



PATIENT'S GUIDE

AFTER AN ENDOSCOPIC SURGERY
OF THE SPINE

 **EuroPainClinics®**
relief is our mission





Dear Patients,

We have prepared a brochure containing instructions for patients after an endoscopic surgery. You will also find recommendations for the long-term maintenance of your physical fitness.

BackPainRelief





ENDOSCOPIC INTERVENTIONS

Modern diagnostic and therapeutic methods are tasked with localizing pain, finding out its origin and subsequently eliminating or significantly reducing its intensity. The expected result of our efforts is to improve the quality of our patients' lives. The therapeutic procedures performed at our clinic include radiofrequency denervation, minimally invasive endoscopic surgery on the intervertebral discs, epiduroscopy and neuromodulation.

REHABILITATION DAY 1-7 AFTER THE SURGERY

The soft tissue healing process lasts around 2-6 weeks. The first two weeks after the treatment, it is particularly necessary to limit the lower back strain to a minimum. You can sit, stand and walk for short distances right after the effects of anaesthesia disappear. But for the rest of the day, you should rest in the supine position, on the side or on your stomach. If a waist strainer is indicated for you, always wear it lying on the back before getting up and remove it while lying down. Use a waist strainer when walking, however, it is not designed for exercise and rest in bed. It is typically worn for about 2-6 weeks after the procedure. Walking up the stairs is possible from the second day after surgery.



Getting up

While lying down, bend both legs and turn on your side. Unhook the legs from the bed and help yourself by pushing the body into a sitting position with the upper extremities.



If you are in a sitting position – put your legs slightly apart to the width of the hips, place the palms of your hands on the thighs, straighten your back into an upright position and slowly stand up.



Sitting

Sit astride facing the back of a chair. Straighten the back to an upright position, relieve the strain by resting the

arms on the back of the chair. On the day of your surgery, you can remain seated in the disburdened position for a maximum of 15 minutes. The third day after the treatment, you can prolong the sitting to 30 minutes, a week after the procedure, you can sit like this up to 1 hour. Sit down on the toilet with the legs straddled, keeping the back upright.

Trip home

By car: Take a ride on the passenger seat – do not drive! You can adjust your seat to a 45° angle. After 1 hour, take an active break for 15 minutes.

By train: If you are traveling during the day, walk every 30 minutes. For longer distances, please reserve the sleeper cart.

Hygiene

You can shower the day after your surgery. While showering, hold your back upright.

Treatment of the endoscopic entry area (wound care)

The aim of wound care after surgery is its good healing and ensured mobility of the subcutaneous tissue and the other structures. The wound is covered with bandages. Before showering, remove the dressing from the wound, shower the wound twice a day, let it dry and apply a new sterile dressing. Small scabs gradually separate by showering, do not remove them by force. If the wound is too warm, red, or there are purulent secretions or bleeding present, consult a doctor.

Stitches (if used) will be removed on the 7th to 14th day after your surgery as recommended by the doctor. Subsequently, treat the scar with a greasy, non-perfumed cream, preferably 5 times a day. After the removal of the stitches, it is usually not necessary to cover the wound with a dressing.



Pressure massage

If indicated, pressure massage of the scar can be performed after the removal of the stitches.

Massage Method 1:

