

Herniated Disk

DNA Health Report

REPORT CATEGORIES —



PAIN



INJURIES

Sample Client

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Personal information

NAME

Sample Client

SEX AT BIRTH

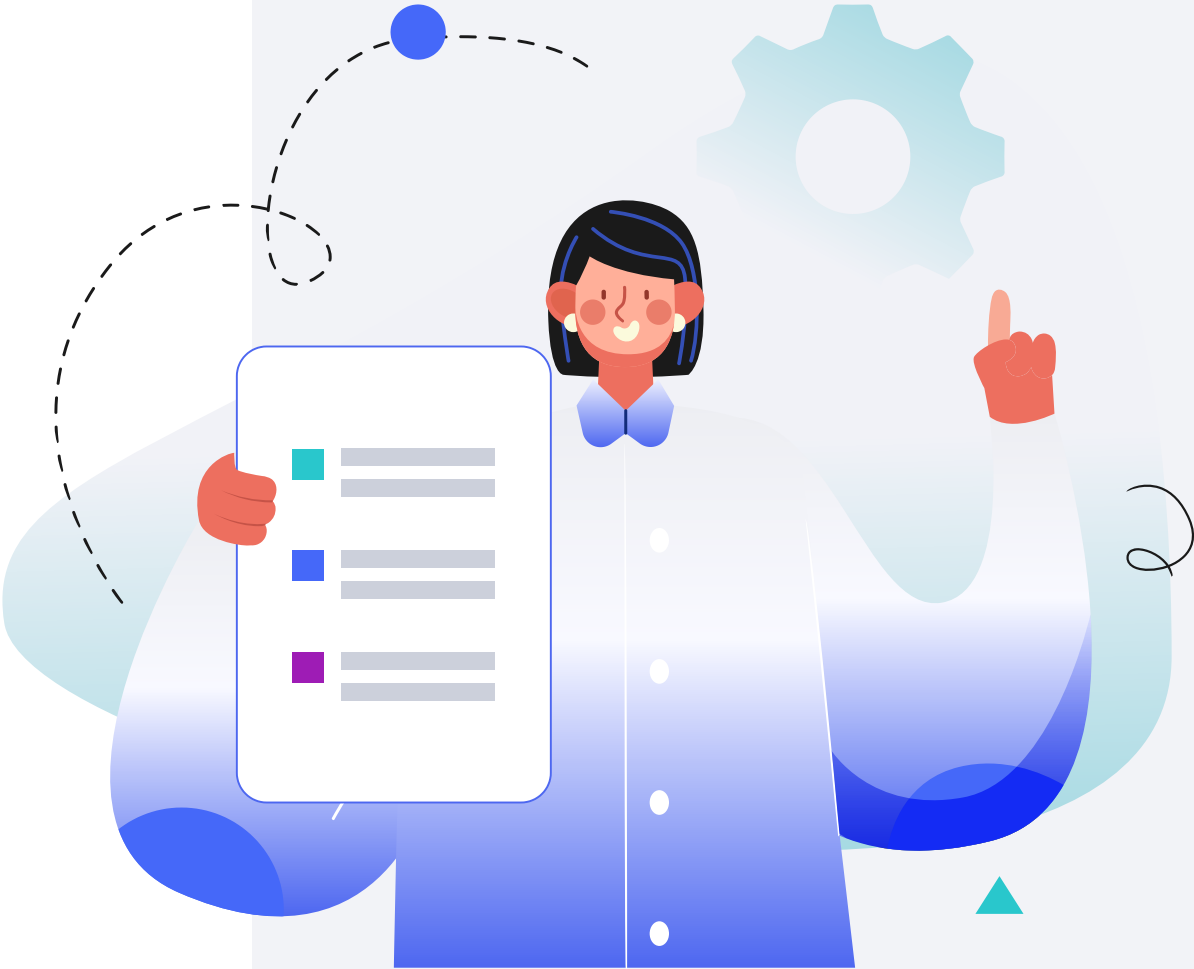
Male

HEIGHT

5ft 5" 165cm

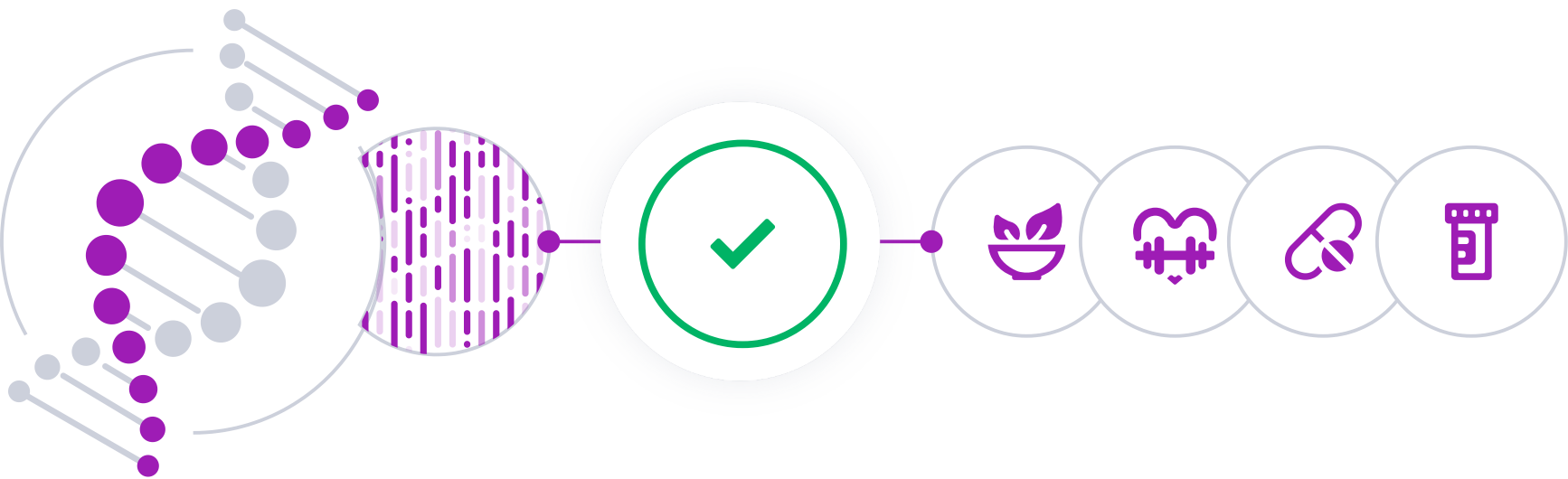
WEIGHT

137lb 62kg



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.

