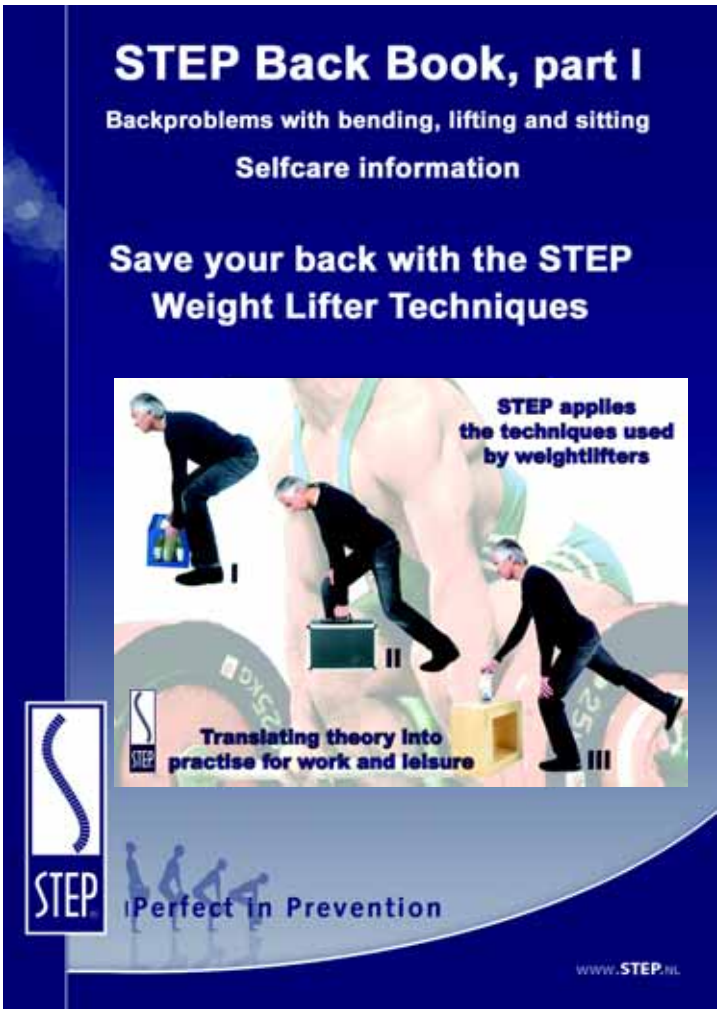


STEP

Perfect in Prevention

STEP Back Book, Part I, oktober 2012

Deldenerstraat 40, 7551 AG Hengelo
t. 074 2502828
f. 074 2500470
e. STEP@STEP.nl
w. STEP.nl

Magazine spread in België: STEP Belgium, info@STEP-belgie.com of op T 03.257.14.87

Other self care books of STEP are:

STEP Back Book Part II, focused on recovery from back pain especially in walking and standing
STEP Neck Book
STEP Shoulder Book
STEP Tenniselbow Book
STEP Ankle Sprain Book

Introduction

There is a great need for effective information for people who have back problems.

The STEP Back Book has been written to satisfy those needs.

The STEP Back Book is written as a guide for people who initially attempt to resolve their own back pains.

The advice given in the STEP Back Book is based on the most recent scientific research, which corresponds to the signals that people with 'convex' back pain can experience.

In (Para) medics there is the conception that it doesn't matter how you bend over and lift.

STEP completely disagrees with this. In 2008 STEP researched the WLT with the Free University of Amsterdam. Conclusively it was found that the WLT back stress and bending stress, was significantly lower compared to lifting with straight knees and a convex back (stoop)and squat lift.

Although it will take time before this becomes generally accepted, for you, the reader, this book provides an advantage.

The STEP Back Book is recommended for anyone who wants to resolve their back problems on their own terms.

If the symptoms aren't dealt with in an effective and adequate manner, contact with a STEP SelfCare book is highly recommended.

KIGP members:

Bert Bruggeman, Jos Diseraad, John Eekelder

Gerben Geerdink, Hans Kerkhoven

Hans Leusenkamp

STEP's Mission

The essence behind the prevention of back pain is the prevention of physical overloading.

Essentially the recovery of back pain consists of preventing physical overloading of the back during the healing process

When experiencing back pain it is important to know that the back is weakened and that the overloading caused by daily activities needs to be avoided.

For people with existing back problems, the prevention of physical overloading while continuing their daily activities, both at home and at work, allows the back to recover naturally by being protected from overloading and still allows the person to function in everyday life.

The prevention of physical overload during the healing process is a generally accepted fact in the medical orthopedic world.