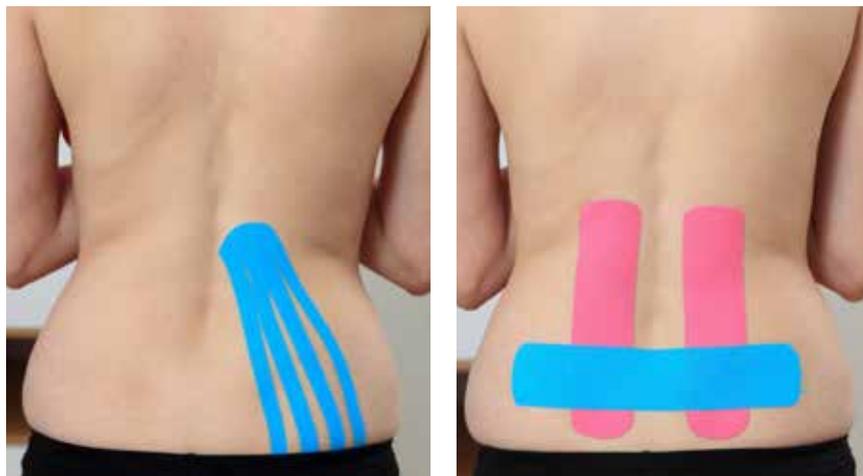
Place the thumb of one hand to the lower edge of the scar and lightly press on the scar with a bearable intensity. After a few seconds, release the pressure. In this way, continue along the entire length of the scar.

Massage Method 2:

Place two or three fingers on the scar. Swirl under moderate pressure to massage the scar from the lower part upwards. In this way, continue along the entire length of the scar.

Kinesiotaping

This effective method reduces swelling and pain, as well as speeding up the healing of the tissues. With kinesiotaping, you can stabilize the spine in the short term.



Medical checkups

You will undergo a medical examination before being released from the clinic. You will come for further check-ups 12-14 days after your surgery and the final check-up is planned three months after the surgery at EuroPainClinics®. All medical advice is available at our clinic throughout your recovery.

Exercise unit

When exercising, it is necessary to strengthen the abdominal and sitting muscles as well as stabilizing the spine and pelvis. In the supine position, the spine is lightly pressed onto the mat. Do not tilt your head backwards when lying on the stomach! Exercise slowly, in a steady pull, not swishing! Do not hold your breath! Repeat each exercise 5 times, practice 2 times a day. Do not do exercises that cause pain!

DAY 1

EXERCISE NO. 1

Position: lying on the back with your legs slightly bent, arms with stretched fingers on the lower ribs (lower chest).

Movement: breathing exercises; when breathing, the fingers resting on the abdomen separate from each other, and come together when exhaling.



EXERCISE NO. 2

Position: lying on the back with stretched legs.

Movement: pull and flex the toes, rhythmically switch between both legs, rotate the ankle joint on both legs.





DAY 2

EXERCISE NO. 1

Position: lying on the back with slightly bent legs, both arms raised.

Movement: slowly stretch both arms at once to full length.



EXERCISE NO. 2

Position: lying on the back with stretched legs.

Movement: stretch the tip-toes (do not rotate them), move the legs on the mat to the side and back, do not rotate the pelvis, switch between both legs.



DAY 3

EXERCISE NO. 1

Position: lying on the back with slightly bent legs.

Movement: with exhalation, bring knee to the abdomen, go back to the starting position, switching between both legs.



EXERCISE NO. 2

Position: lying on the back with bent legs (the width of the pelvis), palms on the mat.

Movement: gradually, vertebra by vertebra, lift the pelvis off the mat, no higher than to the shoulder blades.



DAY 4

EXERCISE NO. 1

Position: prone position, head rests on the forehead, arms freely with palms up—perhaps even exercise in an alternative with hands clasped underneath the forehead, palms facing upwards.

Movement: tense the buttocks, weight on the tip-toes, stretch your knees.



EXERCISE NO. 2

Position: prone position, head rests on the forehead, both arms stretched and raised from the mat.

Movement: stretch the right arm and left leg simultaneously, then left arm and right leg.



DAY 5

EXERCISE NO. 1

Position: prone position, head rests on the forehead, both arms stretched.

Movement: bend the elbows, continuously pull them towards the body.



EXERCISE NO. 2

Position: lying on the side, lower arm under the head, the other arm in front of the body leaning on the mat, lower leg bent, upper leg stretched directly from the trunk.

Movement: keep tense and pull the top leg's knee to the abdomen, go back to the starting position.





DAY 6

EXERCISE NO. 1

Position: support on the knees, arms apart at shoulder width, hands under shoulders, legs apart at the width of the pelvis, knees under the hips, head as the extension of the trunk.

