Do long jumpers with below the knee amputations have an advantage or disadvantage or it is not possible to compare the achievements of long jumpers with or without prostheses? An international study dealt with this question. The results of their comprehensive research have just been published.

The study was carried out in 2016 with the aim of comparing the athletic achievements of the long jumper, Markus Rehm, a below-knee amputee, with those of non-amputee athletes. The results aim to clarify whether or not he should be allowed to compete against non-disabled athletes at national and international competitions. Initial results were presented in June of last year. More extensive results have recently been published in the journal Scientific Reports.

We show that athletes with a below the knee amputation (BKA) utilize a different, more effective take-off technique in the long jump, which provided the best athlete with BKA a performance advantage of at least 0.13 m compared to non-amputee athletes. Athletes with BKA had 7.6% slower maximal sprinting speeds of 8.89–9.98 m/s (mean: 9.38 m/s), compared to non-amputee athletes, who achieved top sprinting speeds of 9.46–10.64 m/s (mean: 10.15 m/s). A maximum speed constraint imposed by the use of running-specific prostheses (RSP) would indicate a performance disadvantage for the long jump. We found slower maximum sprinting speeds in athletes with BKA, but did not find a difference in the overall vertical force from both legs of athletes with BKA compared to non-amputees.

You can read the more detailed results here

Press Release
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Cologne, 23/11/2017

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