

Sammanfattning – Performance in golf putting

Introduction

Putting, which accounts for about 40 - 45 % of shots in elite golf, is a complex skill. To perform in putting an elite player needs to master green reading, putter aim and technique. Mental skills, equipment and strategy may also affect performance. Although several research papers have been published on the subject of putting, only a few focus specifically on putting performance. The aim of the thesis is to investigate different factors affecting performance in golf putting for elite players, and to compare the importance of those factors.

Methods

A total of 190 players participated in five studies. Twenty-two of the subjects have played professional tournaments on the highest level in US or Europe, and 76 % of the players had a handicap of five or better. A 3D-kinematical putter analysis system (SAM PuttLab, Science&Motion GmbH, Germany) was used in a lab situation to investigate technique (Paper I), putter aim (Paper II), and how putter aim is affected by putter head design (Paper III). A new method to record putter aim was also developed (Paper II). Shaft weight influence on putting accuracy (Paper IV), and the determinants of distance variability (Paper V), have been investigated outdoor on regular putting greens.

Results Direction variability (expressed as SD) caused by putter aim and technique for scratch players, was 0.92 and 0.54°, respectively. According to a variance analysis direction variability caused by green reading for a scratch player was estimated to about 1.3 - 1.6°. Club players rated mallet putters easier to aim with than blade putters, despite aiming blade putters more consistently (less variability). Putter shaft weight did not have any influence on putting accuracy, but club players hit the ball systematically shorter with heavier shafts. Preferred shaft weight according to subjective ratings was about 250 - 300 g combined with a 310 g putter head. A conservative estimate based on a variance analysis, showed green reading (60 %) to be much more important for distance variability than technique (34 %) and green surface inconsistencies (6 %).

Discussions/conclusions

In contrast to what is stated in the instructional literature and elite player practice, green reading seems to be much more important than technique both for precision in distance and direction. Equipment has little influence on putting performance, but putter fitting is anyhow recommended since any possible gain in performance can be achieved relatively easy. It is recommended that elite players should give high priority to green reading training, and coaches should focus on developing good methods to train green reading skills. Future research on the combination of green reading and mental preparation for the shot in the pre shot routine is suggested as the most important area for future research regarding elite performance in putting.