

# LOWER BACK PAIN PROGRAM





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## Medical Disclaimer

The information in this program, including but not limited to text, pictures, and other material, is provided solely for educational and informational purposes. The content in this article isn't intended to replace any professional medical advice, diagnosis, or treatment. Always seek the opinion of your physician or another trained health care practitioner regarding any questions you may have about a medical condition or treatment, and never disregard professional medical advice or delay in getting it because of something you read in this program. As it is we can guarantee no results for your specific condition.



CHAPTER 1

# **AN OVERVIEW OF THE PROGRAM**

## What is this all about?

Most people suffer from lower back pain at least once in their lives.

Every year, many people struggle with it. In some cases, it becomes a lifelong struggle. It is one of those things that is ten times easier to prevent than cure. There are many reasons to this.

Firstly - in the viewpoint of evolution, as a species humans have only recently ascended to an upright position.

Our spines have not yet fully adapted to the strain of supporting the whole upper body on a single row of bones and cartilage tissue.

The second problem is our modern-day passive lifestyle, which has left our core muscles unused and weaker than ever. Without the core muscles to support the spine, many things can and do go wrong. Let's look a little deeper into this.





CHAPTER 2

# WHAT HAPPENS WHEN THE LOWER BACK STARTS TO HURT?

CHAPTER 2 | WHAT HAPPENS WHEN THE LOWER BACK STARTS TO HURT?

The most common reason for lower back pain isn't actually muscle pain, as it's often thought. Over 90% of lower back pains are caused by lumbar disc injuries (if we consider slight irritation an injury). It is easy to see why.

This is an actual MRI image of a healthy spine from the left side. As you can see - the two lower discs have to withstand the weight of the whole upper body, while being in an asymmetric position (meaning that some parts of the disc bare much more weight than other parts depending on the location).



CHAPTER 2 | WHAT HAPPENS WHEN THE LOWER BACK STARTS TO HURT?

In the below graph you can see the pressure on lumbar discs relative to standing up straight (100%).

Meaning that in certain situations a lumbar disc will have to withstand an equivalent of 800 pounds of pressure! (2,3 MPA per 18 square cm - size of a lumbar disc).

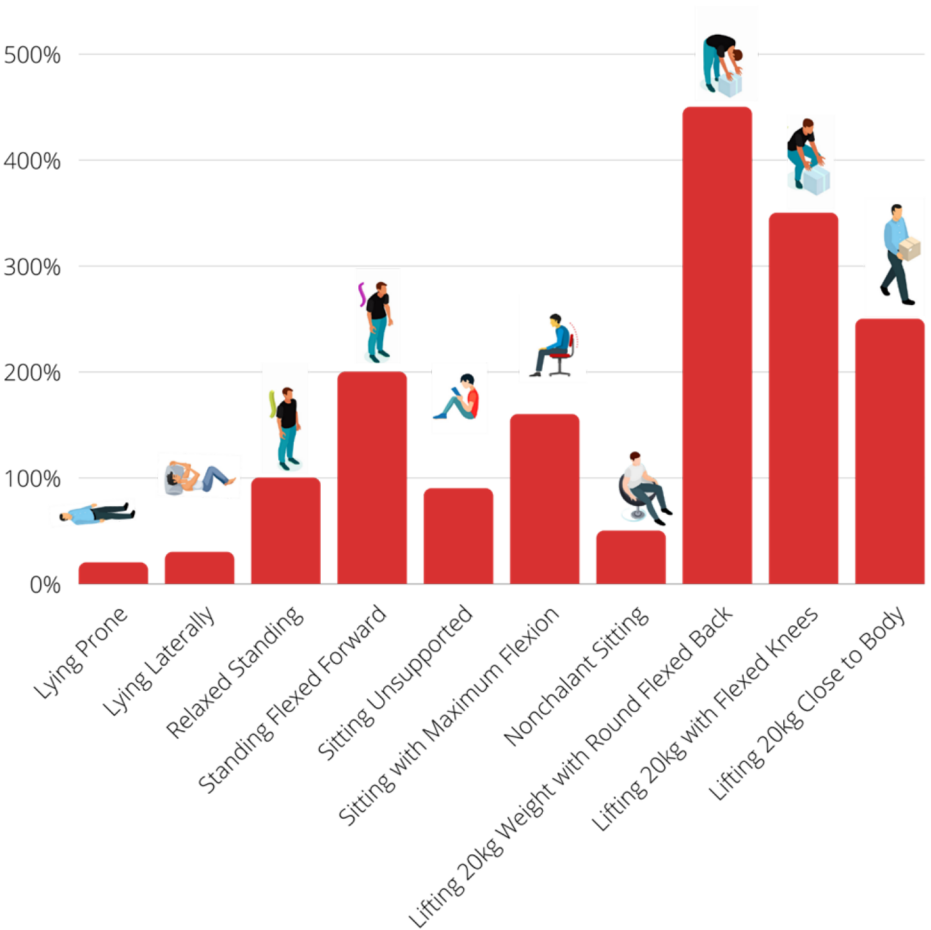


Figure 1 Reconstructed from the 1999 study by Wilke, Need, Caimi, Hoogland, Claes  
<https://pubmed.ncbi.nlm.nih.gov/10222525/>

