KINANTHROPOMETRY, BODY COMPOSITION AND FITNESS PROFILES OF JAPANESE SOCCER PLAYERS FROM YOUTH TO PROFESSIONAL: AN APPROACH WITH ADVANCED EQUIPMENTS

Hoshikawa,Y. 1), Chuman,K. 2) & Ikoma,T.2)

1) Sports Photonics Laboratory, HAMAMATSU PHOTONICS K.K., Japan
2) JUBILO Iwata, YAMAHA FOOTBALL CLUB CO., LTD., Japan

Japan professional football league (J.league) was founded in 1993 and the national team has qualified for World Cup since 1998. However, Japan has not yet reached the same level with top European or South American countries despite its rapid development. Critical issues for Japanese players to overcome relate to a disadvantage in physique and fitness. Possible solutions may include sophisticated strategies for talent identification and training of young players. However, data on the physical attributes of Japanese players was inadequate to date.

We have measured more than 400 high-level Japanese soccer players from youth to professional. Some of them were analyzed longitudinally for more than 10 years. Body composition was evaluated by air-displacement plethysmography, body shape by three-dimensional photonic scanning, muscle cross-sectional areas by MRI, strength by an isokinetic dynamometer and aerobic capability by OBLA and VO2max. Special topics below will be presented in the context of development and performance.

References
1. Kinanthropometry and fitness profiles of Japanese in comparison with European players
2. Seasonal change of muscle size and body composition in professional players
3. Development in endurance and aerobic power in players at adolescence.
4. Muscle growth and training of young players
5. Muscle growth in relation to sprinting ability