Building Your Skills Using Drills

balance

Chapter 1: Balance in crew rowing and sculling

"In a crew boat if an athlete is digging deep on stroke side will this tilt the boat to stroke side or bow side?"

If the digging is caused by raising the hands, it will cause the boat to go down on the opposite site – Bowside in your case. Look at this photo by the Calm Waters Rowing team (from Row2k.com). The athlete has her left hand above and slightly in front of her right, arms nearly straight.

You can test this using this Exercise: **Testing and Proving that the Oars Balance the Boat.**

1. First make the boat level while stationary,
2. For Scullers - have your hands close together left over right and left hand slightly in front. If the boat is not level here, then your rig is not correct. Many coaches set the rig with 10 – 15mm height difference between left (higher) oarlock and right.
3. For Sweep - have arms straight hands holding the handle spaced 3-4 hand-widths apart. If the boat is not level here, then your rig is not correct. Are all the riggers at the same height when measured off the seat top?
4. Sit at the finish with arms straight –
5. For Scullers: everyone lift the right hand up 5 cms – which side does the boat tip? Then return to boat level and hands close together to sit level.
6. For Scullers: Now lift your left hand up 5 cms. Which side does the boat lift up?
7. For Sweep: everyone on stroke side (port) lift their handle up 5 cms - – which side does the boat tip? Then return to boat level and hands out stretched to sit level.
8. For Sweep: everyone on bow side (starboard) lift their handle up 5 cms. Which side does the boat lift up?

Understanding the opposite side effect of hand height differences is important to resolving the problem.

Next we'll show you a drill to help to teach a fix for this.

Chapter 2: Drills for balance in crew rowing and sculling

What causes bad balance in rowing?

Balance in rowing is created by two things: your body and the oars or sculls.

So if your boat is off-balance, first thing to check is that everyone is sitting correctly in the boat. For sculling, sit true in the centre of the boat – even weight on both butt cheeks and both feet squarely in the shoes. For rowing, at the catch, have even weight on both butt cheeks (YES this is correct – do not lift one side of your butt off the seat EVER), even weight on both feet squarely in the shoes. Only your torso rotates in rowing sweep.

The second cause of balance problems are your hands holding the oars. There is a lot of mass in an oar and so even a small inaccuracy in hand heights can affect the balance of the boat. I recommend you do the exercise Testing and Proving that the Oars Balance the Boat (previous chapter). This illustrates to the crew that their hands' actions make the boat dip to one side. Practice this drill for sweep and sculling crews.

How to learn correct hand heights

So having identified the possible cause of your balance problems, here are two drills you can do which can help to teach the crew how to adjust their handle heights to the correct place. Learning a new handle height takes many hours and repetitions of practice.

Exercise: Handle heights at the catch and finish

This is a static exercise to teach the crew where the oar handle height should be at each end of the stroke. Do it while the boat is stationary at the start of the outing and when you turn the boat around.

- Get the crew to roll up to the catch (if novices, do this half the crew at one time). Sit at the frontstops position with oars squared and buried under the water.
- Look at the oar spoon – is it fully under the water surface?
- Get the crew to notice how "high up" the back of the athlete in front of them, their hands are. You can also get them to see where the oar handle is in relation to the front stay of the rigger and the gunwale. This helps them to have a visual marker for the correct handle height and position / angle.
- Now roll to the finish, sit in the finish position with the oar squared and buried under the water.

- Look at the oar spoon – is it fully under the water surface?
- Get the crew to notice how high up their chest their own hands are – “touching their shirt” is a phrase I use. This is the place they need to touch every finish of every stroke.

Remember that it’s worth doing this exercise in every new boat and crew combination you practice. Different rigs and athlete weights affect oar handle heights.

Exercise: Correct handle heights through the stroke

Now, having established two fixed points in the rowing stroke where the boat is balanced level and the crew knows how to see that their handles are at the correct heights, let’s work on teaching them the correct heights through the drive and recovery phases of the stroke.

Recovery phase balance drill:

- Row full length strokes but on the recovery, run the oars along the surface of the water.
- Feather out the finish, then immediately raise your hands so the flat of the blade touches the water.
- Leave the oar on the water’s surface until just before the catch, when you can square the oar and take the catch.
- Row a normal power phase of the stroke.
- At the finish, feather and run the oar along the surface

This drill teaches the crew how to row a balanced recovery. If everyone's oar is on the water's surface, they are more likely to all be holding their oars at the same height and the boat runs level.

When they can do this correctly, move onto the next part of the drill.

- At the finish get everyone to feather their oar out of the water while only tapping down the handle 1 centimetre.
- Leave the oar 1 cm above the surface of the water until just before the catch, when you can square the oar and take the catch.
- Row a normal power phase of the stroke.
- At the finish, tap down 1 cm and feather. Row like this for 20 strokes.
- Now progress to a 2 centimetre tap down. Repeat steps 1-4 above with 2 cm above the water on the recovery.
- Advise the crew to "Be Careful" with their oar handles – a 1 centimetre tap down on the handle equates to around 2.5 cms at the blade tip. (Because the outboard is approx 2.5 times the inboard length around the swivel).
- If they cannot keep the balance with 1 cm tap down – go back to running the oar along the surface, re-establish the level balance on the recovery and then introduce the 1 cm tap down again.
- Progress to 3cm and 4 cm tap downs.
- Remember, at any stage if the crew finds the balance isn't coming, go back one step so the oars are closer to the water surface and they can get the balance back before adding greater depth tap down.

This drill helps the crew to understand the amount of control they exert on the balance of the boat with accurate hand movements at the point of extraction at the finish.

Make it more challenging by increasing the pressure while doing the drill.

Power phase balance drill

This drill helps the crew to understand how high to carry their oar handles during the power phase of the stroke.

- Row normally at least half pressure
- Move to rowing with only half the oar spoon under the water during the power phase
- Do this for 20 strokes
- Return to normal rowing

The athletes have to check both the spoon depth under the water and also adjust their handle heights in order to do this drill. It helps them to appreciate the exact amount to raise the handle at the catch to cover ONLY the oar spoon with water (not the shaft).

When the oars are in the water and the handles are at the correct height and the oars at the correct depth, the boat should sit level. If it doesn't check your rigging or whether the boat is warped.

That's it for our introduction to balance drills. If you've learned something or you have other tried and tested drills to share, drop us a note to info@rowperfect.co.uk or submit your story to our blog.

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