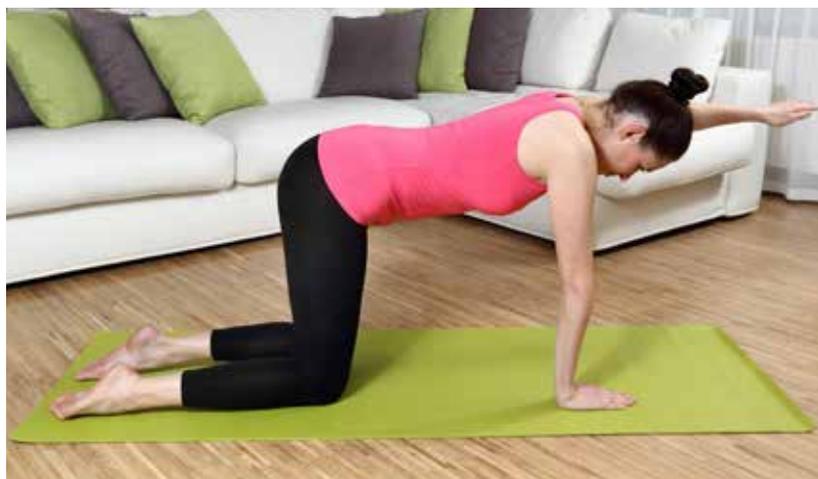
Movement: on an exhale, pull the chin to the trunk, bend the back and straighten it with an inhale. Do not bend backwards!



EXERCISE NO. 2

Position: support on the knees, arms apart at shoulder width, hands under shoulders, legs apart at the width of the pelvis, knees under the hips, head as the extension of the trunk.

Movement: alternately raise and bring down first one and then the other arm, keeping the trunk firm.

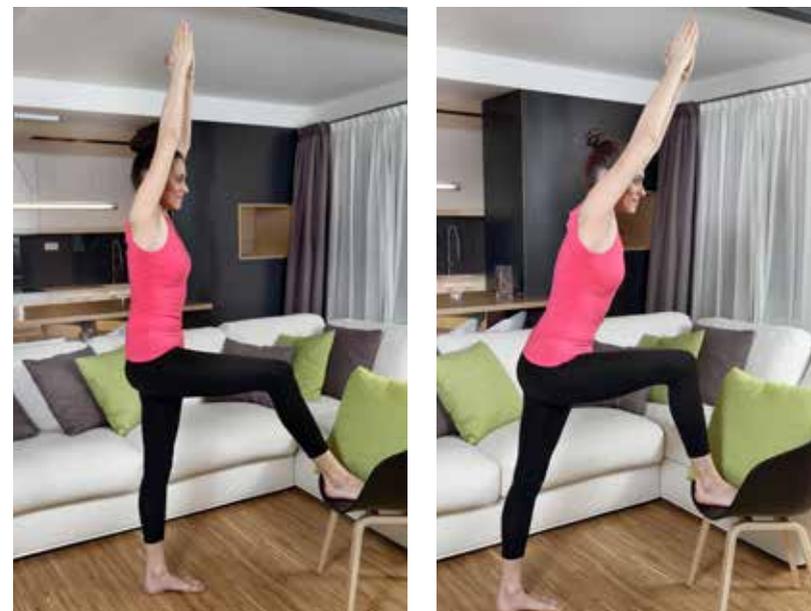


DAY 7

EXERCISE NO. 1

Position: stand facing a fixed chair (not on wheels), right foot leaning on the seat of the chair, left leg facing slightly backwards. Right arm freely hanging along the body, left arm raised above the head. You may exercise in an alternative where the arms are connected and elbows extended.

Movement: bring the weight with a straight back to the bent leg until you feel tension in the front of the left thigh, hold for about 5 seconds, return to the starting position and exercise the other side. The support leg is always stretched, do not bend your spine backwards!





