British Rowing
Education
& Training

British Rowing Technique Workshop

Handouts

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British Rowing Technique

Learning objectives

By the end of this workshop, you should be able to:

- Identify the elements of an effective drive
- Coach an effective drive sequence
- Identify which muscle groups are engaged during the drive
- Recognise what quality suspension is.

British Rowing Technique – Driving well

To drive well you need the rower to:

- Suspend between their hands and their feet
- Keep their lower lumbar in correct position throughout
- Ensure they perform a front loaded leg driven stroke.

What is really important are the big muscle groups delivering loads of joules efficiently to the boat.
Thus '**push, don't pull**', here becomes '**Push first, and continue to push as much as possible**'.

Coaching

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Posture/Core

The key message from Safe & Strong Trunks Workshop:

- Stage 1 tests (Simple Rower Assessment [1]: Rowing Position and Simple Rower Assessment [2]: Abdominal Control) should be carried out to ascertain your rower's ability to achieve the positions required to row powerfully and safely on an rowing machine or in a boat. To assess the ability of the rower to maintain a posture associated with the trunk, pelvis and the lumbar spine, by activating and /or engaging their core/ trunk.

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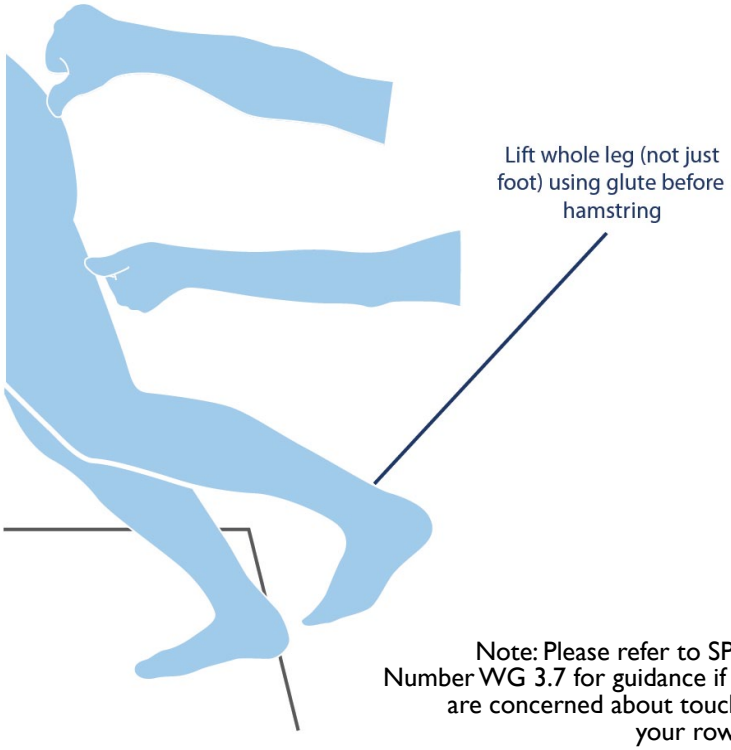
Glute Activation

Glute activation tests/exercises are useful to show how bad glute use really can be.
To test the use of the glutes, instruct rower to lean over a table or bench and to lift the whole leg (not just foot) using glute before hamstring.

The coach/fellow rower should place one thumb on the centre of glute and one on the middle of the hamstring. You/they should feel the glute contract first, followed by the hamstring. Most rowers will engage the hamstring first and many will not recruit their glutes at all.



Note: Please refer to SPCG Number WG 3.7 for guidance if you are concerned about touching your rowers.

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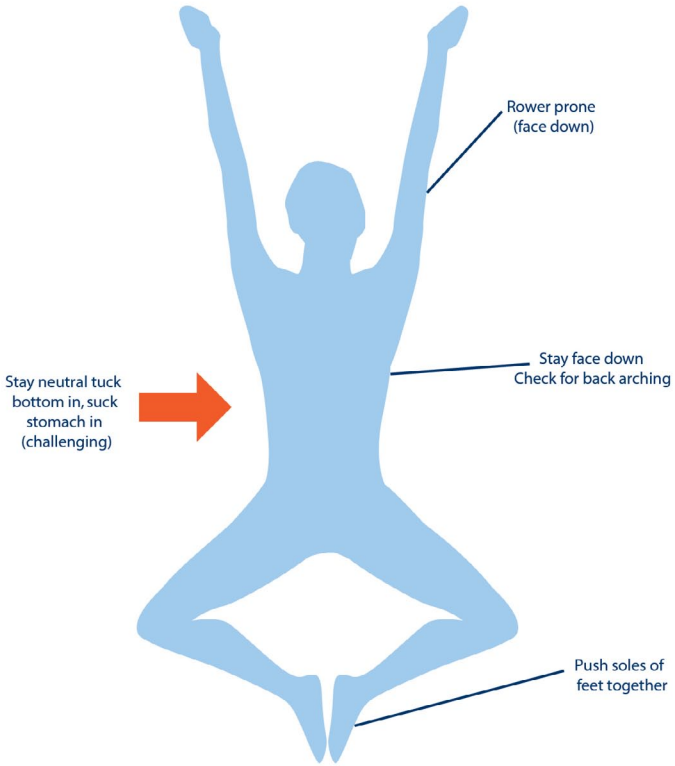
Glute activation exercises can be done to help develop glute activation:

