

# A COMPREHENSIVE DESCRIPTIVE AND PERFORMANCE PROFILE OF NCAA DIVISION I FEMALE GOLFERS

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## Introduction

Golf requires athletes to possess adequate levels of flexibility, hydration, and muscular strength along with vertical, horizontal, and rotational power. All of these measures are likely important when it comes to generating club head speed (CHS) which determines the distance a ball travels. Furthermore, the majority of golf research has focused on male performance with less research focusing on female performance. Therefore, the purpose of this study was to provide an in depth descriptive and performance profile of National Collegiate Athletic Association (NCAA) female golfers.

## Methods

Data for 10 NCAA Division I female golf athletes were assessed on a number of performance variables as well as descriptive data for this particular team. Body composition was assessed by measuring height (m), weight (kg), and body mass index (BMI; m/kg<sup>2</sup>). Vertical power was assessed using a countermovement jump (CMJ; cm) with peak power (PP Watts) calculated based on CMJ performance. Horizontal power was measured with a lateral bounding task from the dominant (D-LB) and non-dominant (ND-LB) limbs. The 'Sayers Equation' was utilized to estimate peak power output from jumping tasks (Peak Anaerobic Power Output = (60.7 x jump height (cm)) + (45.3 x body mass (kg)) - 2055). Pelvic rotational power was recorded using a linear positioning transducer (Tendo Sport, Tencin, Slovak, Republic) at three different loads (12%, 15%, and 18% of body mass) entered into a Keiser Functional Trainer (Keiser Corporation, Fresno, CA) with the cable from the Keiser attached to a What's That Strap (Progressive Resistance Inc.) to allow for a simulated golf swing and measurement of power at the pelvis. Normal CHS (NCHS) and fast CHS (FCHS) was determined using a Trackman. NCHS is the CHS generated during a swing typically taken off the tee by the golfer and FCHS is the CHS generated by the player when instructed to swing as fast as possible.

## Results and Discussion

Overall, NCAA female golfers on this team have normal to slightly above average BMIs, excel at expressing power vertically (29.48 W/kg), horizontally (58.83 W/kg), and in the transverse plane (3.14 W/kg). The specific gravity measure of hydration was within the normal range, the hand grip strength was above average for the dominant and non-dominant hand, sit and reach flexibility was excellent and the normal CHS and fast CHS were equal to players on the LPGA tour.

## Significance

Male and female competitive golfers today are aware of the role that fitness plays in performance. They participate in strength and conditioning on a regular basis in order to delay the onset of fatigue, hit the ball further, and manage the tasks required to be successful on the course. For college golfers the load carriage is also something to consider as they are responsible for their own bags. No caddies or carts are allowed. Furthermore, golf specific strength and conditioning programs assist in limiting physical weaknesses a player may possess. The collection of more of this data is planned and will provide a better sample from which to derive comparisons.

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