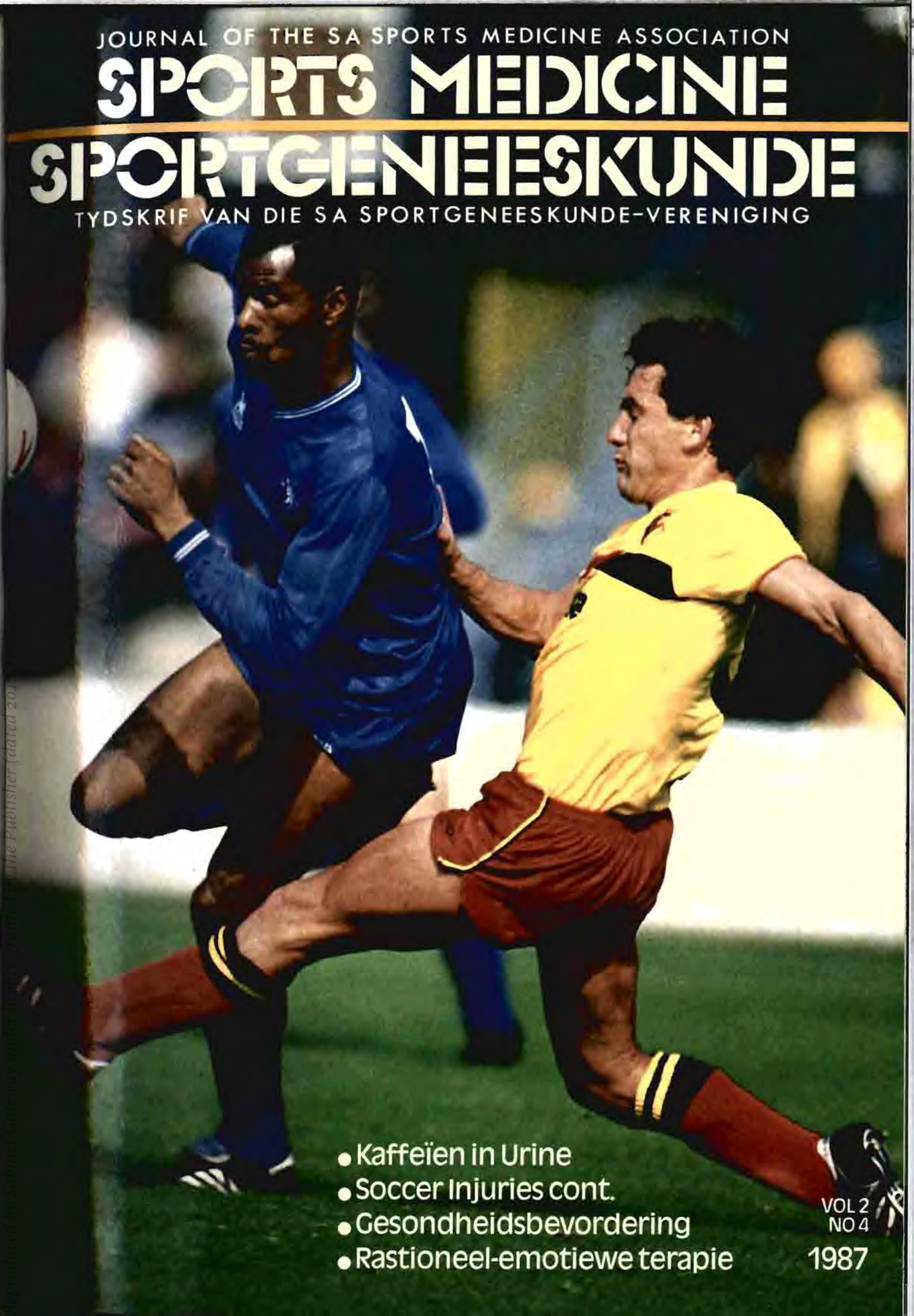
JOURNAL OF THE SA SPORTS MEDICINE ASSOCIATION

SPORTS MEDICINE

SPORTGENEESKUNDE

TYDSKRIF VAN DIE SA SPORTGENEESKUNDE-VERENIGING



- Kaffeïen in Urine
- Soccer Injuries cont.
- Gesondheidsbevordering
- Rastioneel-emotiewe terapie

VOL 2
NO 4
1987

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VERENIGING

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ALTERNATIVE MEDICINE:

CLIVE NOBLE, MBCHB. FCS (SA) Editor in Chief.

Recently Zola Budd sustained a running injury which threatened her career. She received treatment from a variety of Sports Physicians including laser and injection therapy from a German clinic, but all to no avail.

She finally returned to South Africa where she consulted more doctors, but still with no improvement.

Finally, on advice of her friend, she went to see Ronald Holder who describes himself as a Kinesthisiologist.

He apparently diagnosed her problem as a muscle imbalance and proceeded to make a support from the "Yellow Pages" which is held together with tape and inserted into her running shoe. Almost immediately she was rendered pain-free and was able to recommence her running career. Was this a miracle, was it just a fluke, or was it a scientifically accurate assessment of her muscle imbalance corrected by a (usually) 2-3mm thickness of "Yellow Pages" placed in her shoe? I have seen many of his successes, but also many of his failures so I think it is extremely difficult to answer the question.

I strongly doubt his scientific credibility. Many of his cases (if not all) are told they have a leg length discrepancy. A number of these cases have had scientifically accurate radiological leg length measurements that revealed equal leg lengths.

Other cases have had supports put in their shoes which would surely aggravate the biomechanical problem, but have nevertheless been successful. Has his success been due to the fact that most of these cases would have got better by themselves, as on recent investigation into injuries incurred in the training for a British Marathon would suppose? Has it been a placebo effect?

The answers to these questions may equally apply to all forms of alternate medicine or even sometimes to "scientific" medicine itself.

As regards running injuries it can safely be said that most of these will get better themselves. Most of the time this will be within a few days of the onset of injury, but may take weeks or even months. Usually there is a reduction of activity as a protection of the part due to pain which allows healing to take place. In my own practice many cases who had to wait for an appointment for a few weeks, phone to say that the problem got better while they were waiting for the appointment. Whoever happens to be treating the patient at the time he is recovering spontaneously, will claim the cure no matter how unscientific the treatment has been.

Reflexology, homeopathy, naturopathy, chiropractic and a host of other modes of alternate medicine all claim outstanding results in sports injuries. Acupuncture has long been used in treating sportsmen including Provincial rugby players. Only with a careful clinical trial will we ever be able to evaluate alternate medicine as a form of treatment.

Dr "Ponky" Firer has donated a prize of R500 for the best original article published in this Journal each year. We thank him for his generosity.

EDITORIAL BOARD MEETING

A meeting of the Sponsors, Ciba-Geigy, the Publishers, Commedica; and members of the Editorial Board of this Journal was recently held in Johannesburg. At this meeting it was decided to have a Physiotherapy column as well as a nutrition column which should be of great interest to our Readers. Another innovation will be a philosophy column a la George Sheehan which should also be most enjoyable.

It was decided that both scientific articles as well as practical, easily understood articles will also be used. This is in keeping with the previous format. If you, the Reader, have any suggestions we will welcome them. Our aim is to increase knowledge in Sports Medicine.

"HEREWITH THE BATON"

CHRIS KLOPPER

I have pleasant memories of some of the restaurants that I have had the good fortune to visit over the last two decades. As a visual experience still burnt into an unaffected part of my brain none surpasses the one at High Wycombe in England. There, in the late afternoon summer sun, was the archetypal English scene, trees with lush foliage, spontaneously combusting into all the imaginable shades of green. The village-green itself dotted with cricketers, and a very old, very English pub. It sported a proprietor who delighted in walking you through the kitchen to show the simmering menu, allowing you to savour each delicate aroma.

Then there was the restaurant in Durban that out-colonized anything the colonies even in their heyday could offer as an alternative. Here for the first time I came across the rather pleasant, somewhat sparsely distributed, tradition of consuming the merest hint of vanilla sorbet to clear the palate before the arrival of the next course, already hovering in the wings. In many ways this journal strains towards offering the same experiences.

"I came across the rather pleasant, somewhat sparsely distributed, tradition of consuming the merest hint of vanilla sorbet to clear the palate before the arrival of the next course."

Readable scientific fare packaged in that special ambience that only sport can provide. What then, do you ask, clears the palate between the heavy numbers on the academic menu?

George Sheehan M.D. in his regular column Running Wild, which appears monthly in the Physician and Sports Medicine does for sportsmedicine journalism what vanilla sorbet does for the most carefully crafted cuisine: a moment of freshness, the sheer delight of which explodes against the overworked 'taste buds', surprising them into renewed readiness for more action.

Here is a man (also a father, a physician, runner/pot hunter, a cyclist, an excellent speaker and a columnist of stature) who when speaking to an audience of research chemists about the problems of research and the Eureka experience, captured the nett worth of every drop of perspiration that I had ever shed.

> "Play," he said, "is the problem solver. Running — or any of the other exercises I proposed — is a celebration of the body and a holiday for the soul." (Here the sorbet becomes the main course.)