Frog - good for demo of core needed - no back arching



Note: Hamstring stretching should be done too **but** is of minimal help if glutes aren't used; hamstrings are over used **all day**, and therefore tighten up.

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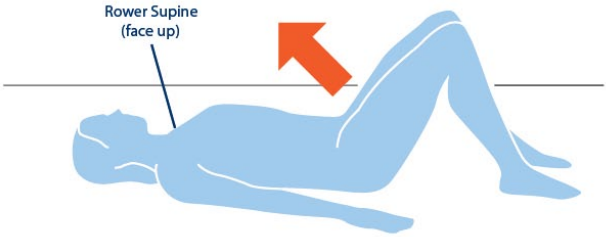
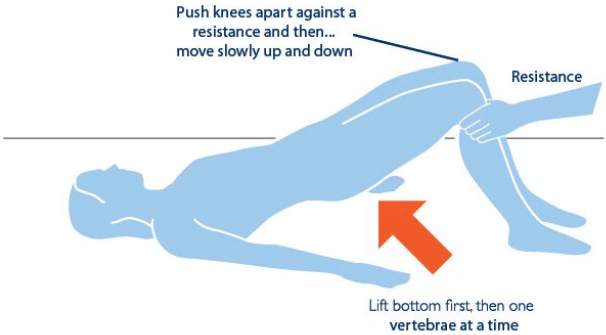
Resisted bridging

3 Resisted Bridging

Do an unresisted bridge first, then add resistance and note the glutes turning on. Lift the bottom slowly up and down.



Do the bridge again, this time with resistance from partner (trying to hold knees together), or theraband or even a boat tie.



Can be done in sets in a circuit or in a weights session.

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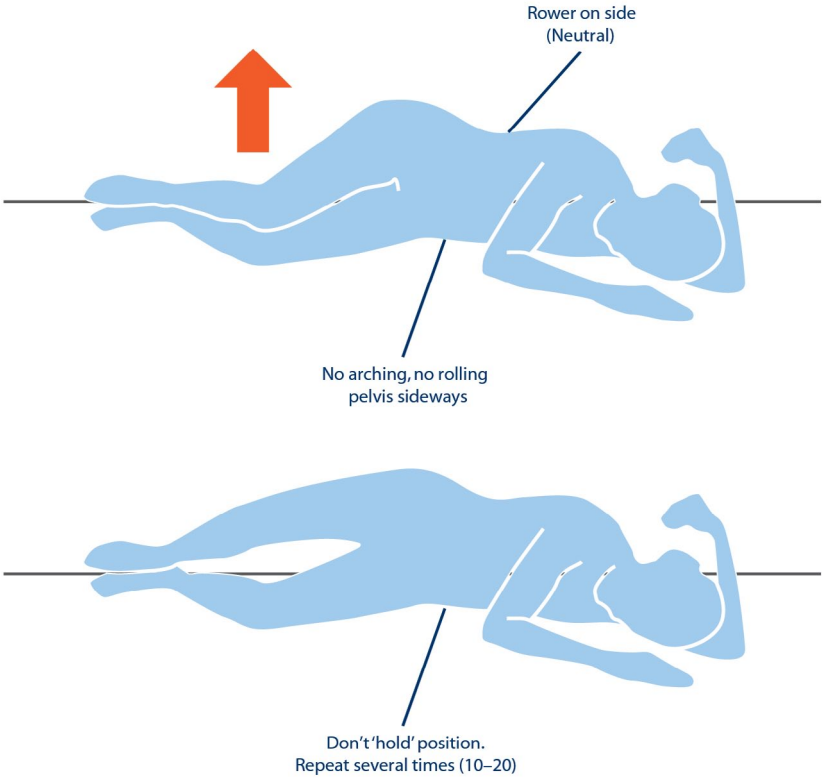
Clam



