

Biomechanical Based Athletic Potential Assessment System

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Abstract

Athletic records are broken year after year, and the limits of human performance continue to be debated. Just as soon as we think something can't be done, someone comes along and shows us that it indeed can be done. It is revealed that having fast and slow twitch muscle fibers may determine what sports athletes excel at and how they respond to training. Human muscle fiber type may influence what sports we are naturally good at or whether we are fast or strong. Muscle fiber types can be broken down into two main types: slow twitch (Type I) muscle fibers and fast twitch (Type II) muscle fibers. These distinctions seem to influence how muscles respond to training and physical activity, and each fiber type is unique in its ability to contract in a certain way. If it is possible to determine the proportion of these fibers, it helps for the early prediction of human capability for the selection of right event. Slow twitch fibers help enable long-endurance feats such as distance running, while fast-twitch muscles fatigue faster but are used in powerful bursts of movements like sprinting and the proposed a prototype aims at finding which muscle fiber type is predominant and in that way foster the development to improve the capability of individuals, by evaluating the fast and slow twitch muscle fibers. Predominance is found based on analyzing those parameters which differentiates slow and fast twitch muscle fiber. Although many elite athletes are blessed with the right genetics for their sport and a great training routine, even recreational athletes can make the most of their abilities with optimal conditioning.