STEP agrees quite strongly with this. STEP brings this important orthopedic principle of "prevention of physical overload during the natural healing process" up consistently in practice. In (para) medics it is recommended to temporarily avoid painful movements. However according to STEP this is different. This ultimately means that people with back pain find it far too easy to accidentally make mistakes and this slows the natural healing process.

In order to prevent making these painful movements, training in safe back use and specific preventive tools are necessary. Step provides training and has developed tools with the specific task of preventing injuries to all joints, including the back. In the final chapters of the book you will find more information regarding these tools.

In the current (para) medical community, the important principle of preventing physical overload is not realized, the emphasis is entirely on therapy.

It is our aim to cause a cultural shift among both medical professionals and patients to shift from a treatment policy to a self help policy where physical overloading is prevented and the patients are able to prevent further strain and realize their own recovery.

In order to realize this change it is important to teach people the essence of safe spinal use and apply preventive tools to prevent overloading of the spine while still being able to function normally in everyday life.

On behalf of KIGP and all STEPPERS

Bert Bruggeman

STEP

Perfect in Prevention

Back pain

Even after 2000 years
the (para) medical world says that the only way they can influence back pain
is to remain in motion.

At STEP we believe this is inadequate advice
We believe that there is a lot that can be done to influence back pain
By remaining in motion in a safe and healthy manner by applying the STEP WLT

Basically moving is good
But while remaining in motion there is still a risk of exacerbating the injured back
It seems that it is possible to move with both safe and unsafe back use.

Contents

Introduction

The STEP Back Book is the first book in the world which actually explains how one can deal with back pain on their own.

STEP has developed a better, faster and more practical approach to back pain which does justice to the 2000 years of scientific research regarding the individual with back pain.

The STEP approach is different from the general books provided in the medical world in that it not only uses the latest medical and scientific insights, but it also uses the practical insights of those people who experience back pain.

In this STEP Back Book the focus is on back pain caused and aggravated by bending, lifting, sitting and standing up from a seated position.

These are the most common symptoms and are often not taken seriously by the medical world. All the more reason to focus on this specific type of back pain.

Does this STEP BackBook apply to you?

This STEP BackBook is also about 'convex back pain'.

This means that your complaints mainly arise when your lower back is convex, as in:
* Sitting with a convex back, for example in a chair or a car (Figure 1 and 2);
* Bending and lifting with a convex back (Figure 2);
* Getting up from a seated position with a convex back from, for example, a bed or from a chair from a car.

It is also possible that your symptoms are made particularly worse by:
* walking
* standing (figure 3)

If this is the case you probably have the so called 'hollow' back pain. If this is the case, then the book does not apply to you, it only applies to you if you have a 'convex back pain'.

If you are not sure whether the STEP BackBook applies to you, and you want to know whether it could help you, please contact us via:

http://www.step.nl/contact/ or 0031-74-2502828.

Figure 1

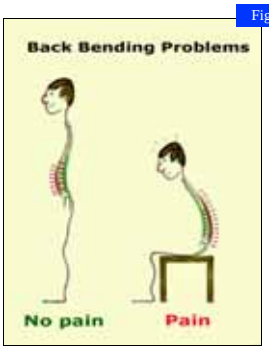
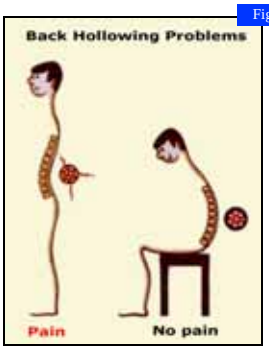


Figure 2

Figure 3



1. How often do back aches occur?

Everyone, sooner or later will have to deal with it. A few statistics:

* 67% of 40-year-olds have had back pain at some point.
* 2% of 28-year-olds have already had hospitalization due to back pain;
* Back pain usually starts at a very young age (20 years) and then come back regularly;
* Once you've had back pain, there is about 70 - 0% chance that your back pain will return in following years

These are reasons in themselves to be economical with your back. If you want to stay protected from symptoms, knowledge of your back to avoid future straining is vital.

2. The functioning of the back

The back is complicated. Numerous muscles, vertebrae, ligaments and intervertebral discs make up the spine.

90% of all back pain is directly or indirectly from intervertebral discs.to understand most 'convex' back pains, you only have to understand the general structure of the intervertabral discs, which is simple.

The intervertebral disc consists of a liquid core surrounded by the solid ligaments. Together they form a perfect spring. (Figure 5).