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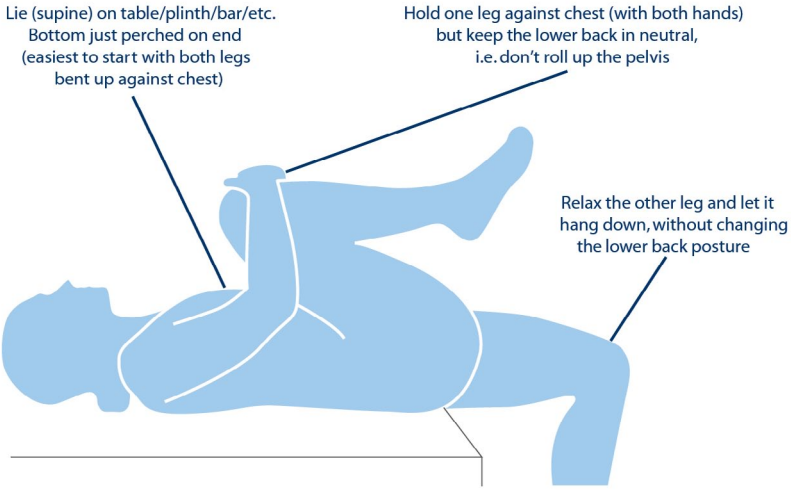
Thomas Test (hip flexor test)

Hip flexors can also affect posture. Below are the Thomas Test protocol and the three stretches that can be used to correct the results.



Be aware of neural tension, i.e. tingles, numbness or pins and needles, and **do not** force into this tension.

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Results

OBSERVATION	Looks like	Means	ACTION
Observe from the side			
Thigh remains in line with the body and knee bends to 90 degrees		Ileopsoas length- Good Rectus femoris length - Good	Continue with current regime- it's obviously working.
Thigh remains in line with body , but lower leg is at an oblique angle		Ileopsoas length –Good Rectus femoris length – shortened	Stretch Rectus Femoris
Thigh is raised higher than the line of the body, and knee is bent to 90 degrees		Ileopsoas length- shortened Rectus femoris – Good	Stretch Ileopsoas
Thigh is raised higher than the line of the body and the lower leg makes an oblique angle to the thigh		Ileopsoas & Rectus Femoris both shortened	Stretch both Ileopsoas and Rectus femoris
Observe from above			
The knee deviates outwards from the line of the body.		Ileo Tibial band (ITB)- Tight	Use foam roller over ITbands

