PLEASE PRINT

To Whom It May Concern,

REGARDING THE HEALTH AND FITNESS OF CHILDREN:

Following the decision by the United Nations General Assembly that 2005 will be the International Year for Sport and Physical Education (IYSPE 2005) there has been an increasing need to improve the health and fitness of our youth. The declining fitness and health levels of children all over the world sparked this decision by the UNGA.

Background and Motivation

Over the last decade numerous studies have shown an increase in postural and weight problems in children, and a decrease in fitness, which affect their health and growth negatively. The newspaper RAPPORT, 26 September 2004 even reported on a study done on 42 477 South African children that concluded that 66.5% had fitness levels ranging from average to poor. Therefore interventions are needed to ensure proper and healthy physical development in growing children and prevent poor health and fitness during adulthood. It is imperative for children to be taught good health and fitness ideals to ensure it carries over to adulthood. It is important that intervention is introduced before the growth spurt occurs. The ages for beginning of the growth spurt varies from 9 to 13 years of age, but usually starts from 9 years for girls and 13 years for boys. Thus, an assessment of the physical characteristics is needed before or during these ages to evaluate strengths and weaknesses before hormonal changes and rapid growth influences the test results. Some psychologists claim that the physical weaknesses and imbalances will not only cause detrimental effects on the physical health of the children as they grow older, but could also play a part in a declining mental stability and cognitive performance.

But what are these physical weaknesses and imbalances? It includes postural problems such as Scoliosis, Kifosis and Lordosis, weight problems such as over- and underweight and Obesity. Low and unbalanced muscle strength and flexibility will cause postural and joint problems during the growth spurt and must be optimized to ensure prevention and rehabilitation of disorders such as Scheuermann's disease and Osgood-Schlatter disease. Some researchers report a three to five times greater chance for heart diseases (CHD) and/or stroke in children with poor diet and low activity levels. As reported, the fitness levels of 66.5% of South African children are average to poor, and that is already a case of concern that needs to be improved.

Aim and Proposal

We at the StretchingSA™ propose a physical characteristic screening of all grades 5, 6 and 7 pupils to evaluate their physical condition. In this way we will be able to find those pupils with physical weaknesses or imbalances and propose corrective solutions. The sooner we can identify those students with problems, the greater the chance of successful rehabilitation.

The children are the future, so we aim to improve the fitness and physical status of every child in need of help to the best of our abilities and knowledge.

Methods

Subjects
Firstly the children will receive a letter with basic information on the motivation, aim of the research and screening methods to give to their parents. The letter will also consist of an informed consent form, which the parents must fill in and send back to the school before testing is done on their child. (Appendix A)

Screening and Feedback procedure
The physical characteristics of each child will be gathered by performing a series of health and fitness tests. Postural Assessment, BMI (Body Mass Index) test, Hamstring and Lower Back Flexibility test, Blood Pressure test, RHR (Resting Heart Rate) test, Balance test, Muscular Strength & Endurance tests and the Harvard Step Test. (Appendix B) All the data will be processed and held at the CCOR. All the parents whose children are tested will receive feedback of the screening results. The parents of the children with physical imbalances or weaknesses will then be notified in that way of the child's needs and referred to a specialist in the field.

The screening and feedback will be performed free of charge and hope you will agree on the importance of this research and preventative measures. We will appreciate a meeting to present the whole idea more clearly and answer any questions.

Yours sincerely,

Appendix A:

Subject Information Form

Date: _____ Mr./Mrs./Dr.: _____

Child's Full Names: _____ Subject Code: (e.g. 002)___

Grade: _____ Age: _____ Gender: _____

Doctor's name: _____ Doctor's Number: _____

Informed-Consent Form

STETCHINSA™

Investigators
Francois E. Labuschagne, B-Tech (Sport and Exercise Technology)
Johannes W. de Wit, B- Tech (Sport and Exercise Technology)