This is partly due to the displacement pressure of the core (1 in Figure 6) and forces in the core (3 in Figure 6), the other by the bending movements themselves (2 in Figure 6). The back ligaments are overloaded with all sorts of ordinary daily activities where the ball is back, including:

tying shoes, dressing and undressing, washing, cycling, sitting in the office or in the car, yard work, bending to the oven or washing machine, vacuum cleaner, stand up from sitting, lifting, abdominal exercises and many other activities.

Figure 5

Figure 5.
In the center there is an (enlarged) depiction of the intervertebral disc in a standing position.

Above and below you can see the positioning of the intervertebral disc while bending, sitting, and during sit-ups.

While standing and walking the dorsal ligaments are relaxed.

When bending, sitting and doing abdominal exercises like sit-ups they come under increased tension.

Figure 6

Figure 6.

Every day activities, occurring all day, that increase strain on the dorsal ligaments.

On the one hand the ligaments located at the back are subjected to increased tension caused by both the pressure of the core shifting (1) and by the actual pressure inside the core (3).

On the other hand the bending motion itself causes an increase in strain on the ligaments (2).

3. How are the rear ligaments the back usually overloaded?

Large forces and stresses in a bending, lifting, getting up from sitting and sit-ups (Figure 7)

1. If you are standing upright, the forces in the nucleus, for an individual weighing 80 kg, is approximately 100 kg where most of the forces are exerted on the ligaments located at the front.
2. When fully stooping, the forces in the core increase up to 360 kg.
3. When lifting a 20 kg crate with a convex spine, the forces in the core can increase to upto 475 kg. Again most of this stress is exerted on the rear ligaments.
4. When rising from a seated position the forces in the core can increase to 225 kg and during sit-ups they can increase up to 250 kg where the stresses are exerted on the rear ligaments.

b. Hundreds of times per day (Figure 8)

The exertions mentioned above occur both during work and leisure which causes the back to be exposed to heavy loads hundreds of times per day (i.e. when stooping, sitting, lifting, grabbing an object and getting up from a seating position). There is a combination of two unfavorable factors which, even for a healthy spine, can become too much.

4. Convex back use in bending, lifting and sitting are not immediately dangerous

The back is capable of withstanding great forces, even in a convex position. Stooping, standing, lifting and sitting with a convex back won't immediately lead to overexertion, but STEP advises keeping the back concave, especially when bending and lifting.

While in a seated position STEP doesn't recommend sitting upright all the time, as this is not realistically achievable. Sitting in a convex position leads to forces that are comparable to standing upright and are significantly less stressful for the spine than bending with a convex back (compare figure 7 and 9).

Sitting in a convex position is also far more relaxing. However sitting in this position for longer than 15 minutes is not recommended. The tension on the ligaments at the rear increases with time (figure 9) and it is therefore wise to switch positions, straighten your back and use cushions to improve your posture so that the stresses on the ligaments aren't permanently present.

Standing up from a seated position by throwing you weight forward (figure 7), however, is stressful. Using the WLT's to stand up, supporting your torso with your hands and straightening the back allows for a decrease in these stresses (figure 7).

Figure 7

Figure 7.
The forces withing the core during a variety of daily activities.

Compared to standing they are:

1. *significant forces.*
2. *forces that are mostly exerted on the ligaments located at the back.*

Note how different standing up is for the back with WLT and without.

Figure 8

Figure 8.
Generally speaking the ligaments located at the back of the intervertebral disc recieve a higher level of exertion throughout the day.

This is because in western society:

1. *we are as stiff as a board.*
2. *we don't use muscles while bending and lifting, but hang in the ligaments.*

Figure 9

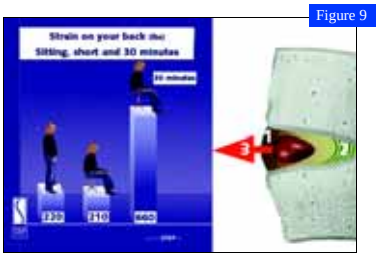


Figure 9.
While sitting with a convex lower back, most tension is exerted on the dorsal ligaments.

The longer you sit, the higher the tension on the dorsal ligaments.

While sitting for a long time, the core tends to shift backwards (1) which increases tension on the dorsal ligaments.

Convex back use when experiencing back pain is dangerous

When you are experiencing back pain it is important to be careful with convex back use, even while sitting for a short period of time. During periods of back pain it is important to avoid convex back use for approximately 6 weeks. This is where the STEP Protection Tools become crucial since they prevent the back from becoming convex and at the same time serve as a teaching mechanism.

5. What 's in the back usually overloaded?

It is scientifically demonstrated that the ligaments located at the rear are the weakest.

The dorsal ligaments are weaker than the ones at the front and are less numerous.

.

