



CRYSTAL MOUNTAIN GOLF SCHOOL



David travels to Crystal Mountain Resort & Spa in the northern American state of Michigan to get his golf up another notch.

BY DAVID J. WHYTE IMAGES COURTESY OF CRYSTAL MOUNTAIN RESORT & SPA

Playing at Carnoustie once a week with as many rounds at my local municipal course as time would allow, I soon claimed a handicap of 18. Over the ensuing two decades I manfully wrestled it down to a wavering 12 - never quite managing my solitary digit objective. I took numerous lessons and came away believing that golf tuition was the key to real improvement. Each time the teaching professional would detect a flaw and crank my swing back into shape and, for a few ecstatic moments I zipped balls towards their intended target with effortless ease.

But alas, it never lasted. Once away from the mentoring gaze of the pro, usually out on a golf course, the default devil would return. I would over swing, straighten my right leg, come down too steep, cast and quit on the follow-through, so how could I cajole such a wayward lunge into a steady, rhythmical, repeatable swing?

Crystal Mountain Golf School is one of the top 25 teaching establishments in the United States. The resort is outstanding; that's 'Crystal' clear as soon as you pass through its gates, but I was here to learn what Brad Dean, its PGA director of golf, had to say about my golf swing.

"You've got issues," was his instant assessment of my errant efforts as if the condition was permanent or worse still, terminal. I claimed jet lag but there was no point in looking for excuses. Brad Dean is one of the most respected golf teachers, certainly in the Midwest and beyond. Using Biomechanics in his training program, he has coached numerous junior elite players towards golfing glory and has a steady stream of experienced players looking to make marked improvements.

On the Crystal Mountain Golf School range, Brad set up a multi-coloured, plastic cage that I wrongly assumed I was to get into. It was there for calibration purposes and he videotaped my swing from different angles. "We'll send this information off to New York tonight and get the Biomechanist's feedback," he informed me. I had never heard of a 'biomechanist' before and suspected the name was another of those wonderful American derivations; "Two nations divided by a common language," and all that.

Biomechanics is a system based on gathering research-level information about an individual's physical movements. This can be applied to most sports such as baseball, lacrosse, diving and golf. Proprietary software analyses the video session and produces a performance profile, a series of bell-graphs illustrating how effectively the player utilises his or her body. It's like going for an X-ray or having a blood profile done and getting the results.

A company in New York called ZenoLink provides the technical wizardry. Chris Welch, a biomedical and biomechanical engineer created the system some years ago and golf has proved an ideal medium. Since Welch introduced the service, coaches such as David Leadbetter, Jim McLean and Sean Foley have used it with their students to remarkable effect.

"Sean does not look at me as a golfer," said Justin Rose recently. "He looks at me as an athlete and from a biomechanical point of view. He is not necessarily wrapped up in what makes a swing pretty. He wants what works for me from a scientific point of view."

The next morning I went back to the Crystal range to find out how bad things were, and if there was any hope of a cure. Brad had already received the results from ZenoLink and briefly took me through them. To be honest, such intricate information is not the sort of thing you can absorb in one sitting. The team at Crystal Mountain is experienced in interpreting these results and recommending the required course of treatment.

I took to the practice range again, this time with PGA Head Professional, Mike Cote who has worked with Brad and Crystal Mountain Golf School since

2002. The pair had obviously discussed my case and Mike was tasked to address one or two of my more outstanding faults. This was much like a regular golf lesson with Mike tackling issues like my straightening right knee coupled with an upright swing plane.

I told Mike I practiced regularly and couldn't understand why I didn't improve. Looking at my swing his comment was gratefully poignant; 'Practice Makes Permanent.' These guys don't pull punches! With a few minor adjustments I began to hit better balls as I had done under the watchful eye of other instructors in the past. Again, I wondered; 'Would it last?'

PROGRESSIVE SKILLS TRAINING

Next I was paired with Scott Wilson, director of instruction, a man recognised for his efforts to grow the golf game with junior golfers in Michigan and who has been a teacher here at Crystal since 1996. It was apparent I was dealing with a team of specialists - individuals focusing on particular aspects of my recovery program.

Zenolink had sent back a specific series

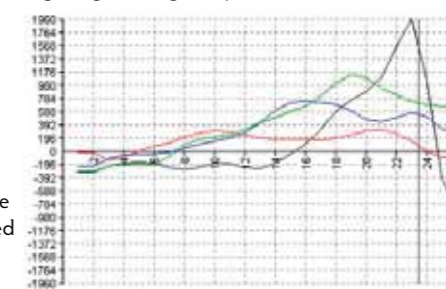
of exercises designed to address areas of weakness. Scott painstakingly took me through the prescribed PST (Progressive Skills Training), recommending "3 sets of 10 every other day. You can do this in the office," he told me, "in a hotel room or before you go on the golf course as a warm up."

