

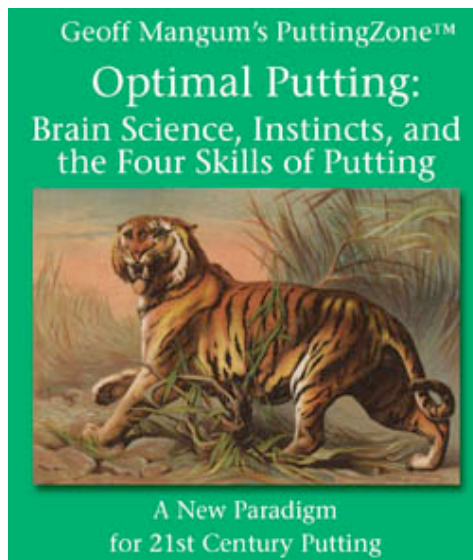
Putting Lesson

The Putting Lesson is the best way to shave strokes off your score immediately. The Putting Lesson is a 45 minute session that will take your putting skills to a whole new level.

**What to expect:
World Class Instruction on
Touch ~ Speed Control ~ Green Reading
Aim ~ Set Up ~ Stroking
Putter Evaluation & Fitting**

X Golf School Putting Zone Academy

Specializing in teaching the 4 skills of putting



**1 Person Private Session \$100
2 Person Shared Session \$60**

Geoff Mangum's PuttingZone
Summary Overview of the Four Skills of Putting

THE BIG PICTURE -- What Putting Has to Do with Scoring

You have three shots that determine what sort of demands you face for putting:

1. the first putt after hitting the green in regulation
2. the first putt after chipping on for a par save after missing the green in regulation
3. the putt remaining after a lag putt or a chip-on for par save

The tough one is #2. Without a very close par-save chip, you WILL card a bogey. How close do you need the chips? To whatever range makes you 90%+ sure it's a 1-putt. So to keep the card clean, you have to work very hard on those par-save chips. Drop ONE ball down off the green some distance, chip it, and then pick up your putter and take that long painful walk over to your poor chip and try to 1-putt from there, and then repeat with another chip from a different location, but this time with greater determination to get close enough to 1-putt, and keep that exercise forever.

As to #1, the PGA Tour average first putt length is nearly 30 feet, and the chance of 1-putting from 30 feet is about 1 in 15 or 20, so it's a 2-putt. Pros don't often stick approach shots close enough, but in the course of a round, they make 4-6 birdies with probably 3-5 1-putts plus a chip-in. If they hit 13 GIRs, they face 5 par-save chip and 1-putt cases and 13 GIR first putts. To gather 4 birdies means 1-putting 4 out of 13 first putts. Probably 2-3 of these occur on par-5s, so the third (GIR) shot is from close range. So only 1-2 putts are 1-putts after hitting the GIR on a lengthy par-4 from 100-150 yards out. That means most GIR first putts are lag putts and you had better not turn 2 shots into 3 while straining to turn 2 shots into 1. Take it easy and learn how to lag safely.

As to #3, learning how to lag safely is basically a) determine mightily NOT to go long by examining the space between you and the hole with attentiveness, b) never use a funny rhythm or tempo but use a "nice smooth" tempo and an even rhythm back and thru (same time back and thru is better than same "size" back and thru), and c) using this same-every-time tempo and rhythm, make a big enough backstroke to get the ball ALL THE WAY to the hole (and not long), and the size of the backstroke will then be large enough so that the desire or inclination to "jump at" or "hit" the ball in the forward stroke dissipates or evaporates and leaves you quite happy to keep the stroke smooth and nice without helping the forward stroke. If at first many putts go short, and none long, then you are in transition headed the right way, and will have to learn to allow larger strokes to infect your habit and your emotional reactions and judgments of what is a good backstroke. Never long, always all the way, nicely. And two last points about safe lagging: find the straight-uphill putt thru the hole and imagine a short wall of bricks laying straight uphill

above the hole on that line, and always putt so the ball aims at the wall somewhere higher than the rim of the cup and if the ball actually rolled without break or borrow, your sense is to deliver the ball ALL THE WAY to this wall nicely without being short and without arriving violently against the wall. This "putt straight at and to not thru the fall-line wall" idea organizes the correct force for the putt and the distance of a ball that curves along the borrow in an instinctive manner. Second, never choose an aim line that will allow the ball to roll to the low side before it reaches the hole. Instead, ALWAYS putt exactly where the putter face aims and ALWAYS use the usual tempo and rhythm and let the backstroke take care of itself instinctively, and with these fundamentals in place, then LIVE WITH THIS line and pace while aiming and before settling on the aim line that is high enough to prevent the ball from rolling to the low side. It helps to define the difference between the high side and the low side all the way between the ball and the hole by imagining / seeing the straight line between the ball and the center of the cup and then picking which side is high and never letting the ball roll across this dividing line to the low side. Safe lags are a) straight rolls of the putter face, b) with the usual tempo and rhythm, and c) with instinctive setting of a large-enough backstroke, that d) starts on an aim line that is "high enough" when putting straight at and to not thru the fall-line. A "sink" of a long lag uses an aim line that is "high enough and not one bit higher than necessary". A "safe" lag may be a bit higher than absolutely necessary for the sink, so err to the high side. The thought is "all the way to the fall-line high and slow with the usual tempo and rhythm". Balls that miss need to end up slightly high-side near the rim for a tap in, so they have to curl in towards the cup from the high side. A good miss is just the right distance and pace but the aim line was a bit too high, so the ball ends on the high side very near the lip. The fact that the ball will break TOWARDS the hole at the end only when the aim line is high enough for the pace means the remaining putt's length will be decreasing at the end of the putt, whereas a miss to the low side sees the ball getting farther and farther from the hole with each roll low-side. Too-high aims don't leave big second putts -- they leave close, safe second putts. And don't listen to anyone who fears leaving a downhill putt -- none of these lags will be MUCH downhill because course and greens can't afford steep slope when the surface has fast speed, so there is a maximum slope of about 5% grade on almost ALL putts, and usually between 1-3% grade, plus the second putt that reaches the fall-line is in any event a short, STRAIGHT downhill putt or at worst has very little distance and borrow in it.

