

BIOKINETICS – THE DEVELOPMENT OF A HEALTH PROFESSION FROM PHYSICAL EDUCATION - A HISTORICAL PERSPECTIVE

Gert L. STRYDOM

*School of Biokinetics, Recreation and Sport Science, North-West University, Potchefstroom,
Republic of South Africa*

ABSTRACT

In the Government Gazette of 9 September 1983, Biokinetics was announced to have been registered with the Professional Board of Medical Science at the South African Medical and Dental Council. This registration heralded the beginning of a new profession of Biokinetics, which would position specialised exercise science as a health profession that aimed not only at contributing to the curative sciences but also to the promotion of health and wellness. This milestone in the history of Biokinetics occurred after a long process of deliberations with other role players in the health profession. In some cases serious resistance against this new discipline existed – not only from other disciplines but also among scientists in the field of exercise science. Since this historical event the profession of Biokinetics has gone from strength to strength. With 536 professionals on the register of the Health Professions Council of South Africa as on 18 November 2004 and 10 tertiary institutions providing training to approximately 130 students per year the profession can become a profession that contributes to the spreading of the message of the responsibility that individuals have for their own health and wellness. In this respect some medical aid funds supported this philosophy of health promotion, as the curative treatment of health problems are becoming increasingly expensive and are burdening health-care costs. At present qualified professionals are found all over the world practising their profession and making superb contributions, although not always under the name of Biokinetics.

Key words: Biokinetics; Exercise; Physical activity; Health; Profession.

INTRODUCTION

In the Government Gazette (No. 8878, Notice 673 of 1983) of 9 September 1983 Biokinetics was among the nine disciplines recognised on the register of Medical Science at the South African Medical and Dental Council (now, the Health Professions Council of South Africa) – a long-cherished dream that had come true. It marked the conclusion of a struggle of 17 years to achieve this milestone, which heralded the beginning of a new profession (Strydom, 1989). A humble vision which has grown to an independent profession with 536 health professionals (as on 18 November 2004) registered with the professional board of Physiotherapy, Podiatry and Biokinetics, of the Health Professions Council of South Africa (HPCSA), with 10 tertiary training institutions providing training to approximately 130 students each year. Backed up by a professional association – the South African Biokinetics Association (SABA) – the practitioners are contributing to the health and wellness of the people of this country on various levels, ranging from corporate wellness to clinical practices.

HISTORICAL ORIENTATION

The salutogenic effect of physical activity on the health status of mankind can be traced back to the 9th century B.C., when exercise and massage were recommended for the treatment of rheumatism (Ryan, 1984).

In the absence of specific therapeutic modalities during those days it is not surprising that it was physicians who recommended exercise as a preventative as well as therapeutic modality during early centuries. When one looks at the medicine of those days as described in the Papyrus Ebers – an important medical publication of those days – it is absolutely horrifying, and one can understand Petrarca's reasoning to rather prescribe exercise because "medicine can poison the body" (Ryan, 1984).

Some of those medicines prescribed were inter alia the following: for hair loss, use a mixture of the fat of a horse, hippo, crocodile, cat, snake and steenbuck. To strengthen this, crush a tooth of a donkey and mix it with honey. Other medication included, blood of lizards, pig's teeth, rotten meat, fluid from pig's ears, etc. A classic example of a physician preferring exercise was Moses Maimonides, the Jewish philosopher-physician (1198), who expressed himself as follows:

"Anyone who lives a sedentary life and does not exercise – even if he eats good food and takes care of himself according to proper medical principles – all his days will be painful ones and his strength shall wane" (Ryan, 1984:4). Eight centuries later, these prophetic words of Maimonides were proved by world-class scientists in the Report of the Surgeon General of the USA (1996) which was compiled by internationally recognised scientists, providing scientific evidence of the salutogenic effect of physical activity on health. In this respect McGinnes stated the following (1992:196): "There are more people at risk because of physical inactivity than any other single risk factors for chronic disease".

INVOLVEMENT OF PHYSICIANS

As already said, the involvement of physicians in the field of exercise and health started centuries before Christ. It is interesting to note that some of them already realised that physical training should be specific and individualised and should be prescribed according to specific training principles.

