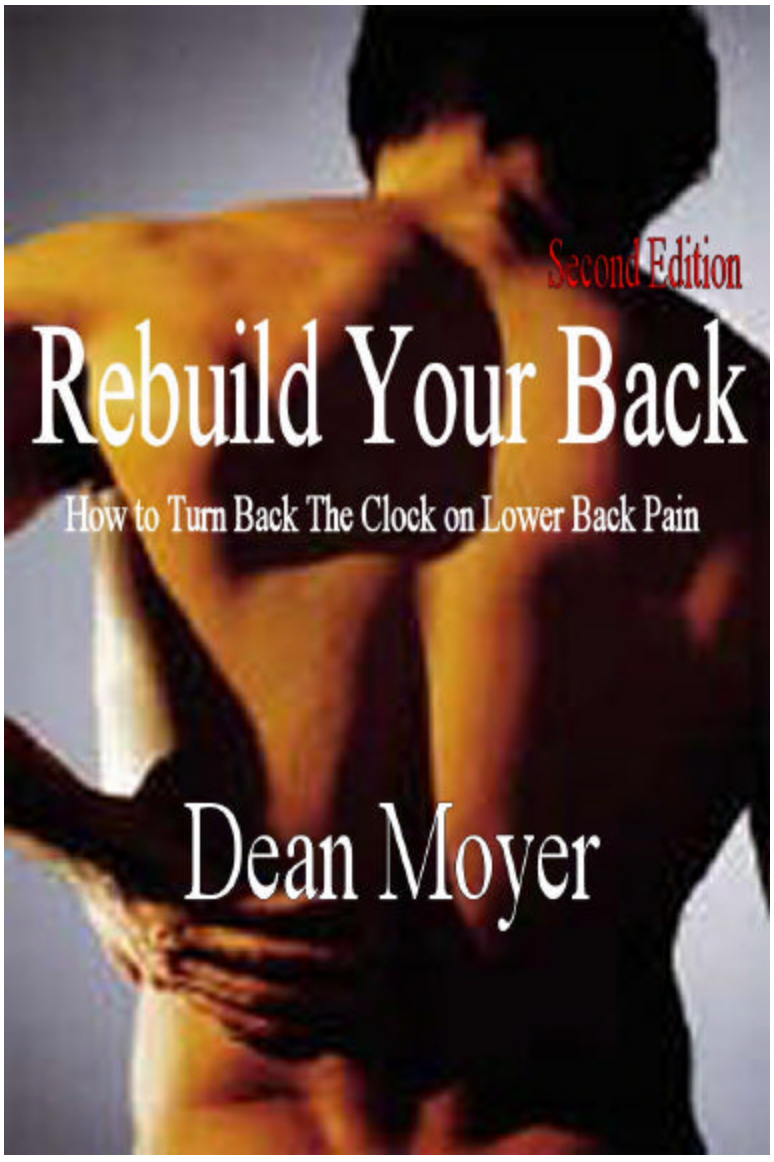
Second Edition
Rebuild Your Back
How to Turn Back The Clock on Lower Back Pain
Dean Moyer

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Rebuild Your Back

How to Turn Back the Clock on Lower Back Pain

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INTRODUCTION

It started with a pile of sand.

Although, I guess it could have been caused by anything.

I had decided to go back to school and, since I was also working full time, there just wasn't much opportunity for exercising and staying in shape. In fact, about all I managed to do was sit.

When I wasn't sitting at work, I was sitting at school. When I wasn't sitting at school, I was sitting at home studying. Needless to say, after a couple of years of this I was terribly out of shape.

Well, one day I had this pile of sand I needed to move and not thinking I attacked it with a little too much gusto. I don't really remember if I felt anything at the time, but the next day my lower back was in severe pain.

I could barely move.

I tried to go to school, but the pain was too much so I just went home again and called in sick to work.

For a week all I could do was lie in bed. I couldn't sit without pain. I couldn't walk without pain. I definitely couldn't go to school or to work. It was even difficult to find a position in bed that didn't hurt.