Incidentally, when you always putt where the face aims, simply look at the putter face after aiming is done, see the direction of the aim line on the putter face thru the ball over the ground in front of the ball 3-5 inches out, and plan on rolling the ball over those particular grass blades as the ball exits your setup and stance sideways, doing this with good tempo and rhythm will make you a very straight stroker, and later a great reader of putts and a great aimer of the putter face. The foundation is "always where the face aims with good tempo and rhythm". A golfer who putts straight will very quickly receive feedback about aiming that he has never had before and his aim will start improving immediately. A golfer who putts

straight with nice distance / pace to the hole and who never allows funny aim lines and compensating crooked strokes or corrections with added power or lessened power that changes tempo and rhythm for the one putt will also become a great reader of borrow.

So, putting skill is for SCORING. Don't worry about your setup and stroke mechanics nearly as much as you do about rolling the ball squarely where the putter face aims with a decently smooth and nice tempo and rhythm that you enjoy, and then stay safe and try to sink 5-6 of your first putts, with 2-3 coming after close chip-ons on the par-5s, and the others coming on the short par-4s, with everything else putting the emphasis on making safe pars and saving pars to keep the card clean. For more on "Hating Bogey More than You Love Birdies", visit [this podcast](#).

DISTANCE CONTROL

Distance control / touch: instincts solve objective reality and generate correct backstroke and force when you pay attention to distance, green speed and uphill-downhill with determination to go in the hole nicely not long and not short, and then make a rhythm with the chosen tempo. A rhythm is same time back to top of backstroke as time to go twice that far to top of thru-stroke ("one and done"), regardless of how quickly or slowly this rhythm is matched. A backstroke simply joins in with an ongoing back and forth swinging in the brain according to your usual tempo, but always with the same time / same time back and forth rhythm.

So a golfer's job for touch is to pay attention with determination (define space clearly and also define the action of ball arriving there and coming to a stop of arriving at 2-3 revolutions per second) while accepting no substitute long or short and then to make the rhythm fully and well-timed both directions back and thru -- smooth and graceful and symmetric with no conscious concern for "power" or worry "whether" this approach will get the ball all the way to the hole.

Paying attention to the hole as a destination where the ball will stop or at worst arrive with a nice gentle speed is similar to tossing a ball up to "touch" a ceiling, or a better image: tossing a ball up to touch a leaf high on a tree branch and then to touch a higher leaf and then another leaf. There is always a CLEAR DESTINATION plus a vision of the future ACTION of the ball arriving nicely and never any thought of going long. All tosses either arrive exactly far enough or just short, but not long. What makes balls arrive with greater consistency and frequency is tempo and rhythm. Putting is simply a series of different leaves / holes to putt nicely to, all the way but not long.

There is a scar in the brain that prevents getting too large a backstroke, as this is dangerous and spastic, so no backstroke is large enough until it is as large as your instincts make it when paying attention and simply making your rhythm, so never "fear" the size of a backstroke. The instinctive backstroke is always 100% correct, so the ONLY way to go long with this is to "gas" the downstroke. Never gas the

downstroke.

Fear of going long should then be banished but it is not, because golfers are "habits defended by emotion", so golfers with a quick tempo tend to fear a more casual stroke and stop it from getting to 100%. That's short. Or, even if the stroke gets to 100%, the golfer then fears going long and decelerates. Both reactions are emotional habit defenders that make the putt stop short. To make the ball go all the way to the target and never short and never long, "let the backstroke grow, and let it go, and don't gas the downstroke". In other words, don't overrule whatever the instincts serve up for the backstroke length and don't judge the backstroke or stifle the free-wheeling downstroke. Ride the swing like a kid swinging to the bottom on a swingset and enjoy the sensation.

STROKE AND SETUP

The basic idea is always putt where the putter face aims. Otherwise, you have no clear feedback on stroke and aim and no clear notion of what to do in case the stroke gets ratty during a round. So, look at the putter face AFTER the aiming is concluded ("once the putter face stops wiggling"), note the aim line or the perpendicularity of the leading edge of the putter face, project a straight-down-the-line segment thru the ball a few inches along the ground (perhaps as far as the big toe on your lead foot), and then roll the ball down that startline with a nice rhythm.

Everything about technique is only to help do this dumb thing with the least trouble and worry and the most consistency and accuracy. Golfers fall into a trap of bad thinking about this "dumb little thing." They usually think "unless my setup and grip form and pressure and stroke technique and putter are all perfect, I will have a hard time" rolling the ball with a "good stroke". Wrong. Setup and technique and grip and putter are all UNIMPORTANT and never make doing the dumb little thing any more difficult. Forget technique when you play and just always do whatever you feel like doing that rolls the ball where the putter face aims. You'll PROBABLY use great technique, but don't get stuck worrying about it. Just roll the ball.