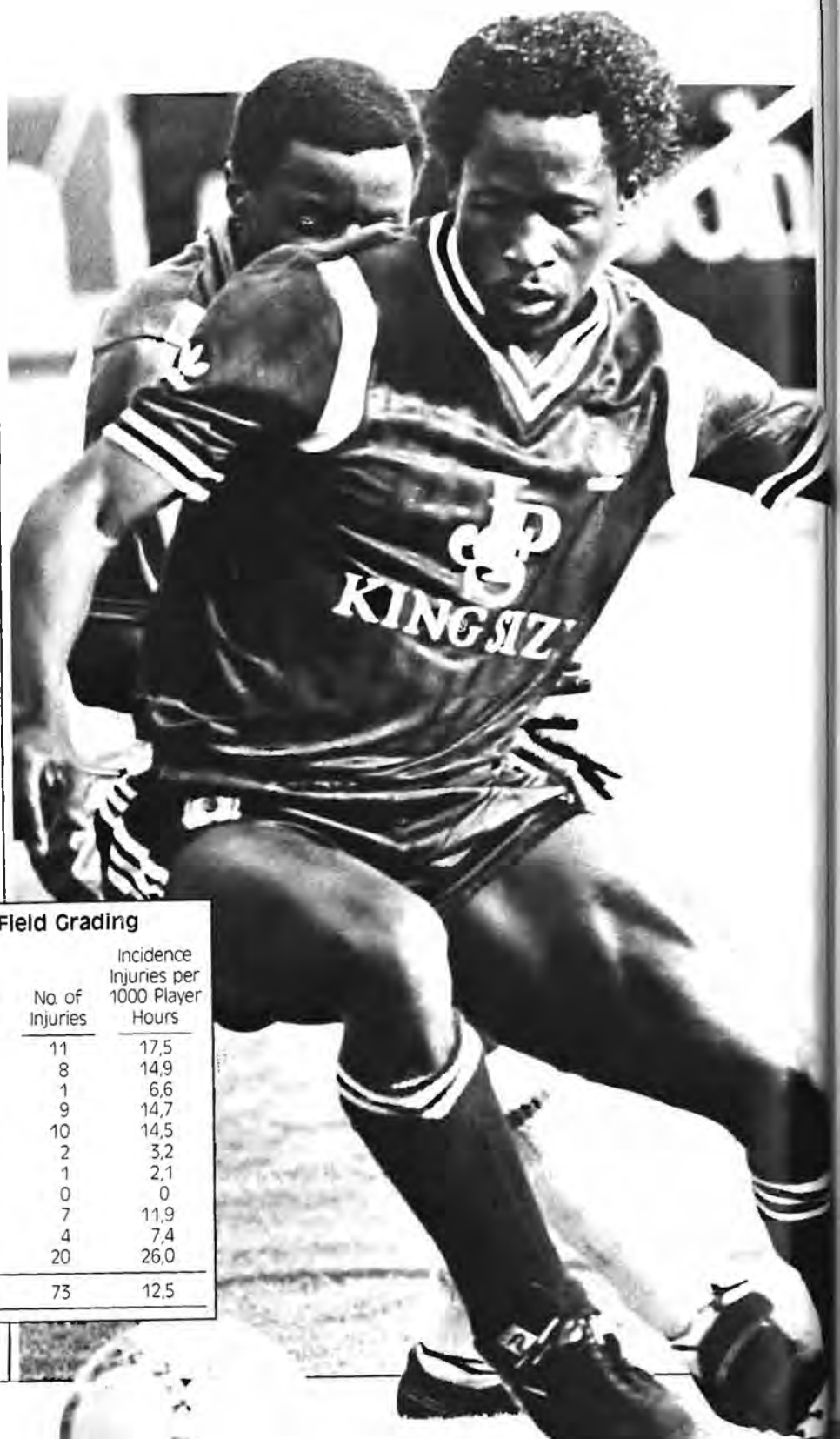
This column, by way of contributions that will be made by those not content to blindly practice sportsmedicine but to reflect upon its implicit paradigms meditatively, is unreservedly inspired by George Sheehan's Running Wild.

This is one marathon though, in which he will probably remain for the most part far out in front; but then, as in marathons, to use his words again "we will never discover the truth second-hand." He went on to say; if I am to write the truth, or know it when I read it, I must first live it. Let these contributions be our living truth. Herewith the baton.

CONTINUED FROM VOL 2 NO 3

SOCCER INJURIES

I. Survé 4th Year Medical Student, **J. Ranchod** 4th Year Medical Student,
A.N. Kettles Registrar From: The Department of Community Health,
University of Cape Town.



Field Conditions

All fields on which matches were played were graded according to a checklist with a maximum score of 40. The number of injuries and of player hours for each field was determined, and the injury incidence per 1000 hours was calculated.

It would be expected that higher field grading scores would correlate negatively with injury incidence. However an anomaly arose with field A, which is the best field. On this field most of the Premier division matches were played. It was in this division that most injuries occurred. If field A is excluded in calculating correlation, the correlation coefficient $r = 0{,}84$ ($p < 0{,}01$). If field A is included, then $r = 0{,}31$. Although it may be concluded that quality of fields determine to some extent the risk of injuries, other factors may override such influence. Weather conditions did not appear to influence the incidence of injuries markedly; 93% occurred during sunshine and 71% on dry fields.

Injuries related to referee grading

The number of matches controlled by each grade of referee, and the number of injuries sustained in these matches is shown in Table VI.

Table V: Relationship of Injuries to Field Grading

Field	Grade	Games Played	Player Hours	No. of Injuries	Incidence Injuries per 1000 Player Hours
G	17	23	631	11	17,5
D	18	22	535	8	14,9
F	20	6	151	1	6,6
L	20	25	616	9	14,7
C	22	26	686	10	14,5
H	26	24	627	2	3,2
I	26	20	477	1	2,1
J	26	7	206	0	0
K	26	24	587	7	11,9
E	28	22	539	4	7,4
A	32	28	771	20	26,0
TOTAL		227	5826	73	12,5

Table VI: Number of matches controlled per graded referee and the injuries sustained.

Grade	Number of Matches	Number of Injuries	Injuries per Match
1	54	35 (48%)	0,65
2	95	5 (7%)	0,05
3	78	33 (45%)	0,42

Considering the fact that 54 (24%) matches played by the Premier and 1st division accounted for 35 (48%) of all the injuries and that these matches were led by top grade referees, it would appear that the grade of referee has no material influence on the occurrence of injuries as determined by other variables
Most matches (95 or 42%) were controlled by Grade 2 referees There were only 5 (7%) injuries in these matches, at a rate of 1 injury per 20 matches.

Players opinions as to what factors influence injuries

Table VII shows the factors, ranked in order of importance, which in the opinion of the sample of 100 players who completed the relevant questionnaire, determine the risk of injury.

Table VII: Players' ranking of factors considered to influence injuries.

Factor	Number of Players
1. Field (quality)	81
2. Referee (grade)	65
3. Unfitness	65
4. Opposition (calibre)	41
5. No shinguards	27
6. No warm up	15
7. Division	6

Unfitness features prominently. However, this contradicts subjective assessment of their own fitness in that only 7 (10%) of those injured admitted that they were unfit

Discussion

In this study of 73 soccer injuries it was calculated that 275 injuries would occur per 1000 game hours and 12,5 injuries per 1000 player hours. This incidence is similar to that reported by Ekstrand in his study of Swedish soccer players who found an incidence of 300 injuries per 1000 game hours, 16,9 injuries per 1000 player hours.[1] However, Ekstrand defined injury differently as "an injury causing a player to miss the next game", not: "having to leave the field". The results from the studies of Bass,[7] Muckel[8] and Weightman-Browne[9] show an incidence of 14, 30, and 3,6 per 1000 game hours respectively. Renstrom and Peterson[10] reported an incidence of 1 injury in every 23 games, or about 200 per 1000 game hours. Different definitions for injury make comparison of these results extremely difficult.
The Premier division represents the highest level of competition in this study This division also recorded the highest incidence of injury (27 per 1000 man hours played), which corresponds to data reported from other studies in Finland[5] and Norway.[11] Peterson and Renstrom,[10] however, found no difference in the incidence of injury between the players in different divisions in their study in Sweden The low incidence of injuries in the 2nd division (2,2 injuries per 1000 man hours) may reflect a lower level of competitiveness in this division; although other factors may also play a role in this low incidence.

Playing Position

Sandelin[5] and Ekstrand[1] have shown in their studies in Finland and Sweden respectively that playing position did not correlate with any difference in the distribution of injuries. In this study, if no correction for position is made, the data are similar to the above studies. However, if the data are corrected, for "number at risk" there is a higher incidence of injury involving the goalkeeper (37% compared to 15%). This could be partly due to the intensity of play in the goal area.

Types of Injury

The commonest type of injury is sprains (42% which is consistent with other studies [3,12] However, the number of fractures recorded is much lower than that in other studies [2,8,12] The high number of sprains in the forward and midfield positions could be due to the skilful dribbling involved in these positions, especially since 16 of the 22 sprains recorded were ankle sprains.

Anatomical Site of Injury

Lower limb injuries were found to be the commonest accounting for 74% of all injuries. Wilkinson,[4] Ekstrand,[1,12] Sandelin[3] and Machlum et al[2] confirm this in their studies. In their studies ankle and knee injuries were the commonest of all lower limb injuries. In this study ankle injuries are the commonest.

Protective Equipment

None of the players with shin lacerations (12% of all injuries) were wearing shinguards. Ekstrand[12] found 50% of lacerations occurring in those players not wearing shinguards.[12] It is interesting to note (since we do not know the total number of players wearing shinguards) that all shin lacerations and ankle injuries occurred in players not wearing shinguards and ankle taping respectively

Condition of Field

The results show a significant correlation between lower grading of fields and higher incidence of injuries. This is only so if the Premier division matches played on the top-graded A field are excluded. These showed the highest injury incidence rate, which may be ascribed to confounding variables rather than to the good condition of the field.
The lowest incidence of injury occurred on the I field (high grade 26). Most games played on this field were second division games, a division with a low incidence of injury. The importance of field quality or surface has been emphasized by Wilkinson[4] and Muckel[8] in their studies amongst English soccer players. Sandelin in Finland, however, found that the field surface did not influence the injury frequency or pattern.[5] Our data does not permit to separate decisively the pos-

sible determining influence of division from that of quality (grading) of the field.

Player's Opinions

The opinion of players was at variance with the objective results of the study in some respects. Players thought that fields are the most important factor in causing injuries — this is supported in this study by the strong negative correlation between injury incidence and grading of fields if field A is excluded. However, unfitness of players was ranked second by 65% of the players. This contrasts sharply with our finding that 90% of injured players considered themselves fit. The role of the referee featured high among players but this was not confirmed by the study. The absence of shinguards and the calibre of the opposing team were found to be important in this study, and were considered so by players. Level of division, although featuring prominently in our study, was not considered to be important by most players.

Recommendations

A fundamental problem associated with an epidemiological assessment of data concerning sports related injuries is that of defining criteria and comparing data.[1] Although this study could not prove decisively what the main causative factors are the authors would like to suggest that the following factors would improve the prevention of injury:

1. Improved field conditions.
2. Good discipline and refereeing applying especially to the more competitive divisions (including stringent application of the rules protecting goalkeepers from injury).
3. Consistent use of shock absorbing shin guards.
4. The use of ankle taping.
5. Adequate training and warm-up programmes.

Finally, it is recommended that a more intensive study, possibly including the value of prophylactic measures, be done to determine the importance of such measures in injury prevention.

Acknowledgements

This study was undertaken as a student project for the Community Health (4th year) course under the supervision of Dr A. Kettles (registrar) as co-author. The statistical advice from Mr R. Sayed and help from Ms N. Kamies, Occupational Therapist, is gratefully acknowledged. The study would not have been possible without the co-operation of the Cape District Football Association, players and first aiders. We are also grateful to Dr T.D. Noakes for his assistance in editing our project report and to Dr J. T. Mets for finalising the manuscript.

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ULTRA MEN FACE INTENSE COMPETITION.

Iain Banner — Sports International

Mental toughness will be just as important as physical strength and endurance when Ultra Man entrants tackle the two months of intense competition, starting with the Duzi canoe marathon from January 28-30.

They have already completed the 50km JSE Marathon, an optional event, and the first of the compulsory events is the 165km Vasbyt Cycle Challenge on November 28.

But the Hansa Duzi, also compulsory, heralds the most gruelling phase of the endurance series backed by the pharmaceutical division of Ciba-Geigy. After the canoe marathon comes the optional Midmar Mile swim on February 14 — points for all events are worked out according to a special formula, with the first Ultra Man finisher being awarded 100 and the tough 160km Sunday Times/Leppin Iron Man triathlon is on February 27.

