S.E. Marathon (o) — August 1987
2. Vasbyt Ultraman 160 (c) — November 1987
3. Hansa Duzi (c) — January 1988
4. Midmar Mile Swim — (o) February 1988
5. Sunday Times / Lepin Iron Man (c) — February 1988
6. Argus Cycle Tour (o) — March 1988
7. Two Oceans (o) — April 1988
8. Comrades (c) — June 1988

These events were selected so as to complement one ano-



in terms of training and timing whilst introducing a tactical choice element into the competition. Top Ultra Man competitors will be forced to select one or two optional events if they intend going all out in each event, whilst semi competitive athletes may attempt to put a consistent effort into every race.

How does one equate such a variety of events? This is a question that perplexed me for sometime. Finally the solution was found. A simple ranking system or percentage analysis of each Ultra Man competitors performance is worked out as follows:

Event time limit—competitors time x 100

Event time limit—fastest Ultra Mans time
Thus the fastest Ultra Man home will earn 100 points in each event, with other contestants earning successively fewer points the closer to the event time limit they are.

This system has been computerised and will be monitored by Sports International, with regular progress reports and feedback being provided for both athletes and the media.

A total of over R30 000 prize money is up for grabs, with the top points scorer being guaranteed R10 000. Furthermore, Ultra Man winners in each compulsory event will earn R2 000, whilst the top woman and masters athlete

(older than 40 years of age on the day of the first event) will win R2 000 and R1 000 respectively.

Ciba-Geigy is heavily committed to the Institute of Sports Injury Research at Pretoria University, a positive bonus for top contenders who will have the opportunity of being cardio-vascularly and physiodynami-



cally tested at the Institute. Entry forms will be available from leading pharmacies only from June onwards. The entry fee is R65,00, for which competitors will receive a vest, shorts, sweat top and bag as well as being eligible to attend a black tie banquet at the Sandton Sun in June 1988. In essence the Ultra Man is an enormously tough competition with a great number of events in it. I believe that this exceptional challenge, coupled with outstanding rewards, will capture the competitive spirit of those athletes who subject themselves to the supreme physical challenges in today's sporting world.

Ciba-Geigy's Commitment

Mr J. G. Niehaus,

Divisional Manager, Pharmaceutical Division of Ciba-Geigy

In April 1986, Ciba-Geigy announced a grant totalling R400 000 over a period of 4 years to the Sports Institute attached to the University of Pretoria. Among other things the institute provides a service to all South African sportsmen and women with a serious commitment to the systematic im-



provement of performance. Inevitably, performance at the edge of endurance leads to injuries. Here too the institute plays an important role in research into the rehabilitation of

sports injuries.

Naturally both these programmes generate a large and potentially useful volume of information.

The Ultra Man competition was conceived not only to answer the long outstanding question: "Who is really South Africa's leading endurance athlete?"

but also to open a communication channel between sportsmen and women in South Africa and the Ciba-Geigy programmes at the institute. On the one hand research at the institute can benefit from the vast epidemiologic potential locked up in the large number of sportsmen entering endurance events. On the other hand a wider understanding and appreciation of training methods and rehabilitation techniques could reduce the time lost due to injury. Towards this end, leaflets and brochures relating to these topics will be made available to the sporting public through leading pharmacies throughout South Africa. Ciba-Geigy recognises the support of sportsmen and women in a wider context and wishes, within this unique event, to capture their imagination whilst at the same time serving the interest of medicine and research.



PROTECTION IS BETTER THAN CURE



Hard sports create their own problems – and for your sporting patients Spenco's world-proven, high technology sports medicine products provide protection which can prevent against shock and passive bruising, and elevates discomfort resulting from skin blistering and abrasion.

Anyone wearing sport shoes will benefit from Spenco insoles, with scientifically developed, inherent arch support as well as heel and ball cushioning to substantially reduce transmitted shock. A wide range of shock-absorbing cycling products are also available to take the rough out of riding.

Spenco Fiberflex Wraps – ten times stronger than conventional elastic – will never wrinkle, roll or lose their stretch, and Spenco knee protectors allow full joint flexing without any unnatural lateral movement.