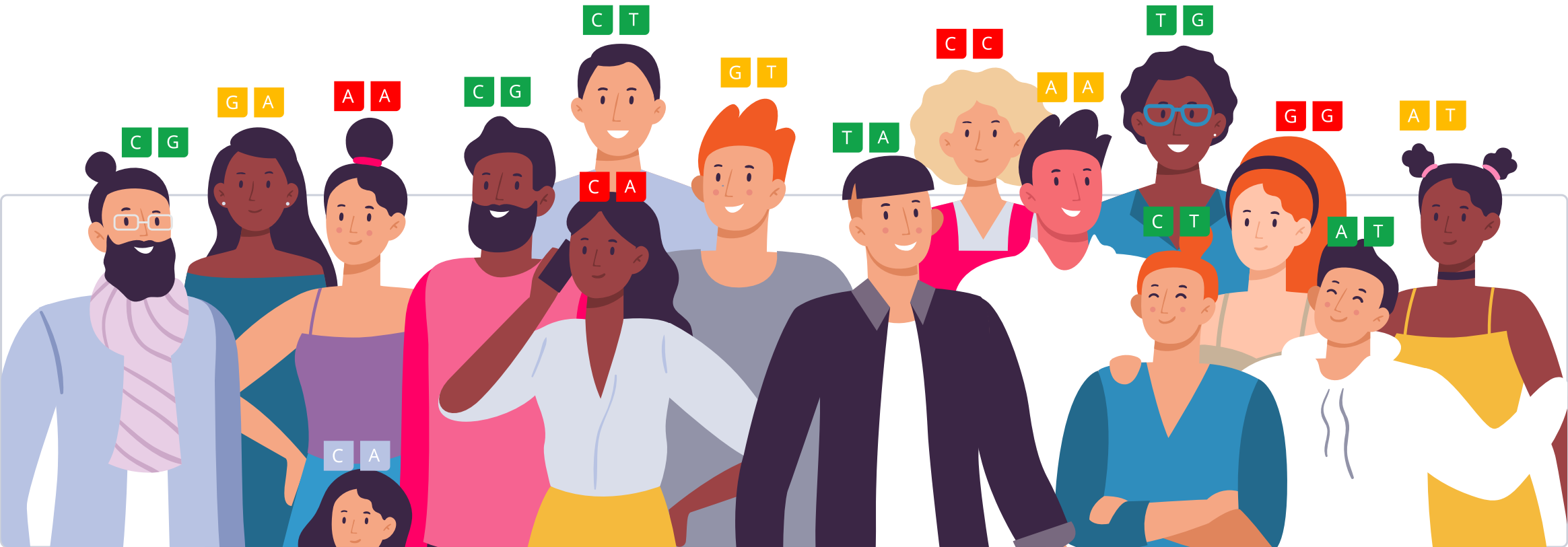


Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

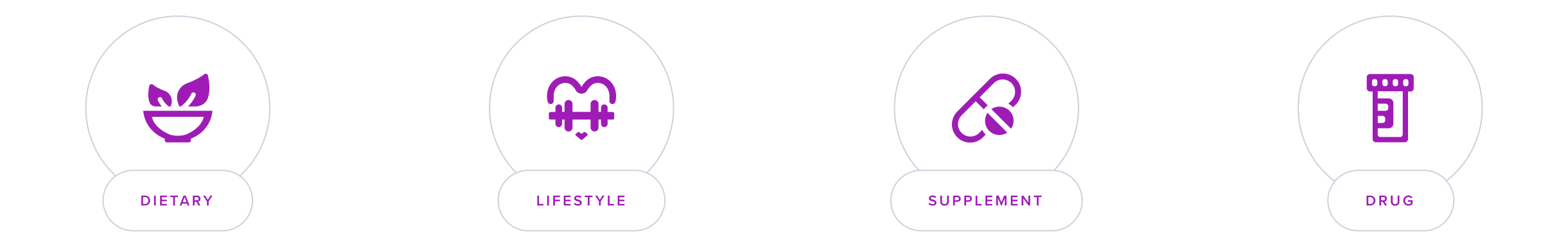
You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
-
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
-
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
-
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
-
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

A herniated disk, also known as a slipped or ruptured disk, occurs when the soft center of a spinal disk pushes through a crack in the tougher exterior casing. This condition can irritate nearby nerves and result in pain, numbness, or weakness in an arm or leg. While a herniated disk can occur in any part of the spine, it most often affects the lower back (lumbar spine) or the neck (cervical spine) [R].

Symptoms of a herniated disk include:

- Pain in the arms or legs: If the herniated disk is in the lower back, pain typically occurs in the buttocks, thigh, and calf, and possibly in the foot. If in the neck, the pain is usually in the shoulder and arm.
- Numbness or tingling in the body parts served by the affected nerves.
- Muscle weakness, affecting balance or the ability to hold or lift items.