That's another of the four compulsory events, along with the Comrades Marathon on May 31, but the athlete who wins the Ultra Man will probably have completed all eight events because the bonus points available in the optional events are too valuable to pass up.

And if that's the case, many of the top Ultra Man contenders will be riding the Argus cycle tour on March 5 — just seven days after the Iron Man.

The optional Two Oceans marathon on April 2 is next, with the Comrades Marathon the final, punishing test in the most difficult test of endurance yet devised in South Africa. While superb physical condition will be essential, top triathlete George Janos believes the correct mental approach is just as important.

"With so much hard racing in such a short period, one of the most difficult things will be to keep replenishing mental energy," says Janos, who was fourth behind Henk Watermeyer, Richard Holliday and Nigel Reynolds in the 1987 Iron Man triathlon. "Anyone going seriously for a top 10 overall placing will have to avoid a mental blow-out." Janos will do all eight events and thinks many of the top contenders will do the same. "I want to win Ultra Man and that means I need all the points I can get," he says.

An industrial engineer, Janos had to go back to the drawing board to re-think his training and racing schedule when he realised just how much racing was crammed into such a short period.

"I've got to establish a training base this year because there will not be time to train in February and March," he says. "There's no time then to build a base. Instead, it will be a case of sharpening up for each event."

Doing most of his hard work this year means Janos will miss most of the 1987 triathlons. They do not fit into his training schedule and he does not believe he can "do everything".

"You have to be realistic, " he says. "It's essential to build a solid base from which to compete next year and I,m hoping to do enough to enable me to take a bit of a break in December".

Like many of the Ultra Man contenders, Janos is hoping for a full river in the Hansa Duzi.

"The more paddling the better" he says. "Less portage means we can save our legs for the Iron Man."

Entries for the Ultra Man closed on October 31 and organisers Sports International expect a final field of more than 400.

Top of the Ultra Man table after one optional event is Comrades specialist Nick Bester, who takes 100 bonus points into the Vasbyt challenge after finishing ninth in the JSE Marathon.

Iain Banner.

PHOTOGRAPH — SA SPORTS ILLUSTRATED

CIBA-GEIGY SPONSOR FIRST BLACK ULTRA MAN ENTRANT

The Ultraman, sponsored by Ciba-Geigy's pharmaceutical division, has received its first black entrant, Robert Lambetha. Robert, a plumber from Grey's Hospital in Pietermaritzburg is an experienced Duzi canoeist, having completed the event four times, as well as being a strong Comrades runner

Today, Ciba-Geigy's Ken Richards continued his company's sponsorship of Lambetha by handing over a new canoe, paddle and bicycle to him in Pinetown. In attendance was Graeme Pope-Ellis who believes Lambetha has the ability to be most competitive in the Ultra Man.

"With his new equipment, Robert will be in a position to prepare fully for the various events forming part of the Ultra Man" said Pope-Ellis.

Iain Banner, director of event organiser Sports International, believes Lambetha's entry will pave the way for an awakening of latent triathlon talent that must currently exist amongst black athletes.

"Although the logistics attached to paddling pose a problem to competitors who are without transport, Ciba-Geigy are making an effort to promote the sport by supporting the likes of Lambetha", said Banner

Ken Richards of Ciba-Geigy believes that guidelines for training in cycling, running, swimming and canoeing, which his company will prepare over the next few months, will assist all interested sportsmen and women with training techniques and preparation for participation in those various sports disciplines.

The Ultra Man which is made up of four compulsory events, (The Vasbyt Ultra Man Cycle Challenge, Hanza Duzi, Sunday Times/Leppin Iron Man and Comrades, and four optional events, JSE., Midmar Mile, Argus Cycle Tour and Two Oceans) is based on an accumulative point ranking system with over R30 000 in prize money on offer to competitors.

Close on 400 competitors have entered the competition, including the likes of Graeme Pope-Ellis, Eddie King, Danny Biggs, Henk Watermeyer and Piet Mare. For further information contact Michelle or Tracey at Sport International on (011) 883-3333.

Vasbyt 165 km Cycle Race

Comrades Marathon gold medallist Nic Bester maintains a narrow lead in the Ultra Man stakes, despite finishing two minutes down on the leading bunch in the Vasbyt 165 km tour in the Northern Transvaal last week.

Bester, by virtue of his ninth position in the JSE 50 km road race in August, went into the first compulsory Ultra Man event last Saturday with a lead of 100% in the Ultra Man ratings.

But he almost saw his lead in the competition dwindle away on the wind-swept country road outside Pretoria when fellow-Pretoria tri-athlete Piet Mare and Natal's Keith Elleker got away in an 18 man break after 120 km of hard riding.

The pair managed to stay with the leading bunch and Mare managed to edge ahead of Elleker at the line to close the gap on Bester in the Ultra Man ratings.

Mare held 2nd place to Bester going into the Vasbyt Tour with 92,38% after finishing 2nd Ultra Man in the JSE and the win last weekend means that he has closed to within 5% of Bester's lead going into the next compulsory event, the Hansa Duzi Canoe Marathon towards the end of January.

The race was won by Natal Springbok Cyclist Peter Tomkins in 4 hrs 14 mins. Unfortunately not all the results of the Vasbyt 165 km Cycle Race were available at time of going to press hence the omission of an updated Ultra Man listing.

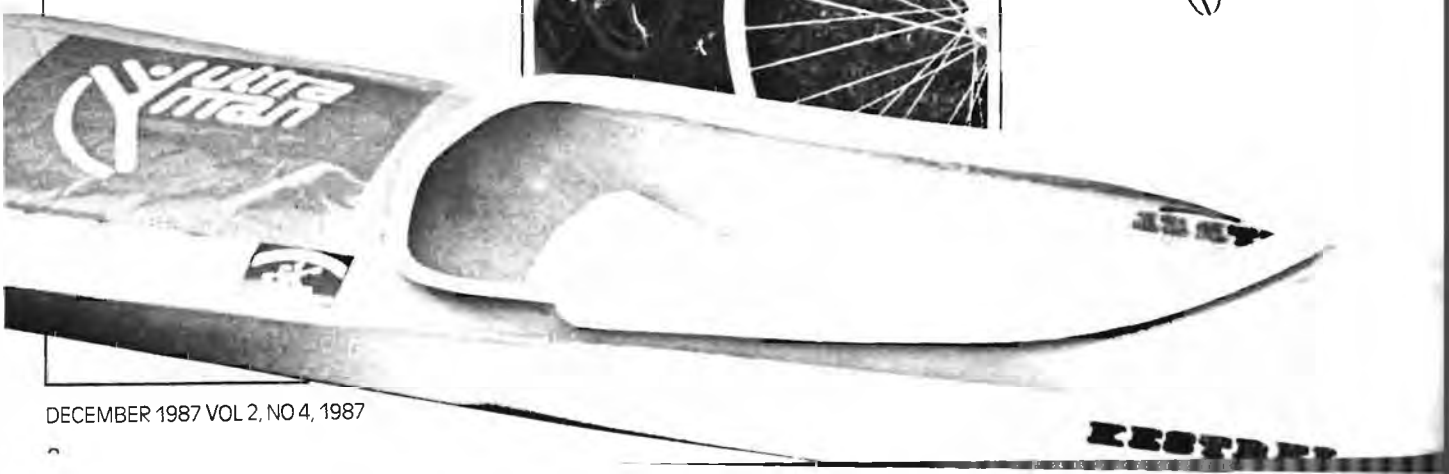
Looking Down the Track

As Ultra-athletes look ahead the adrenalin will start pumping as they contemplate the jam-packed schedule which awaits them from the end of January.

The compulsory Duzi from January 28-30 will take its toll, but to build points, competitors will be diving into the Midmar Mile only fourteen days later Just two more weeks to the toughest trial of all — the Iron Man Triathlon on February 27th.

Director of Sports International, Iain Banner, believes that competition will be such, that leading athletes will not pass up any chance of building points. This means that just seven days after Iron Man, contenders will be riding the optional Argus Cycle Tour on March 5th.

Phew! What a punishing schedule, but the R30 000 in prizes, the prestige and the Ultra man medals will make it all worthwhile.



DIE PLEK VAN OEFENING IN GESONDHEIDSBEVORDERING

F. P. RETIEF M.B. Ch.B., M.R.C.P., M.D., D. Phil. Oxford.
Direkteur-generaal, Departement van Nasionale Gesondheid en Bevolkingsontwikkeling

The Role of Exercise in the Promotion of Health

The important motto mens sana in corpore sano reminds us that a healthy mind and body is the ideal armour with which to tackle life. Too many South Africans, however, believe that a healthy mind can be cultivated through mere passive recreation. Competitive participation is not a prerequisite for the cultivation of a healthy mind. A cheerful mind and healthy lifestyle have become an urgent necessity, given the significant percentage of our total disease load ascribable to a disease promoting lifestyle.

Given an ever ageing population, exercise should be increasingly emphasised as a brake to the physiological processes of ageing. South Africans from all parts of the population spectrum seem unable to revert to a lifestyle of increased activity — be it due to work pressure or life stressors such as urbanisation and poverty.

Concerted community effort can play an important role to help involve more people in physical activity programmes. A significant example is the North Karelia project, started in 1972 in Finland. The key elements of a National Health Programme are: 1) greater clarity regarding psycho-social factors curbing physical activity, 2) the application of the behavioural sciences in reaching particular communities, 3) the planning of fitness awareness programmes in co-operation with the media. In South Africa the National Health Plan was announced in 1986. However, it is imperative for each community to work out its own health plan. Community health centres, provided for in the National Health Plan can act as living laboratories from which to co-ordinate health promoting activities. Health promotion amongst the youth enjoys special attention with the Department. In order to be of value, youth programmes must, however, be continued into the adult years.

Mens sana in corpore sano

word van een geslag na 'n ander geslag oorgedra om ons daaraan te bly herinner dat 'n gesonde gees en 'n gesonde liggaam die ideale wapentoerusting is om die lewe mee aan te durf. Die lewe se gewone, maar ook meer bedreigende lewensituasies en selfs krisisse, kan daarmee die hoof gebied word — binne in die lewensterrein van die individu, die geografiese en sosiologiese begrensinge van gemeenskappe en in die besonder ons baie interessante Suid-Afrikaanse samelewing. Ongelukkig is te veel Suid-Afrikaners die gedagte toegedaan dat 'n gesonde gees bloot met die hulp van passiewe reaksie gekweek kan word. Ons is, toegegee, toeskouers op wie daar staatgemaak kan word! Ongelukkig is dit ook so dat die gejaag na prestasie wat so 'n kenmerk van ons alledaagse bestaan is, wel 'n kenmerk van ons toeskouer deelname is. Dan wonder die mens ook nog hoekom hy so moeg en vaal voel na 'n hele middag se opwinding voor die kassie! Verniel ons nie dalk ons koronêre vate meer deur só te kyk as deur self te doen en mee te ding nie? Is so 'n Saterdag dan nie meer stres-belaai as die meeste ander dae van ons lewens nie? Mededingende deelname is natuurlik nie 'n voorvereiste vir die kweek van 'n gesonde gees nie en daarvan getuig dan ook aktiwiteite soos stap, voetslaan, draf en swem — alles dinge wat jy op jou eie kan doen.

