Elite Insider Circle
Monthly Handicap Improver
April 2016

Hello Fellow Golf Enthusiast,

This is **Jaacob Bowden**.

I assume many of you watched the **Masters**. What a dramatic event it was!

Ernie Els had a 6-putt on the very first hole.

Amateur Bryson DeChambeau was in contention through Friday. As a unique character, he was getting a lot of attention and he was also bringing a lot of media focus to the **single length iron concept**.

It was cool to have **58-year old Bernhard Langer** start Sunday with **a chance to win**. It definitely **wouldn't surprise me** to **see a player in his 50s or even 60s win a major** in the **next 10 years**.

There were **three hole-in-ones** and **numerous chip-ins** from the **"Tiger spot" on the 16th hole** on Sunday. It was exciting to see **Louis Oosthuizen** get his hole-in-one from a **ricochet off another ball**…which **almost knocked the other ball in** as well!

Of course, there was the **Jordan Spieth quadruple bogey disaster on the 12th hole** on Sunday. In **less than an hour** he went from a **5-shot lead to a 3-shot**

deficit. **Some people say he blew it**. I was actually **surprised he was even in contention** in the first place. He's been **tinkering with his equipment and his swing** and has been **struggling a bit** with his iron play compared to last year. **Why he would change anything from last year is beyond me**. He may not have had the perfect swing, but **what he was doing in 2015 sure was effective**.

I can only imagine what that must've felt like to have that happen and then to have to go to the award ceremonies and **put the jacket on Danny Willett at least three times** during in the Butler Cabin, the presentation on the putting green, and for the photo ops afterwards. **He didn't look like he enjoyed it**.

It was interesting to see the **polarity in the opinions of how he handled himself**. Some thought he **handled it with class**. But **others thought the opposite**.

People said he's a **slow and neurotic player** that **constantly talks out loud to his ball** that makes him a **less than desirable playing partner**. He got **testy with the CBS crew** as he walked off the 18th green. Then there was the **comment during the pre-tournament press conference** in which he said:

> *"Me, doing that right there with the cameras is going to haunt me someday when I don't have a good round," a smiling Spieth said to loud guffaws in the media center at Augusta National. "Always smile even if you're -- "*

It made some wonder if he's doing what Tiger did **by trying to craft a certain corporate image that may not be true to his character**. It's been said that **golf is hungry for a new star**, **Jordan has been selected**, and the **media seems to be protecting him** and **giving him a pass** on certain things.

So is he **starting on the Tiger path to self-destruction**? Will he be **scarred and haunted** by what happened? Will he **come back with a vengeance and win a bunch more**?

I'm indifferent about it and certainly **wish him the best**…but it will be **interesting to see how it all unfolds**.

Lastly, **congratulations are in order for Danny Willett**.

There were those who were **surprised by Danny's win** and instead felt like **Jordan lost it**. However, **Jordan still shot 73**, which was about in the middle of the field…and **Willett tied the best round of the day with a 67**. That would indicate **Danny went out and won it.** He's also a **former #1-ranked amateur**, a **4-time winner on the European Tour** and was **ranked 12th in the world**.

For those that were familiar with him, this **Masters win is no surprise**.

Last Month

Anyway, to **recap last month**, we included a **CD** of my **interview** with **Jason Zuback.**

Of course, **Jason** is a **5-time World Long Drive Champion** in the **Open Division** and is considered by many to be the **greatest long driver in the history of the sport.**

Jason provided fairly extensive answers to our written Q&A with him in the **February 2016 Monthly Handicap Improver**. In the **audio interview**, we were able to get in to **much more detail**. If you missed it, you'll definitely want to **log in to the member area and have a listen.**

We had a **Long Drive Q&A** with **professional long driver Maurice Allen.** Maurice finished **T-9th** at this past year's **World Long Drive Championships** and is one of only several guys to **break the 150 mph club head speed mark** on Trackman in the finals.

Some things from **Maurice's Q&A** that I think are **worth pointing out** for you to take home are:

- **At 5'8",** once again we see that you **don't have to be a giant to hit the ball giant distances**.
- Based on his club specifications, I assume he has probably been **custom fit with his driver**. These days, the competition is so good that using a swing

and equipment that optimizes your launch conditions is a must to win and hit the ball as long as possible.

- He shows that **conditions play a large role in driving distances**. Although guys of his club head speed can achieve 400+ yard drives under "normal" conditions", to get up to his best mark of 459 yards, it took a little helping wind. **Keep the conditions in mind when evaluating driving distances**.
- He **trains very hard to be able to swing as fast as he does**. No person naturally swings that fast and you may not want to train as intensely as Maurice. However, if you want to swing faster no matter your starting point, **anyone can increase their swing speed with a little bit of persistent hard work**.
- He mentioned **keeping soft hands to help with distance**. You don't want to be sloppy loose, but I think he's right that it's good to **mind the tension**. **Death grip hands don't allow the club to move as fast**.