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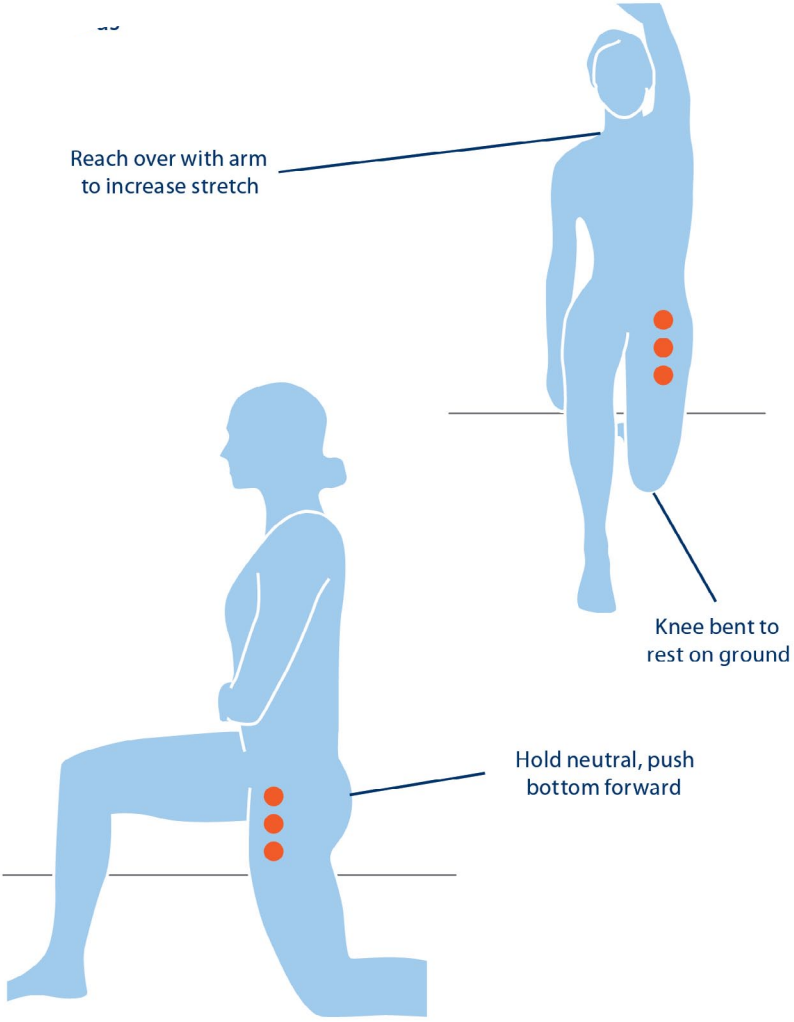
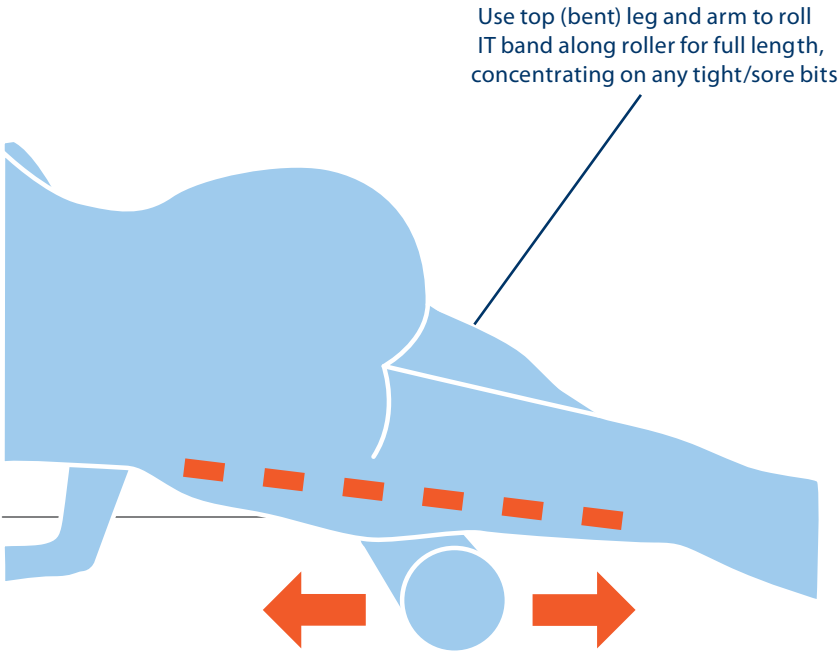
Ileopsoas



IT band Roller

Use a foam roll, although it can be done with a 2 litre Coke bottle full of water (or a rolling pin, for the tough minded).



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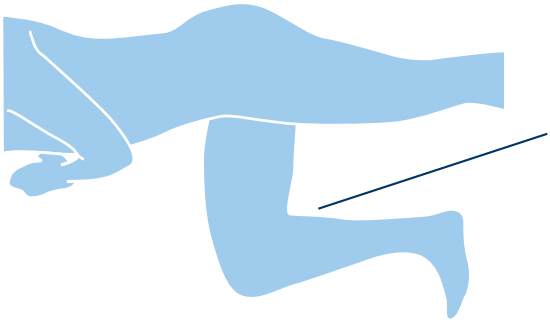
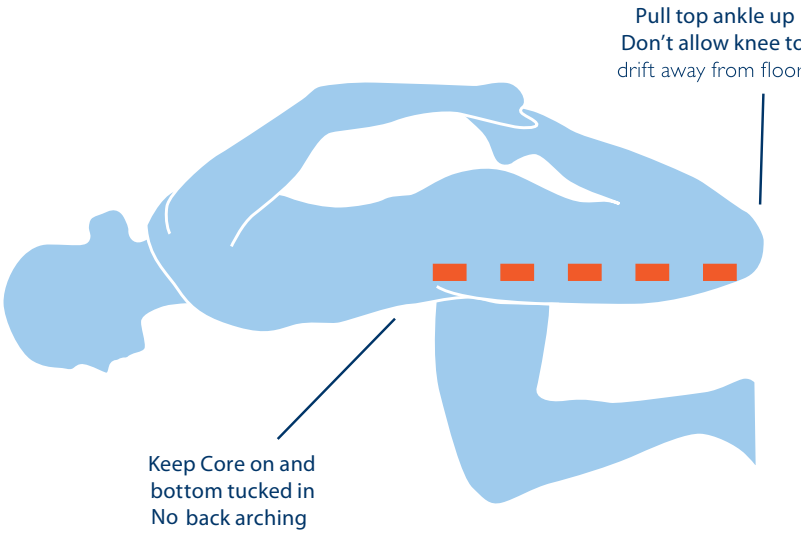
Rectus Femoris