The following individuals, all of them originally trained as physicians, have played a significant role in propagating physical exercise to improve health (Ryan, 1984).

- Hippocrates (5th cent. BC) – Prescribed exercises for his patients.
- Herophilus (4th cent. BC) – Recommended moderate exercise.
- Asclepiades (1st cent. BC) – Recommended running and walking for his patients.
- Petrarca (1354) – Recommended exercise instead of medicine because "medicine can poison the body".
- da Feltre (14th cent. AD) – Responsible for the education of the royal family of the Duke of Mantua, prescribed exercise according to age, body build, season of the year, time of day, etc.
- Mercuriales (1569) – Exercise as a preventative as well as a therapeutic modality.

- Sargent (1849–1924) – Director of the Hemmingway Gymnasium.
- Anderson (1860–1947) – Director of Physical Education in Cleveland Medical College.
- McKenzie (1867–1938) – Medical director of Physical Education, McGill.

With the beginning of the Napoleonic wars during the 19th century a new profession, Physical Education, entered the professional arena, and medicine and Physical Education started functioning more independently from each other, focusing on their own fields of study (Strydom, 2004). The pioneers in Physical Education during those days were Ling (Sweden), Taylor (America), Nachteggall (Copenhagen), Jahn (Germany) and Amoros (France), to mention but a few.

PHYSICAL EDUCATION IN SOUTH AFRICA

Although the history of Physical Education in South Africa can be traced back to the 1890s, it was during the 1930s that formal training in Physical Education started (Jooste, 1954). Probably some of the first formal Physical Education training programmes that were established in South Africa were in the Union Defence Force (Cilliers, 1985).

Due to the economic depression in 1933 the country's economy was very poor, with no job opportunities, causing many young men to join the Defence Force. Some of them were even younger than the required minimum age of 17 years, and were accommodated in a Junior Special Service Battalion for an interim phase (Geyer, 1969). Many of the boys applying for military service were medically or physically unfit and were enrolled in the so-called K-platoons, named after Mr. Kuschke, the secretary for the Department of Welfare at that time. For each boy that was enrolled in the K-platoons, the Government contributed R210 00 per annum to the Defence Force. These boys underwent a programme of remedial Physical Education presented by specially trained remedial Physical Education instructors and supervised by the unit medical officer (Geyer, 1969).

Two officers who were deeply involved in the Physical Education programme, as well as the remedial programme, were Dr. Danie Craven, who was appointed chief instructor of Physical Education at the Military College in Pretoria on 11 June 1940, and Dr. Ernst Jokl, medical doctor at the military hospital. Both of these gentlemen were at a time involved with the Stellenbosch University and worked in the department of Physical Education. Jokl was the founder of this department in 1936 and Craven the head from 1947-1975.

The success of remedial training quickly led to the expansion of the programme to battalion size (four platoons). The common medical problems that were treated in this battalion were flat feet, torticollis, kyphosis, lordosis, scoliosis, post-operative recovery, etc. By that time South Africa was involved in World War II and many war casualties such as amputees were also treated in this battalion. Later on, other problems such as neurological problems, muscle atrophy, chronic lower back pain, long bed rest patients, etc. were also attended to (Cilliers, 1985).

Unfortunately this superb rehabilitation programme in the Defence Force was terminated in 1946 (after World War II came to an end) and it was transferred to the Department of Education, who continued the programme in Kimberley (Cilliers, 1985) with the focus later shifting to caring for patients who had been disabled as a result of spinal injury or genetic

disorders. Except for some isolated articles by Physical Educationists, no significant developments took place within the field of exercise and health in South Africa during the years 1946–1965 (Strydom, 2003). However, at most universities some researchers were working in the field of Sport Physiology and Physical Education related to school programmes.

WHAT IS IN A NAME?

During 1966, some research at the Department of Physical Education of the Potchefstroom University for Christian Higher Education (now the North-West University) was directed at the salutogenic effect of exercise training on the cardiovascular effect of male students. This was followed in 1967–1968 by a research project studying the therapeutic effect of physical training on the cardiovascular health of adult males who had suffered a myocardial infarction. This heralded a time of high praise and write-ups in the newspapers (Figure 1) on the one hand, but, on the other hand also of serious resistance from other health professionals (Strydom, 1989).