The problem is that the dorsal ligaments are exposed to the highest loads during every day life.

It is no wonder that it has been scientifically proven that back pain is caused by injuries to the dorsal ligaments of the intervertebral disc.

So, what does a ligament injury look like? It is easily comparable to an injury to the ligaments of the ankle.

When you sprain you ankle, the ligaments located there are either overstretched or may even contain a small tear.

The same thing occurs with back injuries (figure 10). The problem is usually caused by overstretched or even torn ligaments.

6. X-rays don't reveal these injuries (fig. 11)

An injury to a ligament, whether it is located in the spine or ankle, can't be seen on an X-ray. Even if a medical professional is unable to see an injury to the spine on an x-ray, this does not mean that there is no injury present. It is most certainly possible to have a back injury (fig. 12).

If a medical professional tells you there is no injury to be seen, this is not conclusive.

Always listen to the signals you back gives you and be cautious of the movements that cause pain.

Figure 10

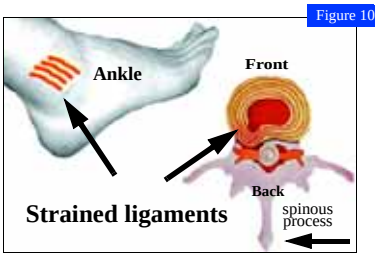


Figure 10.
On the right you can see how the core has strained a few ligaments.

On the left you see a depiction of strained ligaments of the ankle, accentuating the fact that a ligament injury in the back is comparable to that of the ankle.

You can feel the spinous process of the vertebrae with your fingers.

Figure 11

Figure 11.
On the x-ray there is no visible injury.

A ligament injury is never visible on an x-ray.

See the picture below for more information on the injury this person has.

Figure 12

Figure 12.
These types of medical imaging (discogram with contrast material) are usually only done prior to surgery.

The discogram provides a clear picture of the limitations of the use of x-rays.

The core has damaged multiple ligaments.

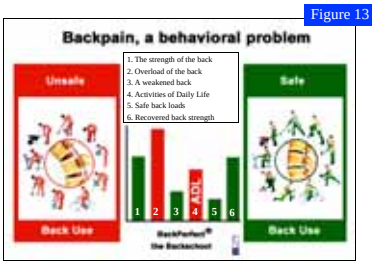
7. In summary

Back aches are usually not caused by a serious illness, but are caused by overloading the spine through unsafe spinal use.

Although backaches are rarely caused by serious illness, they are a serious physical complaint.

The overexertion that has occurred is caused by unsafe use of the spine (fig. 13 left and fig. 14) and it is wise to resort to immediate safe back use.

Figure 13



By now your back has been weakened (3 in fig 13) and has become more sensitive to overexertion due to a daily routine of convex movements.

Every day life is a minefield of sorts where the risk of overexertion due to convex movements is a permanent risk (fig. 13 left and 4 in fig. 13).

8. Backaches how do you solve them?

The solution to back pain is safe back use by applying the STEP WeightLifter Techniques (fig. 13 and 15). With these techniques you can avoid the movements that caused your back pain and/or worsened it (5 in figure 13). This is the first and foremost motto.

You prevent (renewed) overloading of your back and allow your back to recover (6 in fig. 13).

Even if your back pain disappears quickly, avoid heavy and prolonged convex backloading when bending, lifting sitting and standing up for at least another two week.

Figure 13a

If your back pain:
* is severe; * doesn't disappear quickly ;
* doesn't completely go away, * returns,

It would be wise to go to a STEP Self Care Instructor, who, with the help of STEP Protection Tools, will teach you to apply the STEP WeightLifter Techniques during bending, lifting and sitting (fig. 15). The most important Protection Tool is the STEP BackOffice Belt (BOB), which provides perfect protection during these activities. is is the STEP BackOffice Belt (BOB), which in bending, lifting and sitting realizes a perfect protection (Fig. 13a).

With the STEP WeightLifter Techniques
Safe & Healthy & Easy moving is realized

Figure 14

Figure 14.
STEP has provided thousands of courses on safe back-use to tens of thousands of people. Everywhere the same problems occur because people simply do not know how to lift.

When you ask people "how should you lift an object?" They all answer: lift with the knees with your back straight. When asked how they actually lift they all answer: knees straight and a convex back.

It's not surprising that people do not lift with their knees bent fully because this technique is impossible to use in practical situations.Anyone who attempts lifting with this technique quickly realises how impractical it is. Scientific research has proven that lifting with the knees in full flexion is even more exerting for your body and does not protect the spine at all, since the spine still becomes convex. It is important to let go of this technique as soon as possible.