I did go to a chiropractor for one treatment and - since he seemed to locate right away where my back was out of alignment and since I definitely heard a pop when he adjusted it back into place - I was convinced that whatever I had done was fixed and now my back would be able to heal.

Of course, I still had to spend the rest of the week in bed but at least I was optimistic that things would get better.

And they did. Eventually the pain started to recede and after a couple of weeks it was gone and I thought that was the end of it.

I couldn't have been more wrong.

You see in those days I figured a good chiropractor should be able to just pop "whatever" back into place and that would be that. All fixed. I had no clue as to what was really wrong with my back. And therefore, like most back pain sufferers, I was totally at the mercy of my own ignorance.

About a year later I was trying to get in shape again at a local gym when I felt a familiar twinge and I knew right away that my old friend was back.

I was laid up once more for about a week and, again, I went to see a chiropractor. This one was better than the first one and he did

take the time to explain to me that my back had deteriorated over a period of years and not just one injury.

He showed me on the X-rays how my L4 and L5 vertebrae were all scrunched down and crooked… something he was calling a subluxation. It was not a pretty picture and even I could tell that my back didn't look quite right.

I couldn't believe it. Here I was an athletic, health conscious guy who didn't smoke, always ate healthy, took vitamins and tried to keep in shape and I was being told that I was basically going to be crippled for the rest of my life with a bad back!

It wasn't right. Surely there must be some mistake. This just couldn't be happening to me. I know it sounds a little overly dramatic, buy I truly figured my life was over.

If my new employer found out I had a bad back I knew they would find an excuse to fire me. I was single and I figured, "I'll never get married now. Who's going to want a guy with a bad back?"

I could no longer participate in anything athletic or physically demanding for fear I might hurt my back and I was helpless to do anything about it.

To make matters worse, my insurance did not cover chiropractic and so I had to pay for everything out of my own pocket.

Needless to say, I was not a happy camper.

The chiropractor put me on a program that started out with daily treatments tapering off eventually to once a month; something he said I was going to have to do for the rest of my life. It was very expensive and the pain never really went away completely.

The whole time I remember wishing that things were different. I wished that somehow I could change what had happened to me. I would have given anything just to be able to turn back the clock a few years.

If only I had known before hand and could have somehow prevented it from happening. If only there was some way I could now get back the strong, healthy back I once had when I was younger. At the very least, I wished there was some way I could treat myself so I didn't have to keep spending all this time and money on doctors.

Well, it's now years later. I've had many more episodes of back pain and I've seen my share of chiropractors and therapists. Some good. Some bad. I've spent more money than I care to think about and with each episode and each new doctor I would go through the same routine.

I would ask questions trying to find some glimmer of hope. And the chiropractor would always give me the same old answers and put me on the same old treatment programs. Until the last chiropractor I saw I just came right out and asked him if there wasn't some way I could treat myself.

He just stood there silently for a moment and then tried to change the subject and I knew I had my answer.

Now all I had to do was find out how.

By the way, during the course of that search it became apparent that real effective treatment was going to have to do more than just deal with the pain. It didn't take long to realize that the only way to treat a bad back was to totally rebuild it.

So if you've come here hoping to find a way to manage your pain or to learn how to cope with a bad back… well, I'm sorry… you're just going to have to settle for complete recovery instead.

1. WHY DID I HURT MY BACK?

Despite what you might think, you did not hurt your back because you tried to lift something too heavy or because you lifted something in the wrong way. It wasn't because you made a wrong move or physically over exerted yourself. And it isn't because you're getting old.

No, it's safe to say that none of these common scapegoats was the real cause of your back injury. They may have been the final straw, but that is all. You were headed for a back injury long before the injury actually occurred.

For you see, barring actual physical impact such as an automobile accident or a sudden fall, most back problems can be summed up in one simple statement:

It's not what you did… it's what you didn't do.

In other words, most back problems are the result of long-term neglect… not one single event. To fully understand this, we must first understand the anatomy of the spine.