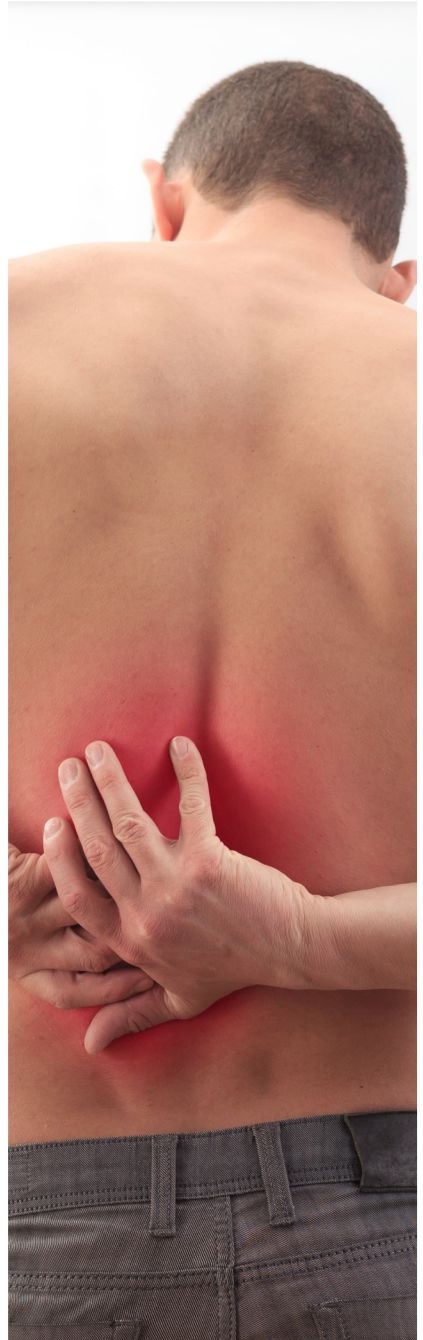
If the lumbar discs aren't accustomed to high pressure, and the supporting core muscles are not stabilizing the pressure more evenly around the disc, then prolapse of the disc happens. See the basics of this in the video below.

### Video

While disc injuries heal over time, the disc will never get back to its original state before the injury. It will have a lot of scar tissue, and will become much less elastic and more prone to future injuries. This usually leads to disc degeneration (which in turn causes it to hurt constantly).

All that being said, there is also the muscle-type of back pain which has similar mechanisms behind it. Usually it is overuse (chronic or acute) of a certain muscle or muscle group, caused by asymmetric movements, static positions, muscle asymmetry and other such mechanisms, that cause more tears in the muscle fiber than the body can heal.

A good thing is that when we are speaking of lower back pain, the main treatment principles don't change much depending on the injured tissue.







CHAPTER 3

# THE SOLUTION

We've come a long way since the days when the only (and symptomatic) treatment for LBP were painkillers. Thanks to our improving knowledge of the inner workings of the human body, we're now pretty sure that movement is the best treatment and prevention for most types of LBP.

**There are 3 main reasons for that:**

1. Discs are made of cartilage tissue which have very poor blood circulation and metabolism. Instead, it works like a sponge -the movement pumps old blood out of the disc and sucks new blood in. Improved metabolism of the disc keeps it healthier and helps it heal faster from microinjuries.

2. Movement improves the functioning (strength, coordination, endurance, mass) of the supporting muscles. All muscles in the core activate whenever spine moves. The better the support the less strain there is on the disc.

3. Exercise doesn't just improve the muscle tissue. It also strengthens the cartilage (and other connective tissue) to withstand more pressure. You can give a random person the strength, muscles, coordination and bones of a powerlifter - but without their connective tissue, their joints, ligaments and discs would tear apart while trying to lift those weights.

This program is designed to a) help you heal quicker from back pain b) prevent future episodes using the principles discussed below.





CHAPTER 4

# THE PRINCIPLES



## A few details before you start

A few core principles need to be discussed before getting into the program. You can do the program without reading through these principles, but they will give you a better understanding.

### Hips- Strength and Mobility

Our modern lives have made it so that we have forgotten how to use our hip muscles properly.

