



SPECIAL
POINTS OF
INTEREST:

- “Stack and Tilt”:
A Review
- TGA Seminars



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Let's Review the Science - Stack and Tilt

An extract by Robert Neal

Much has recently been written in popular golf magazines (Plummer & Bennett, 2007a, 2007b, 2007c), about the “new tour swing” advocated by Mike Bennett and Andy Plummer (B&P). It certainly is a “hot” topic in the United States and I can imagine that it (as well as Plummer & Bennett) is receiving plenty of publicity in other parts of the world. I am convinced that these two coaches are providing their players with the necessary support and input to help them become successful: they must be doing something right or they would not be popular! While I am not trying to shoot down these two men and I have no personal axe to grind with them, I do get frustrated when coaches advocate movement patterns and swing mechanics that are not true! In this short article I will address the key principles and foundations of the

Stack & Tilt method and provide evidence to either support or refute the propositions.

Here is a list (taken from the various articles that have appeared in the popular golf magazines this year):

“The most efficient swing is one in which the golfer stays centered over the ball during the backswing, while keeping his weight on the front foot”.

This claim hardly makes sense and is nonsense! Firstly, no measure of efficiency is ever provided (remember that efficiency is defined as the ratio of work done:energy expended). Secondly, what does “centered over the ball” actually mean? Lastly, no golfer (let alone tour players!) keeps his or her weight on the front foot! Everyone transfers weight during the backswing!

If there was no weight on the backswing, then it would be impossible to push with the back foot (it would have nothing to push against and therefore no force could be applied to it!).

“There is no effort to transfer weight”

In order to move the body, work must be done and therefore, energy must be expended. Thus, there is effort (work) required to transfer weight.

“At setup, there should be 60% of the bodyweight on the front foot”.

This statement could well be true!

CONT. pg 2.



Watch this Space...

A great new offer for golfers will be available at the Doral Resort and Spa (Miami FL) from January 2008. The integrated sports science based programs will include, Golf BioDynamics 3D Swing evaluation and BioFeedback Training, Golf Specific Fitness Assessment, Pilates, individualized exercise prescription as well as instruction from a Jim McLean Teaching Professional. Designed for performance enhancement, the holistic program will be among the first of it's kind offered at a Resort facility.



Cont. Stack and Tilt...



Swing Teachers Andy Plummer and Mike Benet with their pin-up golfer Aaron Baddeley

It's easy to see golf not as a game at all but as some whey-faced, nineteenth-century Presbyterian minister's fever dream of exorcism achieved through ritual and self-mortification.

Bruce McCall

"The centers (the centre of the shoulders and the centre of the hips) should lie in a vertical plane (as viewed from front on) and should remain vertical throughout the backswing and downswing".

In Figure 1 (pg 3), I have drawn these "centers" at three points (address, top of the backswing and impact) for the swing of Aaron Baddeley. You can see clearly that they do not remain vertical (green line) throughout the swing. The data from hundreds of tour players are consistent with the pictures that I have chosen to show of Baddeley, though there is variation. In fact, most tour players have a slight tilt of the pelvis, upper torso and spine to the right (right side lower than left) at setup and at impact. I have published the range of values for these three tilts (Neal, 2004) and they are 0-3° (pelvis), 7-13° (upper torso) and 0-10° (spine). The spine value is the difference between the tilt of the upper torso and pelvis.

"The spine needs to tilt to the left (toward the target) on the backswing (so that the weight remains "centered") the right leg straightens during this backswing movement and the left shoulder moves down".

During the backswing, the back knee (right knee for right hand golfers) may extend slightly but it rarely straightens completely. Thus, at the top of the backswing there is still some flexion in this knee. It is interesting to note that since the pelvis is being rotated in an oblique plane (i.e., it is angled at between 20 and 30° to the horizontal), the back hip joint is higher than the front one, with a tilt to the left (e.g., left hip lower than right for right hand players) of approximately 10-15°.

"Some people say our Stack & Tilt Swing is a reverse pivot because the weight doesn't shift to the right on the backswing. But why would you shift to the right when you know you have to be left at impact? Not even the pros are good enough to do that and get back to the ball on a consistent basis".

The data from Langdown (2007) clearly show that there is substantial weight transfer during the golf swing and that professional golfers are very consistent in transferring their weight. In fact, Jacobsen et al. (2005) in a study of NCAA golfers showed that those golfers with the highest skill level (as measured by their golf scores) had the most consistent

patterns of weight transfer during the swing.

"During the follow-through, the torso flexes forward and the butt tucks under the back. The spine tilts away from the target for the first time and has a C-shape appearance".

This statement makes no sense at all! The classic C-shape appearance comes about with extension of both the lumbar and thoracic spines. Tucking the butt under is normally described as posterior pelvic tilt by the physiotherapists and creates flexion of the lumbar spine.

For the complete article and list of references see our website:



www.GolfBioDynamics.com

'The Sleepy Hollow Experience'



Top Teaching Professional, Kevin Sprecher (far right in photo), who is based at Sleepy Hollow Country Club (NY, USA) during the summer months and The Jim McLean Golf School in Miami during the winter, has hit upon a winning formula for his members. Called "The Sleepy Hollow Experience" the 4 hour session provides four members with an in-depth evaluation of many aspects of their technical and physical game. The 'experts' work one-on-one with the

students assessing the following areas : Kevin (video review and club fitting); Rob Neal (3D Analysis and BioFeedback), Karen Harrison (Footwear and Gait evaluation plus 3D BioFeedback) and Scott Reilly, personal trainer (strength and flexibility evaluation and exercise prescription). A terrific program that integrates the technical aspects of the game with sports science support and leaves the student with an improvement plan for the season. Follow-up instruction and Biofeedback is recommended. While the idea may catch on in other private clubs, it is at the moment, unique to Sleepy Hollow CC. Well done, Kevin!