Viewed from above; rower on side (on mat)





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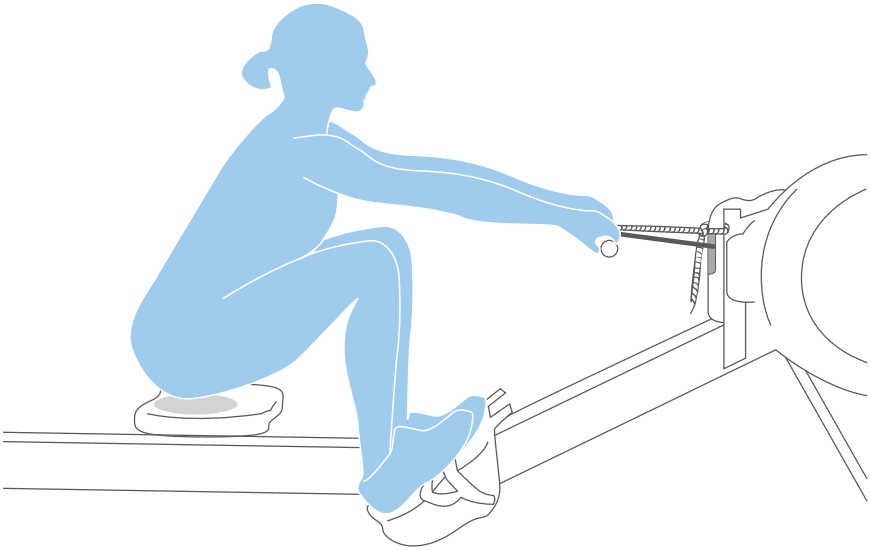
Suspension between the hands and the feet

One exercise you can use to develop the rower's ability to suspend between the hands and the feet is to tie off the handle of the rowing machine with a boat tie (for ease of adjustment). Ask the rower to sit in the catch position and take hold of the handle and then ask them to hold their bottom off the seat for at least 10 seconds.



The next activity you can do should be carried out with straight arms and no handle.

Firstly ask the rower to sit on the rowing machine and find neutral and then ask them to practice switching the core on (this should be easy to do if they have done the S&ST testing).
Next ask them to slide backwards and forwards with core switched on, **but** really loose knees and arms.

You should emphasise **strong** not **stiff** trunk – there is no need to exaggerate rock-over, as this tends to overuse hip flexors – this should come later.

Do a few fun activities. For example try to push the rower sideways (they should be able to resist); pass a ball to someone (with more than one rowing machine the rowers can play volleyball). All the while the rower should:

- Move constantly
- Stay in neutral with the core switched on.

Note: This is exercise is equivalent to the pertubated exercises in the S&ST workshop that can be placed in the circuit for those that have a good level of trunk strength already. If the rower cannot hold their core during this activity then you should revert back to S&ST protocol/handbook to see what exercises should be used to develop their core.

You can develop this by asking a helper (another coach/rower) to place a hand in the small of the back (lumbar) of the rower in order to feel their posture (if it changes) especially at front of the drive sequence.

The rower should push back through the hand - not over the top or underneath it. In this way the rower can receive feedback from the helper as the coach and likewise the coach can receive feedback from the helper and rower.

To develop this activity you can now ask the helper to place 2 hands on the back of the rower (both at the lumbar spine area) with a foot hooked round the leg of the machine. Ask the rower to push harder - try to push partner over (still coaching posture, core).

Now ask the rower to activate the glutes (aim to do it just before catch). Ask the helper what they felt or saw.
This should result in

a) A much stronger push &
b) A visible lift from seat.

Then instruct the helper to hold the handle where the rower reaches the catch position; they should slide as before then at random instruct the rower (when they are approaching the catch), to take the handle held by helper & drive as before.

Observe closely for pulling or any other change.

The idea is that the rower should still be able to do all the posture / pushing / glutes etc and the handle just moves along with them!

Now **tie off the rowing machine handle** and do the same as before (rower finding neutral spine and engaging core, glutes etc). Instruct the helper to hold the tied off handle in the correct place. The rower should roll up and connect.

The rower should now find this much easier.