Spenco 2nd Skin is ideal for covering abrasions, blisters, burns or cuts. The hydrogel material absorbs pressure and reduces friction against the skin. The Spenco Blister Kit contains preventative and protective products to treat rubbing problems – and is an excellent addition to any first aid kit – on the field and court, on the road, and in the gymnasium.

The Soft Science for Hard Sports

If you need further information, just telephone
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Another product from Kimberly-Clark

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SPORTS MEDICINE
PRODUCTS

SASMA

Dr Etienne Hugo President of SASMA.

The Second South African Sports Medicine Association congress was held in Cape Town from 14-16 April 1987. The congress was extremely well attended. Those who attended included physicians from the USA, Germany, Belgium and Canada. The invited guest lecturers were Prof Ralph Paffenbarger from Stanford University, Dr John Bergfeld from Cleve-

land and Lyle Micheli from Boston. Our thanks to Ciba-Geigy, Pfizer Laboratories and MSD whose generous sponsorships made this possible. The congress included sessions in exercise in health and disease, nutrition as well as physiology and pathology of ultra distance sporting events. The special session on medical and scientific as well as orthopaedic aspects of dance generated great interest and was the first of its kind in South Africa. Various excellent contributions were

also included in the sessions on sport Traumatology. Dr SN. Furman from Cape Town received the Boots Krugerrand award for the best paper by a local contributor. All the other sponsors must be thanked for their generous contributions. Dr Dawie van Velden and his congress committee must be congratulated and thanked for the organisation of this excellent congress. The social programme made this congress even more enjoyable.



Dr L. Michell



D. J. Bergfeld



Professor R. Paffenberger



Organising Committee —
Dr G. Irving, Dr D. van Velden,
Prof. T. Noakes.

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Annual General Meeting

The Annual General Meeting of the SA Sports Medicine Association was held on 14 April 1987.

The Association's financial position has become healthier. The available funds will be used to the members' best benefit.

The president Dr Clive Noble summarized the associations activities during the past year.

Individual contact and communication between members of this association and members of overseas sports medical associations were encouraging but the SA Sports Medicine Association is still not affiliated to the International F.I.M.S.

Regional Sports Medicine Association branches are still slow to become established outside Johannesburg and Cape Town.

The present functioning of the Sports Medicine Association as a special group of the Medical Association of South Africa still makes more direct membership of other paramedical disciplines impossible.

Dr Clive Noble, past president must be thanked for his devoted effort to establish the SA Sports Medicine Association more firmly.

Sy onvermoeide pogings om kennis tot sportgeneeskunde aan belangstellende groepe oor te dra moet erken word. Sy direkte betrokkenheid en bydraes by oorsese sportgeneeskundige kongresse het direk tot belangstelling in die lokale vereniging bygedra.

Beplanning in 1987

Die nuwe uitvoerende komitee is:

President: Etienne Hugo

Vorige President: Clive Noble

Sek. Etrisia Prinsloo

Lede: Tim Noakes

Dawie van Velden

Die komitee gaan die nuwe termyn met nuwe uitdaging tegemoed.

Sportgeneeskunde het multidissiplinêr geword waar geneeshere en paramediese saamspoor tot voordeel van die Sportman of Sportvrou.

Kennis van anatomie, fisiologie, insluitend oefeningsfisiologie, patologie, farmakologie, internegeneeskunde, kardiologie en behandeling van traumatiese toestande is alles deel van die totale hantering van die sportsman.

Die sukses van so 'n spanbenadering is reeds goed in gevestigde sportklinieke bewys. Die SA Sportgeneeskundige Vereniging as spesiale groep van die Mediese Vereniging van Suid-Afrika het dit in die verlede nie moontlik gevind om paramediese dissiplines nader te betrek nie. Dringende aandag moet weer hieraan gegee word.

Sports Medicine remains a continued learning experience. A continued educational course in Sports Medicine is planned for 1988. This will be held in

Durban in April. The aim will be the runner, his training conditioning and treatment of injuries. We also hope to include physicians and other disciplines involved in 1988 Comrades.

Attempts must be made to expand the interest in Sports Medicine and establish branches of the association in other main centres.

SASMA Congress Proceedings

All delegates who attended the 2nd International Sports Medicine Congress in Cape Town will receive a comprehensive proceedings manual on all papers presented at the congress.