REHABILITATION WEEK 2-3 AFTER THE SURGERY



Continue in the exercise and physical therapy, avoid carrying heavy loads. Always perform the movements with an upright torso. **Use the waist strainer when sitting, standing, walking, and carrying out work activities and driving.**

Physical activities

By the end of the second week, you can include walking among physical activities. Nordic walking is suitable (dynamic walking with sticks).

By the end of the third week, it is permitted to swim (in a very relaxing mode), provided that the wound after the endoscopic surgery is healed. Backstroke is a suitable swimming style.



Housework

For domestic activities, work in a forward or side-step. Divide any purchased goods into two bags or use a backpack.

Footwear

Wear proper footwear with solid heels and firm, stable soles (women's heels should have a wider, 3-4 cm heel). When putting on shoes or socks, do it while standing up, lean back against a wall. Use a low stool or chair to tie the laces.

Driving

You can drive from the third week. After an hour, make a 15 minute active break. Adjust the seat height appropriately and use lumbar support.

Return to work

Sitting is among the positions that puts the most strain on the intervertebral discs. If you have a sedentary job, observe regimen measures, including:

- **switching between positions** – don't stay in one position for hours
- **proper posture** – sit with your back upright

If the chair is not properly shaped to maintain lumbar lordosis in a sitting position, it is appropriate to use a lumbar roll. Improper posture while seated can cause pain in the lower back. Sitting on a chair should not exceed 3 hours.

Correction – posture

Corrected posture

It is a standing position with feet about the width of the hips, the weight is distributed evenly on both legs, the pelvis does not tilt forward or backward. You should pay attention the abdominal and gluteal muscles. The whole spine is stretched, your head is held straight and shoulders are relaxed. It is appropriate to remain in corrected position for 3-5 seconds.



Corrected sitting position

In this position, the hip joints are higher than the knee joints. Knees should be slightly apart with your feet touching the entire surface of the floor. The pelvis should be slightly tilted forward, your back should be stretched, shoulders relaxed and the cervical spine should be stretched without the head shifting forward. The correct sitting position cannot be achieved with crossed legs.

Repeat the standing and sitting position 10 times, perform 2 to 3 times a day.



Other recommendations

Avoid movement with a bent and rotated torso as well as rapid and uncoordinated movements. Be careful when walking on uneven surfaces. Temporarily omit exercises that cause pain.



You can add additional exercises to your exercise routine

EXERCISE NO. 1

Position: Lying on the abdomen, head rests on the forehead, arms relaxed, with the palms up.

Movement: push the shoulder blades smoothly towards the spine and down, relax with an exhale.



EXERCISE NO. 2

Position: kneel down keeping the support on the knees, arms apart at shoulder width, hands under shoulders, legs apart at the width of the pelvis, knees under the hips, head extended.

Movement: lift the right leg and the left arm followed by lifting the left leg with the right arm. Maintain a firm trunk.



Sleep, getting up

We recommend a bed with a lamella grid and your mattress should be moderately hard. Choose a pillow that naturally fills the depression in the cervical spine curvature between the head and shoulder without having to tilt or lift the head. Pillows made of foam rubber, which adopt its original shape, may not one of your legs at the knee, then the other, turn sideways to the edge of the bed, lean on the arm and while moving to a sitting position put the legs down from the bed.

When lying down in the bed, perform the same movements in reverse order.

Hygiene

When standing at the sink, put one of the legs forward, while resting against the sink with the arm on the same side. Prefer showering.

Intimate life

Sexual activity is possible if there is no pain in the spine where the endoscopic surgery was performed. Caution and mutual consideration is appropriate.

Pain

If you experience acute pain, lie down in a relaxing position. Breathe naturally the entire time. Consult a doctor regarding the prescription of analgesics for the treatment of mild back pain.

If you get a sudden, sharp, shooting pain or persistent pain occurs in the spine or where your endoscopic surgery was performed, contact EuroPainClinics®!