'n Gesonde gees is in baie opsigte sinoniem met 'n blymoedige gees en is dit nie iets wat ons Suid-Afrikaners meer naarstigtelik moet nastreef nie? Wat het van lag en blote goedigheid geword?

Idealerwys behoort daar eintlik nie 'n verskil tussen 'n gesonde gees en 'n gesonde leefwyse te wees nie. Laasgenoemde het 'n dringende noodsaaklikheid geword, gesien die stewige persentasie van ons totale siektelas wat direk en indirek aan 'n siektebevorderende lewenstyl gewyt moet word. Weliswaar toon epidemiologiese studies dat minstens 50% van die mortaliteit van die tien leidende doodsoorsake, na gesondheidsbedreigende gedrag gevoer kan

word. Weerstand teen oefening en onaktiwiteit is maar te dikwels belangrike elemente van hierdie soort gedrag. Lui om te rek, te trek, te werk en te lui om flink te dink!

'n STEEDS OUERWORDENDE MENSDOM

Voorts het ons ook te make met 'n mensdom wat al ouer word en vandag word al hoë meer waarde geheg aan oefening om die prosesse van veroudering te rem. Die bekende fisioloog, B. J. Meyer, het baie indringend na hierdie aangeleentheid gekyk. Hy stel dit dat die klok van biologiese veroudering nie noodwendig met die biologiese ouderdom van die individu

gesinchroniseer is nie. Hy stem saam met ander kenners dat die groot waterskeiding in 'n mens se lewenspan op die ouderdom 30 jaar plaasvind. Weliswaar bereik die mens reeds maksimale gesig- en gehoorskerpte op 10 jaar, maksimale weerstand teen infeksies op 15 jaar, maksimale intellektuele vermoë op 21 jaar en maksimale spierkrag op 25 jaar. Ná die ouderdom van 30 jaar verwelk die fisiologiese reserwes van die verskillende organe en stelsels baie langsaam, maar onafwendbaar. Fisiologies word veral groot waarde geheg aan veranderinge in die bindweefsel en in die besonder word gewys op die toename in getal en deursnit van kollageenvesels wat tot gevolg het dat meer meganiese krag nodig word om hulle te rek of om hulle vorm te herwin. Met veroudering is daar verlies van spiermassa weens 'n afname in die getal en grootte van die spierweefsels, tesame met 'n verlies van sarkomere en 'n absolute daling in die ATP-inhoud van die spiervesels. Op ouderdom 80-jaar is die spiermassa 30% minder as op 30 jaar.

Finaliteit oor die oorsake van bovermelde verouderingsprosesse ontbreek nog grotendeels, maar metaboliese prosesse gepaard met ophoping van afvalstowwe figureer hier sterk. En daarmee saam gaan vermeerderde kollageenproduksie vanweë fisiese en moontlik selfs psigiese spanning. Dit alles lei tot slytasie en die vraag onstaan dus, hoekom daar nie meer staat gemaak word op vermeerderde fisiese aktiwiteit, om deur middel van 'n gesonde leefwyse hierdie prosesse van veroudering te rem nie.

SUID-AFRIKANERS SE ONMAG OM 'n GESONDER LEWENSTYL TE BEOEFEN

Ongelukkig bemerk ons daagliks in welke onmag Suid-Afrikaners verkeer om gehoor te gee aan die oproep om 'n meer gesonde lewens-styl te beoefen, en om in die besonder, groter fisiese aktiwiteit na te streef. In ons samelewing tref ons by die een pool aan diegene wat welvarend en ontwikkeld is maar wat in 'n drukwerkte vasgevang is wat net nie tyd laat vir ontspanning en oefening nie. So oorweldig is hierdie persone dat hulle maar later net moet beken: "Ek het daar geen behae meer in nie." Dan weer aan die anderkant van die spektrum, hulle wat blootgestel is aan ander soort lewestressors wat veroorsaak of vererger word deur toenemende verstedeliking of migrasie, industrialisasie, werkloosheid en armoede.

DIE ROL VAN GEORGANISEERDE GEMEENSKAPSOPTREDE

Begryplik kan wetgewing, kommissies van ondersoek, spesiale owerheidsinstellings en dergelike masjienerie aan hierdie situasie weinig doen. Gemeenskappe kan egter verbasend suksesvol optree deur sterk en eendragtig 'n algemene probleem te identifiseer en dit dan gemeenskaplik aan te pak. Daar bestaan natuurlik talle voorbeelde hiervan. Een van die treffendste is waarskynlik die *Noord Karelia-projek* wat in 1972 in Finland begin is nadat 'n gemeenskap by wyse van 'n massapetisie vir optrede 'n aksie, teen hartvaatsiektes geloods het. 'n Program wat wêreldaandag getrek het, is van stapel gestuur, veral gerig op uitskakeling van lewenstyl foute, (onder andere onfiksheid) wat as risiko-faktore vir miokardinfarksie geïdentifiseer is. Hierdie projek het veral ook getoon hoe belangrik dit is om kinders vroeg te betrek. Honderde spesiaal-gekeurde werkers is uitgestuur om 'n bepaalde gesondheidsboodskap te verkondig en sigbare resultate het nie lank uitgebly nie. Die ou stelling is waar bewys: "The people stand up, the doctor steps down".
Die betrokkenheid van gemeenskappe in bevorderingsprogramme is nie iets nuut nie. Winslow, 'n grondlegger van gemeenskapsgesondheid, se oorspronklike definisie (soos mettertyd aangepas), verwys na hierdie omvattende aksie wat onder andere ten doel het "promoting mental and physical health and efficiency through organised community efforts..."

DIE SLEUTELELEMENTE VAN 'n NASIONALE PROGRAM

'n Nasionale program ter bevordering van fisiese aktiwiteit sal na sekere sleutelelemente moet omsien;

- groter duidelikheid oor die psigososiale faktore wat verhinder dat aktiwiteit 'n groter deel van die mens se gesondheidsgedrag uitmaak.

- hoe die gedragswetenskappe meer doelgerig ingespan kan word om bepaalde gegewe gemeenskappe te bereik.
- hoe om saam met die media strategieë te beplan ten einde gemeenskappe meer fiksheidsbewus te maak.

Tereg het Dr Robert Butler, 'n voormalige Direkteur van die United States National Institute on Ageing, by geleentheid gesê dat "if exercise could be packed into a pill, it would be the single most widely prescribed, and beneficial, medicine in the Nation."

DIE NASIONALE GESONDHEIDSPLAN

Gedurende 1986 is die Nasionale Gesondheidsplan afgekondig en nou wag ons vir gemeenskappe om gebruik te maak van aanbevelinge in hierdie Plan ten opsigte van plaaslike betrokkenheid en deelname. Dit is goed om te beplan vir dit wat op nasionale vlak moet gebeur, maar sekerlik van baie groter belang om te verseker dat *elke gemeenskap in Suid-Afrika sy eie gesondheidsplan* uitwerk en deurvoer. Teen relatief lae koste versprei die gedagte van *buurtwagte* om mense en hul eiendom te beskerm, tans soos 'n veldbrand. Kan ons nie op dergelike wyse ook begin dink aan *"buurtoefeninggroepe"* om ons mense se gesondheid te help beskerm en te bevorder nie?

Gemeenskapgesondheidsentra waarvoor daar in die Nasionale Gesondheidsplan spesifiek voorsiening gemaak word, is nie net bedoel as plekke vir die behandeling of nabehandeling van pasiënte wat nie hospitalisasie benodig nie. Dit is inderdaad die ideale plek om baie van 'n gemeenskap se gesondheidsbevorderende aktiwiteite te sentreer — en dit dan ook te doen deur dit tot diep in die gemeenskap uit te dra. Dit behoort sentra van omvattende gesondheidsorg te word en te dien as *lewende laboratoria* waar programme vir die gemeenskap uitgetoets kan word.

'n Paar jaar gelede was daar reeds in 'n land soos Swede honderde gesondheidsentra in werking, en is "liggaamlike opleiding" dan ook as een van die belangrikste aktiwiteite gesien waardeur vervroegde veroudering teengewerk kon word. Vanselfsprekend is oefenkundiges en ontspanningbeamptes lede van die multidissiplinêre spanne wat by sulke sentra optree.

GESONDHEIDSBEVORDERING ONDER DIE JEUG

My departement sowel as ander gesondheidsowerhede bestee reeds op verskeie vlakke tyd en aandag aan gesondheidsbevordering onder die jeug van ons land. Die Advieskomitee insake Gesondheidsopvoeding beywer hom vir gekoördineerde gesondheidsvoorligting in skole deur die onderskeie onderwysowerhede. Vanuit hierdie komitee het 'n paar onderwysgidse vir die gebruik van onderwysers in skole reeds die lig gesien, waaronder byvoorbeeld: "Noodbehandeling van Sportbeserings".

Die Bevolkingsontwikkelingsprogram het intussen ook goed op dreef gekom en onderwys- en jeugorganisasies tel onder hierdie program se telkengroepe. Die mikpunt van die program is verhoogde lewenskwaliteit en veral by die jeug moet fisiese aktiwiteit gesien word as een van die steunpilare om juis dit te bereik.

Vanselfsprekend moet so 'n doelgerigte program natuurlik tot in die volwasse jare deurgetrek word. Dit word gesê

"My departement sowel as ander gesondheidsowerhede bestee reeds op verskeie vlakke tyd en aandag aan gesondheidsbevordering onder die jeug van ons land."

dat die fisiese aktiwiteite van mans afneem namate hulle verantwoordelikhede in die aktiewe lewe toeneem. Nà die huwelik word dit minder, nà die eerste kind nog minder — en prof. Brink het geoordeel dat nie meer as 10% van ons Suid-Afrikaanse mans tyd vir fisiese ontspanningsaktiwiteite inruim nie. Die gevolgtrekking moet dus gemaak woord dat ons baie indringend sal moet kyk na hoe ontspanningstyd in Suid-Afrika tot die grootste voordeel en heil van ons mense se gesondheid aangewend behoort te word.

Mag die dag aanbreek dat ons in hierdie land ook sal praat van 'n oefenmalle bevolking, benewens ons sportmalle mense.

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KONSENTRASIES VAN KAFFEÏEN IN URINE: RIGLYNE VIR DIE ATLEET

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ABSTRACT

The International Olympic Committee (IOC) Medical Commission has placed limits on the use of caffeine in athletes following evidence that it has ergogenic properties and can be abused in gaining unfair advantage in athletic events requiring stamina. The IOC allows a maximum urine level of 15ug/mℓ for this drug and evidence of higher levels is considered due cause for disqualification.