Those who could not attend the congress but would like to receive the proceedings are to send their requests together with a cheque of R20,00 to:

The Secretary, SASMA, Hatfield Forum West, 2nd Floor 1067, Arcadia Street, Hatfield Pretoria 0083.

Tel. No: 435-5945/6.

The 1987 SASMA Tie

The 1987 SASMA Tie is now also available on request, at a cost of R15,00 per tie. This attractive blue striped tie can be ordered from:

The Secretary, SASMA, Hatfield Forum West, 2nd Floor 1067, Arcadia Street, Hatfield Pretoria 0083.

Tel. No: 435-5945/6.



THE NEEDS OF THE DANCER

Professor Elizabeth Triegaart, Head of UCT Ballet School

Ignorance

In South Africa the problem of dance injury is a very neglected one, and would provide an interesting field for research beneficial to both dancers and sportsmen who indulge in other forms of strenuous activity such as athletics, gymnastics, rugby and soccer. The overriding factor when considering dance injuries is ignorance, firstly on the part of the medical profession. How many doctors have seen a dancer in training and are familiar with the kind of movements the dancer performs daily? How many know what constitutes a plié or a jeté? When their patient complains of pain when executing a rond de jambe en l'air, does the doctor have any idea what the exercise entails?

This ignorance is by no means one-sided. Dancers are notorious for being abysmally ignorant of physiology, anatomy, correct diet and practically everything relevant to their training and physical well-being.

Physical Perfection

As is the case with sportsmen, a dancer's training has become increasingly demanding over the years. In the courts of Louis XIV, where ballet originated, dancers were content to mince around disguised from neck to ankle in voluminous and cumbersome dress. From the time of Marie Camargo,

dancers' costume has become increasingly revealing, until today dancers appear on stage in figure hugging attire, necessitating that the body be finely honed with every muscle trained to peak fitness. Performing the technical feats required from a dancer today demands a degree of skill and physical perfection previously unknown and relatively unimportant.

that while a dancer's training can be compared to that of a sportsman the performance requirements for a dancer are very different. A three-act ballet for principle dancers, soloists and corps de ballet can be compared with three or more hundred-metre sprints interspersed with a twenty minute marathon and a couple of 500m jogs, ending with a 200m dash. All these



Better Understanding and Treatment

Just as the training of a dancer has become more scientific, so too has the necessity for better understanding and treatment of dancer's injuries become imperative. Doctors need to be aware

must be accomplished with panache and artistry and often also require intense emotional involvement.

Dancer's Injuries

Dancer's injuries fall into two categories, the traumatic and those resulting in over-use of specific muscles and ten-

dons. The latter category can be further divided into the genuine injuries and those which exist purely in the mind of the dancer. This last group of injuries cannot be taken lightly, and every doctor should be aware that they do exist.

Psychogenic or Genuine

(a) Causes

Their causes are multiple. The dancer might be subconsciously insecure about his or her ability to perform a forthcoming demanding role. Personal unhappiness or an impending unwelcome tour could be sufficient justification for an "injury" or the dancer could merely be in need of the rest, sympathy and attention an injury occasions.

(b) Effects

What are the effects of any injury, psychogenic or genuine? The injured dancer could be sidelined for many weeks, and suffer the consequent loss of confidence and career opportunity. Boredom and frustration are real dangers as many dancers have few or no other interests other than their work. Compensatory use and conse-

"The reasons for a dancer's preoccupation with injury are three-fold. Many professional sportsmen are not solely dependent on their sport to earn their living, whereas dancers employed by the performing arts board in this country have no other means of financial support."

Other doctors go to great lengths to treat the most minor of injuries conservatively, prescribing strict inactivity and weeks of physiotherapy. Will the prescribed physiotherapy really help the dancer or is it merely done to alleviate the dancer's or doctor's anxiety. Are the doctors aware of the importance placed on their injuries by dancers who will seek numerous opinions until they find a diagnosis and treatment which suits them.

Dancer's Preoccupation with Injury

The reasons for a dancer's preoccupation with injury are three-fold. Many professional sportsmen are not solely dependent on their sport to earn their living, whereas dancers employed by the performing arts board in this country have no other means of financial support. Secondly, a dancer's career is short and any time spent away from performance while injured can only be detrimental to that career. Lastly, a serious injury can result in premature termination of the dancer's active career,

for which there is no insurance available in this country.