Five patients were recruited to participate in the Ph.D. study of G.L. Strydom (Strydom, 1968a). A month later one withdrew because of a lack of interest. Strange as it may seem, he died about 12 months later, at the same time that the remaining four received gold medals for fitness!

At that time the medical protocol for a cardiac patient consisted inter alia of at least six weeks of bed rest. During the first few weeks a patient was, in some instances, not even allowed to shave or bath him-/herself. One can only imagine the shock among some medical practitioners when they heard about this study. One practitioner expressed himself in no uncertain terms, saying, "Hulle sal vrek soos vlieë" (They will die like flies) (Strydom, 1968b).

Despite this antagonism among some medical practitioners, a physician in Pretoria offered to supervise the clinical part of the research. He examined the subjects at three different stages to assess clinical progress, while a general practitioner in Klerksdorp agreed to draw blood samples for the determination of the glucose tolerance, insulin tolerance, total cholesterol and triglyceride concentration in the blood serum of the patients.

On completion of the experimental phase when Dr. W.H. Davis, the supervising physician, examined the trial subjects for the last time, he cancelled a planned presentation at a clinical meeting of specialist physicians of Pretoria. Instead he informed them that he would present findings on a "totally new approach" to cardiac rehabilitation. His encouraging words were probably one of the first motivations to proceed with this project. He expressed himself as follows: "It is the first time in my life as physician that I witnessed a patient with myocardial infarction recovering to this superb physical condition. You may not leave this work – too many patients out there desperately need this treatment" (Davis, 1968). Part of the physical assessment of the participants in the cardiac rehabilitation research was the completion of a set of standards compiled for the gold medal of fitness by the Department of Sport and Recreation of the National Government. This included, inter alia, ten miles of cycling on the road within a certain time limit, as well as push-ups and sit-ups. All four of the participants completed the various physical tests in an age group younger than their own and were awarded their gold medals at an auspicious occasion.

Trombose Genees Met Oefeninge!

(Deur BENNIE FRITZ)
'N JONG Potchefstroomse student gaan die mediese wêreld skud met 'n opsiensbare metode om hartlyers te genees. Hy het die ou geloof dat mense ná 'n trombose-aanval alle inspanning moet vermy, in trurat geplaas en sy pasiënte volkome genees met strawwe oefenprogramme.

OPSIENBARENDE METODE VAN POTCH-STUDENT

van die „proefkynne” sê dat hy laas op 30-jarige leeftyd so fiks gevoel het.

Die pasiënte is periodiek deur 'n bekende internis en gesaghebbende op die gebied van hartsiektes in Pretoria ondersoek. Volgens hom het die vier mans „teen alle verwagting in” in alle opsigte in 'n uitstekende toestand verkeer ná die oefenprogramme. Hy sou nooit geglo

het dat 'n mens wat al hartaanvalle gehad het, in so 'n fiksse toestand kan wees nie.

Medici wat deur Dagbreek geraadpleeg is, glo dat dit die eerste keer is dat so 'n opsiensbare ontdekking op die gebied van hartlyer-behandeling in die Westerse wêreld gedoen is. Hulle verwag dat die nuus uit Potchefstroom opslae in die mediese wêreld sal maak.

Die 26-jarige mnr. G. L. Strydom van die departement tiggamlike opvoeding aan die Potchefstroomse Universiteit, het nege maande gelede met die proefnemings begin met die oog op sy doktorsgraad aan die einde van die jaar. Sy vier pasiënte is tussen die ouderdom van 46 en 58 en het almal in 1966 hartaanvalle gehad.

Hy het hulle vyf dae per week op 'n fiets-ergometer laat oefen, wat strawwer geword het na gelang van hul verbetering. Al vier se toestand het ongelooflik verbeter. Ná agt maande se oefening kon hulle tien maal meer uit die fiets kry as aan die begin.

