

Strength Goals for Masters Rowers

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This is the third part of the series of articles that started with How Strong is Strong Enough. You should refer back to that article for the background information on the development of strength goals for rowers. The four points at the end of the article apply to masters as well as younger rowers.

Strength is important for rowers. It is even more important for Masters rowers. As I discussed in a previous article the start, where strength is most important, is a much larger part of a 1000 m race than a 2000 m race. You don't have the time to make up the distance you could lose if you aren't strong off the start.

The strength factor tables below are based on the ideal strength level of younger club rowers and corrected for age. This was done to accommodate the greatest number of masters rowers possible. Basing these strength goals on international competitors would not create a realistic picture of the strength level a masters rower needs to be competitive against their peers.

Men

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
Squat	1.37	1.30	1.2	1.15	1.03	0.95	0.82	0.60
Deadlift	1.37	1.3	1.2	1.15	1.03	0.95	0.82	0.60
Bench Pull	1.02	0.98	0.94	0.88	0.78	0.71	0.62	0.45

Women

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70+
Squat	1.22	1.16	1.08	1.00	0.91	0.80	0.72	0.50
Deadlift	1.22	1.16	1.08	1.00	0.91	0.80	0.72	0.50
Bench Pull	0.93	0.88	0.82	0.76	0.69	0.60	0.55	0.38

Using the Tables

To use the table take your body weight and multiply it by the appropriate factor. If you were a 200 lb. 53 year old male rower you should be able to bench pull 176 lbs. one time (200 lb. Bodyweight x 0.88 strength factor = 176). If you currently are able to meet these

goals you can focus your training on other areas. If you can't meet these goals strength may be one of the things holding back your performance.

Strength Concepts for Masters

1. Balanced Approach

While there are only strength factors for three exercises it doesn't mean these are the only three exercises that you do. Rowing strength exercises can be broken into two major categories, Specific and General. I will provide a brief outline of these categories in this article and provide a more detailed look at the exercises in the near future.

Specific exercises are those that are intended to strengthen all or part of the rowing stroke or that improve explosive power that can be converted to boat speed. Specific exercises can include traditional weight room exercises and rowing simulation exercises like a can or bungee row. Specific weight room exercises include cleans, deadlift, squats, front squats, bench pull, back extensions and seated row. It is tempting to build a program using only specific exercises. After all, these are the exercises that simulate part of the rowing stroke. Specific exercises will only improve rowing performance when they are balanced with the proper mix of general exercises.

General exercises help prevent injury and develop stability and balance. Muscle imbalances, either bilateral (differences between right and left side) or agonist/antagonist (muscles that are on opposite sides of a joint), have been implicated in the development of injury. Several studies have found that a muscle imbalance of greater than 10% increases the risk of injury by 20 times. Other researchers found that all their subjects with a strength imbalance of 25% or more developed an injury in the weaker leg.

Muscle imbalances are a serious problem for rowers. Sweep rowing in particular causes the oarside leg to become stronger and non-oarside trunk muscles to become over developed. The quads and hip flexors become strong and inflexible while the glutes and hamstrings remain relatively weak. The same thing happens with the back and abs.

The number of general exercises that can be done is almost limitless. Stability ball exercises, step ups, split squats, snatch squats, bench press, arm curls, tricep extensions, rotator cuff exercises, trunk rotations and leg curls are some of my favorites.

It is important to include a specific and general exercises in a program. Choose exercise for the muscles on both the front and back of the body. Always make sure to train both the right and left sides equally. If you are strength training 3-4 times per week you don't need any more than six exercises per training session. Select two specific and four general exercises.

2. Machines vs. Free Weights

From the e-mail I have received I get the impression that many Masters use machines for strength training. I am not a fan of most strength machines for rowers. Some like a lat pulldown machine, seated row or leg curl have their place but they should not make up the majority of a program. The movement path is fixed in machines this means that the muscles don't have to work to stabilize the weight during exercise. The small deeper layers of muscle that provide balance and stability in the boat never get trained with machines. These small muscles become the weak link in your rowing strength and prevent you from transferring the strength you develop in the weight room to the water. In addition, most machines don't allow the right and left to work independently. The stronger side will often take more of the load, leading to greater and greater muscle imbalances and increasing your risk of developing an injury.

I understand that many people use machines because they are easier to use than free weights and they may not know the right way to do a free weight exercise. Others have been given machine exercises by the trainer at their local gym. It is in your best interest as a rower to take the time to learn how to do at least some free weight exercises. The balance, stability, and athleticism used in free weight training will have a greater impact on your rowing performance and injury prevention than any machine.

3. *Strength Train All Year*

If you strength train during the winter months and then stop once you get back on water any strength gains you've made will be lost within 6-8 weeks. This may be fine if you are rowing for fun and fitness but if you are competing and trying to improve your race times you need to keep your strength during the season. I have always found it a little strange that many rowers are their strongest on the first day they get on water and weakest for their final, and often most important, race of the year. You will need at least 16 weeks of winter strength training to see appreciable gains that will transfer to rowing performance. Once you get back on water you will need 1-2 days a week of strength maintenance training. If you notice the weight you are using during the maintenance training starts to decrease you are losing strength and will need to increase the amount of strength work for 2-3 weeks or until strength returns to normal.