Risk Factors and Management

Risk factors for a herniated disk include [\[R\]](#):

- Age: They are most common in people between the ages of 30 and 50.
- Weight: Excess body weight puts extra stress on the disks in the lower back.
- Occupation: Physically demanding jobs that involve lifting, pushing, or pulling increase the risk.
- Lifestyle and fitness: Sedentary lifestyle and lack of regular exercise can contribute to the development of a herniated disk.
- Frequent driving: Being seated for long periods combined with the vibration from a motor vehicle engine can put pressure on the spine.
- Smoking: Smoking is believed to lessen the oxygen supply to disks, causing them to break down more quickly.
- Genetics: There may be a genetic component that predisposes individuals to disk problems.

A herniated disk can be painful and debilitating, but most people respond well to conservative treatment including rest, physical therapy, and medications to relieve pain and inflammation, such as ibuprofen or naproxen. Some cases may require [\[R\]](#):

- Exercises and stretches to help improve flexibility and strength in the spine and supporting muscles.
- Cortisone injections or muscle relaxers.
- Surgery such as microdiscectomy or laminectomy in cases where when conservative treatments fail and if the symptoms are worsening.

Some strategies that may help prevent herniated disks include [\[R\]](#):

- Regular exercise to strengthen the muscles of the back and abdomen.
- Maintaining good posture while sitting.
- Using ergonomic furniture.
- Proper lifting techniques: Lifting with the legs, not the back, and avoiding twisting.
- Maintaining a healthy weight to reduce stress on the spine.



MORE LIKELY

More likely to have a herniated disk based on 856,888 genetic variants we looked at



- Avoiding cigarette smoke.

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You’ll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE			
1	Core-Strengthening Exercises	20 minutes	2	Chiropractic Adjustment	30 minutes
3	Avoid Lifting Heavy Objects		4	Spinal Manipulation	
5	McKenzie Method	5 minutes	6	Emoxypine	
7	Deep Friction Massage		8	Reduce Back Strain	
9	Good Posture		10	Dry Needling	30 minutes

1



Core-Strengthening Exercises

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate exercises like planks, bridges, abdominal crunches, and leg lifts into your daily routine. Aim to do these exercises for 20-30 minutes, 3 times a week. Each exercise should be performed in sets of 10-15 repetitions.

TYPICAL STARTING DOSE

20 minutes

Description

Core-strengthening exercises target the muscles of the abdomen, lower back, and pelvis, helping improve posture, stability, and reduce the risk of back pain. Regular core workouts support a strong and balanced musculoskeletal system.

The core, or trunk, includes several groups of muscles in your abdomen, back, and pelvis. Keeping these muscles strong helps stabilize your body, twist and bend your back, protect your back from injuries, and enhance your overall fitness [\[R\]](#).

Some exercises that help strengthen the core include [\[R\]](#):

- Crunches
- Planks
- Bridges
- Supine toe taps
- Bird dogs

The core can also be strengthened by practicing Pilates, kettlebell training, and some types of yoga [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

Core-strengthening exercises enhance spinal stability by fortifying the muscles surrounding the lumbar region, thus reducing excessive pressure on intervertebral discs and the likelihood of further herniation.

2



Chiropractic Adjustment

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Schedule and attend chiropractic sessions 1-2 times per week for a period of 4-6 weeks initially, depending on the severity of your condition. Your chiropractor may adjust the frequency based on your progress.

TYPICAL STARTING DOSE

30 minutes

Description

Chiropractic adjustments are manual manipulation techniques used by chiropractors to improve musculoskeletal function, relieve pain, and enhance overall mobility. They are often used as part of a holistic approach to address various health concerns, primarily those related to the spine and joints.

Chiropractic adjustment involves applying pressure to different parts of the spine. It tends to help with pain and headaches [\[R\]](#), [\[R\]](#).

Only a trained specialist should perform this procedure [\[R\]](#).

How it helps

Chiropractic adjustments help alleviate pain and improve mobility in individuals with a herniated disk by restoring spinal alignment, reducing pressure on affected nerves, and promoting healing through enhanced blood flow and nutrient delivery to the surrounding tissues.