Mnr. Strydom het vasgestel dat die meganiese doeltreffendheid van die hart bo verwagting verbeter het. Die hartsnelheid het gedaal en die bloedwaardes verbeter. Sodra die oefeninge gestaak is, het die liggaam egter weer verswak. Een

Aanspraak van P.U.-student:

LYERS AAN TROMBOSE GENEES

Spesiale Berig
POTCHEFSTROOM.

'N **J**ONG STUDENT van die Potchefstroomse Universiteit maak daarop aanspraak dat hy 'n belangrike mediese ontdekking gedoen het. Hy glo dat hy bewys het dat mense wat koronêre trombose opgedoen het, volkome genees kan word en heeltemal fiks kan wees.

Die student, mnr. G. L. Strydom (26), het tot dié bevinding gekom in sy doktorsale studie in liggaamlike opvoeding nadat hy vier mense tussen 45 en 58 jaar wat hartaanvalle gehad het, aan 'n oefenprogram van nege maande onderwerp het.

Ná afloop van die oefenprogram het alvier in uitstekende gesondheid verkeer. Ná vier maande se oefeninge was twee wat aan suikersiekte gelyk het, ook daarvan genees.

hartsnelheid

Die gemiddelde hartsnelheid van die pasiënte het van 109,25 slae per minuut gedaal tot 66,75 slae per minuut. Hierdeur kan die bloed meer suurstof opneem en beter afvalstowwe afgee. Die noodtoestand waarin die hart verkeer het ná die aanval, is ook heeltemal uitgeskakel.

Mnr. Strydom glo dat die ver-

naamste oorsaak vir die vorming van bloedklonte en die vernouing van die slagare deur oefening uitgeskakel kan word omdat oefening 'n normale balans van koolhidrate en die natrium- en kaliummetabolisme verseker.

fiets

Die oefenprogram is op 'n fietsergometer uitgevoer. Die oefeninge is geleidelik moeiliker gemaak namate die pasiënte gevorder het. Hul bloeddruk en hartklop is gereeld gemeet terwyl verskeie ander toetse van die hart en bloeddruk uitgevoer is en bloedontledings gedoen is om die chlosterol-, kalium-, natrium-, magnesium- en glukosekonsentrasies te bepaal.

Die pasiënte is gereeld deur 'n bekende internis en gesaghebbende op die gebied van hartkwale in Pretoria ondersoek. Volgens hom was die vordering wat hulle tydens die oefenprogram gemaak het, merkwaardig.

FIGURE 1. MANY WRITE-UPS APPEARED IN NATIONAL NEWSPAPERS REPORTING ON THE POSITIVE RESULTS OF POST-MYOCARDIAL INFARCTION PHYSICAL REHABILITATION

At this point in time it was decided to approach the S.A. Medical and Dental Council (SAMDC) to apply for recognition of this new "direction" – for which no appropriate name existed at that time.

At the department of Physical Education at the Potchefstroom University research in cardiac rehabilitation proceeded, with F.J. Buys later enrolling for his D.Sc. in a study on diabetes (Buys, 1970). By that time a module was also included in the training of undergraduate Physical Education students, which was called Kinetiotherapy – indicating the therapeutic value of exercise. In negotiating with the SAMDC as well as with the Associations of Physio- and Occupational Therapy, the suffix "therapy" in the name "Kinetiotherapy" immediately aroused criticism that it might transgress on their fields of training (Strydom, 1989). After explaining the content of the proposed curriculum they agreed that there should not be an overlap, but no progress was made in acknowledging this discipline.

In discussions with the Registrar of the SAMDC it was learned that a register called "Remedial gymnastics and recreational therapy" existed with only six professionals on the register, and with just three of them still living in South Africa. The training for this profession was only available in Europe and a request to the SAMDC to allow training in South Africa that could qualify for registration on that register seemed a possibility. Before a memorandum could be sent to the SAMDC the Registrar informed the applicants that this register would be closed on 30 June 1978. That put the process back to square one and the search for an appropriate name began anew.

After lengthy discussions, the name "Physical Education (Biokinetics)" was decided upon. Biokinetics would focus on "life" and "movement", which imply the improvement of the quality of life by the means of movement (activity). With this name it was hoped to place the main focus on health promotion and maintenance, while the therapeutic aspect would not be ignored.