REHABILITATION WEEK 4-6 AFTER THE SURGERY

Active movement (recommended exercises) is still part of your daily routine. It supports the correct functioning of your musculoskeletal system. From the sixth week after the procedure, use a waist strainer only in the case of an expected load (lifting loads, prolonged standing, sitting).

From the fourth week, you can lift loads of low weight with the support of a waist strainer.

From the end of the sixth week you can lift loads with a greater weight.

Proper lifting and load carrying technique

Stand close to the load, stand firm in a wide stride. Bend the knees to reduce the strain, keep the back upright. Firmly grasp the load and hold it as close as possible to yourself. Lifting heavier loads should be carried out with an inhalation – it solidifies the abdominal muscles and stabilizes the spine. Moving backward, hold the balance and lift the load so that you gradually straighten the knees. Lift with continuous stride, not a jerk. When you're already standing straight, turn by moving the legs. Avoid the rotation (and twist) of the torso! When putting the load down, follow the same procedure in reverse order.

When lifting light objects from the ground, you can also use an alternative procedure in which you stand on one leg and put the other one behind to balance the position when moving the torso downwards. Carry the load with avoiding a spinal backward bend. Do not carry the load with only one hand.



Proper load lifting.



Proper rotation with the load.

Improper load lifting

Lifting loads while bending over with a bent back leads to the damage of your intervertebral discs and ligaments, especially in the lumbar region. When bending your back with a load, it can lead to an unnecessary strain on the intervertebral joints.



Improper lifting and rotation with the load

Sport activities

During the 4th to 6th week after surgery, you can gradually return to your recreational sports. Gradually increase the load! Avoid a unilateral load and back-bending position, rather kneel down or have one leg shifted forward. Body massages are not appropriate.

Procedure when getting up from lying down to standing

Get up off the ground from a prone position. By supporting yourself with your arms you can get into the kneeling position (do not sit on the heels). Then step out with one foot, lean your arms on the thigh of this leg, to transfer the weight on it, and slowly stand up.

The effects of physiotherapy

The combination of exercises used in physical therapy promotes the activation of a deep stabilization system and the muscular corset of the torso (with a focus on the spinal, abdominal and gluteal muscles). At the same time, it also improves the muscle balance and the stability of the spine. For a successful therapy, you should perform all recommended exercises, maintain proper lifestyle habits and exercise, keep to a good nutrition and prevent obesity.



SPORT ACTIVITIES FROM THE THIRD MONTH AFTER SURGERY

Nordic walking and cross-country skiing are extremely beneficial sports – there is an optimum interplay of the shoulder blade and arm. Suitable sports activities include swimming, easy hiking, cycling for short distances and horse riding.

Swimming

The health and correction beneficial effects of swimming stem mainly from the specific environment in which the activity is performed and the nature of the motor activities. The swimming style is chosen according to the type of deviation from the proper posture. Breaststroke and butterfly stroke cause lumbar lordosis and hyper-mobility. Senior swimmers usually keep their head above the water, which causes cervical hyper-lordosis.

Floating

Floating contributes to the elongation of the spine, strengthens the interscapular muscles, abdominal and gluteal muscles. Floating is done in the breaststroke and the backstroke position. In both positions, the legs must be stretched, belly and buttocks reinforced, arms above the body, in internal rotation pressed to the head, which is aligned with the trunk in one line. In the backstroke position emphasis is placed on pelvic upward pressure.

Backstroke

The backstroke is the most suitable swimming style in terms of its health effects. It is advisable to swim with the head aligned with the spine. It helps the balanced bilateral development of muscular strength, contributes to the stretching of shortened pectoral muscles and to the strengthening of the interscapular muscles.

Front crawl

The front crawl is done in an almost horizontal position with steady rhythmic breathing on both sides. The therapy may also include isolated leg movements to help stretch the thigh muscles and strengthen abdominals and buttocks.

Breathing while swimming

Breathing while swimming is a very effective element of physical therapy. It deepens otherwise shallow and superficial breathing. It is a forced exhalation through the mouth and nose into the water with the help of the diaphragm.