Nutrition, practice, and general golf expert Adam Young wrote about **how you can develop your golf skill.**

Equipment expert Tom Wishon provided a piece for us about **single length irons** and **whether or not there is an advantage** to them over conventional irons.

I also answered a selection of the most **frequently asked questions** that Tom and I have encountered when it comes to **single length irons** and our **new brand of single length irons called Sterling Irons™.**

If you're interested in shooting lower scores, you should definitely **check them out** at **http://www.sterlingirons.com.**

This Month

This month, here's what's coming up for you.

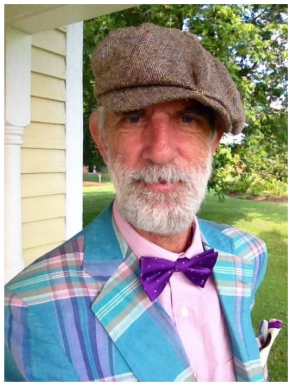
- We've got a very lengthy article for you from **putting expert Geoff Mangum** that talks about **arm hang during putting**.
- We'll also have our usual **"Member of the Month" and golf joke**.

NOTE: Normally, we try to come in at 16-pages of ad-free, thoughtful, and handicap-improving content for you each month. Usually this includes a Long Drive Q&A, a couple pages from myself, equipment expert Tom Wishon, and nutrition and general golf expert Adam Young, etc.

However, this month, the instruction from Geoff is about 15 pages long in itself, so we'll not overload you with too much at once and push the other things we originally had planned for this month to next month. This includes a piece from Adam about developing the "best you" as well as a long drive Q&A with World Long Drive Champion Joe Miller.

Finally, as part of your Monthly Handicap Improver Insider Circle, **we've included a CD of my extended audio interview with…Adam Young.** Of course, you know Adam as one of our contributing experts. In this interview, you'll get to know Adam on a deeper level.

Okay, let's get going!



Arm Hang for Putting

By Geoff Mangum of PuttingZone.com

Should a golfer hang his arms naturally at setup or crook his arms in some fixed shape with muscle tension?

There are two main body issues: tempo-rhythm for distance or ball pace control and movement in gravity physics for line control.

I. Tempo-rhythm: Tempo and rhythm are key elements to touch or distance control.

Brain science reveals that the brain is extremely familiar and "wired" by repeating experiences about how much energy in swinging the arms sends the arms "so far" away from the side of the body, about the inherent tempo of the arm as pendulum with the tempo determined by the length of the arm, about the fact that any size swinging has only the same tempo, and about how fast the hand is swinging down and thru when its velocity peaks at the bottom of the swing. This "natural" tempo is far more "familiar" and hence "wired" than any other tempo the golfer could possibly use. The instincts then when intending to putt a ball a specific distance across a green surface will size this tempo to set the impact velocity, thus having the physics of the body action match the impact physics required by the external world and its never-changing physics.

Tempo is the quickness of the arm swing, back or thru. Most adult arms have a length that is slightly less than the length of a meter stick. A meter stick when swinging on a pivot like a pendulum in the gravity of the planet earth ("the rock") swings from one top to the other in exactly one second. Shorter human arms swing in something like 950 milliseconds (thousandths of a second). This is the natural quickness. When a golfer adds a putter to the arms, the length increases to more than a meter but this slowing of the tempo is actually countered by the "physical" properties of the actual pendulum, instead of being determined in an "ideal" way that ignores the shape and mass of the pendulum and looks only to the length. A "physical" pendulum of real arms and putter is set more by the length of the "center of gravity" of the pendulum out from the pivot plus the mass and shape. The bottom line is that if you hold a putter at the top of a backstroke and then relax and let the shape of arms and putter free-fall and swing to the opposite

top, the tempo "is what it is, whatever it is" and for adult males this tempo is usually "about one second". Good to know.

"Rhythm" for great putting is the ratio of the timing in the backstroke to the timing of the thru stroke and should be "the same", or one-to-one ratio. That's because naturally swinging of the arms is the same relaxed timing back or forth so this is the most familiar pattern for the brain to use.

The natural or free-fall tempo is the one the brain uses most accurately for touch.

