

Below is the Respiratory Muscle Training protocol that I follow. Obviously, I am not a doctor, but this training has helped me maintain and improve diaphragm and lung strength over the two years I have been doing it. My strength is better than some of the staff at clinic!

The principle is the same as weight training if you were at the gym. Find your max, then back the "weight" (resistance) off to 50-70% of that and do multiple sets and reps.

Expiratory:

I use the [EMST150](#), which costs \$54.99 on the company's website. Lots of similar ones on Amazon.

1. Determine your Maximum Expiratory Pressure (MEP). Your clinic SLP or respiratory therapist should be able to test this through a handheld spirometer. This is different from FVC. *Without access to an SLP or RT, you can do this on your own by just adjusting resistance (turning the dial) until it's *almost* too difficult and call that 100%, but obviously professional assistance is preferred.
2. Calculate 50% of that (over time, you can work up to 70% of your max). If 50% feels like too much, go for 30%.
3. Set the trainer to that pressure by turning the dial to change the resistance of the spring inside the device.
4. Put on nose plugs* (my only quibble with the equipment is that the nose plugs aren't very strong and air leaks out the sides of my nose. I ordered swimmers nose plugs on Amazon -- I use [these](#) for RMT and [these](#) for actual swimming).
5. Take a big inhale and then blow/exhale into the trainer as hard and fast as you can. Unlike the FVC test, you're not trying to sustain the breath. That's one rep.
6. I do 5 sets of 10 reps (alternating sets with the inspiratory trainer), 5 days a week. I do reps consecutively (hard/fast breath out, pause, inhale, repeat), but go at a comfortable pace -- e.g. if you're watching an hour show on TV, do one set of expiratory & inspiratory exercises during each commercial break.

Just as in weight training, back off the weight/resistance if you're having a hard time maintaining good form and strength all the way through the set. Or decrease the number of reps.

Inspiratory:

There is an adapter for the EMST150 (the [IA150](#)) so you can have one device for both exhaling and inhaling. But considering I go back and forth in one session, I'd rather have 2 devices. So consider ordering 2 EMST150s + an IA150 -- that way you can have one dedicated device for expiratory training and one for inspiratory training, then just switch between them. For lower resistance, get the EMST75.

1. Determine your Maximum Inspiratory Pressure (MIP). Your clinic SLP or respiratory therapist should be able to test this through a handheld spirometer. This is actually more important than MEP (you have to be able to breathe in to survive!), but it has been overlooked as a metric. *Without access to an SLP or RT, you can do this on your own by just adjusting resistance (turning the dial) until it's *almost* too difficult and call that 100%, but obviously professional assistance is preferred.
2. Calculate 50% of that (over time, you can work up to 70% of your max). If 50% feels like too much, go for 30%.
3. Set the trainer to that pressure by turning the dial to change the resistance of the spring inside the device.
4. Put on nose plugs.
5. Exhale until your lungs are empty, then inhale as hard and fast as possible. That's one rep.
6. I do 5 sets of 10 reps (alternating sets with the expiratory trainer), 5 days a week.

Same rules apply: go at a comfortable pace, back off the resistance if it's too difficult.

References:

<https://alsnewstoday.com/social-clips/could-exercise-help-als-patients-with-swallowing/>

<https://breathe.phhp.ufl.edu/2023/02/27/breathe-members-explore-potential-benefits-of-respiratory-strength-training-in-als/>

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