3



Avoid Lifting Heavy Objects

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Refrain from picking up items that require significant strain or exertion, typically defined as those weighing more than 25 pounds (11 kilograms), to avoid unnecessary pressure on your body. This restriction should be adhered to as long as your healthcare provider advises, which may be indefinitely for chronic conditions or for a specific recovery period following surgery or injury.

Description

Avoiding improper lifting techniques when handling heavy objects can help prevent back injuries and musculoskeletal strain. Practicing safe lifting methods and using proper equipment promotes spine and musculoskeletal health.

How it helps

Avoiding the lifting of heavy objects helps to reduce stress and pressure on the spinal discs, minimizing the risk of further injury or aggravation of a herniated disk. This approach promotes healing and supports the integrity of the vertebral structure.

4



Spinal Manipulation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Schedule regular appointments with a licensed chiropractor or physical therapist trained in spinal manipulation. These sessions should occur 1-2 times per week for 4-6 weeks to assess effectiveness for your condition.

Description

Spinal manipulation is a therapeutic technique performed by chiropractors or physical therapists to address musculoskeletal issues, improve spinal alignment, and alleviate back pain and discomfort.

How it helps

Spinal manipulation helps alleviate pain associated with a herniated disk by restoring spinal alignment, reducing nerve compression, and enhancing mobility. This therapeutic approach promotes healing by improving blood flow and reducing inflammation in the affected area.

5



McKenzie Method

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Perform the McKenzie method exercises daily, ideally under the guidance of a certified McKenzie therapist. Begin with 5-10 minutes per session, gradually increasing as advised. Continue as long as necessary to improve symptoms, maintaining regular sessions for at least 4-6 weeks for noticeable results.

TYPICAL STARTING DOSE

5 minutes

Description

The McKenzie Method is a physical therapy approach designed to manage musculoskeletal pain, especially in the back and neck. It focuses on exercises and movements that promote pain relief and spinal health.

How it helps

The McKenzie Method enhances spinal alignment and function, crucial for alleviating pressure on the affected nerve roots in a herniated disk. By focusing on specific movements and exercises, it promotes pain relief and strengthens supporting structures, enabling recovery.

6



Emoxypine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Emoxypine is typically available in oral capsules, tablets, or injectable forms, with the dosage depending on the condition being treated. For general antioxidant or neuroprotective purposes, the oral dose ranges from 125–250 mg taken 2–3 times daily, while more intensive treatments may require higher doses or injectable administration under medical supervision. It is usually recommended to take Emoxypine with meals to minimize gastrointestinal discomfort. Treatment duration can vary from a few weeks to several months, depending on the therapeutic goal.

Description

Emoxypine (2-ethyl-6-methyl-3-hydroxypyridine succinate) is a synthetic antioxidant and nootropic compound primarily used in Russia and some Eastern European countries. It is derived from pyridoxine (vitamin B6) and known for its neuroprotective, anti-stress, and anti-inflammatory properties.

Emoxypine can reduce anxiety, stress, and symptoms of depression by normalizing neurotransmitter levels and protecting brain cells from oxidative stress. Additionally, it has applications in managing cognitive impairment, improving memory, and protecting against age-related neurodegeneration. Emoxypine is also used for cardiovascular health, as it can improve blood flow and protect tissues from ischemia-reperfusion injuries.

Emoxypine works by scavenging free radicals, enhancing membrane fluidity, and improving the body's antioxidant defenses.

How it helps

In a placebo-controlled trial of 136 patients recovering from surgery for disc herniation, a 2-week course of intravenous Emoxypine (300 mg/day) reduced pain and depression [\[R\]](#).