Fitness training

Fitness training reduces the risk of damage to the musculoskeletal system. It enables the gradual acceleration of movement while maintaining optimal coordination and stabilization. It increases the range of motion of the limbs as well as improving athletic performance.

Stretching exercises

It is appropriate to do stretching exercises slowly and repeatedly, after the prior body warm-up (warm-up at a higher frequency, while running on the treadmill, etc.).

Unsuitable sports activities

Avoid sports with a danger of falling, increased shocks, rebounds, jumps and sudden movements. There is also a risk of damage with a significant bending of the spine, unilateral load or load by rotating the body (tennis, squash, bowling). Contact sports (collective) should be avoided due to the risk of injury and fall after a clash with another player. Do not perform spinal exercises or running of higher intensity on a hard surface.

Extremely risky sport activities include exercise on fitness machines (risk increases with the intensity and duration of exercise), rowing, hockey, floorball, golf, aerobics, yoga exercises, sport and rhythmic gymnastics, taekwondo, downhill skiing or snowboarding in hard skiing boots.

General principles

Irregular or very vigorous exercise reduces its positive effects. Do not exercise with great power, in a quick, jerky, uncoordinated way. Customize the strain to your physical condition, be mindful of fatigue. Make sure that you wear proper footwear. After an athletic performance, do not relax the back by slouching.

Choose the right sports equipment after consultation with a physiotherapist.



ERGONOMICS

Ergonomics (from the Greek ergon = work and nomos = law) is a field in science that addresses the relationship between human performance and resources or items they use (e.g. working tools, furniture, clothing and footwear). The aim of ergonomics is to create the conditions and environment that reflect the needs and abilities of people. The application of appropriate methods improves human health, well-being and performance.

Ergonomics of the workplace, principles of correct sitting

The chair is one of the most important working tools. If a person mostly sits while working, a chair has the greatest impact on their health compared with other work equipment.

Correct chair equipment

- synchronous chair mechanism
 - synchronous movement of the seat and backrest with the body
- a properly shaped back of the chair with lumbar support
- a properly designed chair base must not press on the thighs from the bottom

Correct sitting

- sit at the correct height (feet always on the ground or on a mat)
 - seat base must not press on the thighs from the bottom
- sit on a chair leaning back on the hip rest (don't sit on the edge of the seat)
- position alternating is suitable for prolonged sitting
 - sitting, standing, stretching

Ergonomic requirements for computer work

Distance of the eyes from the monitor should be 50–70 cm, the top line of the text should be at about your eye level. The keyboard should be separated from the monitor so that it can be individually placed on the desk.

Keyboard storage below the work table is practical so that the wrist is at the forearm level.



Sitting properly at a PC



Sitting improperly at a PC



Properly standing from a chair



Improper standing from a chair

Equipment of the work environment can be consulted with a physiotherapist.

WHAT (NOT) TO DO TO AVOID BACK PAIN

- avoid activities that excessively put strain on the spine
- prevent obesity
- do not succumb to stress, which increases the perception of pain and muscle stiffness
- keep your regular physical fitness level through exercise

