

Patty's PT Tips

Isokinetic (Resistance) Strength Training

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OVERVIEW

Isokinetic exercise is a type of strength training. It uses exercise bands to produce resistance no matter how much effort you expend. Your speed can remain consistent despite how much force you exert. Different colors of bands create different amounts of resistance.

You can adjust the exercise speed and range of motion to suit your needs. Different positions can isolate and target specific muscle groups. You can use Isokinetic exercise to test and improve your muscular strength and endurance.

Isokinetic exercise refers to movement at a constant speed regardless of the force applied. Muscles contract and shorten at a constant speed in isokinetic contraction. Isokinetic exercise allows muscles to gain strength consistently all through the range of movement. Resistance continues as you return slowly to the starting position.

With **isotonic** exercise, the muscle shortens at a constant rate throughout the motion, but the muscle tension varies. This can also be called a dynamic contraction. Weight training is isotonic. For example, exercises such as dumbbell curls and squats isolate certain muscle groups and strengthen muscles throughout the range of movement, but not evenly.

Isokinetic exercises are often used for rehabilitation and recovery since it's a controlled form of exercise. PT's and OT's use it to treat imbalances in the

body that have the potential to cause injury. Being able to control the resistance and speed helps to:

- prevent injury
- increase muscle flexibility
- control muscle development

Isokinetic exercise is a form of strength training that can increase muscle tone, strength, and endurance. It can also help improve balance and coordination, and boost metabolism.

Strength training makes everyday activities easier to perform and can increase your movement/athletic performance. It can also have a [positive effect](#) on your cognitive function and quality of life.

Isokinetic exercise also has a beneficial impact on the core muscles that support the spine and stabilize the body. It is one of the [safest](#) forms of exercise.

Isokinetic exercise is also safe for people with injuries. The resistance makes it harder for you to push yourself beyond what your therapist/trainer recommends. You're also less likely to pull muscles or have complications, like sore muscles, from the exercises.

It's important that you exercise safely to protect your body. Balance strength training with exercises that promote cardiovascular health and flexibility. Always start by warming up the body with active dynamic stretches, or walking/wheeling. Then do some gentle stretches to loosen up your body.

Drink plenty of water and maintain proper hydration before, during, and after your workout. Take at least a few minutes to cool down after your workout.

Doing [gentle stretches](#) will also help to prevent soreness and injuries. Pay attention to your body! Take your time and breathe regularly. **Exhale with effort**. Stop working out if you feel pain or discomfort, and always **use proper form and alignment** while completing the exercises to prevent injury. Take plenty of rest, and schedule days off from exercise, especially if you experience pain and fatigue. Vary your workouts but repetition reinforces neuromuscular learning. Hurray for neuroplasticity!!

ISOKINETIC EXERCISE

Resistance Through the Range of Motion with Proprioceptive Input

Resistance bands equipment list options- all are offered at Amazon. Prices as per April 2022

You should feel free to look on other websites or the individual company's website for comparison shopping. I did notice that prices are somewhat lower right now-possibly because we are coming out of the pandemic and/or because the rush for everyone starting their January New Year's resolution exercise program has passed.

There are tons of options, but these are ones that I have used or are comparable to ones I have used. When selecting the proper band resistance start with something that will be easy to use for 8 to 12 repetitions until you are more comfortable with techniques. If you have a latex allergy, be sure to pick one without latex although most brands are not using latex these days.

- Cortnoe Pull up Assistance bands with 4 resistance levels, handles and door jamb anchor \$27 These fabric band have proven to have good durability and versatility for me.
- Gayiah Pull up Bands-slightly lighter 3 resistance ranges and at \$13 may be a more reasonable choice. They do not come with handles at that price.
- Yuilgdo 5 resistance loop band set for \$11 which are useful for hip strengthening and resisted gait activities. They come in light resistance to a quite substantial resistance. The challenge with loop bands may be taking them on and off the thighs.
- Theraband products-these are the original resistance bands. They can come in 3 resistance sets but are less durable. They do not have handles so gripping may be a challenge and they tend to break with wear and tear or will melt with exposure to the sun. \$12 is the average price for a set of 3 resistance levels. Sometimes you can acquire a length from your PT for home use.
- Meglio band products. Similar to Theraband. I have used in the pool and they hold up well in the chlorine. Less slippery texture than Theraband products but comes at \$10 for one band without handles.
- Rubber bands for hand/finger/wrist resistance exercise-cheap or free. More rubber bands-more resistance.