Figure 15

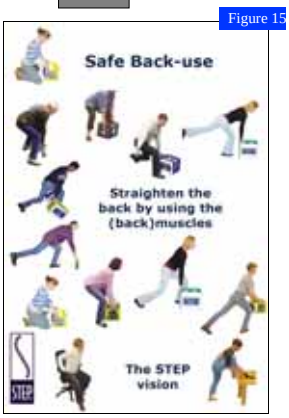


Figure 15.
Safe back-use with the STEP WLT !, !!, and III is demonstrated during a variety of daily activities.

The essence of the STEP WLT is the safely locking of the back and protecting the ligaments at the rear by using the muscles of the back.

The STEP WLT are also healthy, a natural way to fitness. You don't hang in the ligaments, but use the muscles of the back, hip, and leg in unison.

The most important aspects of the STEP WLT is that they are easier then regular lifting and that they are naturally applied by children, the elderly and during sports.

All the more reason to get started with the STEP WLT.

9. Frequently asked questions

1. Should you stay active with back problems?

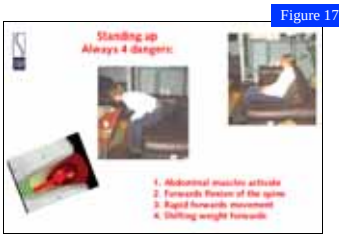
If you have back problems it is a good idea to try and continue with your normal life, to remain active and to continue working. However, it is essential to avoid convex loading of the spine during bending, lifting, sitting and standing from sitting.

2. If back pain is very painful, is bed rest then good?

Figure 16

If you are experiencing severe pain there is no problem with taking some rest. If needed you can spend a day or two in bed to get through the worst pain. When you do this, it is important to watch out when getting out of bed and to ensure that your back is kept straight. The same rules apply when you go to the toilet, where the seated position should be maintained with a straight back as well.
See figure 17 for the four dangers that occur while standing up.

Figure 17



3. Should I adjust my bed?

Lying down tends to be pleasant for the back. However the pain you experience is usually a result of unsafe body-use during the day.

If you experience discomfort in bed try adjusting your position, for example by bending both legs, keeping one leg straight and the other bent or with both legs straight. If this doesn't help, perhaps you should look at adjusting the thickness of your mattress or perhaps even changing beds.

Keep in mind that getting out of bed can worsen your pain. Use your hands to push yourself into an upright position and apply the STEP WLT, especially in the mornings.

4. Does back pain make you disabled?

Back pain will not make you disabled. Usually you can continue to function in a reasonable manner so long as you avoid worsening the injury by flexing the spine.

5. Should you remain in motion with back pain?

The advice provided by modern medicine, staying as active as possible, keep moving and staying in shape, is just as foolish as prolonged bed-rest. The medical advice jumps from one extreme to the other. Adjust your level of activity when you are experiencing pain and keep in motion by applying safe posture to your activities is the best approach. Keeping in motion is good for the spine and one should attempt to continue with daily activities, so long as the pain does not worsen. Again, avoid the convex position of the lower back.

6. Do I need to do sports?

Other than walking, there is no need to do extra sports or activities. Increase the walking distance as your body allows.

7. Can back pain be caused by being out of shape?

Your level of fitness or strength has no effect on back pain. Exercising does not resolve back pain and abdominal exercises can actually be dangerous as well as back exercises in a convex position. By applying safe postures to your daily routine you can control your back pain. Exercising and remaining active alone have little to no effect.

8. Is it recommended to exercise while experiencing back pain?

There is nothing wrong with exercising, just make sure you don't overexert your back, especially in a convex position. This will only aggravate the injury, comparable to hopping on a broken leg.
Exercises to make you stronger, leaner and fitter don't solve back problems and may even be dangerous. Simply apply the WLT's and your back muscles will gradually increase in strength without endangering your back

.

9. Is walking good when experiencing back pain?

If your back hurts, walking can be an excellent exercise. Cycling and swimming, however, are not recommended. The seated position on a bike will cause you to put your back in a convex position. When swimming the undressing, drying yourself off, and getting dressed all have to be done with correct body-use. It is better to spend the time you would be swimming on learning to apply safe back-use.

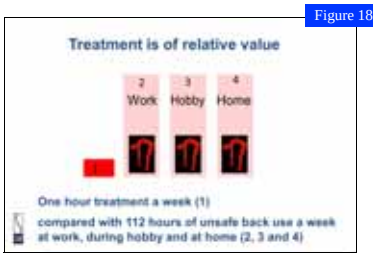
10. What about relaxation techniques?