HOW THE BACK IS DESIGNED

Relax. I'm not going to bore you with a lot of technical mumbo jumbo here. We're just going to take a brief look at the different parts of the back that you need to know about in order to effectively rebuild your back. I'm going to keep the terms to a minimum and avoid medical speak as much as possible.

Doctors have names for every detail and every nook and cranny of your back because they need to be precise when they communicate with each other. This need for precision, however, tends to leave the rest of us overwhelmed in a sea of jargon.

We're not going to be performing surgery any time soon so I've chosen to use only the most important names associated with any given anatomical structure. So, if I don't use a term just the way your doctor does, just roll with it. I've chosen my terms carefully and as Chet Atkins would say, "All mistakes are on purpose."

If you want a more detailed explanation of anything we discuss here or you want to find out the exact meaning of a term your doctor is using, check the various articles in the research section of my website at RebuildYourBack.com.

Having said all that, let's see if we can't figure out what's hurting so we can get on to the rebuilding part.

The spine is made up of 24 segments of bone we call vertebrae. These bones are stacked one upon another like round blocks. Between each segment is an elastic membrane we call a disk. This disk is porous like a sponge and (when healthy) is filled with fluid.

The center of this disk contains a jelly-like sack called the nucleus that -- along with the fluid in the disk itself -- acts like a hydraulic shock absorber. This disk is strongly attached to the vertebrae above and below making it virtually impossible for it to "slip."

It is important to note that the disk does not have a blood flow. It obtains its moisture and nutrients by a pumping action as the vertebrae above and below lift, flex and bend in all directions. Without this pumping movement of the vertebrae, the disk will not be able to replenish its moisture content and will dry out. It will literally starve to death. We'll talk more about this in a moment.

At the back of each vertebra is a bony protrusion that I generically refer to as a facet because it contains two joints known as facet joints. This is the bony ridge you can see running up your back.

The facet is basically a hinge between the vertebrae above and below.

The facet joints are no different than any other joints in your body. At the point where each joint is in contact with its neighbor is a layer of cartilage that acts as a bearing surface. Both joints are enclosed in a membrane called a capsule, which is filled with a lubricating fluid called synovial fluid.

A channel between the round blocks of the vertebrae and the facets contains the spinal cord.

This entire structure is wrapped in a sheath of ligaments which run vertically, horizontally and crosswise totally enclosing the entire package like a suit of armor. In fact, the whole structure is so well designed one would wonder how it could ever go wrong.

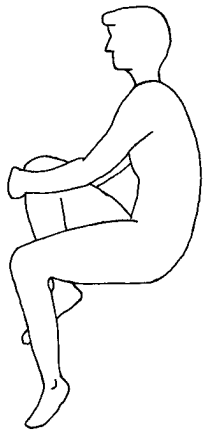
But the problem is, it's not a suit of armor. It's living tissue and living tissue can break down and fail. Living tissue can become damaged through neglect and abuse.

BLUEPRINT FOR A BAD BACK

There are several factors that can lead to back injury. Sports injuries, car accidents and sudden falls readily come to mind. However, you may be surprised to find that poor posture and a sedentary lifestyle are actually the two main culprits.

Check how you're sitting right now. Odds are, you're either slouching or -- if you are attempting to sit up -- you're actually

leaning forward. In either case, your lower back is probably curved forward in the shape of the letter "C" similar to the illustration below. This is the most frequent posture we adopt throughout the day whether at work or play.



If we work sitting at a desk our posture is hunched forward intent on the task at hand. The lower spine is rounded and bent. When we sit back in our chair, we tend to slouch with the back once again in that C shape.

If we work on our feet we tend to work bent forward. Leaning over the fender of a car. Digging in the garden. Shoveling sand. Doing housework. You name it.

When we play, we lean into it. When we rest, we collapse in a chair or on the ground and slouch. We adopt this posture so frequently that we've actually come to think of it as normal.

This constant habit of bending forward is one of the worst things you can do for your back. And we'll explain why in just a moment.

WHAT IS GOOD POSTURE?

