Introduction

• With the advances in golf technology over the past couple decades, golf has become a game of power and distance.
• The “body-swing connection” has recently become a hot topic in the golf industry as numerous studies have examined the body’s connection to the golf swing.
• Experts at the Titleist Performance Institute state that the body should be efficiently optimized to deliver maximal speed to the golf ball at impact.
• Electromyography studies have demonstrated that the abdominal obliques are the most active trunk muscles during the acceleration phase of the downswing.
• Kinesiotape (Kt®) tape is stated by KinesioTaping International to improve strength when applied to a muscle from muscle origin to insertion.
• It is unknown if Kt® application can assist with golf swing.

Objective

• Evaluate the resulting effects of KinesioTape® (Kt©) application to the external oblique on club head velocity and total driving distance on low-handicap collegiate golfers.

Methods

• Within-subjects repeated measures design with three conditions: application (Kt©), segmental Kt© (Kt©seg) application, and non-application (control).
• Inclusion Criteria:
  • Male and female golfers ages 18 to 45
  • Established USGA handicaps of 12 or better
  • Willing to meet with researchers at FGCU PGM Lab
  • Presently enrolled in the PGM Program at FGCU
• Exclusion Criteria:
  • Injury within the past month
  • Allergy to non-latex hypoallergenic adhesive
• The sample consisted of 20 low-handicap golfers recruited from the Professional Golf Management (PGM) Program at Florida Gulf Coast University (FGCU).
• Comparisons were made based on two outcomes of interest: club head speed and ball distance.
• This study was approved by the FGCU IRB #S2015-27

Results

Final Analysis

• Hypothesis testing to detect statistically significant variations in club head speed within subjects under the three conditions, i.e. - Kt©, segmental Kt©, and no tape, yielded an F statistic = 0.81, p = 0.46 (df = 2).
• Testing to detect statistically significant variations in ball distance within subjects under the three conditions noted above yielded an F statistic = 0.05, p = 0.94 (df = 2).
• These results confirm the null hypothesis that there are no statistically significant differences in performance, as measured by club head speed or ball distance, when Kt© or segmental Kt© is applied, as compared with no tape.

• Participant Demographics and Performance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Males (n = 18) Mean</th>
<th>Females (n = 2) Mean</th>
<th>Total Sample Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>19.80</td>
<td>23.00</td>
<td>21.40</td>
</tr>
<tr>
<td>Club Head Speed Kt©</td>
<td>104.61</td>
<td>83.62</td>
<td>94.12</td>
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<tr>
<td>Club Head Speed Segmental Kt©</td>
<td>98.14</td>
<td>83.35</td>
<td>90.75</td>
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<tr>
<td>Club Head Speed no tape</td>
<td>104.74</td>
<td>83.45</td>
<td>94.30</td>
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<tr>
<td>Ball Distance Kt ©</td>
<td>253.68</td>
<td>187.87</td>
<td>220.78</td>
</tr>
<tr>
<td>Ball Distance Segmental Kt ©</td>
<td>236.15</td>
<td>194.17</td>
<td>215.16</td>
</tr>
<tr>
<td>Ball Distance no tape</td>
<td>250.56</td>
<td>207.83</td>
<td>229.19</td>
</tr>
</tbody>
</table>

• Results of Hypothesis Testing, n = 20

<table>
<thead>
<tr>
<th>Variable</th>
<th>F Statistic</th>
<th>Significance Level</th>
<th>Hypothesis df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Club Head Speed</td>
<td>0.807</td>
<td>p = 0.483</td>
<td>2</td>
</tr>
<tr>
<td>Ball Distance</td>
<td>0.052</td>
<td>p = 0.949</td>
<td>2</td>
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</tbody>
</table>

Discussion

• Neither club head speed nor resulting ball distance improved with the application of Kt©. Potential reasons include:
  • the predetermined sample size (43) was not able to be met, and the sample size used to obtain preliminary data (20) was insufficient to capture the estimated effect size.
  • the application of Kt© will not insure an accurate ball strike on every swing.
• Further research is indicated to determine the effect of the warm-up, number of swings taken, and the resulting club head speed.
  • It is important to note that not all participants conducted the warm-up as prescribed.
  • Best research results may occur with swings taken on sequential days with a controlled number of swings during each testing session.

Conclusions

• While no statistically significant results were yielded, it is the authors’ belief that Kt© still may have beneficial performance enhancements for the golfing population.
• While potential performance enhancements while using Kt© is controversial, multiple studies have shown improvements in strength and power output.
• It remains unclear if a proper sample size of participants or different methodology would have affected the data measuring the impact of Kt© application on improving club head velocity and resulting distance.

References: See Handout with Reference List