In "old school" putting lore, golfers were taught to "let the putter head do the work" in the down stroke. Great putters like Ben Crenshaw use this pattern. This means that the "tempo" is a free-fall relaxed timing set by gravity and not "done" by the golfer's muscles. It also means that as a matter of "rhythm", the golfer's backstroke also has the natural relaxed tempo, so the backstroke timing is the same as the thru stroke timing. As Crenshaw once encapsulated his putting stroke in a single sentence: "Once I start the putter back, the stroke seems to complete itself."

A bit of a mystery is why the backstroke would stop after the time of the tempo. The tempo timing is how long the pendulum takes to swing from top to top. But a putting stroke starts at the bottom of the pendulum's swing, and the distance to the top of the backstroke is one half the distance from top to opposite top. So it's not at all obvious that a backstroke will coast to the top of the backstroke in exactly one tempo, the same amount of time it takes that pendulum to swing from the top of the backstroke to the top of the follow thru. But in fact, any ballistic energy that "tosses" or "kicks" a vertically hanging pendulum into a swinging towards any size top of backstroke will be acted on and decelerated by gravity in a pattern that ends the pendulum motion in one tempo. Odd but true, and good to know!

This also means that whatever energy the muscle action starts the back swinging with will naturally attain the size that matches that energy only if the backstroke keeps moving until the tempo timing expires. Any backstroke that the golfer stops before the end of the tempo will be shorter and smaller than the body energy "intended" to set and then the impact velocity of the putter head at the bottom of the downswing will be less than intended.

In other words, if the golfer's backstroke in the natural swinging persists for one tempo, then and only then is that backstroke the intended and the

correct size to yield the required, correct velocity of putter head at impact. Do the timing, and the body instinctively matches the physics required by the putt. Otherwise, the "touch" is incorrect. So automatic "touch" is timing and has nothing to do with subjective "feel".

If the golfer uses a quicker tempo, the SIZE will necessarily be shorter than the size of the natural tempo. And the only way to go faster than gravity is to use muscle contractions back and thru. These faster tempos CAN be used to get the distance performed accurately, but not AUTOMATICALLY done and also not as consistently and precisely as the natural tempo.

A relaxed setup of the arms allows use of the natural tempo.

The movement of the arms using a gravity free-fall tempo can only be FAKED whenever the arm muscles are tensed in the pectoral muscles (arms-only stroke with arm pit joints changing) or whenever the inner oblique muscles are tensed in the backstroke (if using a shoulder stroke). So crooking the arms at address and during the stroke precludes the golfer from taking advantage of the free-fall natural tempo and rhythm.

There are two forms of body stroke: 1) arms-only stroke, and 2) shoulder stroke. The difference is whether the joints of the arm pits at the upper arm--shoulder joint change: arms-only stroke yes; shoulder stroke no.

For either stroke, there are two types of postural setup: 1) arms hanging vertically and naturally in equilibrium with gravity, and 2) arms held out of equilibrium either held outward from the body or inward towards the body.

This means there are four main setup-stroke combinations: 1) arms-only with arms naturally hanging; 2) arms-only with arms held out of equilibrium perhaps crooked up out of gravity or with the hands held away from equilibrium; 3) shoulder stroke with arms naturally hanging; and 4) shoulder stroke with arms held out of equilibrium.

When using a shoulder stroke in which the arm pit joints do not change and the pectoral muscles are tensed, the key muscle that allows the free-fall tempo after the backstroke is the target-side inner oblique: this muscle contracts to propel the backstroke and this is either done ballistically only at the start and hence is not kept contracted after that or is contracted in the whole making of the backstroke and remains contracted at the top of the backstroke.

If the latter, the free-fall downstroke requires relaxing the target-side inner oblique muscle in order for the arms and putter to swing down from the top-of-backstroke position. If the lead-side inner oblique remains contracted at the top of the backstroke, a free-fall tempo in the downstroke is precluded. Then a deliberate contracting of the rear-side inner oblique muscles is needed to motivate the forward stroke overcoming the lead-side tension. If so, the gravity free-fall tempo can only be FAKED.

If the fixed-shape stroke is made "ballistically", the lead-side inner oblique is contracted only momentarily at the initiation of the backstroke and "tosses" the arms and putter back to the top of the backstroke, similar to a tennis toss or a basketball toss for the "jump ball". When that is the motion, the arms and putter coast to the top of the backstroke, there is no muscle tension in the lead-side inner oblique, and the arms and putter may simply fall swinging back down and thru.

The golfer simply "starts" the backstroke but has no role or even concern with defining or stopping or sizing the backstroke: the energy of the ballistic start alone defines how far the "toss" of the backstroke proceeds. The transition of the backstroke at the top of the backstroke is defined by gravity and not by the golfer, with the putter head "coasting" to the point of transition and then coasting back down into a naturally accelerating down stroke.