Good posture is when the back is held in such a way that there is a gentle hollow in the lower back. This hollow is called the Lumbar Lordosis.

Notice in the illustration above how the back gently curves inward at the lower back. Also note that a line can be drawn from the ear to the shoulder down through the lower lumbar to the ankle. The weight of the upper body is evenly distributed and balanced

causing no undue stress on any one point, especially the lower back.

Of course, the back is designed to bend in all directions. However, it is at rest and most comfortable when it is allowed to return to this home position of gentle lumbar curvature.

WHAT'S SO BAD ABOUT BAD POSTURE?

What happens when you spend most of your day bent forward?

Well, for starters, the muscles and ligaments that support your spine grow and adapt to that posture. The ligaments in front of the spine become shorter almost never getting stretched, while the ligaments at the back and sides of the spine become overstretched and elongated.

After years spent constantly hunched forward what can we expect to happen if we were to suddenly straighten up? After all, the ligaments of our back aren't accustomed to being forced in the opposite direction. Most likely, when we call on them to unexpectedly stretch beyond the limits to which they've adapted they tear and we now have an injury.

Perhaps the first time is only minor. We might barely even notice it. But as it heals back in our normal position of forward hunch a small scar forms on what once was a healthy – if short – ligament. This scar is now stiffer than the once pliable ligament we were born with and what's worse, scar tissue tends to shrink over time, further shortening the ligament.

Multiply this minor injury over years of similar mishaps -- injuring and re-injuring this poor ligament -- always training it to return to our usual position of forward slouch and before long it becomes more of an effort to stand up straight. Until at last, we really over stretch this shortened, stiff, badly scarred ligament and the tear becomes a major injury.

Now we're really in pain. We can't move; can't straighten up without searing pain. All we can do is lie down and even then it's difficult to find a position that doesn't hurt. We've really done it now.

After a few days, perhaps a week, we're finally able to begin moving about again and we return to our normal activities a little at a time. But, since we didn't know we caused the whole episode ourselves by our own negligence, we return to our old habit of always bending forward in the C shape.

This injury, when it does finally heal, leaves us even stiffer and more heavily scarred than before. And we discover that now we re-injure our back almost every time we attempt to pick up anything heavy. We've developed the worst possible thing. We have literally built ourselves a bad back!

The more we injure the back, the worse it gets. We soon tend to stop moving it any more than we have to. We sit even more than before trying to avoid the chance of another injury and more pain. Every time we forget and try to straighten up a little twinge of pain… that old stiffness… reminds us that we've been cursed with

a bad back. So we sit back down and avoid any activity that might cause another injury and more days of pain.

WHAT'S SO BAD ABOUT A SEDENTARY LIFESTYLE?

Sitting is the worst thing you can do for your lower back. Even if you sit with good posture, the pressure on the lower lumbar region is many times greater than it is for any other position. This downward force compresses the lower lumbar region of the spine and squeezes the moisture out of the disks just like squeezing the water out of a sponge.

Constant sitting also means the disks in the lower back don't get moved and, therefore, don't get the normal flow of fluid that is necessary for them to remain healthy and pliable. They don't get pumped up to their normal height. Without this fluid, they are no longer able to act as hydraulic shock absorbers. They dry out and start to deteriorate. The result is a disk that is flatter and thinner than it should be.

Perhaps during this deterioration of the disk you incur another injury. The muscles of the lower back cramp up -- trying to protect the spine -- and they exert too much downward force on this badly weakened disk and it bulges into the spinal canal and pinches a nerve. This is called a herniated disk.

If the disk is in really bad shape the nucleus can actually break through the outer rings of the disk. Now you've got a ruptured disk to add to your misery.

Also, with the flattening of the disks comes jamming of the facets or hinges at the back of the spine since the spine is no longer at its normal height.

Eventually these dried out damaged disks will totally disintegrate. When this happens the vertebrae in the lumbar region begin grinding against one another. They may lock up and fuse together leaving the rest of the vertebrae to do all of the work.