Having big glutes doesn't mean you're using your hips correctly, just as having a six-pack doesn't mean that you have a strong core.

People suffering from LBP usually have something called "gluteal amnesia." This term describes the condition where a person has inactive glutes. With your glutes being inactive, your back muscles pick up all of the work designed for the glutes.

On the other side of the equation- our hips are stiff from all of the sitting we do, and that's where mobility comes into play.



### **Core- Strength and Control**

Pretty much the same story as with our glutes; our deep abdominal muscles aren't activating properly.

We need to strengthen our core- not with crunches but with stability exercises, known as anti-flexion, anti-extension, anti-rotation, and anti-lateral flexion exercises.

We are also improving our motor control by strengthening our core, which is crucial to real LBP rehab.

You should always try to breathe through your stomach, engaging the diaphragm and the deep abdominal muscles.

### **Low Back and Thoracic Spine- Control and Mobility**

A key movement you need to master when rehabilitating from LBP is the hip hinge. Although it could have a category of its own, it's connected to controlling your spine and hips.

We will explain this movement in detail within the videos. For now, it's just important to make a mental note of the significance this movement has.

We must learn to separate the movements in our hips from the movements in our low back.

Our thoracic spine becomes stiff and immobile, making our low back compensate for the lack of mobility in that area. The area gets painful since the lower back, a.k.a. the lumbar spine, isn't designed to move as much as the thoracic spine.



CHAPTER 5

# TIPS FOR YOUR DAILY LIFE



**Try not to sit for more than 45 minutes at a time.**

Take a 5-minute break from sitting every 45 minutes to stretch out, and get your blood circulation flowing again. There are a bunch of PC and mobile apps that notify you once you've been sitting for too long. Smartwatches and bands usually have the feature integrated into the software.

**Use the hip hinge movement to execute daily tasks.**

Like I said before, mastering this movement pattern is critical because it puts a lot less pressure on our spine, than the regular spine-flexing bending over. So, for anything from brushing your teeth to tying your shoes, the hip hinge is the way to go.

**Clean up your diet.**

A lot of the processed foods we consume make us inflamed, making us much more sensitive to all kinds of pain. This includes our lower back pain. Staying away from processed foods will improve your overall health while also helping with your LBP.





A photograph showing two green dumbbells and a white water bottle with colorful horizontal stripes (orange, green, grey) on a dark wood surface. The dumbbells are on a light-colored mat. The water bottle has a peach-colored cap. The scene is lit from the side, creating soft shadows.

CHAPTER 6

# THE PROGRAM

The prescribed exercises should be completed 3-4 times a week, with one rest day between every training session.

If a certain exercise bothers your back, eliminate it from the routine (for time being - then you can always try to add it back in later).

## Life After the Program

**A.** You feel better- in this case, you can transition over to a more advanced, generalized strength program designed to keep strengthening your whole body. Strength is health, so getting stronger is a sure way to prevent any future back pain. Start slow and be mindful of your past low-back pain.

**B.** You don't feel a difference- this could happen either because you're being too conservative while doing the exercises or needing more time to adapt.

Try running the program once more from the start, beginning at a somewhat higher intensity than the first time.

**C.** You feel worse- this could mean you have a different problem altogether or that you need a personal detailed program made by a specialist who has assessed your condition. If you haven't done so already, consult with a medical professional.



## WEEK 1

The first week on your journey to a pain-free lower back, let's go!

We'll start things off fairly light, mostly focusing on proper hip hinge technique and activating our core.

The hip hinge is probably going to annoy you for now, but don't worry because 99% have a hard time learning it. Think about doing the technique when brushing your teeth, picking something off the ground, tying your shoes, etc.

These are all real-life scenarios where the hip hinge is the most effective and pain-free movement is available to us.



# WEEK 1

Day 1	Day 2	Day 3	Day 4
Hip Hinge Technique 3 sets of 8 reps	Hip Hinge Technique 2 sets of 8 reps	Hip Hinge Technique 3 sets of 8 reps	Hip Hinge Technique 2 sets of 8 reps
Bird Dog 3 sets of 6 reps	Dead Bug 3 sets of 8 reps	Bird Dog 3 sets of 6 reps	Dead Bug 3 sets of 8 reps
Side Plank 2 sets of 15-30 seconds	Pallof Press 3 sets of 8 reps	Side Plank 2 sets of 15-30 seconds	Pallof Press 3 sets of 8 reps
Glute Bridge 2 sets of 12 reps	Glute Bridge 2 sets of 12 reps	Glute Bridge 2 sets of 12 reps	Glute Bridge 2 sets of 12 reps
Clamshells 3 sets of 10-15 reps	Donkey Kick 3 sets of 8 reps	Clamshells 3 sets of 10-15 reps	Donkey Kick 3 sets of 8 reps
Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes
Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes
Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute
Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side

# WEEK 2

Introducing the single-leg hip bridge to make it a bit harder. We only have 2 days of hip hinge technique for the second week.