When the motion is an arms-only stroke instead of a shoulder stroke, the arm pits change but the chest and shoulders remain stationary: in the backstroke the initial position of the rear arm pit opens while the initial position of the front arm pit closes as the arms swing back away from the ball and across the chest to the rear; in the thru stroke the rear arm pit closes back to the initial position at impact and then closes more and the forward arm pit opens back to the initial position at impact and then opens more into the thru-stroke.

This arms-only stroke can be motivated in two patterns: moving / drawing the front arm back across the chest or moving / lifting the rear arm back and away from the body. With the hands connecting arms and putter, either of these arm motions will move arms and putter as a unit into the backstroke.

The muscle that moves the lead-side arm back across the chest is the lead-side pectoral muscle connecting the upper chest ribcage to the upper arm bone. The muscle that moves the rear arm back away (and upward) from

the body is the deltoid muscle, connecting the clavicle and top of the shoulder bones and the outside of the upper arm, wrapping over the outside of the shoulder like a rope on a pulley. Headed in the forward direction, the motivating muscles reverse: lead-side deltoid muscle lifts front arm or rear-side pectoral muscle pulls rear arm forward across the body.

But for a free-fall tempo in the thru-stroke, the arms and putter simply "drop and swing" down and thru by gravity alone, without deliberate muscle activation. That requires the lead-side pectoral muscle not remain contracted at the top of the backstroke, or that any persisting contraction be relaxed, as this tension "holds" and precludes the free-fall thru-swing with the natural tempo.

Again, if an arms-only stroke is powered by a ballistic "start" or "toss back" contraction of the lead-side pectoral muscle, the top of the backstroke has a natural transition and an unimpeded, relaxed free-fall down stroke. Otherwise, the golfer has to relax any tension at the top of the backstroke or muscle the down stroke, and in either case this is faking the timing.

Either a shoulder stroke with arms hanging naturally or crooked out of equilibrium or an arms-only stroke with arms hanging naturally or crooked out of equilibrium MAY be used with a free-fall tempo in the thru-stroke, provided no muscle tension in the backstroke motivation stays tensed at the top of the backstroke. So in either pattern, to use a free-fall thru stroke, the motivating muscle in the backstroke is either ballistic only and contracted briefly at the start without continuing the contraction or is relaxed once the stroke reaches the top of the backstroke.

If the arm tension exists at the top of the backstroke, then the backstroke timing from start to finish was not determined by gravity responsive to a ballistic tossing of the arms into the start of the stroke.

A setup posture with the arms crooked and held out of naturally-hanging equilibrium in gravity, then, necessarily precludes using the free-fall tempo. The crooked shape is maintained with muscle contracted tension from start to finish of the stroke. This setup inherently allows only faking the free-fall tempo or indeed any tempo. The arms cannot be used as a pendulum in physics to set the timing.

While it is true that golfers can FAKE the free-fall tempo (if they are familiar enough with it), and within reason ANY tempo that is rhythmical is often okay although not as effective and precise as the free-fall tempo for

long putts outside 20 feet, golfers are not skilled at tempo faking or at matching whatever the backstroke tempo that is actually used to the SAME tempo in the forward stroke -- without which there is not a good "rhythm" and distance control is inconsistent and imprecise.

The best stroke is one that AUTOMATICALLY is both rhythmical back and thru -- the same tempo twice. And the best tempo is the usual one of the natural free-fall tempo of the arms, as this tempo is the body's most frequent tempo every day and is the one the brain is most skillful at using for arm motion timing and achieving the correct size strokes for required impact velocities to match what the world requires. Golfers do not have to be familiar with tempo or rhythm and have no responsibility for getting this right or wrong when they use a ballistic toss-back stroke and allow the putter head "to do the work" in the thru stroke. A ballistic "start" of the stroke takes care of setting the tempo back and thru and thus also sets the rhythm, automatically by the laws of physics, every time. And the backstroke continuing to "load" for one tempo automatically sets the size of the pendulum swing and thus the impact velocity as well.

To get AUTOMATIC "tempo twice" without having to know tempo or make sure the back-thru tempos match, golfers should use an arms-only stroke that ballistically starts the backstroke. That AUTOMATICALLY makes the backstroke have a free-fall tempo -- this is a remarkable aspect of pendulum physics discovered in the PuttingZone unknown in all golf history before then. And it guarantees that the pectoral muscles after the ballistic "toss back" are not kept tensed but are relaxed, and that means the forward stroke happens AUTOMATICALLY and is also a free-fall tempo.

