

Kicking Test. After conducting the MVC test, the subject was asked to perform several sets of kicking in randomised order. The kicking style included the preparation form of kicking, kicking to the head level and kicking to the waist level in different styles of kicking (Table 2 and Figure 8, 9).

Table 2

The Kicking Style Performed in the Kicking Test

	Kicking style
1	Turning kick
2	Front turning kick
3	Reverse kick
4	One step side kick
5	Front side kick
6	Back kick
7	Pushing kick
8	Slap kick



Figure 8. The figure shows the standing preparation of kicking. The subject will use his back leg for kicking.



Figure 9. The figure shows the pushing kick at the waist level. The number “1” means the first trial of this style of kicking and the letter “D” indicates the kicking sequence belongs to D series.

Training protocol The design of the training protocol focused on two areas. The first one was muscle strength. The results obtained from EMG analysis provided the information about the muscle activity during kicking. According to the degree of contraction, a muscle strengthening exercise was designed by using the Cybex NORM (isokinetic machine). The second focus was the techniques of kicking. The results obtained from motion analysis provided kinematics information on kicking. Such data were useful in improving the kicking technique and kicking effectiveness.