



Feathering Muscles Pre-Season Prep

Rock Creek Rowing's rower and physical therapist Elissa DiCarlo has the following advice to wake up your feathering muscles in the spring after a winter of no feathering.

To enable the feathering work to occur at the distal segment (wrist and hand), we want to have a strong foundation at the shoulder and scapula. You work the scapular retractors a lot with rowing. We do need to also have control of the shoulder blade from some of the other muscle groups surrounding the scapula. If the scapula is stable, the shoulder will have a better chance of being stable and will also be able to relax to allow the hands to do their work feathering without over-gripping.

Planks, side planks and push-ups all help with scapular stability and a strong core. There are also some smaller muscle groups worth strengthening that we won't go over here. Another important muscle is the serratus anterior (SA) which attaches to the ribs and scapula. The serratus anterior is particularly important for rowers. With good strength and endurance, the SA not only supports the shoulder through stabilizing the scapula but it also protects the ribs from rowing-related rib stress fractures by counteracting the rib loading force of the abdominals.



Image: Serratus Anterior

SCAPULA (Shoulder)

Any of these 4 are good scapular protraction exercises:

1. Punch-outs with weights while lying on your back. **Kinesis Serratus Punch:**
<https://www.youtube.com/watch?v=LRdC1PvLftA>
2. With a resistive band: Attach a resistance band to a door behind you, face away from the door and perform the same protraction/retraction with the band - sorry no good videos.
3. Serratus push-ups against the wall. **Body-works serratus push-up wall:**
<https://www.youtube.com/watch?v=4MWVYOqxdC8>
4. Serratus push-up from the floor. **Vita push-up plus:**
<https://www.youtube.com/watch?v=lg4RamqRnRY>

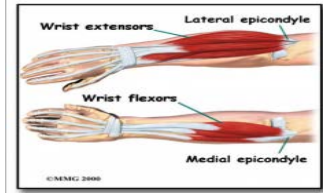
FOREARM/WRIST

For the forearm, we want to work the strength/endurance of the flexors and extensors. *Be very cautious.* Most injuries in the forearm are overuse and many of us already put stress on the tendon attachment at the elbow (lateral epicondyle) by using a keyboard. It's much better to start out slowly with low weight or resistance because once you flare things up, they can be hard to calm down. Wait a day and see how you feel after the exercise. No need to do every day. A little soreness is ok, especially because we are using eccentric exercises. Start with just doing the motion for a set, then do it with 1 to 2 pound weights or a light TheraBand: yellow/red/green. Place your opposite hand lightly across the upper forearm to help distribute the forces over a larger area while you work. See Video 1a below.

Progression:

- start with eccentric strengthening – the muscle lengthens while working
- progress to concentric strengthening - muscle shortens while working
- start with the arm supported and the elbow flexed
- progress to less flexion in the elbow

Top image: Wrist Extensors



Bottom image: Wrist Flexors

1. Eccentric Wrist **extensor** strengthening

- a. With dumbbell. Hand on forearm to help distribute forces across the tendon. Use 2 hands to lift, 1 to lower. **Eccentric dumbbell wrist extension:**

<https://www.youtube.com/watch?v=QlpfQgzdi3Q>

- b. With TheraBand. **Mark physiotherapy eccentric wrist extension:**

<https://www.youtube.com/watch?v=WSS259n1stI>

2. Eccentric wrist **flexor** strengthening with Theraband. **Physiotherapy eccentric wrist flexion:**

<https://www.youtube.com/watch?v=T3pmgd2ZnUc>

Timing:

<u>Eccentric phase: Week 0-2</u>	<u>Concentric phase: Week 2-4</u>	<u>Endurance: Weeks 4-6</u>
Start with no resistance to get the motor control of the exercise. Add light resistance with 1 to 2 pound weights. 10-20 reps - 1 set. Do every other day. Add 1-2 reps if recovered from last session. Work up to 20 reps. Add sets to reach 20 reps x 3 sets. Stretch flexors and extensors afterwards.	Start with the same weight you did eccentrics. Do a concentric/eccentric which is just your typical lift/lower of an exercise we're familiar with. Start with 10-20 reps. 1 set. A little soreness is ok. Do every other day. Add 1-2 reps if recovered from last session. Work up to 20 reps. Add sets to reach 20 reps x 3 sets. Stretch flexors and extensors.	Continue wrist curls for flexors and extensors. Work up to 3 sets if you haven't progressed to that yet. Working the endurance is more important than doing heavier weight, but you can add weight/resistance once you get up to 3 sets of 20 with no problems. Max weight 5 pounds. Don't forget to stretch both flexors and extensors when finished.

- Try to focus on sitting with your arm supported on a table, but the spine unsupported so you use your core.
- Focus on good posture and a stable scapular/shoulder position as you do in the boat.
- Hold the weight lightly in the hand, just as you would with the oar handle, and not over grip.
- For specificity to rowing: do the exercise at between 20-24 spm; slow down the eccentric muscle lengthening/lowering phase as you would the recovery. It's good practice!

Let me know if you have any questions!

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