BackPainRelief

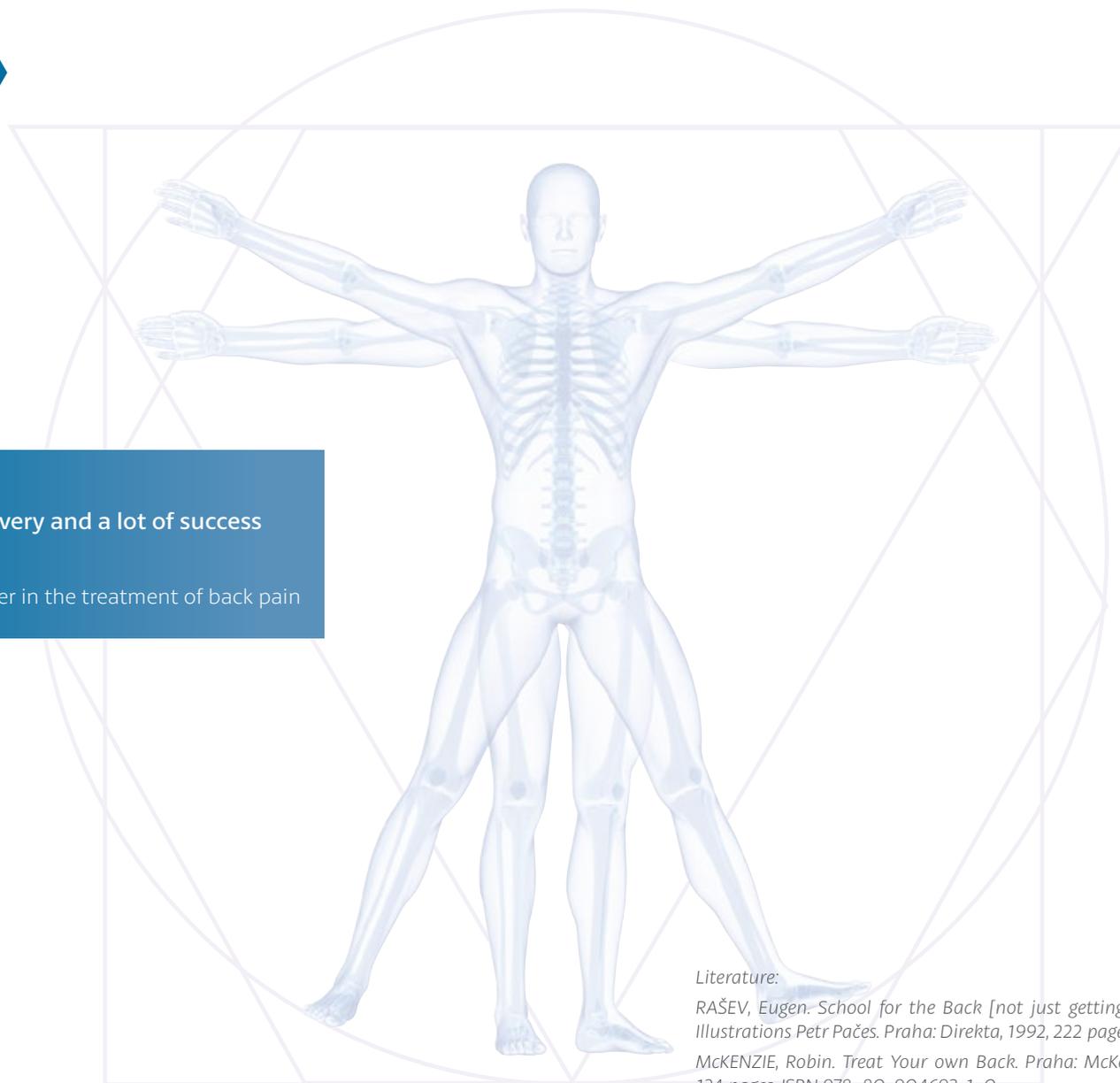




MOTION AND REGIMEN MEASURES AFTER ENDOSCOPIC SURGERY OF THE SPINE

| | Day of surgery | 1st week | 2nd week |
|----------------------------|--|--|---|
| MEDICAL CHECK-UP | CHECK-UP BEFORE DISMISSAL | | 2ND CHECK-UP 12-14 DAYS AFTER THE SURGERY |
| PHYSIOTHERAPY | START TO PUT GRADUAL LOAD ON THE BODY ON THE FIRST DAY AFTER SURGERY | | |
| WAIST STRAINER | WEAR WAIST STRAINER IF INDICATED | | |
| SITTING | LIGHT-WEIGHT SITTING, MAX 15 MINUTES | DO NOT SIT LONGER THAN 30-60 MINUTES WITHOUT A BREAK | |
| WALKING | | GRADUALLY EXTEND WALKING PERIOD | |
| DRIVING A CAR | ONLY AS PASSENGER | | |
| REGIMEN MEASURES | LEARN THE CORRECT PROCEDURE OF GETTING UP AND THE SITTING AND STANDING UP POSITION | | |
| PHYSICAL ACTIVITIES | | | |
| SPORT ACTIVITIES | | | NORDIC WALKING IS SUITABLE |