Caffeine urinary elimination studies were undertaken in 5 healthy young adult athletes, 2 males and 3 females. We conclude from our data that IOC limits will not be exceeded in healthy individuals who ingest diet caffeine and that side effects are likely to limit ingestion of caffeine concentrate, by casual abusers, to amounts which will not exceed the regulatory norms.

INLEIDING

Die Internasionale Olimpiese Komitee se mediese afdeling het besluit dat die gebruik van kaffeïen deur atlete beperk moet word omdat die middel ergogeniese eienskappe openbaar wanneer dit in hoë dosisse geneem word.[1,2] 'n Maksimum vlak van 15ug/mℓ in urine is vasgestel.[3]

Aangesien kaffeïen 'n bestanddeel van 'n verskeidenheid dranke, tonikums en medikamente is wat vry algemeen ingeneem word, is daar 'n behoefte onder atlete aan duidelike riglyne oor die hoeveelheid wat ingeneem kan word sonder om die wettige perk te oorskrei. Met hierdie doel voor oë het atlete vrywillig verskeie dosisse van 'n kommersiële kaffeïen bevattende tonikum (Bioplus) en koffie ingeneem en die konsentrasie kaffeïen is in hul urine met verloop van tyd gemonitor.

METODES

Bepaling van kaffeïen

Hoëdruk vloeistof chromatografie is gebruik vir die kwantitering van kaffeïen in urine. Detail van die metode is soos volg:

'n Hewlett Packard 1090 apparaat toegerus met 'n outomatiese monstervoerder is gebruik. Skeiding is met 'n Whatmann Partesil C-18 kolom by 35°C bewerkstellig. Eluering was isokraties met 4:6 metanol : water teen 'n vloeisnelheid van 1,5mℓ/min. Die konsentrasie kaffeïen in die eluaat is spektrofotometries by 254 nm gemeet en met 'n HP 3392 integreerder geregistreer. Die minimum bepaalbare konsentrasie was 5ng/mℓ terwyl die standaardkurwe liniër was tot 'n konsentrasie van 40ug/mℓ (r=0,99927).

Ekstraksie van kaffeïen uit urine is direk in die inspuitflessies van die monstervoerder gedoen. Die pH van 'n 1mℓ urine monster is eerstens na 7,4 verhoog deur byvoeging van paar uℓ (3-5) 3M NaOH. Dit het veroorsaak dat 100% ekstraksie deur die byvoeging van 200uℓ mengsel chloroform: isopropanol (98:2) gekry kon word. Die urine plus ekstraksie vloeistof is vir 30 min geossileer en daarna gesentrifugeer. Die aspirasienaald van die monstervoerder is so gestel dat 10uℓ van die organiese fase in die skeidingsisteem ingespuit is.

"Die Internasionale Olimpiese Komitee se mediese afdeling het besluit dat die gebruik van kaffeïen deur atlete beperk moet word omdat die middel ergogeniese eienskappe openbaar wanneer dit in hoë dosisse geneem word."

VRYWILLIGERS

Vyf blanke atlete het aan die studie deelgeneem. Hul ouderdomme was tussen 20 en 25 jaar. Verdere besonderhede word in Tabel I opgesom.

Toediening van kaffeïen

Bioplus bevat 9mg kaffeïen per mℓ. Dit is in dosisse van 100mℓ, 50mℓ en 25mℓ deur die twee manlike atlete geneem wat 'n gemiddelde gewig van 78kg gehad het. Die drie vroulike atlete het 50mℓ, 25mℓ en 12,5mℓ geneem. Hul gemiddelde gewig was 58kg. Die doserings is op 'n gerandomiseerde wyse deur die atlete geneem en 'n uitwasperiode van 10 dae is tussen dosisse gebruik. Urine monsters is aanvanklik halfuurliks; later uurliks en tweeuurliks oor 'n 12 uur periode versamel (vide infra, Figure 1 en 2). Na elke monsterneming is die blaas volledig geledig en 150mℓ water geneem. Ten einde met 'n zero waarde te kon begin is kaffeïen bevattende vloeistowwe 48 uur voor die begin van die eksperiment uitgesluit.

Koffie wat 51,8mg kaffeïen per 180mℓ koppie bevat is in hoeveelhede wat wissel vanaf 4 koppies tot 12 koppies binne een uur na 'n ligte ontbyt geneem. Na verloop van die een uur inname periode is urine versameling begin soos hierbo met Bioplus beskryf. Elk van die vyf atlete het slegs een keer op 'n gerandomiseerde wyse een van die

inname skedules gevolg.

RESULTATE

Figuur 1 en 2 toon die urine kaffeïenvlakke van die manlike en vroulike atlete onderskeidelik. Die hoogste vlakke word in albei gevalle in die urine monsters gevind wat 1 tot 2 uur na inname versamel is. Hierna neem die maksimum waarde egter nie vinnig af nie. Dit bly relatief konstant tot ongeveer 4 uur na inname waarna die konsentrasie vinniger begin daal.

Die gemiddelde maksimum urine vlakke het by die hoogste doserings kafeïen (900mg vir mans en 450mg vir dames) nie hoër as 15ug/mℓ in die eerste 4 uur na inname gestyg nie. Duidelike tekens van ongemak (naarheid en bewerigheid) het by hierdie doserings te voorskyn gekom.

Tabel II toon die maksimum urine kaffeïenvlakke nadat verskillende hoeveelhede koffie ingeneem is. In hierdie eksperiment is die maksimum vlakke na 1 tot 1½ uur verkry. Dit is duidelik van Tabel II dat die inname van koffie teen 'n maksimum tempo van 12 koppies per uur (621mg kaffeïen) die urinevlak tot hoogstens 5,9ug/mℓ laat styg het.

BESPREKING

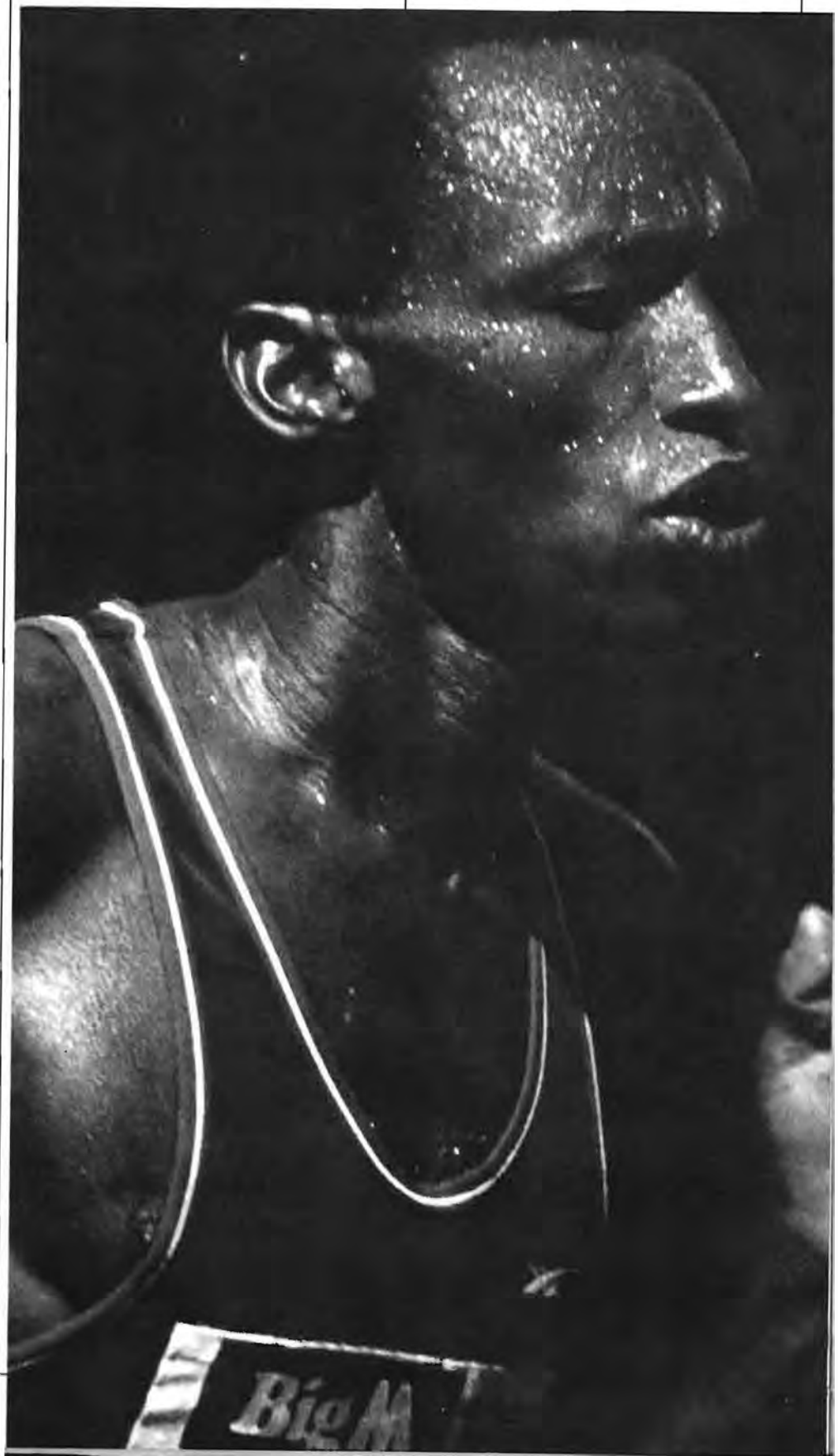
Indien dit wettig sou wees om die konsentrasie kaffeïen in die bloed van atlete tydens kompetisie te bepaal, sal dit moontlik wees om akkurate berekenings van die ingeneemde dosis te maak aangesien farmakokinetiese parameters soos die volume van distribusie en opruiming van die middel bekend is (4-6). Dit is standaard praktyk om hierdie berekenings vir 'n ander xantienderivaat, teofillien te doen wanneer laasgenoemde vir behandeling van asma gebruik word (sien byvoorbeeld 7). Die monitor van urine konsentrasies van kaffeïen om te bepaal of dit vir sy ergogeniese eienskappe deur 'n atleet misbruik is, is egter nie so eenvoudig as die monitor daarvan in bloed nie. Eerstens word slegs 1% van die ingeneemde kaffeïen ongemetaboliseerd in die urine uitgeskei.[8] Dit is ook goed bekend dat die metabolisme van xantiene beïnvloed word deur ouderdom, lewerensiemstatus, swangerskap en rook. Tweedens varieer urinevloei geweldig met die graad van oefening wat gedoen word. Dit is dus moontlik dat 'n oefening wat na voltooiing veroorsaak dat 'n klein volume urine in die blaas teenwoordig is 'n hoë konsentrasie kaffeïen tot gevolg mag hê.