Relaxation techniques do not resolve your back problems, but if you enjoy them or feel like you benefit from them, there is no contraindication. If your complaints arise from bending, lifting and sitting, it is important to focus on safe back-use and applying the STEP WLT.

11. When can I resume my work?

You must gradually increase your level of activity while applying safe back-use and gradually return to work as your pain allows. Getting back to work is recommended but keep in mind that you have an injury and that there will be some limitations. If your job consists of heavy physical labor it is all the more important that you are able to apply the WLT's before returning to the workforce. If you haven't mastered these techniques it is recommended to use the Protective Tools such as a sit-support, Office Belt or Back Belt. Also keep in mind that you can ask colleagues for help and perhaps adjust your workplace to make it more ergonomic.

Figure 18



12. How useful is treatment for back problems?

Treatment by a medical professional is of relative value when it comes to back problems. If you consider that this treatment often consists of one hour of treatment, there are approximately 112 hours remaining during the week where you can damage the back. Only by applying safe body-use at work and at home can you make significant improvements in resolving your own back problems (figure 19).

Figure 19

13. Is it helpful to apply heat or cold to your back?

Using hot- and/or cold packs has little effect on your injury. These can be used to numb the pain and can provide a false sense of security. It can be used as a painkiller but is not a replacement for safe back-use. A hot bath or shower can even lead to dangerous situations as you need dry yourself off, get dressed and undressed which tends to lead to convex positions of the lower back.

.

14. Can I take painkillers?

Painkillers numb pain, but are not an alternative to safe body-use. Painkillers mask signals from the body, reducing the warning signals and allowing the person to continue damaging the back without noticing. Painkillers serve a purpose when you are experiencing a lot of pain, but do not take more than you need and should not be taken over long periods of time.

15. Which painkillers are good?

The best painkillers are simply Paracetamol or soluble aspirin. These are the simplest and safest painkillers and are the most effective as well. Again, do not take more than necessary, and start small amounts to see if they have a positive effect. It is not recommended to take more than 2 every 4 to 6 hours. If aspirin does not help, you can resort to anti-inflammatory drugs such as Ibuprofen. If you have stomach ulcers or stomach problems do not take aspirin or Ibuprofen.

16. How important are the abdominal muscles when dealing with back pain?

It is a common misconception that abdominal exercises help when dealing with back pain. The purpose of the abdominal muscles is to flex the upper body (fig. 20). Therefore if you have convex back problems, abdominal exercises can worsen the injury. The STEP WLT will automatically train your abdominal muscles as they work together with the back muscles to keep your upper body straight.

Figure 20

Figure 20. Be careful when doing sit-ups or abdominal exercises with commercial machines, especially when you already have a backache or injury.

17. Do you always listen to the doctor or physiotherapist?

(Para) medics often claim that nothing is damaged and that nothing is wrong. This is because they tend to rely on X-rays and MRI's. The problem is that injuries to the intervertebral disc cannot be seen on X-rays and MRI images. If you do experience pain in convex positions, there is an injury, regardless of whether they can been seen on an MRI or X-ray. Applying the WLT's will help combat this problem. Keep in mind that it has been scientifically proven that deep squat techniques (bending the knees fully while attempting to keep the back straight) can be dangerous as well.

18. Is back pain similar to a hernia?

Usually only a few ligaments have been overstretched or damaged. Hernias can recover well on their own so long as you apply safe body-use for a period of at least 6 week, allowing the ligaments to heal. A hernia usually develops after a history of back problems where the cause of the problem has been inadequately dealt with.

19. Is back pain really just muscle pain?

Back pain is caused by the disuse of back muscles leading to pain in convex positions. Your muscles are not active in these positions and it is a myth that back pain is caused by muscle pain. If exercise and sports do cause back pain, it is very likely that you have been doing these exercises in a convex position which means you need to pay attention to your posture. Safe back use can lead to muscle soreness, simply because these muscles are now being trained.

20. Does back pain come from stress?

"Convex" back pain has nothing to do with stress or anxiety and are certainly not cause by it. If anything the reverse is the case: you can become moody and stressed because of the back pain.

21. What should I do if I become scared of moving?

The fear of moving due to pain is common but doesn't do you any good. Back pain is not a disease but can have a big influence on your life. If you learn to adequately deal with your back than it is possible to resolve these issues yourself and help contain it quickly and prevent worsening and reoccurrence.
Too much rest can have a negative influence on your recovery, fear of moving has the same influence and overconfidence and ignoring the pain is even worse. Continuing with your daily activities in a safe manner is the solution. Your fear of moving will disappear as you gain control over the situation. You will experience that by applying safe body-use with WLT moving will become pleasant again.