A memorandum, requesting the Council to open up a new register, was submitted to the SAMDC, dated 30 July 1980. During the years that followed, various discussions were held with the professional boards and national associations of Physiotherapy and Occupational Therapy – but a deafening silence followed the memorandum (Strydom, 1989).

In the mean time, as a result of South Africa's involvement in a low intensity war on the Namibian border, many soldiers were physically injured and required physical rehabilitation. Thus the injured soldiers were sent back to 1 Military Hospital in Pretoria where they were medically treated and required physical rehabilitation, especially to recover from long periods of bed rest, while amputees needed to strengthen other parts of their body to compensate for their amputations. As this treatment fell outside the scope of the traditional health professionals, the obvious way to go was to form a rehabilitation unit where specialised Physical Education instructors were included in the rehabilitation team to take responsibility for the so-called "post-medical rehabilitation", also referred to as "final phase rehabilitation". Apparently a very interesting repetition of the history of the 1940s occurred, where injured soldiers were sent back from the frontlines and were physically rehabilitated by the remedial Physical Education instructors working under supervision of a medical officer. The therapeutic programmes of the patients were individualised and also included other activities

like swimming, bowls, tennis, cycling and horse riding (Geyer, 1969). In the present description one would probably call this the therapeutic recreation part of their programme.

For the outstanding work that was done during the 1970s at 1 Military Hospital, credit must go to a number of colleagues, some of them still contributing to Biokinetics in some or other capacity today. The following people are saluted for their contributions:

- Capt. Jones Cilliers (now professor at the Thswane University of Technology);
- Lt. Hennie Grobler (now Brig. Gen. in the SANDF);
- Lt. Jaco Moolman (now Colonel in the SANDF);
- Lt. (Dr.) Neil Gordon (now living in the USA).

These people, together with the rest of the medical staff, *inter alia* Dr. Etienne Hugo (orthopaedic surgeon) and the late Dr. Piet Kempff (medical practitioner), performed an enormous task in proving that "specialised Physical Education" fills the gap between the medical approach (first phases of rehabilitation) and the restoration of functional working capacity (later phases of rehabilitation). This approach and the good results from this team convinced the former Surgeon General, Lt. Gen. N. Nieuwoudt, that the professions could work together without any of their interests being harmed – a convert whose support for Biokinetics came at a very critical stage.

In the mean time, from 1971 onwards, a course in Kinetiotherapy was taught by Dr. Gert Strydom at the Potchefstroom University, with the support of Prof. Wynand Putter, head of the Department of Physical Education. Tough times followed and hardly any equipment and little space were available to run a practice. The only option was to remove all desks from a lecture hall at the end of the day, getting the clients to come for training from 17:00 to 21:00, then rearranging the lecture room again so that the lectures could commence at 08:00 the following day. This went on for some years until some development added more space to the Department of Physical Education and the class room could be used as a permanent venue.

Again tribute must be paid to young colleagues who showed faith in this “no name” profession and decided to come on board, without knowing an exact destination of this study course. Their faith in this “no name profession” stemmed from their experience, and the evidence of people who testified to its benefits.

Mr. J.S. (Kobus) van der Walt, who was the first Biokinetics “assistant”, initially planned to follow a career as Physical Education teacher, but switched over to study honours in Kinetiotherapy and so became involved in the “clinic” (unfortunately at that time nothing was known about the ethical rules and thus still referred to “the clinic”).

Van der Walt was then followed by other postgraduate students, with Dawie Malan, Percy du Toit, Willie Immelman, Lidia Streicher, Maretha Delpoort and Thea Potgieter contributing to the dynamic development of this course. Some of these persons are still actively contributing to the discipline of Biokinetics.



FIGURE 2. KOBUS VAN DER WALT – THE FIRST BIOKINETICS ASSISTANT (1974), SECOND FROM THE LEFT, MONITORING THE HEART RATE OF MR. TOKKIE MALAN

Due to a lack of funding the colleagues had to rely on their own innovations as far as training equipment was concerned. Thus the first bicycle ergometer which was initially used in the laboratory in Potchefstroom for the determination of the physical working capacity tests was adapted in the Technical Department of the University with the input of the lecturers at the Department of Physical Education (Figure 3). Later a home-made treadmill was built which was capable of both incline and decline adjustment by using hydraulic jacks in the front or at the rear, respectively (Figure 4). Resistance training was done with some dumbbells and against body weight.