7



Deep Friction Massage

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Schedule an appointment with a skilled physiotherapist experienced in deep friction massage. The therapist will begin with a brief assessment to identify the specific muscle or tendon requiring treatment. During the session, they will apply targeted pressure using their fingers, thumbs, or elbows directly across the affected tissue. The movement is slow and precise, designed to penetrate deeply without sliding on the skin. Throughout the process, the therapist will adjust the pressure based on feedback to ensure effectiveness while maintaining comfort. The technique focuses on breaking down scar tissue and promoting healing in the targeted area.

Description

Deep friction massage is a specific technique within the field of therapeutic massage that targets muscle and tendon injuries. It is designed to promote healing by increasing blood flow and breaking down scar tissue. The massage applies pressure across the grain of muscles and tendons, using deep, penetrating movements. This method is particularly beneficial for chronic muscular pain, tendinitis, and areas with dense scar tissue, helping to restore mobility and relieve discomfort.

How it helps

Deep friction massage helps improve blood circulation and reduce muscle tension surrounding a herniated disk, which can alleviate pain and enhance mobility. By targeting affected areas, this therapy promotes healing and decreases discomfort associated with muscle stiffness.

8



Reduce Back Strain

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Maintain good posture while sitting and standing, avoiding bending or twisting at the waist. When lifting objects, bend your knees and lift with your leg muscles, not your back. Take breaks every 30 minutes to stretch or walk if you have a sedentary job. Implement these practices daily for ongoing back health.

Description

Reducing back strain entails adopting proper posture, lifting techniques, and ergonomic practices to prevent or alleviate stress on the back muscles and spine, promoting better musculoskeletal health.

The muscles, tendons, and bones of the back are extremely complex. Together, they hold up a large portion of the body’s weight. **Any mechanical stress on the back, especially if the muscles aren’t fit, can cause strain.** Hence, back strain is very common [\[R\]](#).

Back strain often develops in the workplace. Jobs that increase the risk of back strain include:

- Truck drivers [\[R\]](#)
- Nurses and physiotherapists [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Dentists [\[R\]](#)
- Farmers [\[R\]](#)
- Forklift operators [\[R\]](#)
- Domestic workers [\[R\]](#)

How it helps

Reducing back strain through proper posture and lifting techniques minimizes the mechanical stress on the intervertebral discs, thereby alleviating pain and preventing further injury associated with a herniated disc.

9



Good Posture

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Ensure your back is straight, shoulders pulled back but relaxed, and your head is aligned above your shoulders when sitting or standing. When sitting, keep your feet flat on the ground, and use a chair that supports your lower back. Do this continuously throughout the day, reminding yourself to adjust your posture whenever you notice it lapsing.

Description

Maintaining good posture helps prevent musculoskeletal problems, reduces the risk of back and neck pain, and supports overall spinal health. Proper posture can also enhance self-confidence and improve breathing and digestion.

Good posture may help lessen strain on your body. It involves keeping your head, shoulders, and hips aligned [\[R\]](#).

Forward head posture is a type of poor posture in which the head is pushed forward or tilted down toward the chest. This posture is common when using computers or smartphones [\[R\]](#).

Poor posture may lead to [\[R\]](#), [\[R\]](#):

- Muscle pain
- Headaches
- Breathing problems

How it helps

Good posture helps alleviate strain on the spinal discs, particularly in cases of herniated disks, by distributing weight evenly and reducing pressure on the affected area. This can subsequently diminish pain and promote healing by allowing better alignment and function of the spine.

10



Dry Needling

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Schedule sessions with a certified physical therapist or healthcare professional trained in dry needling, typically once or twice a week, for a duration determined by your specific condition and response to treatment. Sessions usually last about 30 minutes.

TYPICAL STARTING DOSE
30 minutes

Description

Dry needling is a technique used by some healthcare professionals to alleviate muscle pain and tension. It involves inserting thin needles into trigger points in muscles, potentially helping to release tension and promote pain relief.

How it helps

Dry needling targets trigger points in muscles affected by tension due to a herniated disk, facilitating muscle relaxation and reducing pain perception. This intervention can enhance mobility and support recovery by alleviating associated discomfort.