The same tempo can be achieved for the shoulder stroke using a ballistic "toss back" contraction of the lead-side inner oblique. The whole shoulder assembly with arms and putter will then free-fall back down and under a fixed pivot at the base of the neck, achieving the correct impact velocity. This requires a bit more body control than the arms-only stroke since bigger masses are in motion challenging the straightness of the stroke. But touch can be nearly as good this way as compared to the arms-only milder action.

If that stroke movement pattern of the ballistic toss-back is not used, the golfer has to pick a tempo, learn it, and do it twice. Nothing is automatic.

The arms-only stroke is milder and more accurate than a shoulder stroke.

Why the arms-only stroke is preferable to the shoulder stroke is because it is more accurate for line and fits more naturally with pendular swinging and timing. Why naturally-hanging arms is preferable to arms kept out of gravity equilibrium with tension is both because of the better touch from the natural tempo used automatically, but also because the physics of holding the arms in an unnatural posture during the stroke interferes with optimal touch and threatens the stroke for line with an unhelpful "torque" that will corrupt the stroke path if there is any change / lessening of the tension used to keep the crooked shape during the stroke.

II. Arms in Gravity: Naturally hanging arms avoid stroke-corrupting torque forces, incorporate helpful physics for putting straight where aimed, and admit use of the natural tempo timing for automatic touch.

The second benefit of naturally hanging the arms is that the TORQUE created by "reaching" the hands or arms outward from equilibrium in gravity or inward from equilibrium in gravity is avoided. Any TORQUE introduced by posture in setup has to be MAINTAINED throughout the duration of the stroke, or else the TORQUE will drop the arms towards equilibrium in the middle of the stroke (before impact) and therefore change the backstroke path or the forward stroke path (depending upon when the tension holding the TORQUE diminishes, weakens, or relaxes).

"Torque" is the force at the end of a seesaw. The bigger the mass at the far end if the seesaw and the longer the seesaw from the pivot fulcrum, the greater the torque force. With arms, as the arms are lifted out if vertical towards a horizontal position, the torque force increases the more the arm approaches the horizontal. The same sort of torque applies to a putter head at the end if the shaft: the flatter the lie angle out of vertical, the more the torque applies at the end if the shaft tending to force the putter back to vertical.

To resist or "hold against" a torque requires muscle tension. If the required anti-torque tension diminishes, the putter will drop towards gravity equilibrium. This tension-decrease will also usually change the putter face angle if the putter head us then swinging back and thru. Golfers know NOTHING about this and cannot reliably notice whether they are maintaining the tension or holding the TORQUE. To the contrary, all golfers believe that a dropping to the inside of the stroke path is "natural" when in fact it ONLY happens from unnecessary TORQUE at setup and a relaxing of the muscle tension or failure to set the required tension for the backstroke.

When the putter lie is "too flat" compared to naturally hanging arms, an unnecessary torque from the putter challenges the stroke path and corrupts the stroke into an inward curving in the backstroke unless muscle tension holds the torque from acting.

A putter lie angle that MATCHES the naturally-hanging angle of the human forearm at address would be about 14 degrees out of vertical. In golf-speak, that is a lie angle of the putter soled flatly to the surface so the shaft angles back from vertical 14 degrees and the angle from the surface up to the shaft is 90-14 or 76 degrees. Such a putter has never been made by any major retail putter manufacturer in golf history and today the "standard" lie angle for putters is 71 degrees. So an ergonomically "correct" lie angle is 5 degrees more upright than any putter available in the retail market. And ALL conventional putters are "too flat".

A too-flat lie angle positions the flatly-soled putter head on the green surface too far away from the hands and feet at address. And a too-flat lie angle means that the shaft line does not align with the axis or line of the forearm. Holding the putter head out and away from the line of the forearm creates a force called "torque" that will cause the putter head to "drop" back toward the feet into equilibrium.

Theoretically, this torque is greater and greater the more the putter head is held out and up from equilibrium and is greater for longer putters. But when the putter head rests on the ground, this torque is hidden. But once the backstroke starts and the ground no longer supports putter head and opposes the torque, the torque operates against the golfer's muscle tone in the grip.

Poor putter design of too-flat lie conspires with too-light grip pressure to corrupt strokes, but almost all golfers "believe" this corrupted stroke is a natural "arcing" stroke that is made automatically and athletically with no manipulation by the golfer in the movement.

If the golfers has been taught to hold the handle with the lightest grip pressure so he has "sensitive hands" for "exquisite hand-eye coordination and superb touch and feel", this is mechanically stupid in physics. This wrong-headed idea about grip pressure only results in the torque corrupting the backstroke path. As the putter is started back by the golfer, the lateral backward motion is corrupted by an inward-dropping torque. This COMBINED motion "looks like" an arc curling to the inside, but in fact it

is a stroke that would have gone straight back had it been performed with enough grip pressure, but instead is a stroke that "falls off a ladder" by gravity while headed back.