Conclusion

To conclude, what dancers need is a doctor sufficiently knowledgeable in dance training to be able to guide injured dancers back to full recovery, at the same time alleviating their anxiety about the consequences of their injuries and giving them the confidence they need to continue active rehabilitation, without cessation of training and subsequent loss of fitness.

Perhaps part of the doctor's and educator's concern and treatment should be to persuade dancers to pursue their interests outside their profession, which would result in less pre-occupation with their own fitness

and help to broaden the spectrum of their experience of life.

Dancing Terminology

The following are terms relevant to dance training which may be of interest to a doctor treating a balletic injury:

quent overstrain of surrounding structures must also be recognised and guarded against.

Treatment

(a) "No-Nonsense" Approach

The treatment of dancers' injuries usually depends on the doctor's attitude towards dance as a profession.

Some doctors have the "No-nonsense" approach. They are of the opinion that dance is an indulgence and that the dancer should be satisfied just to be able to walk. Their treatment is correspondingly brusque and often unsympathetic.

(b) Conservative Approach



T

"Turn Out" — the strength and aesthetics of the dance technique depends largely on the degree of simultaneous external rotation of both legs in the hip socket, hence the dancer's desire to "turn out" the legs and feet in all balletic exercises.



1. *Plié* — deep knee bends or "squats" performed with maximum "turn out" while keeping the torso erect.
 2. *Demi-Plié* — knee bends as above without allowing the heels to leave the floor.



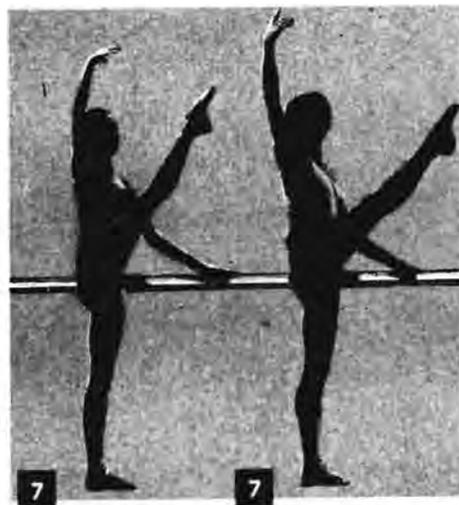
3. *Tendu* — The action of simultaneously fully extending the knee, ankle and toe joints.



4. *Rond de Jambe* — circular movement of the leg in the hip socket.
 5. *Rond de Jambe en L'air* — circular movement of the lower leg in the knee.



6. *Grand Battement* — throwing movement of the leg fully extended into the air while the balance is maintained on the other "supporting" leg. The torso remains undisturbed. This movement is done in front of, to the side of or behind the body.



7. *Sauté* — term referring to all jumps.



8. *Jeté* — a jump from one leg on to the other, in any direction, with the body passing through any desired position in the air.

9. *Temps Leve* a jump on one leg with the body maintaining any given position in the air.

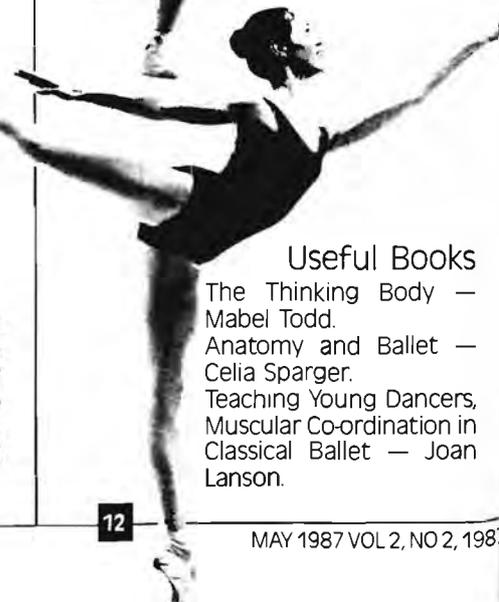


10. *Arabesque* — position attained by lifting one leg fully extended behind the body.
 11. *Pirouette* —



spinning movement usually done on one leg with the knee fully extended.

12



Useful Books

- The Thinking Body — Mabel Todd.
- Anatomy and Ballet — Celia Sparger.
- Teaching Young Dancers, Muscular Co-ordination in Classical Ballet — Joan Larson.