FIGURE 3. MODIFIED BICYCLE ERGOMETER TO MEASURE WORK CAPACITY. NOTE THE LEATHER BELT ON THE FLYWHEEL AND THE KITCHEN SPRING BALANCE WHICH MEASURED THE WORKLOAD

During this period colleagues at other universities also kept on working in the field of Sport and Exercise Physiology and their expertise and support would become a great impetus later on when the Medical and Dental Board requested evidence of work at other universities.

Colleagues who deserve credit were inter alia:

- Prof. Hardy van der Merwe (University of Pretoria);
- Prof. Paul Smith (University of Pretoria);
- Mr. Hans Daehne (University of Pretoria);
- Prof. Marius Desiprés (University of the Orange Free State);
- Mr. Sthinus Barnard (University of the Orange Free State);
- Prof. Frikkie Theart (University of Stellenbosch);
- Dr. Bokkie Blaauw (University of Stellenbosch);
- Prof. Frik Buys (University of Port Elizabeth);



FIGURE 4. TREADMILL BUILT BY THE UNIVERSITY'S TECHNICAL DEPARTMENT. HYDRAULIC JACKS WERE USED FOR INCLINE AND DECLINE ADJUSTMENT

After more than two years of silence a notice was received from the Medical and Dental Council that the professional board for Auxiliary Health Services – in which physio- and occupational therapy were represented – would meet with delegations of biokinetics, physio- and occupational therapy at Jan Smuts Airport during one of their scheduled meetings. The professional board would interrupt their meeting at 12:00 and then have the discussion with the delegations of biokinetics, physio- and occupational therapy.

On 9 September 1982 Proff. Putter and Strydom and Dr. Koos Burger (physician) attended the meeting. After each delegation was granted a few minutes to present their case, a brief discussion followed. Some members indicated possible transgressions in the fields of existing professions. At this time the Surgeon General of the South African Defence Force (Lt. Gen. N. Nieuwoudt) who was a member of the professional board presented the experience in 1

Military Hospital. He testified that all professions were working in a team, providing superb results and there was no transgression of the scope of practices.

After a 20-minute “appearance” in front of the professional board, the chairman thanked the delegations and they left the meeting. The SA Medical and Dental Council later informed the delegation that they could not accept the name of Physical Education (Biokinetics) as Physical Educationists should be registered with the professional board for teachers, but that the name Biokinetics was acceptable.

In a letter dated 3 November 1982, the SAMDC informed the Committee of the Heads of Physical Education Departments of the South African Universities that the professional board had recommended and the SAMDC had accepted that Biokinetics should be placed on the register of Medical Sciences and that the scope of practice should be forwarded to them.

In order to cater for the administration of the new discipline, a sub-committee under the auspices of the South African Association of Sports Science, Physical Education and Recreation was formed. The following members were elected to the committee:

- Dr. J.F. Cilliers (1 Military Hospital) (Chairperson);
- Prof. G.L. Strydom (PU for CHE);
- Prof. J.M. Loots (UP);
- Ms. M. Delpont (PU for CHE);
- Mr. W. Immelman (PU for CHE);
- Mr. H. Daehne (UP);
- Mr. J.S. van der Walt (Director – SAASSPER).

After wide-ranging discussions this committee compiled the scope of practice of Biokinetics, the training syllabus, criteria for institutions to provide training, etc.

On 9 September 1983 the registration of Biokinetics as a discipline, together with Clinical Biochemistry, Clinical Microbiology, Anatomical Pathology, Pharmacology, Hematology, Clinical Genetics and Radiobiology, was announced in the *Government Gazette* (1983). Thereafter the first professional board was constituted and the first meeting of this board took place on 28 January 1986. Prof. G.L. Strydom was elected to represent Biokinetics on the board.

