

# The Final Ten Degrees: Pulse Steering vs. Constant Steering -- The Debate

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*"Move most gently if move you must."  
-- William Butler Yeats*

The debate on the merits of pulse steering (steering only when the oars are in the water) versus constant steering is a long-standing one. So many readers have emailed me with questions about the relative merits of the two styles, that – at the risk of embroiling this column in controversy -- here are some by no means definitive thoughts on the subject.

It used to have the weight of a law of physics that coxswains steered only when the oars were in the water in order to avoid affecting the set. (Heaven help you if your stroke ever saw the knot move during the recovery.) This is no longer the hard and fast rule it once was. (My apologies -- in advance -- to any coaches who may have spent last season drilling pulse steering into their coxswains' heads, only to have me introduce heretical notions.) Most coaches I have asked about it have said they had no hard and fast policy...as long as the steering was minimal.

The effect (negative) of the rudder on the set becomes more pronounced the farther the rudder turns. The increase from 45 degrees to 50 degrees is a lot more destabilizing than the increase from 20 degrees to 25. In most crewshells, the rudder turns through an arc of approximately 60 degrees on either side of neutral. While such a large arc is great for video games, or even perhaps for maintaining a geosynchronous orbit, this is far more than a cox normally needs. The final 10-15 degrees are the most catastrophic to the set. Except in "iceberg right ahead" types of emergencies, or end-of-the-lake turnarounds, never use them. 25-30 degrees of rudder will very likely be almost unnoticeable to your rowers, while a sharp pulse hard over -- whether the oars are in the water or not -- will dump the boat to one side. The lighter the boat, the more effect a sharp rudder angle has. For that reason, coxswains of lightweight and women's crews may especially want to consider gradual steering, while pulse steering might be best for heavyweight boats and -- through some quirk of physics -- bowloaders.

This being said, pulse steering is probably the best way to start out -- if for no other reason than it imposes a kind of discipline on the cox. As you become more experienced, and develop a feel for your particular boat, experiment during practice to see which works best. The goal is to use so little rudder that no one notices whichever style you use. If you discipline yourself never to put the rudder more than halfway over -- hopefully less -- you will be well on that road (and your stroke will feel less compulsion to duct tape both your hands to the gunwale).

Worse than any damage the rudder can do is the damage to the set is caused by coxswains leaning into their turns as if they were banking an airplane or a bicycle. This is a seductively easy habit to get into -- even for experienced coxswains -- because one tends to be looking in the direction of the turn anyway. The head, then the body, naturally follow the line of sight, and the next thing you know there's a gallery full of Head of the Charles or Belly of the Carnegie pictures showing coxswains leaning into their turns like slalom skiers.

Slack tiller ropes will exacerbate oversteering. (And oversteering will exasperate your

coach.) Tiller ropes stretch, especially the nylon ones when they get damp. Tightening them periodically will help make your steering more precise. The wire steering cables in bowloaders usually have a little clamp near the tiller capstan which makes tightening them simple.

The short answer to the pulse vs. constant steering debate ultimately is: steer however your coach and your stroke tell you to. And steer little.

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