In other words, the idea and belief in golf that an inside-arcing stroke is natural, athletic, and occurs without the need for any manipulation is actually just ignorance of physics and is "the falling off a ladder" that happens by a too-flat lie putter being swung with too-light grip pressure. And of course the unstated but go-along belief in golf that this inside-arcing will "naturally re-arc" correctly in the forward direction for online, square impact face angle and putter path exactly at the ball position is in fact just ignorantly thinking that a stroke that "falls off a ladder" will not only "fall back up onto the ladder" but will do so exactly right.

The fact that many golfers trying to use an "arcing" stroke actually rotate the upper body (chest and shoulders) back to the inside or "roll" the forearms back in the backstroke (supinating the rear hand and pronating the front hand) while others simply use too light a grip with too-flat putters indicates the confusion. Both methods chase an illusory stroke pattern that is inherently harmful to putting accurately and consistently where aimed.

This supposed natural character of an "arcing" stroke is even more dramatically shown to be false by the fact that golfers trying to arc their strokes have to deliberately re-rotate the putter face and path back to impact and this NEVER happens by the arms and putter "naturally falling back up". Golfers practice this and term it either "face rotation" or "releasing" the putter toe thru impact. Despite much practice, this never gets automatic and accurate on a consistent basis. But the obvious conflict of having to re-rotate the putter by deliberate muscle action in the thru stroke with the idea of the "natural" arcing stroke performing itself seems to elude these golfers.

The so-called "arcing" stroke is performed deliberately either by a straight-back, straight-thru motion on a tilted plane or by rotating the shoulders and forearms back and thru, but neither motion is accurate and consistent for putting online with great touch and are neither understood, learned or performed well in comparison to what the golfer could do using an arms-only or shoulder stroke that travels in the thru stroke along a vertical plane.

Stan Utley actually putted for 30 years with a stroke that moved only the arms back and thru on a tilted angle out of vertical, not being aware of whether his grip pressure was allowing the putter head to drift inward in his backstroke. When he wrote his book to describe his 30-years-the-same

stroke, he mis-described his body action and told golfers to rotate the shoulders horizontally like a helicopter and also roll the forearm back and thru. Eventually, he learned his book was wrong, and he had to ask another teacher to tell him what putting motion he actually made, and he then learned he stroked only the arms straight back and thru on a tilted plane of motion. So now he teaches this, without knowing that a vertical-plane thru stroke is better and easier and more accurate than his tilted-plane action.

Steve Stricker over the course of 25 or so years of trial and error eventually ended up letting his too-flat putter match his naturally-hanging forearms. So he eventually adopted an address posture of naturally hanging arms and IGNORED the too-flat putter resulting in his putter head being held heel-up at address. Any positive loft on a heel-up putter misdirects the stroke slightly to the outside of the aim line. Stricker ignores this defect. Instead of flattening his putter to the new, more upright lie angle, he has a compensating aim and stroke. At least he has dispensed with the unnecessary torques from the putter head being positioned out of equilibrium and the much worse torque of hands and arms held out of equilibrium. This means he benefits from the arms swinging straighter and from not having to worry about his grip pressure as much as others.

The PuttingZone has created a method to set the right grip pressure to avoid torque-corrupted strokes.

If a golfer at address lifts the arms and hands and putter off the ground by "craning up" the upper torso, the putter will drop / droop back into conformity with the forearm line. The putter should drop all the way even further into hanging vertically, but the form of the hands on the grip inherently has enough muscle tone to stop the putter dropping past the forearm angle. THIS posture where the putter shaft matches the forearm axis then does not require extra muscle tone or grip pressure beyond that used to form the hands onto the handle. But putters with too-flat lies and torques will generate backstrokes that get corrupted unless the golfer's hands have minimum or not-less-than a certain grip pressure.

To find that pressure, a golfer first cranes the putter up off the address position and allows it to drop back in line with the forearm's natural hanging angle; then by progressively adding tighter muscle tone in the grip of the lead-side hand, the golfer extends the putter head back out to its original position. The end result is the "minimum" grip pressure required to prevent the putter head from dropping with torque in towards the stance during the backstroke. On a scale of 1-to-10 grip pressure, with 10 being

the golfer's personal maximum "death grip", the minimum is somewhere around a 3. With the putter and address posture, the golfer should always set that minimum grip pressure and then maintain it throughout the duration of the stroke.