THE SOUTH AFRICAN ASSOCIATION OF BIOKINETICS

After the announcement in the *Government Gazette* (1983) a lot of work had to be done and it became clear to those involved that they had to proceed to a more formal institution to deal with Biokinetic matters. The Potchefstroom colleagues took the initiative to organise a Biokinetics Congress on 16–17 October 1987 in Potchefstroom, with Dr. Francois Retief, former Director-General of the Department of Health and Population Development, as guest speaker (Strydom, 1989).



FIGURE 5. THE FIRST BOARD MEMBERS OF THE NEWLY ESTABLISHED SOUTH AFRICAN ASSOCIATION OF BIOKINETICS TOGETHER WITH THE MAYOR OF POTCHEFSTROOM, 16 OCTOBER 1987. FROM LEFT TO RIGHT: MR. H.O. DAEHNE (UP), MISS B.M. DELPORT (PU VIR CHE), PROF. J.M. LOOTS – VICE-PRESIDENT (UP), DR. J.F. CILLIERS (1 MIL. HOSP), MAYOR J.C. OOSTHUIZEN, PROF. M.F. COETZEE (UPE), DR. D.D.J. MALAN (PU FOR CHE), PROF. G.L. STRYDOM – PRESIDENT (PU FOR CHE)

At this conference the South African Association of Biokinetics was constituted and the first office bearers were elected. They were:

- Prof. G.L. Strydom (President – PU for CHE);
- Prof. J.M. Loots (Vice-President – UP);
- Prof. M.F. Coetzee (UPE);
- Dr. J.F. Cilliers (1 Military Hospital);
- Dr. D. Malan (PU for CHE);
- Ms. M. Delpport (PU for CHE);
- Mr. H. Daehne (UP).

From the overview it may seem as if things were running smoothly from the beginning, but this was definitely not the case. In the course of the development of Biokinetics, many severe pitfalls and setbacks were encountered. Some resistance against this new discipline was even

published in a scientific journal, stating the following: “In South Africa the Medical and Dental Research Council (sic) now recognizes, as a specialist area worthy of funding, an entity quite illogically called biokinetics...What is needed ... is an end to naïve parochial inventions such as biokinetics”. The author further stated that “...nothing is presently being done or intended that has not had a long and much more sophisticated history in North America” (Charteris, 1985). It is interesting, however, to note that Ehrman *et al.* (2003) indicated that in the 1980s a sub-specialisation, developed from the traditional exercise science, dealt with the therapeutic effect of physical activity. This sub-specialisation, called “clinical exercise physiology”, came to qualify for registration with the American Society of Exercise Physiologists (ASEP), the American Council on Exercise (ACE) and the American College of Sports Medicine (ACSM). Judging from the syllabus, it could easily be considered as Biokinetics in the USA.

Biokinetics may not claim to have “developed” something new – but it succeeded in a “new application” of knowledge, and this application developed into a recognised new health discipline. It not only applied therapeutic intervention but it also focused on the quest for total wellness, based on responsibility from the individual.

RESTRUCTURING OF THE SA MEDICAL AND DENTAL COUNCIL (SAMDC)

In the late 1990s the SAMDC underwent restructuring and various disciplines were grouped together which more or less shared some commonalities. So Biokinetics was moved from the Professional Board of Medical Science to the ‘Board of Physiotherapy, Podiatry and Biokinetics’, and was represented by Proff. Strydom and Loots. Their term of office expired at the end of 2003 and they both indicated that they were not available for re-election. Miss Maretha Delport and Prof. Yoga Coopoo were elected for the new term of five years, commencing in January 2004.

FURTHER DEVELOPMENT

As far as future developments are concerned three main focus areas can be highlighted, which will play significant roles in future namely training institutions, practitioners and the professional association.

Training institutions

Training institutions which are accredited by the Health Professions Council of South Africa may have their own agendas for training students in this programme. But together with the training, institutions must also support the impetus of young practitioners to settle in the professional field. Lecturers must regard the support of professional management of this discipline as part of their responsibilities. The practitioners in private practices do not have time to spend many hours in meetings – they need to spend every minute possible in their practices in order to survive economically.

Institutions which are still seeking accreditation for training in Biokinetics must seriously consider if the labour market can absorb all trainees. One of the very first warnings which was addressed to the new discipline of Biokinetics in the 1980s was to guard against flooding the labour market. Thorough research is needed to determine an acceptable ratio of biokineticists

population, which can then lead to a more precise calculation of the number of professionals that should be trained.