That said, setup and technique take advantage of Newtonian physics to keep things very simple for the golfer. Square up the shoulders, set the base of the neck, start the stroke with a shoulder shove back and with the hips fairly still, and then let the stroke (arms, hands, putter, shoulders too) just swing back down and thru wherever physics takes them. Physics will take them straight along beside your frame established by the orientation of the shoulders, so don't "come off the wall" thru the impact zone (2-3 inches either side of the bottom of the stroke).

The putter will drop down to its bottom directly beneath the neck and then rise about the thickness of a coin before impacting the ball, which should be played slightly ahead of the putter face at address so there is a gap of 1/4th to 1 inch between the bottom of the stroke (putter face at address) and the back of the ball.

The rising of the putter head" past the bottom will travel straight down the line unless you pull the putter to the inside with your shoulders coming off the line, so don't. And the momentum of the stroke (putter, hands, arms) swinging thru impact slightly rising will also MOVE YOUR SHOULDER FRAME in plane correctly, so let the putter show your body where to go.

If you simply stand still and use a really symmetrical rhythm back and thru, the straightness of the stroke takes care of itself. You can change from a one-cycle earth-does-the-downstroke tempo and you-do-the-backstroke-only (so your backstroke timing matches whatever the downstroke timing by the earth happens to be, joining in with the usual world's swinging rhythm and tempo) to a two-cycle stroke where you manage the timing both back and thru (and you watch whatever your timing is in the backstroke and then commit to match this on the rest of the stroke coming forward to end of follow-thru -- a distance twice as far as the backstroke distance but accomplished smoothly in the same amount of time without hurry or worry, just smoothly and nicely on time). This two-cycle stroke has the "one ... and done!" enthusiasm.

Either straight stroke blends with a nice rhythm. Never separate stroke movement pattern from touch rhythm. The two always integrate.

So you can tighten up and swing with a shorter, faster stroke on short putts without fearing going long or smashing thru the break or chickening out and choking short of the hole, so long as the rhythm is always smoothly finished.

A straight stroke always is like an aircraft taking off a flight deck of a tilted aircraft carrier at sea, since greens may be "flat" but hardly are they ever "level" like land-based airport runways. So conform the sole of the putter to the slope and live with that when you setup, and then ignore the fact that the surface is not level, as this avoids losing breaking putts slightly downhill.

Use the two sticks as a gate with a portion of the ball sticking out behind away from the hole 3-5 feet away and make 6-8 strokes while observing what the body does to hit both sticks at once squarely: the neck does not sway targetward and the base of the neck "spins" away from the hole without shifting its plane and the putter accurately returns to the bottom before rising slightly into the back of the ball and the two sticks. After 6-8 of these, pull the sticks out of the ground and repeat the straight short putts with the good body action.

The setup is: align the neck line (chin to base of neck where clavicle meets sternum) with the aimed putter face's leading edge, relax the arms and hands hanging naturally in gravity so as not to reach out or in and thus pick a fight with gravity, walk the hands out to the waiting handle, assume the grip and establish minimum grip pressure to make the putter and the aim of the putter meld with the body and especially the orientation of the shoulder frame / chest (top flat of handle matches plane of chest and shoulder frame alignment) with the top back of the

neck feeling "cocked into position" like the hammer on a revolver, [take a final head swivel look for aim checking and distance calibration]; start the backstroke with a shove of the shoulder and with hips and neck fairly still so the shoulder frame and arms and hands and putter as a unit swing down and under and back beneath a still line of the neck; let the backstroke achieve its height and then transition without your assistance into its downstroke, and stand still thru impact and allow the putter head to lead the body into the vertical rising of the shoulders in plane and the spinning back of the base of the neck. The head at this point (once contact with ball starts) can be allowed to move back away from the target as the shoulder frame rises and carries the top of the head back. No worries, just stay "down in the putt" and witness the putter head travel low and flat and square down and thru the bottom catching the ball solidly on the way thru slightly rising.

READING

Without consistent delivery speed (touch) of balls at the front lip of the cup, a golfer has little hope of consistent and accurate reads of putts, which is predicting the future path of the ball across a) slope of a given direction, shape and steepness, b) over a surface green speed, c) with the usual delivery speed. Delivery speed is the only variable the golfer controls.

A good delivery speed sorts out the physics of ball-hole interaction in a common sense way. Never short, so fast enough to make it all the way to the hole; Never too fast to drop, so the crossing speed of the ball will drop deep into the cup safely and allow shorter crossing paths less wide than a center-cut putt out to the short paths across the edges of the cup; and never so fast that any miss rolls too far beyond the hole and causes the golfer personally a difficulty of any kind for the comeback. This all boils down to a delivery speed set by physics and common sense at 2-4 revolutions per second rolling speed at the front edge of the lip not as a matter of personal individual preference but as a smart sorting out of what works for all golfers in the real world. A golfer with instinctive touch will consistently have a pace on putts that is never short, that sees the ball dive deep down in the cup, and that never races more than 2-4 rolls past the cup in case of a miss.

The instincts will "show" the golfer the last 3-4 feet of any putt when he stands 5-8 feet below the hole and imagines his future putt arriving at the lip with his usual pace.

Given one speed, there is never more than one read. Given the read, there is never any pace to use other than the usual, since that is the pace that determines the shape you "predict" and is the only pace for executing the putt to make the predicted future present reality.

There are at least three ways to "see" the future break, and any and all methods that depend upon the same delivery speed will all agree in showing exactly the same curve, the same start line or aim of the putter face, and then the same delivery pace

when executing the putt.