If the arms at setup are hanging in gravity equilibrium to start with, the tension required depends on the LIE ANGLE of the putter plus the design of the putter for length and putter head mass. Even though ALL lie angles are wrong for human anatomy and are too flat compared to the angle of human forearms (because putter manufacturers have always done a poor job and have never studied human anatomy and anthropometry before designing putters according to sound principles of ergonomics), the TORQUE from the putter is minor compared to the TORQUE from the ten-times-heavier arms. A NORMAL hand tension that is only holding the handle with minimal tension usually suffices to avoid putter-lie TORQUE from doing much harm to the stroke path. But holding the arms themselves out of equilibrium in gravity is ten times worse for a stroke corrupting torque and the muscle tension required to oppose this corrupting physics.

Tucked arms create worse torques than too-flat putters.

People who "tuck" arms into some posture out of natural equilibrium CAUSE the need for tension to keep the shape throughout the stroke. But if that level of muscle tone varies during the stroke, the arms and hands and putter drop into some corrupting path. The degree of corruption varies from putt to putt, stroke to stroke, putter to putter, and occasion to occasion of how the golfer manages the body. In general -- not a good way to go.

The best combination is naturally hanging arms and matching lie of putter to forearms: this allows golfers to just hold the handle and not worry about tension. One can experience this with any flange or blade putter: aim the toe end as if to stroke the ball with the toe and the putter shaft will automatically fall into alignment with naturally hanging forearms. Then make back and thru strokes and notice the ABSENCE of arcing and the automatic character of the inherent straightness of the relaxed swinging back and thru.

The ideal is to get a proper putter fitting, which can only be done by a skillful putting instructor knowledgeable about good setup posture and motion. Then the Stricker halfway approach can be sorted out by bending a retail too-flat putter. But of course most golfers cannot find a putting instructor able to do a proper fitting according to the common-sense rule

"golfer body setup and motion first for optimal stroke; putter fitting to that posture second." That being the case, golfers need to choose between either naturally-hanging arms and a heel-up putter or naturally-hanging arms but a putter head too far away with unnecessary torque. For me, since adequate grip pressure handles the too-flat lie torque, and avoids the heel-up misdirection and aim and stroke path compensations, I recommend flattening the too-flat putter with adequate grip pressure that handles the unnecessary torque.

With too-flat-lie putters, golfers need at least a MINIMUM grip pressure. That is set by the procedure I invented of unseating the putter at address by raising the torso with too-light grip pressure, letting the putter TORQUE drop to equilibrium, and then squeezing the lead hand grip pressure tighter and tighter until this positions the putter back out to the spot where it sat initially. The resulting grip pressure is REQUIRED by the putter TORQUE to prevent the stroke path getting corrupted by TORQUE.

With a too-flat lie putter, the handle cannot sit with its top edge conforming to the "life line" of the lead palm, as is optimal. The lifeline is MADE by the natural angle of the forearm hanging relaxed in gravity, since the axis of the hand and palm naturally bends back into verticality off the end of the forearm. That angle change sets the lifeline the SAME as the forearm angle. So when the forearm has a natural angle hanging in equilibrium, and the hand has its natural angle off the end of the forearm, AND the flatly soled putter has the proper lie angle, then and only then will the handle lie in conformity with the life line. But if the putter lie is too flat, the handle will seat at the butt if the palm more in the fingers, unless the natural hand-hang angle is abandoned in favor of the hand rotated vertically up to match the shaft line. This hand posture is a bit unstable compared to the tighter biomechanics of the down-angled natural hand hang.

A setup posture with the arms crooked and held out of naturally hanging equilibrium in gravity, then, necessarily precludes using the free-fall tempo. This setup inherently allows only faking the free-fall tempo or indeed any tempo. The arms cannot be used as a pendulum in physics to set the timing. NE as the forearm angle out of vertical.

So it doesn't make sense to make the problem WORSE by having arms tense at address out of equilibrium instead of hanging naturally.

Naturally hanging arms incorporate helpful physics into strokes.

In addition, naturally hanging arms used in an arms-only stroke started ballistically are HELPED by gravity to stay on a good stroke path. The naturally-hanging arms that swing towards a crooked path necessarily are swinging a bit UP out of equilibrium, and GRAVITY automatically opposes and resists the arms going UP. That helps channel the arms along a straight path.