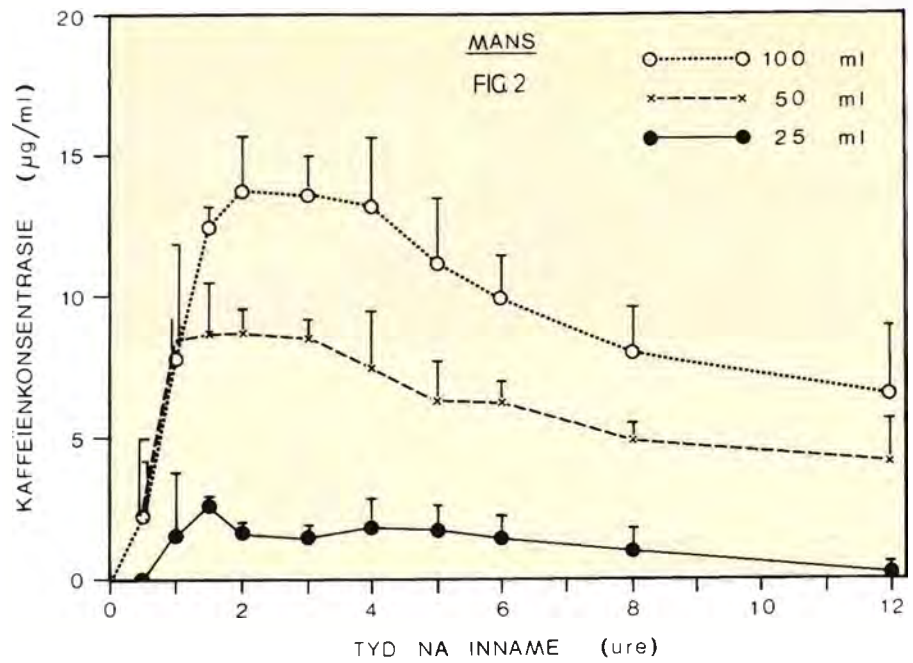
Wanneer kaffeïen in enkele doserings geneem word, is dit duidelik uit Figuur 1 en 2 dat maksimum vlakke na 1 tot 2 uur in die urine verskyn. Daar moet egter ook gelet word dat hierdie maksimum vlakke vir solank as 4 uur na inname nie veel verander nie.

Ten opsigte van hoë dosisse kaffeïen word dit aanvaar dat 15mg/kg die grens is waarby en waarbo neweeffekte soos naarheid en bewerigheid ontstaan.[8] In die huidige eksperimente was die hoogste doserings slegs 11,5 en 7,8mg/kg vir mans en dames onderskeidelik. Beide groepe atlete het egter by hierdie doserings alreeds ongemak ervaar. 'n Selfbeperkende grens op die doelgerigte oormatige gebruik van kaffeïen bestaan dus indien die gebruiker nie daarvoor gekondisioneer is nie.

Uit Tabel II is dit duidelik dat inname van koffie teen 'n buitensporige tempo van 12 koppies per uur nie die maksimale kaffeïen konsentrasie in urine verby die vlak van 15ug/mℓ laat styg het nie.

Hierdie studie bevestig dus dat 'n vlak hoër as 15ug/mℓ kaffeïen in urine slegs te wyte kan wees aan doelbewuste misbruik.





FIGUUR 1
Urinekaffeïenkonsentrasie van twee manlike atlete nadat verskillende volumes Bioplus geneem is (900, 450 en 225mg kaffeïen onderskeidelik). Tydens elke urine versameling is die blaas volledig geledig en 150mℓ water ingeneem. Die gemiddelde waardes is verbind terwyl die vertikale strepe by elke waarde die standaard afwyking toon. Die gemiddelde gewig van die atlete was 78kg.

Tabel I
Besonderhede van vrywilligers wat aan die proef deelgeneem het.

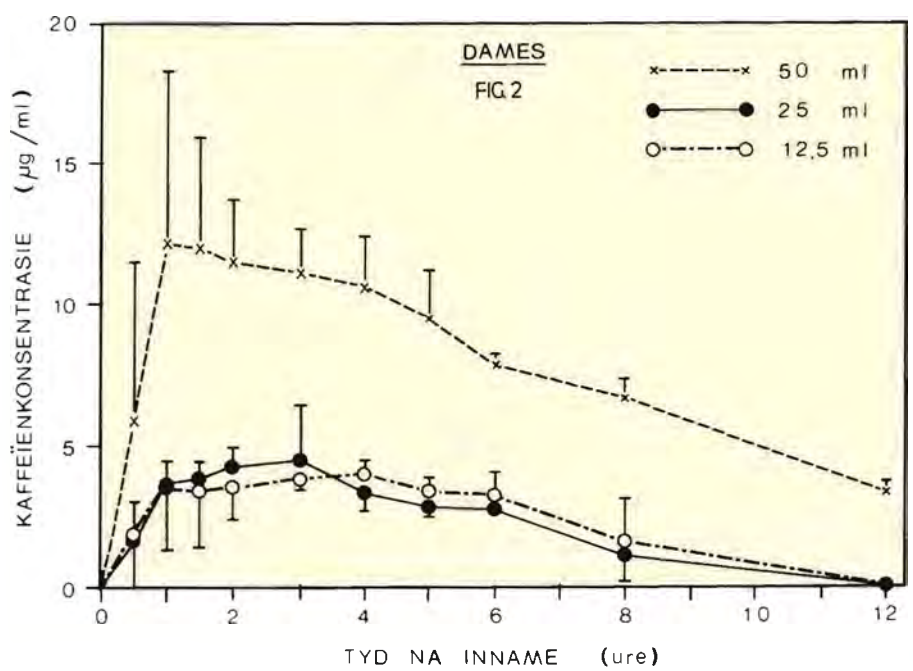
Geslag	Gewig (kg)	Aktiwiteit
Manlik	77	Naelloper
Manlik	79	Naelloper
Vroulik	60	Veldatleet
Vroulik	57	Middelafstand
Vroulik	57	Naelloper

Tabel II
Maksimale urine kaffeïenkonsentrasie na inname van koffie oor een uur

Aantal Koppies	Kaffeïen-inhoud (mg)	Konsentrasie (ug/mℓ)
4	207	1,70
6	310	2,84
8	414	2,74
10	518	3,11
12	621	5,96

Urine versameling is halfuurliks gedoen na verstryking van een uur inname periode. Dis maksimale konsentrasies is op 1 tot 1½ uur gevind.

FIGUUR 2
Urine kaffeïenkonsentrasie van drie vroulike atlete nadat verskillende volumes Bioplus geneem is (450, 225 en 125,5mg kaffeïen onderskeidelik). Die gemiddelde gewig van die atlete was 58kg. Ander besonderhede is soos in Figuur 1.



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PHOTOGRAPH — SA SPORTS ILLUSTRATED

RASIONEEL-EMOTIEWE TERAPIE VIR SPORTLUI

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RATIONAL EMOTIVE THERAPY FOR SPORTSPEOPLE

The psychological problems experienced by sports people are often attributed to irrational thinking. The sportman's cognitions greatly influence his emotions, as cognitions, emotions and behaviour are interdependent. RET is based on the fact that the human being is a thinking, judging creature capable of both rational and irrational thought. Irrational thinking leads to dysfunctional behaviour. Thus two people can act differently in a similar objective situation as a result of differing interpretations.

Irrational thinking is often uncompromising, marked by intense, irrelevant emotions and unrealistic self-demands. Unreasonable demands of perfection can lead to anxiety, frustration and aggression. Such irrational thinking restricts the sportsman's capacity to participate with spontaneity and to take risks, which leads to a disruption of attention focus.

'Catastrophing', a second error in thinking, is the tendency to overemphasise the seriousness and trauma of a situation. Together with uncompromising thinking this leads to negative performance, depression and self pity. Negative self judgment in turn can lead to a vicious cycle of poor motivation and performance. Appropriate guidance can help to redefine the distinction between the sportman's view of his value as a person and his performance on the field.

Overgeneralisation is often noticeable in the sportman who is psychologically poorly equipped. A belief that he cannot win on a certain field or under certain conditions is irrational selfdetermination that can be rectified through RET. The sport psychologist can educate the sportsman through cognitive restructuring to grasp that the chief influence is not the objective situation, but his perception thereof. RET is self therapy and the focus of control lies with the sportsman.

RET provides a structure within which the sportsman can tackle his problems. It also contains a facet of goalsetting, and employs imagination techniques in order to alter irrational thinking. Because RET aims chiefly at restructuring the thinking processes of the sportsman, no serious resistance to the therapist should come from the coach. The sportsman's co-responsibility for his progress should avert the normal stigma attached to therapy.

PHOTOGRAPH—SA SPORTS ILLUSTRATED

Algemene sielkundige probleme van sportlui kan dikwels toegeskryf word aan irrasionele denke. Omdat die mens se kognisies, emosies en gedrag interafhanklik is en mekaar dus wederkerig beïnvloed, is dit logies om te verwag dat die sportman se kognisies 'n groot invloed op beide sy emosies en sy gedrag sal uitoefen. Die vernaamste beginpunt van rasioneel-emotiewe terapie (RET) is dat die mens 'n denkende en oordelende wese is en oor die vermoë beskik om rasioneel sowel as op 'n irrasionele wyse te dink. Dit is die mens se irrasionele denke wat tot disfunksionele gedrag lei (Möller, 1985). Dit gebeur dikwels dat twee persone in soortgelyke situasies verskillend optree. Die werklike objektiewe situasie, soos byvoorbeeld 'n kritieke tydstip in 'n belangrike kompetisie, is vir albei persone dieselfde, maar omdat daar verskillende interpretasies daaraan geheg word, is die effek daarvan vir die twee persone nie eenders nie. Die een deelnemer sal byvoorbeeld onder druk swig, terwyl dit die prestasie van die ander bevorder. Die verskil tussen hierdie twee persone se interpretasie van 'n gebeurlikheid is hoofsaaklik gelee in die bemiddelingsproses wat jul kognisies speel.

Irrasionele denke en dinkfoute kan die basis van sielkundige swakhede in 'n sportman se mondering vorm. Irrasionele denke is nie gebaseer op die werklikheid of op feite nie. Dit is dikwels absolutisties, gaan gepaard met intense of irrelevante emosies en verhoed dat die sportman sy doelstellings bereik.

Absolutistiese Denke

Een van die mees algemene dinkfoute is absolutistiese denke waarmee die sportman onrealistiese eise aan homself en die situasie stel. Dit kom gewoonlik in sy selfspraak tot uiting in sulke gedagtes soos "moet", "moenie" en "behoort". Onredelike eise van perfeksie kan lei tot angs, frustrasie en soms tot onvanpaste aggressie. Hierdie aggressie word dikwels na binne gerig en dit kom tot uiting in 'n onverdraagsame gesindheid van die sportman teenoor homself en sy feilbaarheid. As gevolg van hierdie irrasionele denkwyse laat hy homself nie genoeg ruimte om spontaan mee te ding of risiko's te neem nie. Hy plaas onnodige druk op homself wat tot angs, woede en aggressie kan lei. Verder vind daar ook 'n ontwrigting van aandagsfokus plaas, omdat die sportman selfgerig raak.
Daar word nie voorgegee dat die sportman emosieloos moet wees of homself moet vereenselwig met gemiddeldheid nie, maar absolutistiese, perfektionistiese, onredelike of onrealistiese denke wat prestasie inhibeer, is gewoonlik die basis van probleme in die sportman se ego-kompetisie.

