

# SCIENTIFIC AND METHODOLOGICAL SUPPORT OF THE ELITE WRESTLERS ON THE BASIS OF SPORTS SCIENCE AND MEDICINE

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The identification of a country with competitive sports and his representatives is global. Through this sustained interest in successful competitive sports very close and complex relationships have grown between the sports and other social sectors in many countries. This is necessary, since the national competitive development activities can only be significant only when there is the direct interaction of the sports organizations with politics, education, business, sport science and the media. In general there are the following requirements for the development of performance in elite sports:

- Federations with a structure oriented towards elite sport
- Experienced coaches
- Training concept oriented toward world's elite
- Infrastructure which promotes performance
- Performance-motivated athletes / team spirit
- Concentration of the athletes / acceptance of training camps
- Optimal organisation of competition performance
- *Team work with partners including - advanced training science*
- *Training control on the basis of a coaching counselling system*

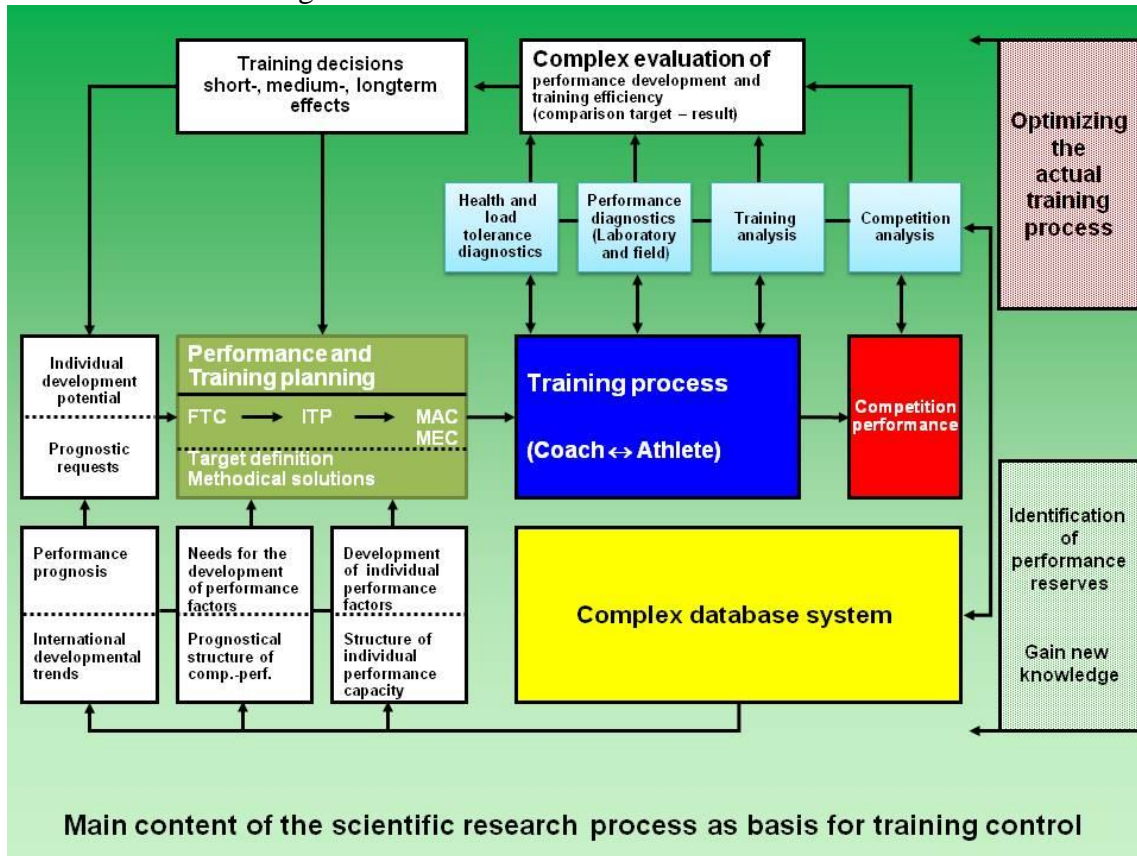
In relation to the scientific support of the elite sport I would like to emphasize the need for two important factors:

- a system of applied training science and research with an interdisciplinary sport-specific approach and
- a system of sports medical care and research

The best way to support the elite wrestlers is through the use of a system of applied training science with an interdisciplinary sport-specific approach. That means the applied training science should be organized together with the coaches and athletes in an interdisciplinary sport specific approach. This includes the scientific disciplines of training science, biomechanics, sports medicine and biochemistry working together on the demands of wrestling for the direct benefit of the athletes. Using an interdisciplinary sport-specific approach with the proper team work, the sport scientists can provide coaches and athletes the following important information and processes:

- planning of various training cycles (team and individual)
- performance diagnostics
- competition diagnostics
- appropriate increase of loads
- regular sport-specific tests (lactate graphs etc.)
- coaches clinics
- analysis of literature to check results of modern training knowledge
- training control process

The training control process is an essential task of the scientific support of the elite sport as it can be seen in the following overview:



To optimize the medical support of the elite wrestlers a medical network should be created with sports medical service as the core element, but also with close links to the researchers, the national team coaches, the elite sports clubs and the physicians in charge of the national and club teams. Some of the main services could be:

- health care
- biochemical measuring values (lactate control etc)
- sport specific ergometry
- determination of biological age
- computer-based monitoring of training breaks caused by injuries etc.
- physio prophylaxis for accelerated recovery
- interdisciplinary research on supportive and motor system
- performance diagnostics
- support of the Anti Doping regulations

Of course the national traditions and needs have to take into consideration. Therefore the Wrestling Federation together with National Universities and Institutes should find the national strategies to organize the scientific support of the training process. In this connection the different national training strategies are important.

For instance in the focus of the US Wrestlers the focus in training and competition is on power and power endurance at expense of technical variety. On the other hand the Russian wrestlers are concentrating on technical superiority, while they have sometimes problems with endurance during five bouts per day. Wrestlers from Cuba are primarily strong in technical and physical abilities, but sometimes demonstrate problems with tactics and psychology. In other countries we have problems with the training conditions, with social problems, structures of the national high performance sports or not enough training partners.

In summary it may be said that coaches and scientists should go together to identify the questions, to find solutions and to solve these problems for the benefit of the wrestlers.