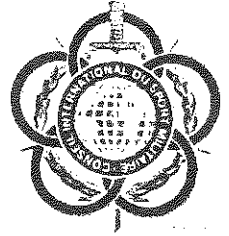


International Symposium on *Sport for all!*



NEW METHODS IN PROMOTION OF HEALTH RELATED ACTIVITIES BY MEANS OF MULTIMEDIA APPLICATIONS.

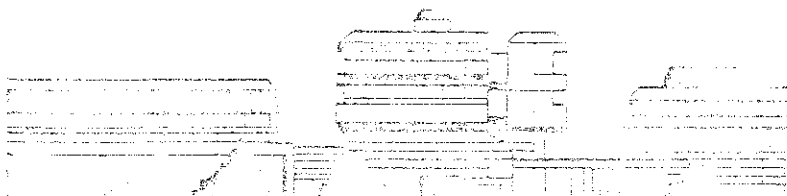
L.SOUMAR (Czech republic)

Regular physical activity has been long seen regarded as an important component of a healthy lifestyle. Individualization of exercise program plays a major role in planing optimum and the most effective workout. In order to achieve personal exercise goals one has to be thoroughly informed about his/her actual health state. Success in physical activity is, therefore, highly determined by an actual shape. Miscellaneous diagnostical methods are used in abundance and in a great variety throughout the world. Our company has developed a special approach to diagnostics of actual state, which was designed to be maximum fast and effective in searching for a key parameters, that are essential for individual program definition.

Nevertheless the proper diagnostics is only the first step in improving someone's health. Of course, the key-stone is scientifically evaluated exercise program. Our company has developed unique multimedia software, that can significantly improve the workout. It is based as a personal advisor, that presents an exercise recommendations in new way and thus motivate a person for continuation in his/her effort.

DIAGNOSTICS

Since CASRI (Czech Army Sports Research Institute) deals with top-level army sportsmen as well as with other army staff for almost twenty years at the field of biochemistry, anthropology, psychology and physiology. During last 6 years we, step by step, developed a diagnostical system WELLNESS, that is focused on monitoring of health state. In order to simplify whole process of acquiring and elaboration of data - including exercise recommendation - diagnostical system WELLNESS was developed. The idea why the decision was made, came from the needs on acquiring proper and exact information on the actual health state of children in order to create efficient exercise program. Every second person suffers some sort of headache or backpain caused by muscular imbalances. The lack of reasonable motion activity as an compensation to improper and/or insufficient motion activity is considered to be the most frequent reason for these difficulties.



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SYSTEM INTRODUCTORY

WELLNESS project was created to fulfil a few needs.

1. At first, we were looking for simple - but still effective - way of screening health state, in order to avoid later serious diseases, which may appear due to omission of preventive care.
2. The second need concerns objectivity of data collection and its subsequent elaboration. To meet this need the system was arranged into software package. Thus data are evaluated directly by computer and no additional results commentary is required.
3. The next reason is helping people to get informed about their actual state, giving them recommendations how to improve their health and, when some serious health risk was discovered, advising them to the special medical care. We suppose that information offered on daily basis may help to keep up the motivation of patients throughout the whole year.
4. Since the system is computerised maximum simplification of process was emphasised in order to help an operator with its use.
5. The other reason why we created this program was to facilitate a storage of the data about client's health state and physical condition as well as a saving of the basic personal data. And that way decrease amount of a necessary administration.
6. The system is not aimed only to diagnostics. Diagnostics essentially must be followed by the evaluation of optimal exercise program for clients, in order to ensure proper and the most effective workout. This software helps to create an exercise program so as to avoid a danger of damaging client's health state because of inappropriate execution of exercise program.

From the methodological point of view system is based on complex diagnostics which is followed by recommendations how to improve the physical fitness of the most risky parameters.

The system is aimed to the diagnostics of health state and subsequent recommendations of training loads based upon results of diagnostics. That way every single person who was examined knows what he/she should take special care of and, furthermore, how to do it. During last four years the system was verified by more than 6000 patients.

The whole system was developed to be maximum fast and effective. Our approach allows to diagnose up to 12 people an hour according to equipment, with only 5 people of operating staff. When figure of participants doesn't exceed 50 person a day they will receive the results the very same day. It takes less than one hour for patient to get through all examination procedures.

Following parameters are either measured or calculated during examination:
Blood pressure, hand grip, EKG;
Body weight, body height, skin folds, segment perimeters, aspexe;

BMI, percentage of body fat, lean body mass, percentage of muscles and bones, somatotype;
Muscle imbalances;
Total cholesterol, HDL, LD, triacylglycerol, glucose, hematocrit, haemoglobin;
W170, W150 a W130;
risk of CHD, motion activity index;
6 psychological tests;
and more.

EXERCISE RECOMMENDATIONS

The completely new generation of multimedia software at the field of health care is being developed at this time. It is called WELLNESS STUDIO. A workout efficiency is enhanced by video and audio sequences, that allow better understanding to principles of exercise. The software is meant to be used for creation of exercise programs aimed to developing muscle strength, providing body forming and body building and mainly removing muscle imbalances. We have decided to use less common type of presentation of exercise recommendation. CD-ROM disk enables to store a large amount of data and thus present exercise program in revolutionary new way. CD-ROM platform demonstrates exercise programs in form, that include video and audio sequences of proper motion performance and much more additional information in graphical form. This multimedia presentation connect more senses (vision and hearing) and as a result a user can much better empathy into the motion. Entertaining form of software helps to keep the motivation and stick with the exercise routine.

The highly sophisticated part of software is a possibility to evaluate an exercise program base on actual health state with respect to individual differences (muscle imbalances, motion activity index, etc.).

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