First, imagine the last 3-4 feet of the future putt as the ball arrives and enters the hole from the high side. With that "kernel" of the total curving break path in mind, identify the start line and target near the hole as follows. A) Trace the last 3-4 feet into the hole; B) Retrace the path backwards out of the hole over the same 3-4 feet and then continue the curvature towards the ball so that the curving path matches up with the shape of the green and the likely ball speed along the way; then C) once the backwards running path no longer has any curvature in it and runs only straight at the ball, reverse this "line" direction from the ball straight all the way to the fall line above the hole. This straight line is the start line and aim line of the putter, and the target spot on the fall line is the "end" or the putt in the sense of a second hole there. The golfer then aims at this second hole and imagines that the putt is dead straight, flat, and level from ball to second hole and the golfer intends to deliver the ball into the second hole with the usual delivery speed over the lip. This energy will perfectly match the real energy for the curving path into the real hole nicely.

Second, imagine a straight line from ball to hole across the slope, and predict the shape of the ball's roll if the golfer putted dead straight at the cup, knowing the ball would curl off line to the low side. The golfer tries to predict exactly how many inches low the ball will be when it cross the fall line below the hole. Then he simply identifies the target as the spot that same number of inches ABOVE the hole on the fall line.

Third, the golfer intuitively aims with a target specifically, but with a sense of how high to aim when he putts all the way nicely to the fall line so that the ball will never roll to the low side. Two imaginary boundaries are the fall line straight uphill thru the cup and the "baseline" straight from ball to hole, and these two lines intersect at the cup to form a "corner" that the ball will settle down into from the high side of the slope. The trick is to gauge exactly how much higher than aiming straight along the baseline is required -- when putting with a pace that carries the ball nicely to the fall line -- so that the ball will not or even cannot roll low by crossing below the baseline. The golfer starts aiming down the baseline and then ranges the aim a little higher while attending to his gut instinct for how quickly he can STOP going higher, looking for what is sufficiently high aim and NO MORE THAN THAT. Once the putter face is aimed satisfactorily according to gut instincts, the golfer simply settles down to putt straight with the usual rhythm and delivery pace all the way to WHATEVER spot along the fall line he has ended up aiming.

These three methods all generate the same aim line and distance spot near the hole because they all use the same sense of deliver pace when predicting and imagining the future curving / breaking putt.

At the end of the day, the golfer will simply "go with" the aim of the putter face for setup and stroke will NOT make the putt unless he also uses the standard rhythm

for touch. So there is nothing to do after aiming than make a beautiful, solid stroke straight where aimed with good rhythm and get the ball all the way to the fall line and/or hole.

Misses should always finish high-side, on the fall line, and preferably within tap-in range. Most reads are missed downhill because the golfer reads with a nice slow delivery speed but then aims poorly or strokes the ball with faster pace and power, or the golfer fails to play the slope in the stroke and putts either heel-up or toe-up and loses the putt to the downhill side. He may also "pull" putts that break in towards the feet, and hence miss "low side" by the pull. Pulls are typically caused by worry and adding power when none is desired or required. So always flatten the sole of the putter to the surface, conform the setup posture to the flattened putter, ignore the slope, and putt dead where aimed with the usual rhythm without any hurry or worry.

AIMING

IF you have a target to aim at (spot on the ground near the hole), then use this 3-step process.

First, stand well behind the ball, close one eye, and lift the edge of the putter shaft to visually split the ball and the target by "connecting the dots" on one edge of the shaft, as this will reveal exactly the line of grass blades between the ball and target that actually lay on a straight line. Choose one spot that is on this line just in front of the ball a short distance, about as far along as your lead foot's big toe will setup in your usual stance.

Second, keep this spot in view as you walk into the back of the ball, possibly keeping the visual ruler of the shaft connecting the dots as you walk nearer, and then square the putter face's sweetspot behind the middle of the ball and aim the face squarely at the spot. Sometimes it helps to set the putter face directly behind the spot first and then lift it back behind the ball, as the Rules allow this without violating the Rule against "touching the line".

Third, setup to the aimed putter face by matching the neck line with the leading edge of the putter face (with good posture, no ballstriker neck or tilt of head and neck off perpendicular to shoulders). Once the setup matches the eye line (pupil to pupil line, actually the "skull line" from corner of eye socket to corner of other eye socket) parallel to the aim of the putter face, then "aim the face" as if an arrow stuck thru the back of the head level out of the bridge of the nose between the eyes by lowering the arrow head that is about one foot in front of your eyes until the eyes, arrow head, and sweetspot of putter head all line up. Then swivel the head like "an apple on a stick" s that the end of the line of sight like a dot o the ground runs a straight line sideways along the same line the putter face aims along. Once the head turn has carried the end of the line of sight straight sideways the same distance as he intended target, whatever you are then facing and seeing in the "aim

spot” of the visual experience of either eye (when the other is closed) IS where the putter face actually aim, for good or ill. Don’t use the eyes to “hunt around” for the intended target at the reference distance, but accept the spot where straight-out eyes end up looking and pointing as the spot where the putter face actually aims. If the eyes do not look where hoped – i.e., the final spot is other than the intended spot – this must be because the putter face doesn’t aim where intended or the physical manner of performing the aim check was flawed. The likely flaws in the aim checking are a) not setting the eyeline or skull line to match the putter face aim, b) not aiming the golfer’s face at the sweetspot to begin with, but only partially “facing” the sweetspot and also looking slightly down the cheeks at the sweetspot, and/or c) not swiveling the head like an “apple on a stick” with the chin remaining equidistant from the shoulders throughout the head/face swivel, but allowing the top of the axis of the head to slide backwards or forwards in the head turn instead of simply spinning in place.