Katastrofering

Katastrofering is 'n tweede tipe dinkfout. Dit is die neiging om situasies as veel ernstiger of meer traumaties te sien as wat dit in werklikheid is. Dit sluit aan by absolutistiese denke in die sin dat die sportman se vorige swak vertonings of kleiner foute, selfs binne dieselfde kompetisie, op so 'n wyse geïnterpreteer word dat dit sy huidige en toekomstige werkverrigting negatief beïnvloed. Dit kan ook tot uiting kom in depressie en 'n verlengde periode van swak vertonings wat in werklikheid niks met tegniek, vaardigheid of fisieke vermoëns te doen het nie. 'n Verdere gevolg van hierdie tipe denke is 'n lae frustrasiedrempel met gepaardgaande selfblaam, selfbejammering en depressie.
Die neiging tot negatiewe selfbeoordeling wat op irrasionele denke berus kan ook aanleiding gee tot swak vertonings. Dit kan ook 'n bose kringloop ontketen wanneer die sportman begin twyfel oor sy eie vermoens en dit gevolglik sy motivering en gepaardgaande prestasie negatief beïnvloed. Baie sportlui ervaar periodes van vertwyfeling en kan deur middel van gepaste voorligting deur hierdie krisisperiodes gehelp word.
Die sportman wat nie rasioneel kan onderskei tussen sy waarde as persoon en sy prestasie op sportgebied nie, deurdat hy sy eiewaarde aan sy fisieke prestasies koppel, gaan gewis in een of ander stadium probleme in hierdie verband ondervind. Dit lei nie net tot die gebruiklike "gebrek aan selfvertroue" nie, maar kan die sportman se selfkonsep en selfwaarde negatief affekteer.

Oorveralgemenings

Oorveralgemenings is baie dikwels kenmerklik van die sportman wat sielkundig swak toegerus is vir kompetisie. Hy bou 'n sielkundige blokkering op teen sekere spelers en glo dat hy hulle nooit sal kan klop nie. Ander voorbeelde is spelers wat daarvan oortuig is dat hulle onder sekere omstandighede, soos byvoorbeeld op spesifieke bane of velde, nooit suksesvol is of sal wees nie. Hierdie irrasionele selfindoktrinasie of selfsuggestie kan deur herindoktrinasie deur middel van RET reggestel word. Ongeldige afleidings uit bepaalde gebeurtenisse wat nie deur feite ondersteun word nie, soos byvoorbeeld die sportman se persepsie dat hy nikswerd is omdat hy op 'n sekere wyse opgetree het of 'n punt afgestaan of 'n kompetisie verloor het, kan 'n ontwrigtende invloed op sy sielkundige benadering hê.
Die sportsielkundige kan 'n belangrike voorligtingsrol vervul deur saam met die sportman bogenoemde en ander irrasionele denke en dinkfoute te identifiseer, te betwis en te wysig en te vervang met rasionele denke. Deur middel van kognitiewe herstrukturering word die sportman opgevoed om te besef dat dit nie die objektiewe situasie is wat hom soseer beïnvloed nie, maar sy persepsie van die situasie. Die doel van rasioneel-emotiewe terapie is dus om die sportman te help om insig in die inhoud van sy denke, denkprosesse, en selfkommunikasie te verkry en sy gesindhede, oortuigings en filosofie te wysig om sodoende sy doelstellings op 'n rasionele wyse te bereik.

"Oorveralgemenings is baie dikwels kenmerklik van die sportman wat sielkundig swak toegerus is vir kompetisie."

RET is Selfterapie

Daar word voorgestel dat hierdie tipe terapie geskik vir sportlui sal wees omdat dit in groot mate selfterapie is. Die fokus van kontrole berus dus by die sportman self. Die keuse tussen rasionele en disfunksionele denke is sy eie. Hy dra dus medeverantwoordelikheid vir sy terapie. Hierdie benadering behoort by die persoonlikheid van die meeste sportlui te pas. Sportlui behoort ook nie probleme met die didaktiese inslag te ondervind nie, omdat hulle uiteraard ontvanklik vir onderrig en afrigting is.
Verder skep die werkswyse van RET heelwat struktuur en 'n raamwerk waarin die deelnemer sy probleme kan aanpak. Dit bevat ook 'n faset van doelwitstelling... iets waarmee die ernstige deelnemer vertroud behoort te wees. RET maak ook gebruik van verbeeldingstegnieke om irrasionele denke te identifiseer en te wysig. Omdat die meeste sportlui van een of ander vorm van beeldingstegniek gebruik maak as deel van hul sielkundige voorbereiding, behoort dit goed in te pas by die sportman se normale program.
'n Verdere voordeel van RET vir die sportman is dat dit vereis dat die kliënt goed vertroud moet wees met die rasionaal en die werkswyse van die terapie voordat daar met werklike terapie begin kan word. Dit behoort die sportman se motivering asook die geloofwaardigheid van die terapeut te bevorder.
Omdat sportlui sielkundig redelik taai is, behoort hierdie terapie, wat in teenstelling met byvoorbeeld die Rogeriaanse benadering redelik aktief-direktief en soms bedreigend of uitdagend mag voorkom, nie ernstige verhoudingsprobleme tussen die sielkundige en die sportman te veroorsaak nie. Die moontlikheid van weerstand deur die afrigter omdat hy mag voel dat die voorligter op sy terrein oortree, word in groot mate verminder deurdat die onmiddellike doel van RET is nie om die sportman se gedrag as sodanig te wysig nie, maar om die inhoud van sy denke asook die wyse waarop hy dink te rekonstrueer.
Die feit dat die sportman self verantwoordelik gemaak word vir sy vordering en dat hy insig in die werkswyse en doelstellings van RET moet hê, behoort die stigma wat daar moontlik aan sielkundige hulp kleef en die gevolglike traagheid van die sportlui om hulself aan te meld vir terapie, uit die weg ruim.

Verwysing

Moller, André T. (1985), *Rasioneel-emotiewe terapie in die praktyk*. Stellenbosch: Universiteit-uitgewers.

SASMA NUUS SASGV NEWS

Dr D. van Velden Head: Department of Family Practice.

In die Suid-Afrikaanse Sportgeneeskunde Vereniging se pogings om 'n nasionale bewuswording te kweek van die belang van fiksheid as gesondheidsbevorderende maatreël, is ons besonder bevoorreg om in hierdie uitgawe 'n artikel te publiseer van Dr F. P. Retief, Direkteur-Generaal, Departement van Nasionale Gesondheid en Bevolkingsontwikkeling, insake die plek van oefening in gesondheidsbevordering. Dit is bemoedigend om te weet dat die Departement van Nasionale Gesondheid en Bevolkingsontwikkeling, so 'n hoë premie plaas op gesondheidsbevordering in die Nasionale Gesondheidsplan wat in 1986 afgekondig is. Die SASGV sal alles binne sy vermoë doen om by wyse van wetenskaplike artikels, simposia en kongresse, 'n motiveringsaksie te loods ter bevordering van 'n gesonder leefwyse sodat gesondheidsbedreigende gedrag grootliks uitgeskakel kan word. Dit is algemeen bekend dat die Suid-Afrikaanse leefwyse aanleiding kan gee tot 'n vlaag van sogenaamde "hipokinetiese siektes" wat nie geneesbaar is met die tradisionele allopatiese geneeskunde nie, maar eerder met 'n gestruktureerde oefenprogram wat op 'n nasionale basis georganiseer word. Aangesien so 'n poging op 'n multidissiplinêre benadering rus, is die SASGV verheug dat die aanverwante mediese dissiplines soos bv. fisioterapie, biokinetika, maatskaplike werk, ens, nou ook lid kan word van ons vereniging om ons hande te sterk in hierdie taak.

The Editorial Board of the Sports Medicine Journal had a very successful meeting recently where the format of the Journal was discussed in depth. International recognition is to be persued despite some opposition to become affiliated with the international Sports Medicine Association (F.I.M.S.) and to comply with their motto for 1987: "Lets give an example to the world. Lets work together for Sports Medicine, Exercise, Health and a better understanding among our Nations". A concentrated effort should be made to increase our membership and to disseminate our Journal as widely as possible to all appropriate Health Professionals.

The South African Sports Medicine Association is deeply in debt to the sponsor of our Journal and would like to express our sincere appreciation for their concentrated efforts to enhance the teaching and practice of Sports Medicine in South Africa.

Dr. van Velden

SASMA Update '88 Course

The CME course, concentrating on various medical and physiological aspects of running, scheduled for 6-9 April 1988, is another venture of the SASMA to disseminate Sports Medicine knowledge to everybody involved in sport and exercise.

For further information please contact:
Dr R Rathgeber,
112 Hillcon Towers,
Umhlanga Rocks 4320
Chairman:
Tel: 031 561-1777
or:
Margaret Simpson,
Continuing Medical Education
University of Natal
PO Box 17039, Congella 4013.
Tel no: (031) 25-4211.

Provisional programme

Wednesday: 6th April 1988
Registration & Welcoming Drink

Thursday: 7th April 1988
Welcome by President
Motivation / Perspiration / Inspiration
Biomechanics of Running
Drugs in Sport
Fluid balance
Morphalegic Considerations
Diet — Fads & Fancies
Liniments, strapping and bandaging
Endotoxaemia in long-distance runners
Advice for the beginner
Running equipment
Footwear

Friday: 8th April 1988
Foot Anatomy & Biomechanics
Skin problems in the runner
Physical examination of the ankle and foot
Stress fractures
Compartment syndromes
Foot soft tissue problems: Tendonitis/Fascitis
Physical examination of the knee
Internal Derangement of the knee joint
Tendon problems around the knee joint
Anterior knee pain in runners
Muscle tear treatment in runners
Medical Aspects of the Iron Man Triathlon
The assessment of Fitness of Middle-aged persons to participate in strenuous sporting activities

Banquet

Saturday: 9th April 1988
Fun Run

Open Session
Key Address & Panel Discussion

Speakers will include:

Prof T Noakes Dr E P Hugo Mr S N du Toit Dr D P Van Velden Dr R Rathgeber Dr C Noble Mr G Lindenberg Dr J Skwono

PREVENTION OF RUGBY INJURIES — SHOULD MORE BE DONE?

ETIENNE P. HUGO, Chairman: SA Rugby Board Medical Advisory Committee

SA has reached the end of the 1987 Rugby Season. There has again been a justifiable concern from many interested groups for the safety of the players during this year.

Some sections of the Medical Profession on Media are always ready to create sensation or denigrate rugby or preferably both by headlining any serious injury whilst ignoring similar injuries occuring in activities like motor cycling and other sports.