Day 1	Day 2	Day 3	Day 4
Hip Hinge Technique 2 sets of 8 reps	Dead Bug 3 sets of 6 reps	Hip Hinge Technique 2 sets of 8 reps	Pallof Press 3 sets of 8 reps
Bird Dog 3 sets of 6 reps	Pallof Press 3 sets of 8 reps	Bird Dog 3 sets of 6 reps	Side Plank 3 sets of 15-30 seconds
Side Plank 3 sets of 15-30 seconds	Single-Leg Deadlift 3 sets of 8 reps	Pallof Press 3 sets of 8 reps	Single-Leg Deadlift 3 sets of 8 reps
Glute Bridge 3 sets of 12 reps	Single-Leg Glute Bridge 2 sets of 8 reps	Glute Bridge 3 sets of 12 reps	Single-Leg Glute Bridge 2 sets of 8 reps
Clamshells 3 sets of 10-15 reps	Donkey Kick 3 sets of 8 reps	Clamshells 3 sets of 10-15 reps	Donkey Kick 3 sets of 8 reps
Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes
Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes
Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute
Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side

## WEEK 3

We're upping the intensity for this week.

You can use weights to make the sets of exercises, like the single-leg deadlift and glute bridges, harder.

Day 1	Day 2	Day 3	Day 4
Hip Hinge Technique 2 sets of 8 reps	Dead Bug 3 sets of 8 reps	Hip Hinge Technique 2 sets of 8 reps	Palof Press 3 sets of 8 reps
Bird Dog 3 sets of 8 reps	Palof Press 3 sets of 8 reps	Bird Dog 3 sets of 8 reps	Side Plank 3 sets of 15-30 seconds
Side Plank 3 sets of 15-30 seconds	Single-Leg Deadlift 3 sets of 8 reps	Palof Press 3 sets of 8 reps	Single-Leg Deadlift 3 sets of 8 reps
Glute Bridge 3 sets of 12 reps	Single-Leg Glute Bridge 4 sets of 8 reps	Glute Bridge 4 sets of 12 reps	Single-Leg Glute Bridge 4 sets of 8 reps
Clamshells 3 sets of 10-15 reps	Donkey Kick 4 sets of 8 reps	Clamshells 3 sets of 10-15 reps	Donkey Kick 4 sets of 8 reps
Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes
Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes
Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute	Kneeling Thoracic Stretch 30 seconds - 1 minute
Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side	Open Book Stretch 2 sets of 10 reps per side

# WEEK 4

We're finally removing the hip hinge from the program, as you should've perfected the form by now.

The intensity and volume are still increasing

Day 1	Day 2	Day 3	Day 4
Bird Dog 3 sets of 6 reps	Dead Bug 3 sets of 8 reps	Bird Dog 3 sets of 8 reps	Palof Press 3 sets of 8 reps
Side Plank 4 sets of 15-30 seconds	Palof Press 3 sets of 8 reps	Palof Press 3 sets of 8 reps	Side Plank 4 sets of 15-30 seconds
Glute Bridge 3 sets of 12 reps	Single-Leg Deadlift 3 sets of 10 reps	Glute Bridge 4 sets of 12 reps	Single-Leg Deadlift 3 sets of 10 reps
Clamshells 3 sets of 10-15 reps	Single-Leg Glute Bridge 4 sets of 10 reps	Clamshells 3 sets of 10-15 reps	Single-Leg Glute Bridge 4 sets of 10 reps
Couch Stretch 30 seconds - 2 minutes	Donkey Kick 4 sets of 8 reps	Couch Stretch 30 seconds - 2 minutes	Donkey Kick 4 sets of 8 reps
Cross-Legged Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes	Cross-Legged Stretch 30 seconds - 2 minutes	Couch Stretch 30 seconds - 2 minutes
Kneeling Thoracic Stretch 30 seconds - 1 minute	Cross-Legged Stretch 30 seconds - 2 minutes	Kneeling Thoracic Stretch 30 seconds - 1 minute	Cross-Legged Stretch 30 seconds - 2 minutes
Open Book Stretch 2 sets of 10 reps per side	Kneeling Thoracic Stretch 30 seconds - 1 minute	Open Book Stretch 2 sets of 10 reps per side	Kneeling Thoracic Stretch 30 seconds - 1 minute
	Open Book Stretch 2 sets of 10 reps per side		Open Book Stretch 2 sets of 10 reps per side