22. What if there is something visible on the X-ray?

Sometimes normal signs of ageing can be seen on an X-ray. However, the current complaints can be unrelated to these "ageing" signs. A STEP instructor will always do an intake interview to determine where the complaints come from and create an adequate treatment plan based on these results.

23. Can back pain return regularly?

Data has shown that 70% of people who experience back pain will experience this again within a year.

People who successfully influence their back pain are people who:
1. Remain active while avoiding overloading due to "convex" activities.
2. Upon experiencing a decrease in pain continue to avoid heavy and prolonged convex back posture for at least two weeks.
3. Seek the help of STEP SelfCare Instructors when the pain does not decrease rapidly or experience frequently returning back pain.

24. Am I never allowed to have my back in a convex position?

The back is allowed to be in a convex position. So long as the pain in your back has decreased significantly and only after you have undergone the "Convex seated test." This test consists of the following:
1. Sit on the tip of your chair and assume a maximal convex position (slouch as much as you can).
2. Start recording the time you are in this position.
3. The moment you begin to experience discomfort in your lower back, immediately sit up straight and note how long you were able to sit in this convex position.
4. If the time you were able to sit in a convex position is 10 minutes, than this is the length of time you can remain in this position while seated.

This is an accurate way of measuring how your back is progressing. When you are able to sit in this position for 30 minutes, it is safe to say the back problems are under control. However, it is not recommended to remain in a convex seated position for more than 30 minutes. If you sit for periods longer than 30 minutes remember to switch positions, stretch up, and in between go for a short walk. Sitting in a convex position in a car is never recommended due to the shocks provided by roads. A pillow that supports your lower back is highly recommended and when it comes to lifting, always use the WeightLifter Techniques.

25. Notes

.....
.....
.....
.....
.....
.....
.....

26. How can I resolve my own back problems?

The most important advice is to perform your daily activities with a straight lower back and you should avoid worsening the pain by avoiding activities that lead to a convex lower back. When you sit for long periods, remember to take the time to stand up and walk around, especially when this leads to discomfort. The following points can also have a positive influence on back problems:

a. Positive and negative activities:
First write down the activities which a positive and negative influence on your symptoms. It is important to create awareness of the activities that influence you symptoms so that you gain control over the situation. Avoid the activities that have a negative influence or try performing them with correct body posture. Those activities that positively influence your symptoms should be repeated. With convex back problems these often include: hanging, standing and walking.

b. How should you lift an object?
Keep your back upright and apply the WLT's. Do not rotate in your spine, but rather shift your feet. Support yourself with your hands if possible by leaning on your knees or an object. Get as close to the object as possible and avoid lifting directly from the floor.

c. What to avoid while lifting
Flexing the lower back or a convex back can lead to a worsening of your back pain. The deep squat is also not recommended due to the heavy exertion on the knees and the fact that the back still has a tendency to become convex.

Which activities reduce your back pain?

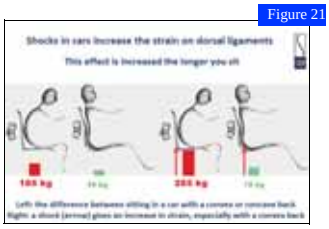
1. .....
.....
2. .....
.....
3. .....
.....
4. .....
.....
5. .....
.....
6. .....
.....

Which activities make your back pain worse?

1. .....
.....
2. .....
.....
3. .....
.....
4. .....
.....
5. .....
.....
6. .....
.....

d. How should you sit?
Keep your back straight with the STEP Weight Lifters Techniques I and II to the sit down and when standing up from sitting. Always press off on your knees or on anything else and spread your legs when standing up from sitting. Use a good sit support fitting your back. Slumped sitting, half-lying is not a wrong attitude in these complaints. Also be careful here with good stand up.

Figure 21

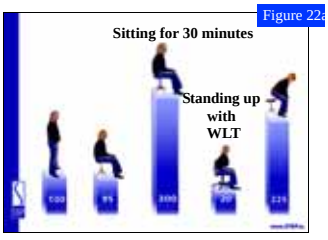


e. How shouldn't you sit?
A low soft chair, lack of support for your back and long-lasting convex sitting can easy make your back pain worse. Therefore sit with your back well in the position of standing, more in a hollow, straight position. In this safe back position you can sit on any chair or couch, both high and low. Of course, high chairs are easier and they deserve the preference. Always use good sit supports that help to keep your back straight. Also an Office Belt can be helpfull while working without a backrest. Use WLT with good pushing off, straightening en spreading, when standing up from sitting. Change walking and sitting.

