

的肌纤维数量较多, 股四头肌-股直肌积极放电; 最后用力阶段, 合力在水平方向获得较大的分力; 右侧腹外斜肌肌电信号强度变化显著, 参与收缩的肌纤维数量较多。

研究结论: 李玲在完成动作时个别阶段还存在有技术缺陷, 需进一步改进, 尤其是滑步阶段和过渡阶段与世界优秀运动员相比还有差距, 今后训练中有待加强; 运动期间采集到的肌电信号可以客观地评价积分肌电与肌力大小之间的关系, 可指导专项力量训练实践。在进行专项力量训练的同时, 不妨渗透当今较为盛行的核心力量训练法来强化核心部位。

D-045 李玲撑竿跳高助跑起跳技术的运动学分析

周奕君 王永祥

宁波大学体育学院, 浙江 宁波 315211

摘要: 本文选取李玲在 2008 年全国田径大奖赛萧山站女子撑竿跳高决赛 4.45m 夺冠时的比赛录像, 运用德国 SIMI Motion 影像解析系统进行分析, 并与国内外优秀撑竿跳高运动员技术进行比较研究。研究表明: (1)李玲的最后两步助跑, 倒 2 步步长偏短, 且其倒 1 步比倒 2 步步长长, 出现了“拉大步”现象。(2)李玲起跳时上手握点地面投影点和起跳点的间距较大, 与现代撑竿跳高的技术要求略有偏差。(3)起跳的腾起角度、竿弦与地面的夹角较小, 已达到世界级优秀运动员水平。(4)起跳时间偏长, 插穴时间过早, 与“自由起跳”技术尚有差距。(5)起跳步水平速度损失、垂直速度增加都较小, 是比较合理的起跳技术, 但最后两步助跑的水平速度不够。

关键词: 撑竿跳高; 助跑; 起跳; 运动学

The kinematics analysis of the take-off and run-up technical of liling's

Pole Vaulting

Zhou Yijun Wang Yongxiang

Physical Education college of Ningbo University, Ningbo 315211, China

Abstract : In this paper, a Simi motion image analysis is made on liling's pole-vaulting technique in the National Track and Field Championship held at 2008 in Xiaoshan, and do comparative study with the outstanding pole vaulting athletes at home and abroad . The results show that: (1) The length of Li Ling's last Step 2 is partial short, and the length of last step 1 is shorter than last step 2, it also appears "pull big step" phenomenon. (2) It have a greater distance between ground projection points of the grip point and Take-off point ,and have a slight deviation with modern pole vaulting technical requirements.(3) The take-off angle and the angle between the Pole and ground are small, it reached world-class level of outstanding athletes. (4)The take-off time is long and the plant-take-off time is premature, and still have a gap with "free take-off" technology.(5)The loss of the level speed and the increase of the vertical speed of the take-off step is small, the take-off technology is reasonable, but the final two-step level speed is not sufficient.

Key words: Pole vault; Run-up; Take-off; Kinematics