An alternative aim checking procedure is to use “Mt Fuji”. This sets the eye line to match the putter face aim while “facing” the sweetspot, with the eye closest to the target closed and the eye partially blocked from seeing the target open. If the golfer then keeps the face aimed down at the sweetspot and shifts the eyeball of the open eye to look sideways across the bridge of the nose, the eyebrow and nose meet at a peak and the visible borders of eyebrows and nose appear to define the shape of “Mt Fuji”, and the peak of Mt Fuji projected to the green surface sits on the startline of the putter face, perpendicularly out from the sweetspot perhaps two feet down the line. Now, watching the peak, as the head is swiveled, this moves the peak in a straight-sideways line over the ground. At the reference distance, whatever blade of grass rises like the moon atop Mt Fuji IS where the putter face aims.

A third alternative has the golfer set the eyeline or skull line matching the aim of the putter face, but this time not “facing” the sweetspot by looking with eyes aimed slightly down the cheeks at the sweetspot. The head turn in this case is not an “apple on a stick” swivel to send the vision straight sideways along the ground. Instead, the golfer imagines that the line of vision hangs like a pencil beneath the lead-side eyeball vertically aiming at the ground, and then turns the head and face so this vertical pencil swings up like a spoke on a Ferris Wheel, swinging in a vertically oriented plane of motion. This action will also send the end of the line of sight straight along the aim line of the putter face to reveal where the putter face in fact aims.

The whole purpose of the checking of the putter face aim beside the ball is to relax the golfer with certainty about the aim, so that the golfer will not doubt that the usual stroke rolling the ball straight where the putter face aims is exactly what gets the job done. This taken care of, there is NOTHING the golfer could or should do other than simply make the usual smooth, straight stroke with good rhythm. Once aimed, the golfer is home free. All strokes are the same straight rolls with good rhythm.

Once the putter face aim is accepted, the golfer need not remain in the same posture of head and face and neck bend used to check the aim, but can relax and re-set to the aimed putter face with any neck and head orientation desired for comfort and balance.

To get better at the third step, inside on a kitchen floor or any floor with straight lines, square up beside the line, make a tiny straw-like tube with the right fist, lift the tube to the right pupil so the tube aims perpendicular out of the face, bend the hand / tube and face down until the line on the floor shows up inside the tiny hole in the hand, and then practice a good head swivel, which you will know good from bad because only a good turn / swivel KEEPS the line on the floor inside the tube's hole. This exercise forces you to "face" the line on the ground, square up to it, and do the swivel correctly. Then you can forget the fist / tube and use the "peak" by closing the left eye. set the peak on the line and then turn the head and watch the peak STAY running down the line until the peak shows you one spot at the end of the trip.

DRILLS AND EXERCISES

The top ideas and drills / exercises are:

IDEAS

1. Always keep the same "rhythm" (equal timing back, equal timing thru) regardless of tempo (quickness of stroke), and always stroke / roll the ball exactly where the putter face aims (no compensations allowed).
2. With this as the basis, read putts and aim the putter face for all breaking putts so that the ball stays on the high side when you send the ball all the way to but not seriously past the fall line (straight uphill line thru the cup on the high side of the hole).
3. Never change the rhythm as this fouls up the relationship between the read (which uses your standard rhythm and touch) and the pace or delivery speed of the executed stroke (which has to be the same as the usual rhythm or the read / breaking path cannot be followed).
4. Aim the putter face based upon the read and then simply pull the trigger to stroke the ball to the fall line, using the usual rhythm.

Touch drills:

Inside, putt on a carpet from various distances to an upside-down tee peg to touch it without knocking it over.

Inside, putt to an open sleeve box with the butt of the box braced against the baseboard of a wall, and fill the box with three balls.

Green, perch a ball on the lip of a hole and bump it in from various distances and locations.

Green, putt to a far fringe to learn that a rhythmical stroke with the intention of going ONLY to the fringe invokes the brain's block against too big of a backstroke, so there is no such thing as "too big" a backstroke and in fact no stroke is "big enough" unless and until it has become "as big as it can get" with a rhythmical stroke.

Green, create a "porch" 6" x 6" or so in front of the cup and try to stop 10 balls on the porch but short of the hole, and count the result, to learn that the brain really does not like being short and always includes a few rolls extra.

Green, tee a ball up and touch the teed ball with your putted ball without knocking it off the peg from various distances and locations.

Green, press a tee peg down into the surface and roll a ball onto the tee peg to tee up the putted ball from various distances and locations.

Green, set up aimed at a distant hole but slightly back from your ball and simply move the putter head to some end-of-stroke position at the top of a follow-thru that seems about the correct stroke size, as the instincts choose this "size" with exactness, and then simply let the arms and putter drop backwards into a swinging and then on the forward swing, step forward towards the ball so the putter head catches the ball as it swings thru towards the target, to learn how easily and accurately the instincts choose the stroke size.

Green, putt a ball all the way to a distant location and then send a second ball as close to but not as far or farther than the first ball, and continue stacking balls backwards as many as you can until you send one ball too long, and then count your balls, and repeat and do better.

Green, set up a long putt (perhaps 30 feet or so) and roll the first ball to the halfway point, and then roll a second ball halfway between this first ball and the hole, and then roll a third ball all the way to the hole; repeat this with two practice stroke (the first practice stroke to halfway between halfway and the hole, and the second larger practice stroke from the ball to halfway to the hole) and then make a third real stroke that is simply larger than the last stroke, allowing the intuition and instincts to fill in the blank for exactly how much larger.

Green, for uphill putts when the ball is also located on a surface tilted uphill, take stock and be aware of the height of the lead shoulder at address, and make sure that in the forward stroke the lead shoulder moves higher than the height it begins

from, so the stroke action does not quit too early, as this "chasing the putt uphill" an extra inch or two of shoulder rise makes sure the ball gets all the way to the hole uphill and does not send the ball too far.

Green, set up near a tier headed uphill and stroke balls to perch on the top edge of the tier, estimating the distance from ball to top edge of tier as the linear feet sideways plus one extra foot for each one inch of elevation rise between ball and top edge, using this linear sideways distance as if making a straight and level putt without any hill.

Green, putting to a hole location on the top level after putting up a tier, add two imaginary putts together with practice strokes by making one practice stroke from the ball to the top edge of the tier and the second practice stroke to roll the ball from the the top edge the rest of the way to the hole, and then make a real stroke that is simply larger than the larger of the two practice strokes, leaving it to the intuition to fill in the blank on exactly how much larger.

Green, putting down a tier to a target hole some distance past the bottom of the tier, estimate how far past the bottom edge of the tier a ball would "roll out" if simply started or toppled over the top edge of the tier, and then with this roll out distance noted, topple a ball over the top edge and see how close your prediction was to reality.

Green, putting down a tier to a target hole some distance past the bottom of the tier, estimate how far past the bottom edge of the tier a ball would "roll out" if simply started or toppled over the top edge of the tier, and then add two imaginary putts together with practice strokes by making one practice stroke from the ball to the top edge as if to topple the ball over the edge and the second practice stroke to roll the ball from the end of the roll out the rest of the way to the hole, and then make a real stroke that is simply larger than the larger of the two practice strokes, leaving it to the intuition to fill in the blank on exactly how much larger.

Green, on slick downhill putts, try the "even ... even" slo-mo robotic / mechanical stroke timing and don't quit on the forward "even" or the ball will hang on the hill above the hole short, while completing the timing will not drive the ball seriously past the hole.

Stroke drills:

Draw a "T" on the green and stroke balls down the stem of the T with about the same pace so that the balls all "hook up" like freight cars regardless of surface contour / break.

Square up and putt straight uphill under a string line.

Make strokes along the baseboard of a wall with the toe of the putter a mere 1/4th

inch or less back from the wall, keeping the chest facing the wall thru the impact zone in the forward stroke and allowing the putter head to move by its own momentum wherever it wants to go, which is straight along the baseboard at least 3" and perhaps as much as 1 foot or more before curling off line to the inside.

Practice setting up the correct distance back from the ball with a natural arm-hand hang that does not "reach out" to grab the putter handle, but instead naturally docks with the waiting handle without "picking a fight" with gravity, by taking the grip and then relaxing the right hand to let it dangle freely off the handle, and the distance back from the ball is correct only if the hand swings off the handle only sideways and not in towards the thigh (too far from the ball) or out towards the nose (too close to the ball).

Get a good read-touch combination for a breaking putt with a target spot on the fall line and plant one end of a string line at the target and the other end well behind the ball, and then make straight strokes beneath the string with good rhythm, without misdirecting the ball at the start uphill or downhill (commit to the line of the read).

Aim the putter face for a straight uphill putt 5-15 feet, set up to the putter as aimed, get a sense of distance, and then close the eyes and make a stroke, focusing upon the feeling of the base of the neck during the shoulder-rock stroke action rotating like a small wheel parallel to the aim line that otherwise does not twist or sway.

Set up with the putter face leading edge defining the mid-point of the stroke action and place a dime-stacked-on-a-quarter 1", 2", or 3" in front of the mid-point, and then make strokes that return the putter face to its lowest point at the mid-point but thereafter keep the putter head from rising so that you shave the dime off the quarter without artificial manipulation of the stroke (kill the muscle in the lead arm just below the elbow before the downstroke begins -- heavy hands and arms, dead hands and arms, steady maintenance of the base of the neck at the same height in the back and thru of the stroke).

Define the mid-point / bottom of the stroke action as the leading edge of the putter face, and then move the ball 1", 2", 3" or more to the left (targetward) of the bottom, and make straight strokes without any pulling of the putter off line until after impacting the ball.

Aim drills:

Inside, using a laser mounted on a putter, aim in an off-the-wall direction across a room at a spot on the base of the wall, predict exactly where the laser beam will strike the wall, and then turn on the laser and note whether your prediction is on target or is left or right and if so how far.

Aim across a room, predict the spot on a distant wall where the putter face aims,

make a straight stroke that rolls the ball exactly over a spot 3-5" in front of the ball, note whether the ball actually crosses this spot, and then use the place on the wall where the ball ends up as the true accurate feedback report of where the putter face was actually aimed, and then grade your prediction.

Practice aiming the face and performing the head swivel using a tiny telescope of the right fist, forming a tiny straw-like hole with the fist and aiming it perpendicularly out of the right eye the same direction the skull / face always aims, and then lowering the head, face, and telescope until a line on the ground or floor shows up inside the tiny hole (setting up square to this line with the chest and neck), and then turn the head / swivel the head so that the telescope view stays on the line and travels straight sideways, noting the feel of a geometrically correct head swivel in which the chin stays the same distance out from the clavicle throughout the head swivel instead of moving in closer to the shoulder as the head swivel progresses.

Green, set up a straight uphill putt 5-15', and perform the three-step aiming routine, picking an aim spot 3-5" or so in front of the ball from behind the ball using the putter shaft as a visual ruler connecting the ball and target, aiming the putter face squarely thru the center of the back of the ball at the chosen aim spot 3-5" in front of the ball, and then checking from the setup perspective where exactly the putter face actually aims (until satisfied that all three steps agree), and then simply let "Borat the Albanian" putt the ball over the spot with the usual rhythm.