| 3rd week | 4th week | 5th week | 6th week | 3 months after surgery |
|---|---------------------|----------|--------------------------------------|--|
| | | | | 3RD CHECK-UP |
| CONTINUE WITH REGULAR EXERCISE | | | | |
| WEAR A WAIST STRAINER IF INDICATED | | | ONLY IN THE CASE OF AN EXPECTED LOAD | |
| ALTERNATE POSITIONS DURING PROLONGED SITTING (SITTING, STANDING, WALKING, STRETCHING) | | | | |
| | | | | |
| YOU CAN DRIVE ALONE WITH ACTIVE 15 MINUTE BREAKS AFTER EVERY 1 HOUR OF DRIVING | | | | |
| | LIGHT LOADS | | HEAVIER LOADS | |
| SWIMMING | | | | |
| | RECREATIONAL SPORTS | | | GRADUAL INCREASE OF ATHLETIC PERFORMANCE |



Dear customers,
We wish you a speedy recovery and a lot of success
in your personal life.

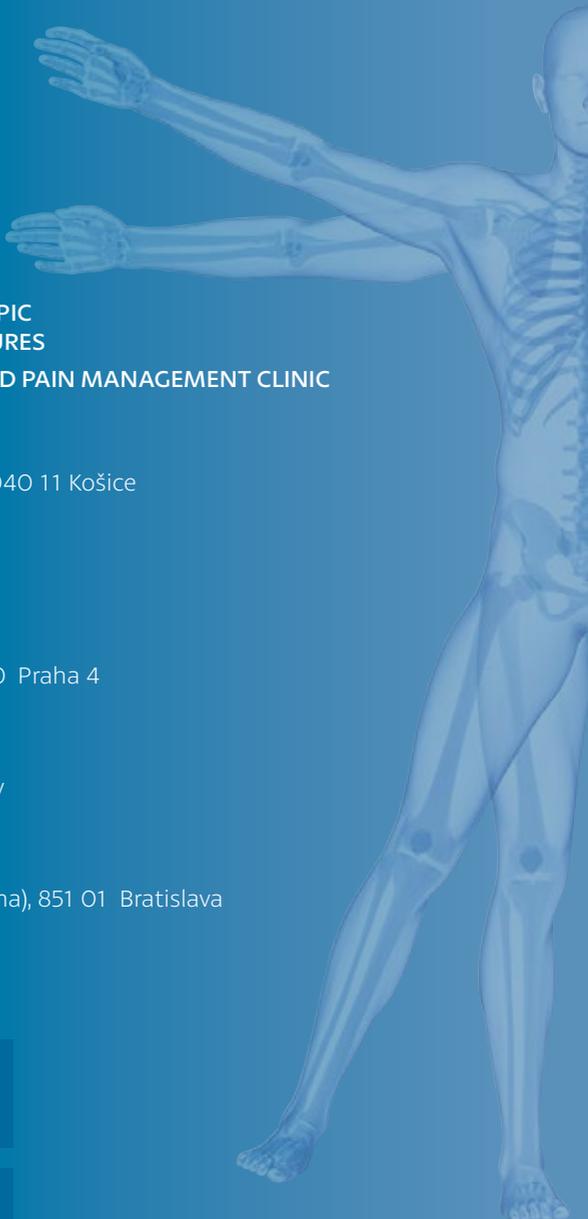
EuroPainClinics® – Your partner in the treatment of back pain

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AND MINIMALLY INVASIVE PROCEDURES**

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