Figure 22

f. How to sit in motor vehicles?
Always sit with your back straightened and not with a convex back, certainly not in cars, buses, trains and planes. In cars and buses, the shocks of unevenness in the road surface in convex positions poses extra hard on, especially if the suspension also is bad (Figure 21). Press regularly on the wheel of the car which makes your back straightened and relieved. Go regularly out of the car, or get up in train or bus, especially if you feel the pain coming on. Always step out or standing up with WLT (Pressing, Straightening and Spreading) and also in sitdown (Figure 22). Use a good sitsupport fitting your back.

Figure 22a



g. How should you not in vehicles?
Long rides continuously are even bad if you don't have back problems. Sitting for a long time and get up from a long time sitting is alsso very heavy. Use espacially WLT at stand up after a long time sitting, this prevents high loads on your back (Figure 22a).

h. How you should stand?
Here you don't special to watch out for, you stand as you stand and walk as you walk. Walking and standing are in themselves sufficiently safe, you don't eg. need an increase for one leg. However walking is more important than standing. Before you go walk some hanging is usually good. You can hang on a door with a "HangHelp" or a overdoorstick. If you work in standing posture use WLT in bending over or use support on desk or countertop or something else. If possible, adapt the worksheet to your body length.

i. How should you not stand?
Standing is basically well with back problems. However, prolonged standing can induce back pain. Change in that case your standing position regulary, eg. from one on the other leg, or on both legs with moving your hips slighly to left and right and to front and rear. So make standing more dynamic. Also support wth your hands or elebows while standing is also sometimes welcome to relieve your back.

27. When should you go to the doctor?
You can only solve your back pain by safe back behaviour with the STEP WLT. You have to do is not directly to a doctor or physical therapist. Who say often that nothing serious is going on and that you should fix it yourself. To a physiotherapist to you seek treatment, is initially not needed and even detrimental. It leads you off of your own responsibility for your complaints. The best medicine is to use your back in a safe manner, pain and limitations then often disappear like snow in the sun.

If you want to learn the WLT you need a certified STEP Self-care Instructor.

A STEP Self-care Instructor is trained to recognize disorders that do not fall under overload, where necessary, to determine when a GP tis needed and/or medication makes sense.

If you have severe pain that gets worse rather than better in a few weeks, or if you are sick of the back pain then you should visit the doctor.

Below are a few phenomena that all are very rare. But if you have back pain and one of those phenomena develops suddenly, then you have to visit a doctor immediately.

* difficulty with urination or stop by the Lake
* numbness around your anus or genitals
* some tingling or numbness, weakness in both legs
* shaky on your legs
* clear weakness in one of both legs
* much nocturnal pain and night sweats

This does not to be worried.
Be aware that back pain rarely by a serious illness.

28. Does a herniated disc need surgery?

The answer is resounding no. Not too fast to have surgery pass is always the motto. Hernias may very well and also heal quickly. A hernia is not more than an internal wound, which the body can repair itself. Also the so-called minimal operations with laser are no better solution than itself, without surgery, natural hernia repair. This is not only the position of STEP, but this position is also endorsed by the current modern medical science.

It goes without saying that if you're at a hernia STEP preventive aids and safe back behaviour with WLT are needed, seriously and directly. Our advice is to do this with a certified STEP Instructor.

10. Summary STEP Rugboek

* Back problems are common and usually due to overloading in convex positions. That's not a serious disease and is comparable with an ankle sprain.
* If it is very painful, it usually means that there are a few ligaments over-stretched and that you should avoid convex positions here.
* Pain usually means that there is a slight overstretching.
* (Para) medical treatment is not initially required. If you don't know how to be safe with your back it would be wise to contact a STEP Self Care Instructor to teach you this .
* Bed rest for more than a day or two is usually bad for your back.
* Staying active with safe back behaviour will help you get better faster and prevent future back pain.
* the sooner you start with safe moving, the sooner you'll be better.
* Regular exercise and keeping fit are good for your general health but have no real value for your back. Safe back behaviour the whole day is your solution
* Don’t use “deep squat” and “straight knee bending over” techniques
* Without save back behaviour your backproblems will become worser and worser
* Motion fear is just at these complaints if you do n’t master safe back behaviour.
* Check your recovery with the STEP "convex" sit test.
* Doctors, physiotherapists and Mensendieck / Cesar therapists can’t really help you. They don’t protect you against unsafe back behaviour with preventive aids and they don’t learn you back behaviour with the STEP WLT. You can only help yourself by avoiding unsafe back behaviour and learning to move your back with the STEP WLT.
* This is the message of the latest scientific research:

  With safe back behaviour with the STEP WLT you can solve your own back problems and prevent recurrences.