Using a taped-up towel, an impact bag and a small-sized exercise ball between my knees, I went through the reps and quickly realised how the drills were isolating and strengthening areas of weakness as well as improving my overall golf movement. The instructor makes sure you feel specific changes such as the twist in your torso or a lateral movement of your midriff through the downswing.

A couple of hours later I left armed with my PST, access to my own Zenolink account and a better understanding of my swing and how it needed to change. Two months down the line and I have to say, the Biomechanics analysis and course of treatment has had a profound effect. I know there will be a tendency to return to my dysfunctional default but armed with my PST exercise sessions, I now have the methodology to change it - gradually and permanently.

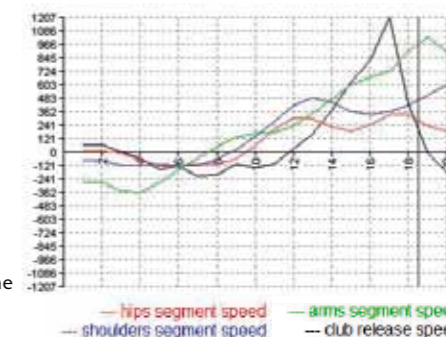
NORMAL GRAPH COMPRISED OF DATA ON PGA TOUR GOLF PROS FROM 1995 - 2011

The Kinetic link graph essentially measures the power generation process and the coordination of each body segment during the golf swing. Every Kinetic link is measured from the ground up and you can see that the tour professional exhibits a clear transfer of energy transfer from one body segment to the next ultimately resulting the club head impacting the golf ball at nearly maximum speed. You can see from this graph that the tour pro is uses the majority of the speed that was created during the swing at impact.



DAVID WHYTE KINETIC LINK GRAPH

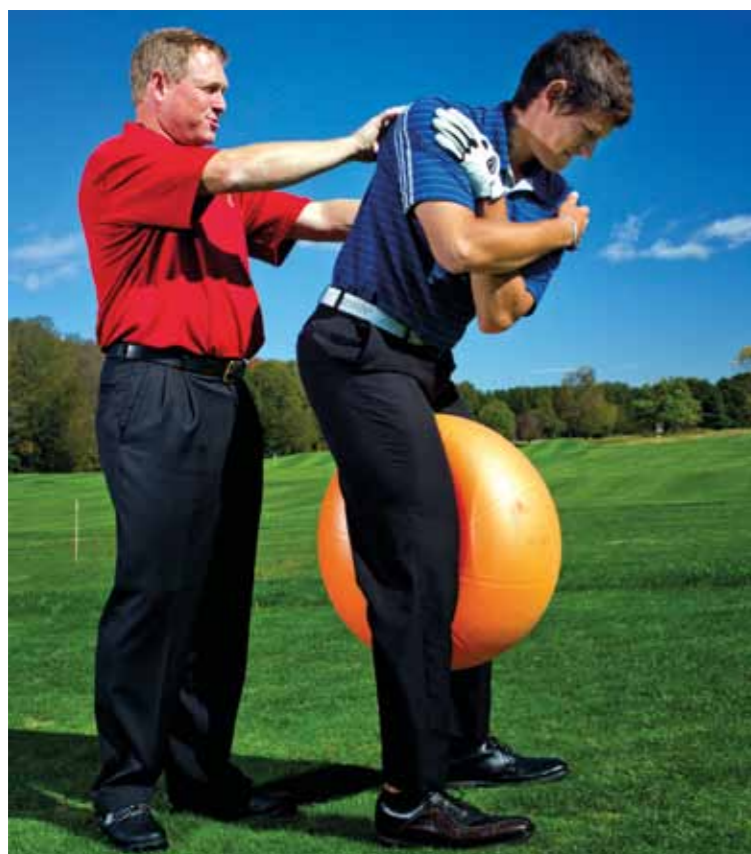
David's kinetic link graph shows us that his swing is initiated by the arms segment. The lower body and shoulders segment then kick in basically at the same time. We then see that the club is released prematurely robbing David of the power that he created at the time the club impacts the golf ball.



BIOMECHANICAL TRAINING

The golf director at Crystal Mountain Golf School not only teaches biomechanics but believes it's the best way forward for amateurs and professionals alike.

BY BRAD DEAN, DIRECTOR OF GOLF AT CRYSTAL MOUNTAIN GOLF SCHOOL



BRAD DEAN

Age: 45
Years turned pro: 1989
Credentials: Michigan PGA Teacher of the Year 1999, 2001, and 2011. Michigan PGA Golf Professional of the Year 2003. Michigan PGA Merchandiser of the Year 2008.

