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## **Functional performance deficits in speed and change of direction in athletes with and without chronic ankle instability**

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## Functional performance deficits in speed and change of direction in athletes with and without chronic ankle instability

**Objectives:** To quantify how chronic ankle instability (CAI) may influence sprinting speed, change of direction ability, ankle strength and range of motion (ROM). **Design:** Case-control study, **Methods:** One hundred and six athletes were divided into two groups as either having CAI (n=53) or no CAI (n=53). Athletes performed 3 functional performance tests of 30-meter sprint test, Modified Illinois change of direction test and change of direction test. The time taken to complete the test was recorded using digital stopwatch. ROM for dorsiflexion was measured using weight bearing lunge test (WBLT) and inversion, eversion and plantarflexion using Saunders digital inclinometer. Strength was assessed using Baseline hand held dynamometer for plantarflexors, dorsiflexors, invertors and evertors. In addition to this two functional tests -single heel raise test (SHRT) and Modified single heel raise test (MSHRT) were also teste, **Results:** The CAI athletes showed significantly worse performance in the 3 functional performance tests in comparison to the athletes without CAI. ( $p < 0.001$ ). They also revealed reduced dorsiflexion ( $p < 0.001$ ), plantarflexion ROM ( $p < 0.004$ ) as well as reduced ankle invertor ( $p < 0.001$ ) and evertor strength ( $p < 0.001$ ). Within group comparison between the lower limbs of CAI athletes showed reduced eversion ROM in the injured ankle ( $p < 0.01$ ). **Conclusions:** CAI athletes displayed reduced functional performance in speed and change of direction tests as compared to non CAI athletes.