1. Francois E. Labuschagne, who is a Sport and Exercise Technologist at StretchingSA™, has requested my minor child's participation in a physical characteristic screening at the school grounds.
2. I have been informed that the purpose of the research is to determine the levels of my child's fitness and health components.
3. My participation will involve my consent to perform the assessments on my child for the duration of the screening process and completion of the Subject Information Form above as accurately and completely as possible.
4. My child's participation will involve completing a test battery for assessment of physical attributes including a postural assessment, cardiovascular assessment, local muscle endurance and flexibility assessment, balance assessment and body composition assessment.
5. I understand there are no foreseeable risks to my child during the screening procedure if I give consent for participation
6. I understand there are foreseeable discomforts to my child during the screening procedure if I give my consent for participation. The possible discomforts may include tiredness, sweating.
7. The screening protocol will include the following procedures:

7.1	Body Composition	Height, Weight, Skinfolds (subscapular, triceps)
7.2	Flexibility	Sit and Reach (lower back, hamstrings)
7.3	Postural Analysis	Scoliosis, Kifosis (Sheuermann), Lordosis Leg length discrepancies, Valgus, Varus
7.4	Cardiovascular	Harvard step test, Blood pressure, Resting heart rate
7.5	Muscular Strength & Endurance	1 min sit up test, Max push up test
7.6	Proprioception	Static Balance test (Stork Test)

8. I understand that there are alternative procedures available. Alternative procedures include consulting a Doctor, Physiotherapist or Biokineticist in the field for a screening consultation.
9. I understand the possible benefits of my child's participation in the screening are determining his/her health and fitness levels and finding possible weaknesses and deviations that needs attention in order to correct.
10. I understand that the results of the research may be published but that my child's name or identity will not be revealed. In order to maintain confidentiality of my child's records it will be held at the CCOR and subject codes will substitute subject names.

11. I understand that I will not be compensated for my child's participation.
12. I understand that any questions I have concerning the screening procedure or research or on my child's participation in it, before or after my consent, will be answered by Francois E. Labuschagne, CCOR, 426 Cliffendale Drive, Pretoria. Tel: (012) 991 8710
13. I have read the above information. The nature, demands, risks, and benefits of the project have been explained to me. I knowingly assume the risks involved, and understand that I may withdraw my consent at any time without penalty or loss of benefit to my child or myself
14. I understand that feedback containing the results of the screening will be forwarded to me after the data has been processed. A copy of this consent form will be given to me.

Subjects signature _____ Date _____
(Father, Mother, Legal Guardian, or Legally Authorized Official)

Other signature _____ Date _____
(Witness)

Appendix B:

The screening protocol will include the following procedures:

Body Composition

The body composition assessment consists of taking height and weight measurements to calculate the BMI (body mass index). To determine the Body Fat and Lean Body Mass content and morphology, two skinfold measurements are needed (subscapular, triceps) which will be taken with a skinfold caliper.

Flexibility

The flexibility assessment consists of sitting straight legged and reaching towards the toes while pushing a measurement tool. The reading from the measurement tool indicates the level of flexibility in the hamstrings and lower back.

Postural Analysis

The postural analysis consists of the child standing in the anatomical position behind a grid posture tool, in three different directions, facing the researcher, reverse and side. In that way the postural deviations, if any, such as Scoliosis, Kifosis (Sheuermann's), Lordosis, Valgus (X-legs) and Varus (Bow-legs) will be assessed. A tape measure is used to measure the lengths of the legs to determine if there are any Leg Length Discrepancies.

Cardiovascular

The assessment of the cardiovascular system involves getting resting values like Blood Pressure and Resting Heart Rate. It also involves seeing how the cardiovascular system responds to exercise demands and how it recovers after the exercise. Doing the Harvard step test will do this. The participant climbs up and down a 30cm high step for 3 – 5 min during which time heart rate will be measured via radial palpation, and recorded.

Muscular Strength & Endurance

The muscular strength and endurance assessment involves a 1min sit-up test where as many sit ups as possible will be done in one 1min, and a maximum push-up test where as many as possible consecutive push-ups will be done. The number of sit-ups and push-ups is recorded.

Proprioception (Balance)

The balance assessment will be done by doing the Static Balance test (Stork Test). The participant will be asked to stand on their dominant leg and places the other foot on the inside of the supporting knee and hands on hips. Then the participant raises the heel of the dominant foot and maintains balance for as long as possible, and the time is recorded.