Note: The exercise allows them to isolate the movements/muscles used at this part of the drive and they are able to therefore recruit the right muscles.

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Developing an effective drive sequence

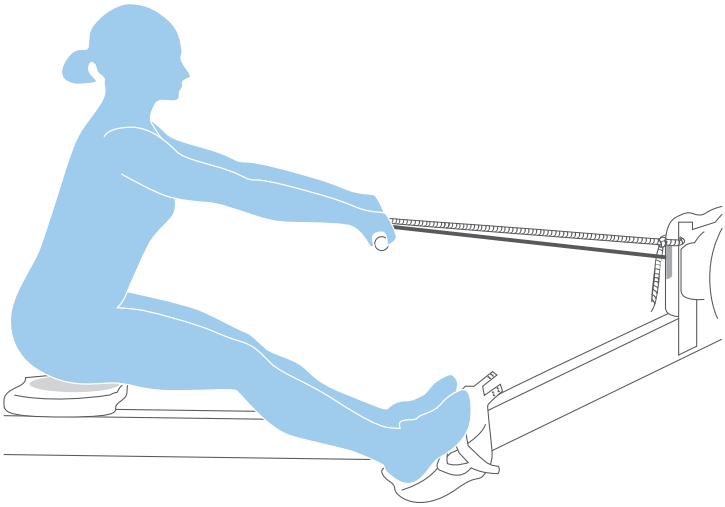
At this stage you should now progress to tying off the rowing machine at the back end of the drive.

Firstly summarise the steps taken so far – correct posture, core activation (use of S&ST to develop core and trunk strength), glute activation (and exercises that can be done to promote this).

Explain that having understood that the big muscles connect and achieve suspension, the next bit is to maintain that suspension for as long as possible, using the big muscles in a sequence of movement.

First, **prove that suspension at backstops is possible**: ask someone to demonstrate or use the photo below, and then get the rower to sit at backstops rocked over to a strong position with core switched on and rowing machine tied off securely.

Then ask them to suspend.



This activity demonstrates just how powerful the hip movement is – *as long as the core is strong enough to keep the back firm*.

Sequencing

By adding in one movement after another we achieve maximum force (summation) and work done, with maximum efficiency of muscle movement. *This is true for virtually every sporting movement.*

For example: Analogy of the fast bowler or shot putter – the final flick of the hand / fingers adds considerable speed / distance **if** it's put on top of the legs / hips / body / shoulder sequence. On its own it throws the ball / shot about 3".

You can use the rowing machine to develop sequencing

This time the rower should drive about 6" / 15cm from front. Only the legs should move. Observe suspension (it is a good idea to have someone supporting the seat in case of complete lift off). If a pencil / bluetack / marble / finger (ask if rower feels comfortable with this) is placed on the side of the seat, the rower will feel when they're suspended and when they fall back on to the seat.

The rower should drive further and further back moving the legs only (body stays in the catch position). If the rower can avoid cheating and keep their body still, the legs lose 'traction', the body falls back onto the seat and the legs suddenly go down 'too easily' (usually about 110° of knee angle).

Next ask the rower to start to open the hips just before that point, the tension in the legs is maintained, the leg speed stays slower (and effective) and the body stays suspended.

The body swing lengthens the effective leg drive, rather than 'pulling' the handle closer.

The brave (actually, very nearly everyone can do this) (with reliable partners to mind the seat) will be able to stay off the seat right to the back.

Shoulders and Arms

Most rowers tend to 'pull' too late – after the legs have finished. This…

a) loses power (shoulders and arms need to be added to the **top** of the power curve, not the tail end)

b) tends to bury the bows of the boat (by sitting at backstops, pulling downwards), visible especially in scullers lifting the stern at the end of the drive.

So shoulders need to start fairly soon after the swing back, while body is still suspended.
Explain that rowers should use the biggest muscles (lats), and make sure that the shoulders move the elbows rather than the arms pushing the shoulders back.

You can now ask your rowers to try the whole sequence with shoulders but no biceps allowed (note how much arms are pulled back by big shoulder muscles.)

Once the shoulder movement has started to 'break' the elbow, the arms can give the final acceleration to the handle before releasing.

Sequencing faults are often difficult to correct because of the enormous neural feedback provided by the handle through the fingers (which have hundreds more receptors than the main drive muscles) so it is really important to spend time getting this right (suspension between hands and feet, keeping lower lumbar in correct position, front loading the drive and keeping the glutes activated, using muscle groups in correct sequence)!

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Notes