In the process of preparing students for their professional career every training institution must ensure that the curriculum not only provide up-to-date quality training and research, but also equip the students with other skills that will enable them to survive in private practice.

The practitioners

The only way to a high-ranking profession is via high quality professionals. Keeping with new developments and knowledge is vital for every professional. Dedicated people who set themselves high ethical and moral standards are needed to carry the banner of Biokinetics with pride. The young practitioners need role models in their profession. If practitioners are not proud of their profession, they should not expect others to respect their profession.

A strong and vibrant Association should be supported and developed. It is the only mechanism that can protect and promote the profession without being blamed for transgressing the ethical rules by which it is governed.

The Association

The Association's management should strive for a vibrant and dynamic organisation which keeps up with fast-changing scenarios. Timely manoeuvres and intelligent recommendations to its practitioners will make the Association indispensable. The Association should guide, promote and protect the interests of the profession and seek to open up international doors for mutual cooperation, acknowledgement and research. This will not only require strategic planning but also the execution of operational plans. The best way to gain respect from practitioners is to earn it.

REFERENCES

- BUYS, F.J. (1970). Die invloed van progressief verswaarde oefening op pre-diabetiese en diabetiese pasiënte. Ongepubliseerde D.Sc.-proefskrif. Potchefstroom: PU vir CHO.
- CILLIERS, J.F. (1985). Die bydrae van geprogrammeerde inoefening in na-mediese fisieke rehabilitasie van beseerdes uit die militêre operasionele gebied. Ongepubliseerde D.Phil.-proefskrif. Potchefstroom: PU vir CHO.
- CHARTERIS, J. (1985). What is sport science? *South African Journal of Science*, 81(9): 544-545.
- DAVIS, W.H. (1968). Personal interview with author, May.
- EHRMAN, J.K.; GORDON, P.M.; VISICH, P.S. & KETEYIAN, S.J. (2003). *Clinical exercise physiology*. Champaign, IL: Human Kinetics.
- GEYER, G.J. (1969). Liggaamlike opleiding in die Unie Verdedigingsmag (1912-1946). Ongepubliseerde M.A.-verhandeling. Pretoria: Universiteit van Pretoria.
- GOVERNMENT GAZETTE (1983). The South African Medical and Dental Council – Rules for the registration of medical scientists. *Government Gazette*, Nr. 8879, Notice 673 of 1983, p.19.

- JOOSTE, M. (1954). 'n Beknopte oorsig van die ontwikkeling van Liggaamlike Opvoeding in Suid-Afrika (1652-1936). *VIGOR*, 7(3): 32-34.
- McGINNES, M.J. (1992). The public burden of a sedentary lifestyle. *Medicine and Science in Sport and Exercise*, 26(6): 5196-5200.
- McMILLEN, S.I. (1968). *Geeneen van hierdie siektes nie*. Roodepoort: Christelike Uitgewersmaatskappy.
- RYAN, A.J. (1984). Lessons from the past. In H.M. Eckert & H.J. Montoye (Eds.). *Exercise and health*. American Academy of Physical Education Papers, no. 17.
- STRYDOM, G.L. (1968a). Die invloed van oefening op die kardiovaskulêre fiksheid van koronêre-trombose pasiënte. Ongepubliseerde D.Phil.-proefskrif. Potchefstroom: PU vir CHO.
- STRYDOM, G.L. (1968b). Personal interview with anonymous practitioner.
- STRYDOM, G.L. (1989). *Biokinetika as professionele dissipline – historiese oorsig en ontwikkeling*. Potchefstroom: PU vir CHO.
- STRYDOM, G.L. (2003). *Biokinetika-handleiding vir studente in Menslike Bewegingskunde*. Potchefstroom: PU vir CHO.
- STRYDOM, G.L. (2004). Physical activity, health and wellness: Some challenges in the 21st Century. *African Journal for Physical, Health Education, Recreation and Dance (AJPERD)*, 10(3): 220-229.
- U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES (1996). *Physical activity and health: A report of the Surgeon General*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion.