

One (Slow) Tempo Fits All Putts

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[ZipTip: DISTANCE CONTROL / TOUCH: One \(Slow\) Tempo Fits All Putts](#)

For consistent and accurate distance and line control, start with a single slow tempo or timing from start to finish for all putts regardless of length of about two full seconds, a nice easy "one potato, two potato" stroke -- your brain relies upon it!

One of the most interesting aspects of the phenomenon of excellent, consistent putting is that all putt strokes take the same amount of time, regardless of distance. A repeating stroke includes a consistent set of physical and visual cues that let you know you are on track, perhaps even in the zone, with your putting. As your experience grows and you stroke more and more putts with this same technique, your brain and body creates "channels" of expectation and performance in reliance upon these cues. The whole scheme of your putting technique is orchestrated by a single tempo. Choose wisely!

[Some Theory.](#)

Tempo allows your putting to adapt automatically. Motor programs in the brain for skilled movement are organized temporally in an overall pattern. This is the tempo. Independent segments of the motion (e.g., backstroke, transition, downstroke, follow-through) may have differing proportionate timing, but the overall tempo "frames" the whole. This interplay between the proportion of the parts of the motion (rhythm) and the overall pattern (tempo) can be varied from one occasion to another to fit the motion to the specific requirements (longer putts, shorter putts), but the scaling of the motion's extent occurs uniformly by varying the extent of the parts within the overall tempo. You certainly can change the tempo in your putting, but it's a lousy idea because you rob your brain and body of the established set of cues you rely upon for accurate, consistent performance.

Tests of top pro putters on Tour show that not only does their routine consistently have the same steps or components, but the routine almost always takes about the same amount of time from start to finish. The routine helps set your body down to the internal tempo.

Different lengths of backstroke with the same overall timing gives consistent distance control. But the putt stroke itself (and not just the routine) -- from takeaway through to the end of the follow-through -- also occupies the same amount of time from putt to putt, even on different length putts. A ten-foot putt with a 12-inch backstroke takes the same amount of time to complete as a 30-foot putt with a two-foot long backstroke. The putter, of course, moves faster in the longer stroke in order to cover the greater length in the same time as the shorter stroke. With a stable tempo for your putting, distance control becomes reduced simply to the length of your (back)stroke. Distance control comes from a consistent tempo.

The parts of the stroke really aren't symmetrical in timing or length, but the overall pattern is stable. Nick Price, for example, has been timed and his stroke has an overall tempo of just under two seconds (which is eight quarter-second intervals) from takeaway to the end of his follow-through. The parts in proportion are usually: 3/8ths from takeaway to impact (under three quarter-second intervals, about 0.67 seconds -- fairly quick), and 5/8th from impact through follow-through (about five quarter-second intervals, about 1.25 seconds). The overall tempo is about two seconds (about 1.92 seconds). Chip Beck's stroke tested as a slower time to impact (about 0.80 seconds) but a total time slightly shorter than Price's (about 1.85 seconds total), so Beck has a more careful stroke with a lighter, less-pronounced follow-through.

"One inch for each foot of putt" is okay, but is based on faulty notions of the stroke. One tip for distance control, from Phil Rodgers and others, is to keep the length of your backstroke the same as the length of your throughstroke, and to calibrate the length of the backstroke to the green speed for varying distances (e.g., "one inch backstroke for each foot of putt" on most greens, one and one-half inches on a slow green, etc.). The important point, though, is that this system only works if your putting tempo is consistent from putt to putt. (I don't personally subscribe to this gimmick because I think there is a better way to calibrate the stroke to distance and speed.) This approach artificially forces a consistent tempo, but it's coming at the problem backwards, from distance to tempo. Instead, you start with tempo to gain distance control, and when you do, the control is just there with your targeting, all the time.

This one-inch tip really is based on the symmetric motion of a pendulum as it swings to and fro under the perfectly uniform pull of gravity. However, a putting stroke is not really a pendulum, because there really isn't a single "arm" suspended from a single pivot as with a pendulum; instead, you have more of a three-piece triangle (arms and putter) connected to a shoulderframe and the shoulderframe rocks back and through by virtue of torso rotation, hopefully staying on plane with the center of this system more or less stationary. The backstroke is definitely a pull on the hip by lower-back muscles, which rotates the shoulderframe back. But the throughstroke can be either the same in reverse or just a relaxing of these first back-turn muscles so that the torso drops back to its previous state. I prefer to pull-the-hip going back and then relax for the through-stroke, but others want a matching muscle-action for the through-stroke on the other hip. And on long putts, you will inevitably need some extra energy in the putt, so the matching muscle-actions works well for that.

If this relaxed, free-fall through-stroke or the additional-force, matching muscle-actions through-stroke is kept within the tempo "timing frame," the arms and hands can stay relaxed as the total motion speeds up the torso, not the arms and hands for "hit." With such a tempo-controlled stroke, there really isn't much concern one way or the other about "accelerating" through the ball, "left-wrist breakdown," or "symmetrical" follow-through. The only focus is on solid impact within the tempo-controlled stroke.

Choose Your Tempo Wisely.

Dave Pelz believes that your tempo should match your personality type. I disagree, and think your tempo should exhibit a scrupulous respect for optimal physics and how the brain organizes your motion. Pelz says your walking pace reveals your personality, so you can time your walking and use that to set a metronome tempo at X beats per minute to "train" yourself to your "optimal" stroke tempo. While it is true the brain organizes the rhythm and tempo of your walking (mostly in the basal ganglia of the brain), a skilled

movement like putting has a learned timing pattern that comes more from the cerebellum for fluidity, smoothness, and overall temporal pattern.

Your brain knows your body's tempos very well. The cerebellum or "little brain" at the back of the skull receives input from the inner ear, the body's positioning, and the eyes, and generates signals to the motor cortex and the body to organize the movement parts into a temporal pattern. This is the source of smoothness and fluidity in your everyday movements, as in an orchestra conductor's baton movements -- graceful and impeccably timed. The details of how this is accomplished center on the timing function of Purkinje cells and the role of inhibition of muscles in motion. Every purposeful body motion is accomplished by matching the timing and extent of opposed pairs of muscles, so that one muscle starts the motion ("agonist" muscle) and the paired muscle stops the motion ("antagonist" muscle). The cerebellum keeps tracks of the pairing and matching of the muscles, so the timing of the stopping is smooth and accurate.

If you make a vigorous hand-clapping motion but suddenly stop the hands from making contact, you are using your cerebellum. You can vary the force of your hands-together movement from a gentle clap to a powerful smashing move, but the cerebellum can accommodate the changes in scale within the overall timing of the braking action to stop the hands from making contact.

This capability in the cerebellum makes a wide range of stroke tempos possible, with nearly equal accuracy, from a quick jab or pop stroke to a slow- deliberate pendulum-like stroke. The real question is what sort of tempo is best for putting. In my opinion, the best tempo is one that reduces stress forces in the putter-hands-arms connection to a minimum, reducing face twist, path wandering, handle-flipping, and the like. Because the brain can adjust to nearly any tempo with appropriate power and organization of the parts, there is not really any problem for putting power in choosing between a quick stroke and a slow stroke. The more important consideration is how the putter behaves as a result of the chosen tempo -- does the tempo promote or inhibit face squareness, path straightness, and a constant, stable hands-handle relationship throughout the stroke.

Largo is best because of the physics of forces in the stroke. In music, there are various standard tempos, such as *allegro*, *andante*, *adagio*, and *largo*. "*Largo*" is from Latin *largus* for "large," and means a slow, broad, dignified, measured style. Such a tempo allows initiation of the stroke without grabbing or snatching at the putter, but with a tempo that is established and consistent from the beginning. This tempo also allows a smooth transition without casting of the putterhead or centrifugal forces from the stroke making the putter handle stress your hands in their grip. And this tempo allows a smooth drawing of the putter through impact powered fluidly by the pendulum-like free-fall and easy, relaxed turning of the shoulderframe, for a solid putting impact without "hit" tightening in the hands or jerkish motion of tense forearms.

And a *largo* tempo matches up best with the timing of your perceptions and targeting / stroke processes. Every perceptive process is a process of signal reception, transmission, and interpretation, and this takes a little longer when you need focused attentiveness for targeting in a skilled sport motion like putting. Toss a wad of paper in the trash basket: I bet you face the target and PAUSE while your perceptions gather themselves and get tuned in to the toss, and when ready, then you toss. This is certainly the case in target sports like darts, archery, bowling, and shooting. This pause for targeting helps putting, too, so your tempo when you pull the trigger should stay consonant with these processes.

Observe Your Innate "Largo" Tempo.

If you want to see your own dignified, *largo* tempo, try the following: Stand with good posture, relax, let your arms hang naturally and let the tension drain out of them until your hands feel a little heavier. You can feel the blood pooling in your fingers and feel a tingling. Draw in a good breath through your nose, not especially deep, just relaxed and full, and as you do so, let your arms drift away from your sides as your chest expands, your hands moving perhaps 5-6 inches away from your hips. Then as you exhale, let your hands sink back. The whole process take about two second -- one to breathe in, and one to relax. Now take a putter and when inhaling, push the putter back 5-6 inches with a shoulderframe rock, leaving your hands and forearms out of the movement. Then drop the putter back through impact as you exhale in a measured, relaxed way. (It helps if you hum when you exhale, quietly, with a low note.) Now widen your backstroke, say to 10 inches, but keep this *largo* tempo and the inhale-exhale pattern. Now go to about 15 inches. You should see that you are automatically moving the putter a little faster back and through, but the overall timing stays the same. That's your tempo.

Make This Part of Your Game.

Watch pros on the practice green some time, especially in the pre-round warmup. The pros' main idea here is to reactivate a certain recognizable "feel" for putting. This is the same as reconnecting with tempo, and tuning your putting with this tempo to the specific green conditions. You can do the same on the practice green by starting with seemingly idle, purposeless strokes -- try to feel a relaxed control of the motion, without hit, without worry about technique. Then use this stroke to send a few balls away to nowhere in particular with identical strokes -- the same length, the same relaxed timing. Then repeat this with a more powerful longer stroke using the same overall tempo -- two balls sent the same distance, exactly, so the second just bumps the first. If you feel more like a conductor with a baton than a golfer with a putter, that's great! This time sink a few ten-footers without any "hit" in your stroke. Now for a little Albinoni ..., or is that a Rules violation?

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