

# Breathing Exercises in Relation to Hypertension Treatments

## BREATHING EXERCISES IN RELATION TO HYPERTENSION TREATMENTS

**A**verage person, in 24 hours breathe in and out effortlessly more than 22,000 times . It is well known that practicing slow deep breathing for just 5 TO 10 minutes a day can lower pressure your systolic blood pressure ( the upper number of your blood pressure) as much as 10 points.

It is very effective, cheap and easy way to lower your blood pressure, but I would not say that this would replace medications your doctor prescribed. This is complementary to your regular medications.

If you have stage one hypertension, meaning your cytology blood pressure between 130 and 139 mmHg, it is possible that breathing exercise can lower your blood pressure to level which you may not need medication. For those with elevated blood pressure, meaning systolic blood pressure between 120 and 129, deep breathing could help to avoid high blood pressure Medications.

**BENEFITS OF DEEP BREATHING:** A normal respiratory rate is 12 to 18 per minute for adults. Slow breathing is defined as anywhere from 6 to 10 breaths per minute, and it features a prolonged slow exhalation.

As you slowly take deep breath in, your diaphragm contracts and pulls downwards and fully expand your lungs. This stimulates the vegas nerve, which runs from the brain to the colon.

When Vegas nerve is activated , a large volume of air in the lungs delivers extra oxygen to your body and brain, which increases the release of “feel good “ chemicals, called endorphins and lowers the level of epinephrine which is a stress hormone. As you exhale the diaphragm goes back upwards against your lungs. As blood moves out of your lungs, your blood pressure rises slightly.

To counteract this rise, your nervous system simultaneously lowers your heart rate and dilate your blood vessels. Prolonging your exhalation take advantage of this reflex .

**TYPES OF DEEP BREATHING TECHNIQUES:** Many of you know these techniques already. One method is to count to five while breathing in through your nose, then exhaling for five counts. Purse your lips as though you are blowing out a birthday candle, which will help to slow down your exhalations. You can also try holding your breath after the inhalation.

One common pattern involve inhaling for four counts, holding for seven and exhaling for eight but you can vary this timing as you wish. Many of you practice yoga and may resort to pranayama( prana means breath and ayama means stretching or lengthening. You can also try single nostril breathing using the above techniques.

For some, using a device might be more appealing. Inspiratory muscle strength training. ( IMST) uses a small, handheld device that provides resistance as you inhale and exhale. You can buy the device online for as little as \$20.

A well design study published in the journal of American Heart Association in 2021, showed that doing IMST for 30 breaths per day, six days per week reduce systolic blood pressure by an average of 9 mmHg after six weeks. More elaborate option is an FDA cleared device called Resperate, sold online for \$350. It features a chest strap with a sensor to monitor your breathing pattern.

You follow musical cues via headphones to gradually slow down your breathing. For most of us, this kind of device is unnecessary, since we know the yoga technique.

Many of these breathing techniques can be practiced any time of the day anyway. A word of caution if you want to practice this while driving. Deep breathing can make you relax and often make you sleepy and you don't want to be sleepy while driving. So please use caution.

This is a simple and inexpensive way to improve your blood pressure. It is complementary to your blood pressure medication and certainly it does not replace your prescribed drugs.

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