It will be proclaimed on each occasion that the controlling body of the game has done nothing and that the "laws must be changed" or "new laws must be introduced". Those with genuine concerns for the game will want evidence of what might lead to justifiable changes. Some perspective is needed by looking at what has been done and what has happened in recent years.

The game of rugby is under control of the International Rugby Football Board. The board is composed of 2 representatives from each of the unions in membership including South Africa.

The laws of the game or any alterations therein or interpretations thereof are promulgated by the board.

The board's concern about safety and health matters related to rugby led to the establishment of a Medical Advisory Committee and South Africa was represented on this committee since the beginning.

This immediately led to medical advisors or Advisory Committees to the various unions, Medical doctors accompanying touring teams, doctors at representative touring matches as well as the stimulation of interest and research into injuries, commonly associated with rugby.

The board has introduced various changes, intended to improve the game for the players and spectators and the safety of the players has become a major consideration during the last 10 years.

Law amendments were introduced in an endeavour to minimise unintentional injuries.

Various facets of the game came under scrutiny e.g., the tackle and lying on the ground, scrums, rucks, mauls and foul play where deliberate injuries can occur.

The Medical Advisory Committee was responsible for very important recommendations which have been accepted regarding:

- the use of drugs in rugby
- dangers of footwear and damage from studs
- use of mouth guards
- training and fitness
- replacement of injured players
- dangers of concussion
- the need of injured players to leave the field

The board conducted a special study into the frequency and type of rugby injuries and it is involved in an analysis of all severe spinal injuries due to rugby as well as the assessment of the value of mouth guards.

The S.A.R.B. Medical Committee is actively involved and committed towards these programmes.

The I.R.F.B. has been responsible for more than 30 law amendments, 14 notes or instructions to referees, and more than 20 directives to improve the position of the player.

It is unacceptable to state that the board has been unresponsive to change and to make the game a safer one.

The referee plays a vital role in the implementation of the rules but the failure of referees to apply the laws of the game is not in itself an adequate reason for altering the laws.

Officials, selectors, managers and even team doctors, develop tunnel vision in relation to their own team. Players are allowed to play after receiving injections into painful areas or joints or they are allowed to play one week after being carried off the field with concussion.

The S.A.R.B. has recommended minimum medical and first aid requirements at all rugby playing fields.

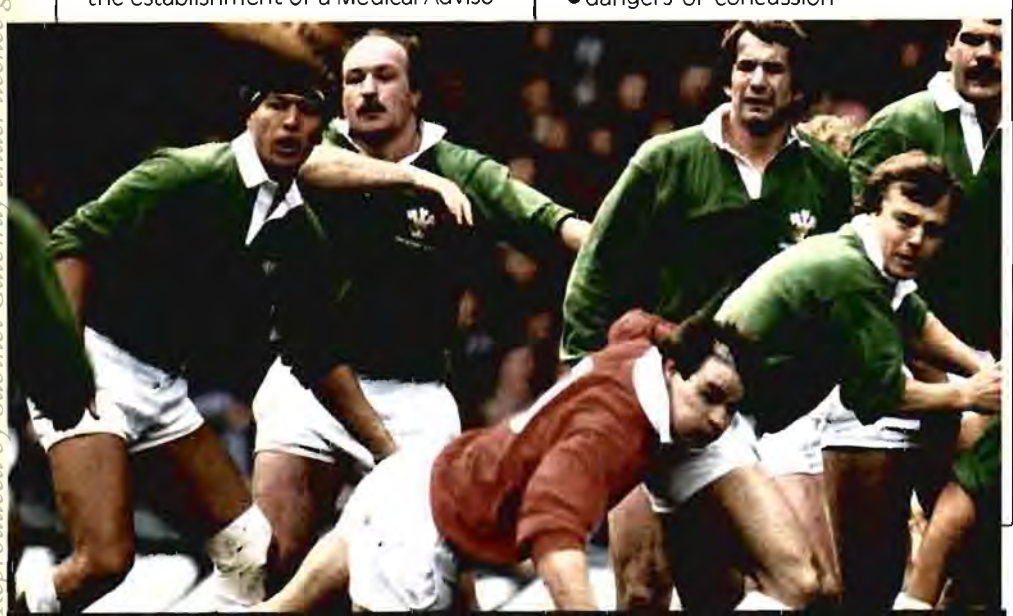
The effective implementation of these requirements and essential professional care at playing fields have become a pre-requisite for playing the game.

Players and parents at schools have the right to demand certain basic precautions and available facilities.

The establishment of these facilities remains the responsibility of the school, club or union.

If these demands are not met, the effective protection by the laws of the game or the suggested minimum first aid requirements will have little effect.

Closer co-operation between players, parents, administrators and doctors is needed to improve the standard of care further.



BASIC CONDITIONING FOR RUGBY

DR KEITH GORDON — Team Physiotherapist

Rugby being an amateur game largely precludes any off season training program, and the best that can be hoped for is that 6 weeks before the new season begins, the players will put in some form of aerobic training, the activity of choice being running. For maximal aerobic effect, between 20-45 minutes should be run on alternate days. A basic weight training program emphasising hypertrophy is strongly recommended for between 6 - 12 weeks during the off-season.

Once the players return to organised practices (usually towards the end of January), training emphasises the building of stamina and this was effectively achieved by hill climbing. At Eben Cuyler where the team practises, there is a fairly steep incline (35 degrees) of approximately 40 metres and the team builds up to 20 hills.

One of the problems experienced here was the development of inflamed achilles tendons, and it would be advisable to start with only 2-4 hills and add 1-2 a week as the season progresses. During the season hill climbing is phased out due to the demands of the game and the need for more specific fitness to be developed. At this stage more intense, shorter and faster activities replace hill climbing. It must be remembered that rugby is not an endurance event, and a number of interesting statistical factors which should have an important influence on the specificity of training have been demonstrated. For example during an eighty minute game, there are on average 140 sequences of action lasting 27 minutes of actual playing time. As it has also been observed that 56% of the activity lasts less than 20 seconds and 85% of the activity lasts less than 20 seconds, it means that the energy source is predominantly ATP-CP plus the anaerobic lactic acid system. We see therefore that at all standards of competition high levels of anaerobic power and capacity are required, and their development must receive more attention than is currently the case. To achieve this the players must be put through a series of tests to measure:

1. muscular strength,
2. muscular endurance,
3. cardiovascular endurance,
4. flexibility,
5. leg explosiveness,
6. quickness,
7. agility,
8. percentage body fat.

"It must be remembered that rugby is not an endurance event"

The question most often asked is: what is the role of testing if the tests do not measure playing ability? The answer is that the tests measure potential ability which could mean that the player who achieves high scores has the tools to become a great player.

Strength training (weight training) should be encouraged and if it could form a part of the conditioning program would contribute significantly to the players realising their individual potential. There is no American or East European athlete today who is not on an intensive weight training program. The benefits in terms of developing the player's physical capacity factors that will enable them to fulfill their potential and minimise time off through injury have been proven conclusively by our American, Eastern European and Russian counterparts.

Warm-up:

Before every practice and game the team was warmed up very systematically as follows: Five minutes of running, hopping, jumping to get the circulation going, followed by slow stretches to every joint and muscle acting over that joint. Before a game, a few plyometric (rebound jumping) exercises are included to stimulate the "reactive neuro-muscular apparatus". This is brought about by loading the elastic and contractile components of the muscle. The actual warm-up should take between 10 and 20 minutes, depending on the fitness level, temperature and nature of activity it precedes.

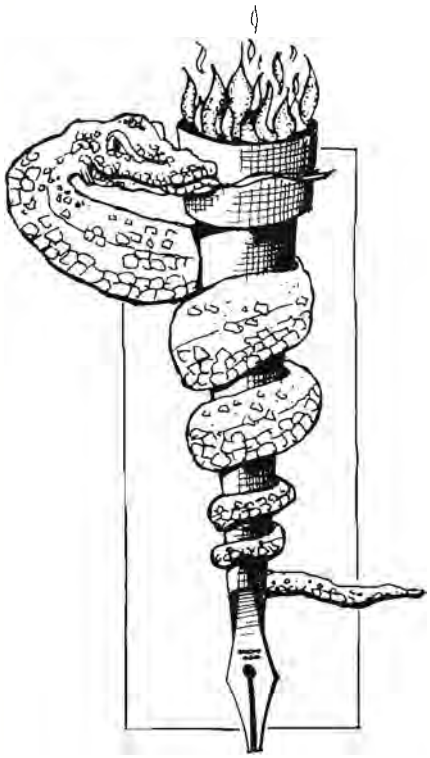
Conclusion:

In addition to improving performance, one of the primary benefits of adequate physical conditioning is to minimise the occurence and severity of injuries. The incorporation of proper testing to provide information as to the players physical capability, supervised strength training, adequate rest and nutrition will ensure the rugby players spend less time in the treatment rooms and more time on the playing field.

NEWS

The Ponky Firer Sports Medicine Award

South African medical authors with an interest in the growing gfield of Sports Medicine will be pleased to learn of the establishment of a new writing award. The Firer Sports Medicine Award will take the form of an annual cash prize of R500 presented in recognition of an important written contribution in sports medicine by Johannesburg Orthopaedic Surgeon, Dr 'Ponky' Firer Certain principles are laid down for the guidance of contributors:



- The objective is to encourage good, well presented and concise contributions to the growing literature on sports medicine.
- Open to South African authors, criteria for evaluation will include good research and sound methodology.

Written contributions not exceeding 1500 - 1800 words and dealing with any sports medicine-related topic are invited.

Ideally, the work should represent personal experience and should provide concise/practical help to G.P.s and others periodically involved in the management of injuries, training schedules or the physiology of sport. Articles must be available for publication in "Sports Medicine", prior to, or following judging. The editorial board of the publication will nominate three articles from which one winner will be chosen by an appropriate academic authority.

Drugs and Sport Congress

The National Symposium on Drugs and Sport Participation to be held at the Sports Centre, University of Pretoria, is scheduled for 26 February 1988. An international speaker will participate and the SASMA is officially involved in the programme. This promises to be very informative and further information can be obtained from Gert Potgieter or Petra Taljaard at Tel. No. (012) 342-2150. Drug abuse in sport and in the community is becoming a major problem and needs to be addressed from many different angles.

The 7th International Biochemistry of Exercise Conference, London, Ontario, Canada June 1-4 1988.

Tentative Programme

The Role of Functional Demand in Regulating Gene Expression.
Determinants of Muscular Growth — A Biochemical Perspective.
Muscle Energetics — Phosphorylation of the Contactile Protein.
Metabolic Disorders of the Muscle — Exercise Implications.
Fluid, Electrolyte, and Acid-Base Homeostasis in the Working Muscle.
Extramuscular Substrate Delivery and Control with Exercise.
The Biochemistry of Muscular Fatigue.

Poster Sessions

Adaptation and Muscle Transformation.
Skeletal Muscle Growth.
Metabolic Disorders of the Body.
Fluid and Electrolyte Balance.
Substrate Utilization and Exercise
Skeletal Muscle Fatigue.