Reading drills:

On various holes, use 4-5 complementary methods to locate the fall-line accurately uphill thru the cup, and then check your assessment by putting a ball straight uphill from the 6 o'clock spot on the fall-line to see whether the ball stays straight, and if the ball breaks left, move the starting 6 o'clock position left also until the putt straightens out (or to the right if the ball breaks right), to learn how far off your assessment has been.

Repeat and then check your assessment with a bubble level, a ball inside a jar cap, or similar device.

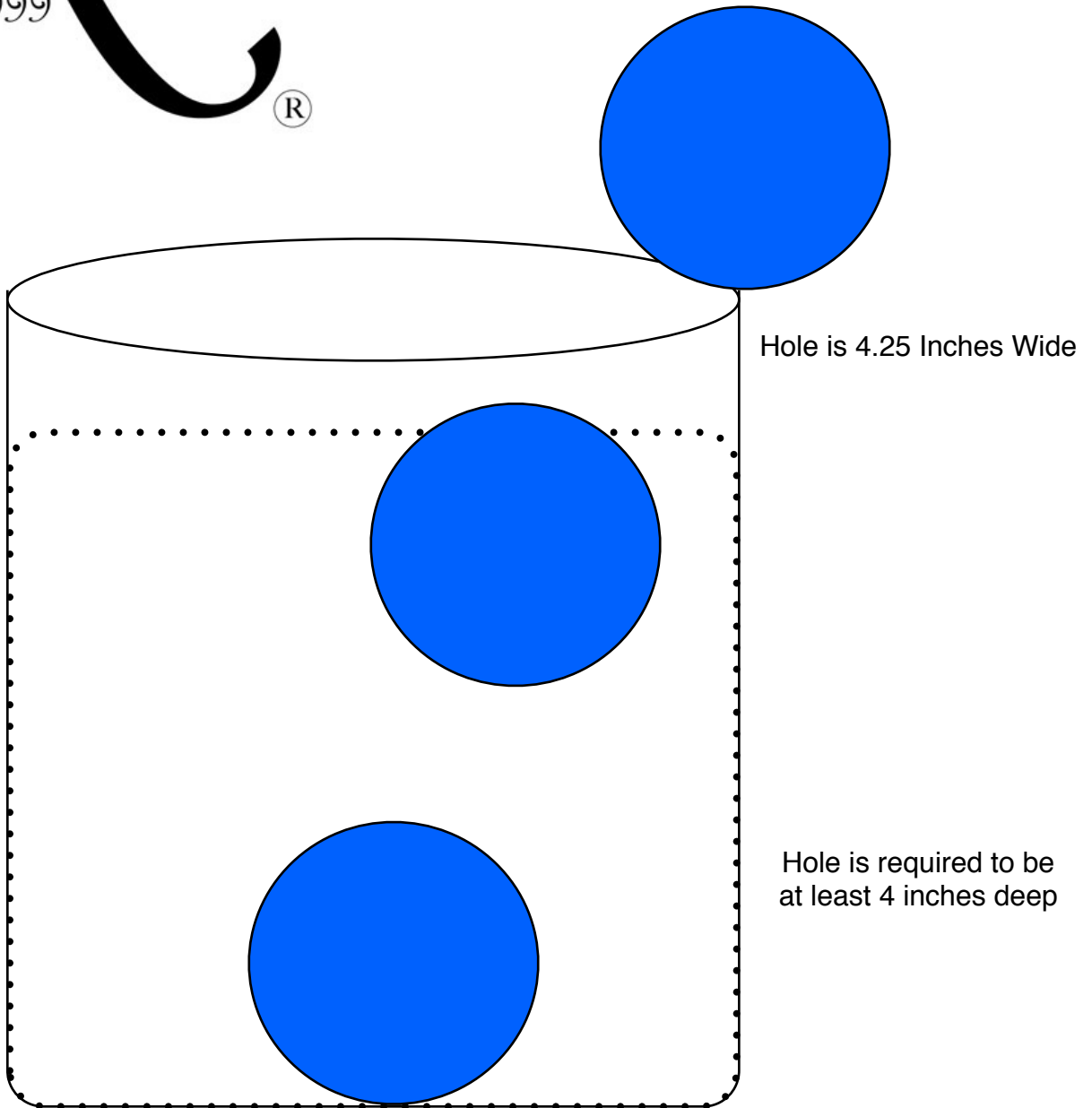
Stretch a string between the ball and the center of the hole on a long putt, and pick which side off the string is the low side and which the high side, and then putt ten balls to the fall line distance while trying to sink the putt, and count how many putts cross the string to the low side; repeat until ZERO balls dribble to the low side while all putts are aimed with the intention of sinking the putt.

Green, putting down a tier, stand below the hole and predict how the ball will interact with the fall-line thru the cup on the lower level of the green, and then work backwards from this to locate a point off the bottom edge of the tier where the ball should exit the tier, and then work backwards from this using the fall-line of the

tier itself at this exit point to locate the point on the top edge of the tier where the ball will have to start down the tier in order for the putt to sink, and then putt the ball over this top-edge spot with appropriate touch and assess how well you read the breaks.