Continued from pg. 3

T

o be followed shortly by a third Greek, Spiridon Belokas. However, the fourth place finisher, Gyula Kellner, raised a protest that Belokas had ridden part of the way in a carriage.

Belokas admitted his deception, and was stripped of his awards, as well as his shirt, and thoroughly ostracized.

Comrades Marathon — How it all began

Little could dreamer Vic Clapham have visualized, when he founded the Comrades Marathon in 1921, that two, three and four hundred aspiring athletes would in later years crowd the start of his brainchild race. Yet by the mid-1960's that has been the response.

Clapham had long felt that if infantrymen could get used to forced marches over big distances trained athletes would have little difficulty in running the 54 miles from Pietermaritzburg to Durban. When he returned from the East African campaign of the First World War, Clapham, brushing aside the doubts and jeers of his critics, forged ahead with his plans to found the great race which, thanks to his persistent efforts and organizing ability, has become a traditional and annual feature of the Natal winter season and the South African athletic calendar.

As its name denotes, the Marathon was instituted by the Comrades of World War I, an association later to be called the South African Legion of the British Empire Service League. The first competitors were mainly ex-infantrymen. In 1931 the Moths of the Gunga Din Shell-hole donated one of the main trophies of the race — that for the team with the best results of the day. The resuscitation of the fortunes of the race in the late 1940's was due to the efforts of the ex-soldiers of the Second World War. It is fitting that the spirit of comradeship continues to permeate the whole atmosphere of the Comrades Marathon.

1st Ever Comrades

And so in Maritzburg on Empire Day, 24 May 1921, thirty-four of the forty-eight competitors who entered for the first Comrades Marathon lined up shortly after dawn to await the Mayor's starting pistol and, thus, to bring into rea-

lity a mammoth race that had hitherto been only a visionary's dream. In 1922 nearly three times that number faced the starter for the more difficult 'up' race to Maritzburg — in odd-numbered years the race is run from Natal's capital city down to the coast; in even-dated years it is run up from Durban to Maritzburg.

During the Depression

The average entry for the first ten years was 45, but the world depression years saw a marked increase in the number of competitors. Natal turf clubs, newspapers and the public at large made generous donations to the race funds, but the depression years saw a temporary though serious drop in donations. Nevertheless, in 1933, when it was at first thought that there

of medals for completing the distance inside eleven hours. No doubt the retirement after the 1938 race of the founder and first organizing secretary Vic Clapham added to the difficulties. In 1940 it was doubtful because of the war whether there would be a Comrades Marathon, with the result that only one man trained adequately for it — and won unchallenged in outstanding time.

In 1965 a record 387 eager competitors crowded the starting line at the City Hall. This year ±10 828 runners, take up the challenge of this prestigious race.

Acknowledgement: Marathon Story M+D Alexander.

What a difference!

Winner of 1921 Down Race —

W Rowan 8.59.00

Winner of 1922 Up Race —

A. Newton 8.40.00

Winner of 1983 Up Race

— B. Fordyce 5.30.12

(Record)

Winner of 1985 Up Race

— B. Fordyce 5.37.01

Winner of 1986 Down

Race — B. Fordyce

5.24.07

Winner of 1987 Up Race

— B. Fordyce 5.36.58

Shell / Argus Two Oceans Marathon

The Two Oceans was started in 1970 when the concept conceived by Celtic Harriers was put forward to the Argus.

From the modest beginning in 1970 when 26 dedicated runners started off on a bitterly cold May morning, this race, run along some of the most scenic coastline in the world, has grown in stature and popularity, to such an extent that this

year over 6000 entrants took to the road.