Nine time Winner of the Northern Michigan PGA Chapter Championship Played in the 2008 PGA Championship at Oakland Hills

What we are doing here is integrating the pattern of how the body's supposed to move along with how the golf club is supposed to work within a swing. A lot of schools deal with grip, posture, ball alignment; the fundamentals and that's great but Biomechanics goes a bit more in-depth.

The problem is, when you're on the golf course, tension comes into play and that's when most people revert back to bad golf swing habits. We slip back into these very easily. You need a program that will permanently establish the correct components within this fairly complicated movement so that you can take your swing to a golf course under pressure.

Zenolink's report gives us a breakdown of four pieces of movement known as the Kinetic Chain; the movement of hips, shoulders, arms and club shaft. How do these work in the swing? Compared to the near-perfect sequence of a tour player, you can see on an average golfer's chart where things go wrong.

Mostly we are looking at the downswing in the graphs and the corresponding numbers. These represent what happens from the start of the downswing to the ball, in other words the sequencing into impact. You end up with two major components, angular speed and linear speed.

Angular speed is like snapping a towel,



cracking a whip or hammering a nail. You create an angle and then release it. Linear speed is the clubhead speed as it comes into contact with the ball. Most people have a better sense of creating linear speed. The problem is, it's not always applied in the right place.

BioMechanics lets us look at these elements within the profile of a golfer's downswing. In a proper swing, the hips should start and at that point you should see the shoulders and arms below the line, soft and passive. Having initiated the swing, there's a point when the hips slow down and the shoulders pick up speed. Then the shoulders brake and allow the arms to increase speed before the club shaft finally snaps at the ball. The graphs allow us to see how well a player is sequencing these four events. Or, more importantly where it is going off.

The graphs provide a lot more information such as "Hip Segment Rotation" and "Rate of Hip Rotation". You can really get into detail especially with experienced players looking to improve an already good swing. But ostensibly

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for most golfers, an initial session and Biomechanics report will set them on their way to major improvements.

Chris Welsh at Zenolink designs an exercise program – PSTs designed specifically for each individual. The exercises help to synchronize the components of the swing and help you permanently change your movement pattern. Here at Crystal Mountain Golf School, we work with the student to make sure they understand and do the exercises properly. We can review everything on a regular basis but it's mainly up to the golfer to work through the PSTs and progressively, over time, change their movement pattern.

The PST practice plans are fairly simple. Three sessions a week going through the recommended exercises will make progress within even a couple of weeks. It takes a little longer to break neuromuscular issues, usually around 6 to 8 weeks but after a couple of months you will see a marked improvement.

Biomechanics not only helps golfers improve their golf swing, it also improves the way their body moves. This helps prevent injury, which is really important. A lot of golfers have bad backs because they're exerting themselves in ways they shouldn't. We've found it's the most efficient way to teach golf. What it does is helps to create golfers for life. ♡



CRYSTAL MOUNTAIN RESORT & SPA

Northern Michigan, where Crystal Mountain is located, has a near-perfect summer climate. Surrounded by two of the five Great Lakes of North America and on the same latitude as Nova Scotia and Oregon, it is rarely too hot to golf.

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CRYSTAL MOUNTAIN RESORT & SPA

Being this far up north has its advantages. For one, there are extended daylight hours, which means a couple of extra golfing holes before calling it a day. And that is where Crystal Mountain Resort & Spa, is at.

Rated the finest resort in the Midwest and 30 miles southwest of Traverse City, tis is the perfect escape for a family golf vacation. Crystal Mountain's array of exciting activities makes it ideal for both young and old and for the golfers, its two courses, Betsie Valley and Mountain Ridge are easy-going with plenty of room to fit all levels of play.

A short drive away, Traverse City is the ideal access point, its 'Cherry Capital Airport' linking to international hubs such as Detroit or Chicago. This is a bright, lively lakeside community on the shores of Grand Traverse Bay with long sandy beaches and lots of bracing waterfront action, which makes day trips to and from Crystal Mountain an easy ride away.

The city has cultural leanings with museums, art galleries and the nearby Interlochan Centre for the Arts. But the one thing that really sets Traverse City apart is its food. There is a host of excellent restaurants throughout the town, so much so that Traverse City has is also well known as the 'No. 1 Foodie Town' in the USA.

This is also Michigan's primary wine-producing region with a sandy sub-soil and good drainage that produce some remarkably fresh, clean-tasting, highly drinkable wines. Such conditions are also ideal for building golf courses.

A significant boom started here in the mid-1980's with designers such as Robert Trent Jones Sr., Arnold Palmer and Jack Nicklaus leading the way to make this one of America's finest - if perhaps lesser known - golf get-away.

For more information on Zenolink and Biomechanics, visit www.zenolink.com. For further information about Crystal Mountain Golf School visit www.crystalmountain.com/golf/golfschools