Also, the two arms plus putter in hands is similar in physics to two chains hanging from the top bar of a swing set, with the swing seat (hands and putter) swinging left-right in line with the top bar (shoulder alignment). If the TORQUE corrupts the backstroke so the rear arm drops inside, but the shoulder alignment is kept, this "two chains" mechanically resists the corrupting of the backstroke (the front chain does not drop inside and the connection of the hands communicates a resistance to the rear arm's dropping inside) AND guides the rear arm back into swinging the same line as the shoulders for the down-and-thru stroke. This SELF-CORRECTING body mechanics is a valuable insurance policy but is only available if the forward stroke is relaxed in the pectoral muscles so the arms re-track under the shoulders in free-fall. If the golfer instead muscles the forward stroke, the power overwhelms this self-correcting mechanics. So this insurance is only available without tight arms and with a free-fall tempo.

Swinging arms fixed in an artificial posture does not benefit from physics and requires much knowledge and training to perform skillfully.

Finally, if the arms are tight and used either by moving only the two tight arms in a fixed shape or in a shoulder stroke -- either way -- the forward motion of a good straight stroke needs to move optimally in a vertical plane only. Otherwise ball position and stroke timing inconsistencies misdirect the line of the putt. Golfers don't know this, are not familiar with a vertical plane, don't know what muscles to use to make one, are not trained to recognize the signs of a good vertical stroke, are not familiar with tilted planes of motion out of vertical, etc.

A tilted plane stroke is not optimal. If you leaned a plank back some angle off vertical and then slid the heel of the putter straight back and thru along that plank. The SWEETSPOT of the putter in space will both rise up in the backstroke and also come closer to the stance as it nears the end or top if the backstroke. Going forward to impact, the sweet spot travels down and back outward to reach the starting position where the putter face for only a brief instant is aimed exactly straight and moving straight on the aim line. An instant later, the sweet spot is again moving both up and inside. In

addition, the back and thru movement tilts the loft of the putter face so that at any point behind the bottom the face aims to the outside of the intended line and at any point in front of the bottom the face aims to the inside of the intended line. All together, unless impact is exactly timed to the exact bottom but is instead made a little past the bottom (by poor ball position or inconsistent stroke motion), the tilted-plane stroke acts like a cut-stroke sliding to the inside of the line during impact with a slightly inside-aimed putter face.

This tilted-plane action is not consistent. Of course it looks good on a plank that prevents putter heads drooping out of plane, but on the course golfers never know the tilt they want or whether they have stroked only on that plane or whether the impact was perfectly at the bottom as required by this geometry. And just as a matter of PHYSICS, naturally hanging arms or ANY shape of arms follow Newton's law of motion that a mass moving on a line will continue straight unless the GOLFER causes something else. A golfer making straight strokes on a tilted plank is very likely to see the thru stroke go vertical and hence straight, with the heel of the putter separating from the leaning plank.

This is exactly what was shown in the video of a putt to a flagstick to illustrate Peter Kostis' training aid "The Putting Professor" -- a metal fitting on the heel of the putter to prevent the face from coming out of square when used on a tilted plank. The website video filmed from behind the flagstick aimed back 8-10 feet to the plank showed the heel separate from the plank in the thru stroke as the golfer sinking the putt stroked STRAIGHT, not up and inside on the plank. Straight means the sweet spot moves down the aim line, vertically rising above that line.

Conclusion

In conclusion, tucked-up arms for putting preclude valuable touch accuracy from automatic tempo, rhythm and distance-control stroke sizing by instincts, and also cause unnecessary torque forces that corrupt the stroke and make straight rolling of the ball unduly problematic. Why do that? In contrast, a ballistic toss-back starting of a stroke with either arms only moving or with a shoulder stroke admits of automatic tempo and rhythm using the best tempo and automatic sizing of strokes and impact velocity. And the arms-only ballistic stroke is better than a shoulder stroke because it involves a milder action with less disturbing forces to control than the shoulder action, and the arms benefit from helpful influences of physics that are not available or as effective with other sorts of strokes.

Member of the Month

This month our Members of the Month is Bob Bigonette. Bob is the Lead Instructor at the Michael Breed Golf Academy at Trump Golf Links at Ferry Point in Bronx, NY.

Using Swing Man Golf's swing speed training, Bob increased his maximum swing speed by 18 mph over 10 weeks.

Congratulations Bob!

Finishing Up With Fun

A golfer goes into the pro shop and looks around frowning. Finally the pro asks him what he wants.

"I can't find any green golf balls," the golfer replies. The pro looks all over the shop, and through all the catalogs, and finally calls the manufacturers and determines that sure enough, there are no green golf balls.

As the golfer walks out the door in disgust, the pro asks him, "Before you go, could you tell me why you want green golf balls?"

Well obviously, because they would be so much easier to find in the sand traps!"

We hope you enjoyed the Monthly Handicap Improver…

Feel free to contact us at info@swingmangolf.com with questions/comments/suggestions/etc!

Have a great month!