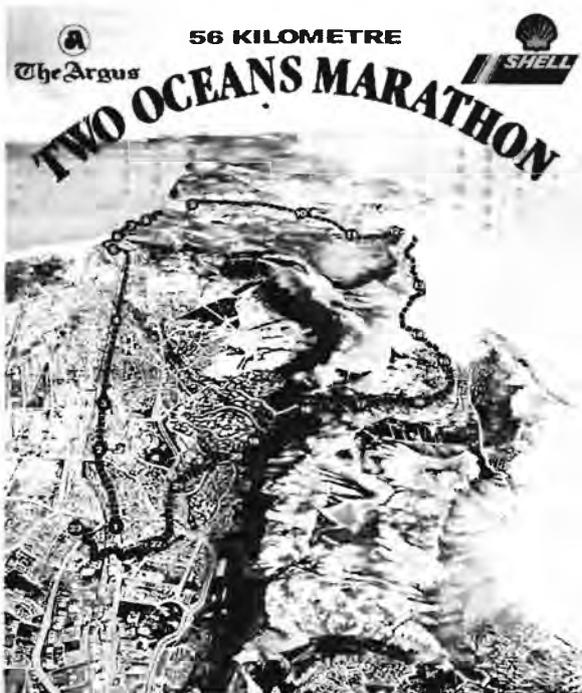
The first first (1970) was Dirkie Steyn, a Stellenbosch student who was known for running "kaalvoet".

In 1976 The Two Oceans became South Africa's first ever multiracial marathon. That year Vincent Rakabaele streaked ahead of the field — the first black man to win a marathon in South Africa.

Another major milestone in the history of the Two Oceans was the coming of Shell as co-sponsors in 1979. This triumvirate, Celtic Harriers, The Argus and Shell are to be congratulated once again for making this very special event possible. The laurels however must go to Chet Sainsbury and his committee for an exceptionally well-organised race. 



1966 Route



Easter Saturday, 18th April 1987, 06h00

would not be enough money for the usual medals, let alone the prizes, the number of competitors was characteristically a thronging 85 of whom 57 completed the journey.

Outbreak of the War

From then on until the outbreak of the Second World War the number of entries began to shrink. In 1936 only 19 faced the starter. Something was wrong despite the fact that for four years in succession record times were established. Perhaps the record breakers of that time had introduced, as normal, training schedules which discouraged possible beginners. Perhaps, despite the literary efforts of the outstanding sports writer, the late Les Cox, race publicity over-emphasized record breaking at the expense of the winning

ANOREXIA NERVOSA, BULIMIA AND THE DANCER

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A

Abstract

Both ballet dancers and individuals with anorexia nervosa have many features in common. In this paper, the author discusses these, and examines

the evidence that the necessary self-discipline for the control of appetite, body size and performance, are syntonically with the demands of the career. Professional dancers and victims of eating disorders share at least one outstanding feature. They are addicted to perfection. Both emerge out of western societies that prize excellence and reward individual dedication. Both emerge out of societies that are preoccupied with body appearances and performances as well as the use and abuse of food.

Features shared by dancers and anorectics are:

1. A single-minded commitment to the body, mastering its shape and its performance.

2. An abhorrence of any evidence of fatness: by definition the anorectic has lost more than 25% of her original body mass. While the bulimic tends not to loose to the same degree, she shares the same disgust.

3. Preoccupation with food restriction, eliminating the foods that fatten or gratify. Anorectics maintain strict control over calories and obsessively ruminate over food by day and dream about it by night. The bulimic and the dancer however learn to gorge and vomit to relieve this pressure.

4. A distorted image of the body, perceiving it as far larger than it really is.

5. A delay in the menarche, amenorrhoea, and menstrual irregularities.

6. A narrow range of interests focussing on mastering performance challenges, avoiding conventional social contacts and the tasks of psychosexual maturation.

And finally,

7. The establishment of her unique identity either as an anorectic or as a dancer. Both command public atten-

tion, and allow the girl to avoid any deep-rooted insecurities about her personal identity.

To begin with the physical features, there have been a few studies on the unique features of dancers. Frisch and her co-workers¹ investigated the menstrual irregularities in 89 dancers. She found a late mean age of menarche; this delay could imply that either late maturers chose to be ballet dancers, or that the hard training and low food intake typical of ballet dancers causes the excessive thinness, that delays puberty. Since, in their sample, most ballet dancers had begun between 6-8 years of age, it was likely that the training and low food intake had been the main contributory factors. The dancers with amenorrhoea or irregular menstrual cycles were significantly leaner than those with regular cycles.

From their earlier studies, Frisch and McArthur² postulated that vigorous exercise interferes with normal menstrual function through reducing body fat in relation to lean mass and the total weight. In their view, a critical weight of 48kg (105.6lbs) and 17% of weight as body fat is necessary for menarche, and at least 22% body fat necessary for regular menstrual cycling.



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