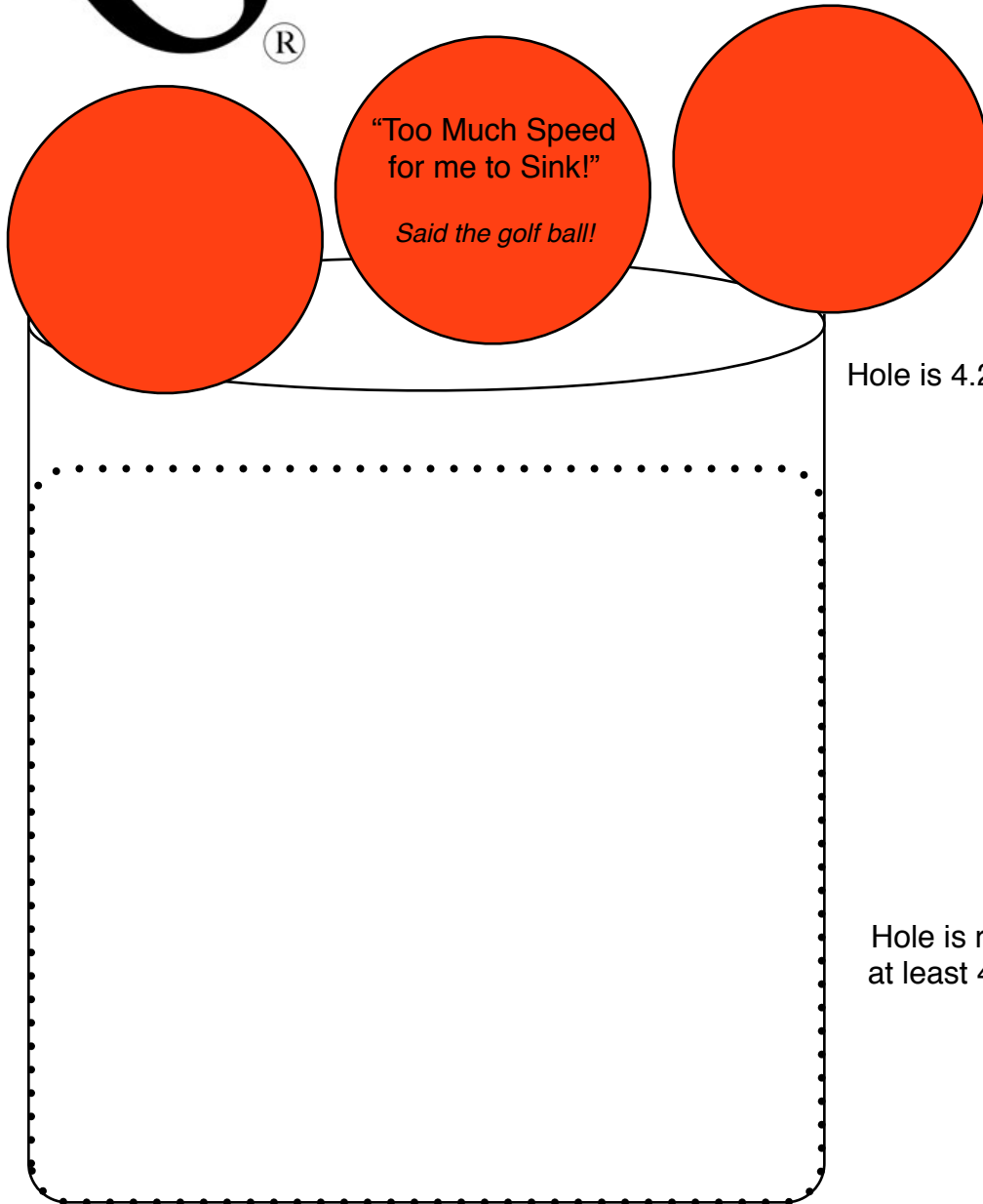
Green, downhill putts, place a club shaft along the fall-line on the far edge of the cup, aim at a target somewhere along this shaft, and then roll the ball ONLY as far as the shaft with the usual rhythm, and assess whether the aim point was too high or low, but never alter the rhythm or the intention to putt only as far as the fall line (even though the ball might roll slightly over the fall line).

Green, set balls in a spiral pattern of increasing distance around the hole on a slope, starting at 2' out on the 6 o'clock straight uphill fall line, and then a second ball at 5 o'clock out 3', and a third ball at the 4 o'clock position out 4', etc., around the hole in this counter-clockwise direction, and sink 7-8 or more of these putts in a row, and repeat in a clockwise pattern or at another hole location.



An optimal 'sink' would be when the ball enters the cup at a speed where the ball would land dead center into bottom of the cup. With the ball traveling at this optimal speed, the ball has access to the most amount of space within the entire hole to sink below the liner and successfully stay in the hole.

"Often Times we hear to try and putt the ball 18 inches past the hole" or "ram the putt into the back of the cup".. These queues or putt thoughts are not going to give you the best chance to sink the most amount of putts. There may be times on an uphill putt where thinking about aiming past the cup would be helpful, but the actual roll speed of the ball as it enters the cup is the key to success!



Cup Liner Starts 1 Inch Below Cup

Hole is 4.25 Inches Wide

Hole is required to be at least 4 inches deep

Putt 18 inches past the hole?

I wouldn't! If there is enough speed on your golf ball to reach the back side of the cup, your chances of sinking the putt become very slim. When the ball is rolling fast enough to pass by the center of the cup you are diminishing how much of the cup will be available to 'swallow up' the golf ball. When you have too much speed on the ball you are limiting yourself to having to use a 'Center Cut' entry to have any chance of successfully holing the putt. If you start to enter the cup from a side angle {not center cut}, your chances of success are limited to pure luck!