Stack and Tilt Images—Aaron Baddeley

Figure 1.

This figure was extracted from video taken during a practice day at the WGC event in Miami (Mar-2007). It is hard to imagine that the load (weight) on the left leg remains constant during the entire swing, particularly in the impact frame!

(Note: The dots were drawn at the anatomical landmarks of the hip (blue) and shoulder (red) joints and then a green line was drawn between the centre of the hips and shoulders, as described by Plummer & Bennett).



2007 Sth FL PGA Symposium

South Florida Sectional Education Chairperson and Jim McLean Golf Schools Director of Instruction Chris Toulson has lined up a great panel of speakers for this years Sectional PGA Teaching Symposium. The line-up of speakers which includes Rob, boasts 4 of the top 50 instructors in the US. It will be held at Weston Hills Country Club in Weston (just 30mins north of Miami) on 23rd and 24th September.



TGA Seminars 2007/8

The Golf Athlete
 London England
 25th & 26th Oct Level I
 London England
 27th & 28th Oct Level 2
 Copenhagen Denmark
 30th & 31st Oct Level I
 Adelaide Australia
 24th & 25th Nov Level I
 Brisbane Australia
 1st & 2nd Dec Level I
 New York NY
 19th & 20th Jan TBC
www.thegolfathlete.com

Highly Recommended Course
Long Term Athlete Development
 London England
 20th and 21st October 2007

Before and After BioFeedback...

As you know, we are compiling a procedures manual for Bio-Feedback parameters — we would like to hear about some of your success stories both with elite players as well as with average golfers.

Our photos (right) of Brigitte demonstrate her posture at the time of initial testing and following intervention. Convinced that she was in the posture

her coach had recommended, Brigitte was unsure and resistant to changing it! We used biofeedback to reduce her 'Hip Bend' value from 25 degrees to 18 degrees and suggested a little less knee bend. To us, this seemed like a very minor alteration in posture. However, this change of just 7-8 degrees felt so foreign and uncomfortable to Brigitte that she was not convinced until she saw the photos!



Before BioFeedback (Left) and After BioFeedback (above).



Testimonial

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Swing excellence through 3D technology

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"...Through my work for Jim McLean at The Doral Resort & Spa in Miami, during the last 9 winters, I have been introduced to Doctor Rob Neal, who is The CEO of "Golf BioDynamics". They have their headquarters at "The Jim McLean Golf Schools at Doral" in Miami Florida. "Golf Bio Dynamics" is a training concept that really pays attention to details in the golf swing. It measures the body in its rotations, side ways and up and downward movements and the speeds that these movements appear in the swing. In the system, you can see yourself in 3D. After a test and a comparison to one of around 150 tour pro's, that they have measured, the most important areas to work on will be pointed out and now the system will be set up to "Feedback training mode". It means that if you for example turn your hips too far in the backswing, a sound system will be connected to the sensor placed on your hips. This sensor will send information to a computer, that will start to beep, when your hip rotation is in a great corridor, compared to where the pro's are. In this way you can both feel and "hear" the new movement and that really speeds up the process of learning a better motion. The concept is in my humble opinion fantastic!!!!!!..."

Anders Dahl Christiansen
Danish Men's National Coach
Lead Master instructor & partner,
Nyholm Golf Academy
Jim McLean Master Instructor



Dream Weekend in Mont Tremblant



A perfect setting for a weekend of golf—stunning Mont Tremblant just 1½ hrs north-west of Montreal, Canada. A ski resort in the winter and golfer's paradise for 4

short months! Entrepreneurial Teaching Professional Pierre Brisbois gathered an exceptional team of experts to deliver a holistic approach to improving one's golf game.

Golf BioDynamics representatives Robert and Karen, Sports Psychologist Wayne Halliwell, Posturologist Paul Gagné (from the Leadbetter Academies), and Pierre were the key members of the teaching staff. Some of his junior

players were "caddies" for the weekend and they assisted both the coaches and the participants.

Each day of the 3-day weekend started with 45 min of exercises followed by a light (healthy) breakfast. Many different aspects of golf were touched on including ball-striking, mental preparation, experiences from a tour caddie, pitching and of course, individual biofeedback sessions. The students felt very "special": not at all like a school! Pierre did a tremendous

job in providing sufficient variety and challenge to keep people interested and not too fatigued. It sounds easy but it is not!

The lessons learned from this weekend are valuable for all team members including the efforts required in planning (down to the last detail!), follow-up (emails, phone calls etc.) and ensuring that each and every participant left knowing their key issues and the drills, activities and progressions needed to change these parts of their golf game.



The Le Maire Golf Course, a Clublink facility was our location for the weekend.



The group of students and instructors participating in the 'Dream Weekend' activities.



DREAM WEEK-END DE RÊVE

ÉLEVEZ VOTRE NIVEAU DE JEU
DANS LA PEAU D'UN JOUEUR DE LA TOURNÉE
POUR UN WEEK-END DE RÊVE

LIVE THE LIFE OF A TOUR PLAYER
AND LEARN TO BE YOUR OWN BEST COACH
FOR A DREAM WEEKEND!

July 6 - 8 juillet
2007

PARTICIPANTS
3 JOURS / 3 JOURS
1 595\$
1 795\$

À LA CARTE

2005
2005
2005

INFORMATIONS & INSCRIPTIONS
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