This is very serious. Once the disk has disintegrated, there is no chance of reversing the situation. There is no way to restore a disk that is no longer there.

IS YOUR NEXT STOP THE NURSING HOME?

So there you have it. Years of poor posture and excessive sitting have allowed the disks of the lower back to become flattened and dry. The muscles have become weak and the ligaments have become tight and stiff.

One day you make a wrong move possibly overexerting yourself or lifting something too heavy and you tear a ligament in your lower back.

The muscles around the area clench up in an attempt to protect the injured area. This causes the disks to be further compressed as the muscles clamp the vertebrae down.

Depending on the condition of the disks they may develop a bulge or they may even rupture allowing some of the jelly like nucleus to be squeezed out. If not corrected, the disk can completely disintegrate.

After a while, you have trouble standing or walking. You decide that you're just too old for those activities anymore and sit back down. Instead of walking you find a way to ride… even to the mailbox.

If you allow this to continue by the time you're 70 or 80 years old you can no longer stand up straight at all. And, if you can walk, you walk permanently stooped over like so many elderly people do… unable to stand up straight anymore.

You have quite literally slouched your way into the nursing home.

It doesn't have to be this way. Regardless of where you are in the above scheme of things, or even if this is not exactly how it happened for you, the steps to restore the spine are the same. The main thing I want you to understand is that it is important to do something about it now, before it gets worse.

Because it will not get better on it's own.

2. THE GOOD NEWS

Short of the grave, it's never too late to reverse the process.

That's right. No matter where you are in the afore-mentioned scenario you can reverse the situation.

The human body has an amazing capacity to heal itself and to adapt and grow to whatever demands we make upon it… regardless of age. For you see the muscles, disks and ligaments don't age to the extent that we've led ourselves to believe. They deteriorate due to neglect and abuse, which we tend to blame on age, when age itself is not the cause.

You can't eliminate the scars, but you can stretch the ligaments themselves and restore their elasticity thereby minimizing the effect of the scarring.

You can strengthen the muscles that once held you up straight and tall.

And as long as there is still a disk left to work with, you can pump it up and get the vertebrae moving again, restoring their resilience and shock absorption. The ruptured disk can be healed and returned to a healthy functional state. And even if the disk has disintegrated, many people have been able to recover and go on to lead active normal lives despite that fact.

Oh sure, age will determine how fast you progress. But like I said before, age takes the blame when neglect is really the culprit. And sure, every situation is different. The guy who just experienced his first back injury will be able to recover faster than someone who has been suffering for years.

But the methods will be the same regardless.

CAN YOU REALLY TREAT YOUR OWN BACK?

The answer is not only *can* you treat your own back… but you *must* treat your own back.

Your very recovery depends on it.

If you rely on someone else to fix your back for you, you will never fully recover. It's that simple.

There is no other way to rehabilitate your back than the method I'm presenting to you here. You don't have to take my word for it. Study the anatomy and physiology for yourself and you will come to the same conclusion.

Your back consists of muscle, bone, cartilage and ligaments and there's no great mystery to it. The muscles must be strengthened. The ligaments must be stretched and limbered up. The disks need to be continuously pumped and hydrated. And all this must be done on a regular daily basis.

Anything less just won't work.

Your back *cannot* recover on only three treatments a week, and it certainly won't recover on one treatment a month.

The bottom line is you *must* treat your own back.

CAN I BE PARALYZED BY TREATING MY OWN BACK?

No. Your back is not as fragile as you might think. The only way to become paralyzed would be if you broke your back. And – apart from a tremendous impact such as a serious car accident or a fall down the stairs – you couldn't break your back if you wanted to.

This is one of the many myths surrounding back care… that our backs are somehow delicate or fragile and must be handled with kid gloves. The truth is, your back is no more fragile than any other part of your body. In fact, your back is so well designed that it is one of the strongest parts of your body.

Most back injuries are -- as injuries go -- very minor in nature. They are quite painful and debilitating. But, apart from that, they are no more serious than a sprained ankle, which is also quite painful and debilitating.

One of the goals of this book is to give you knowledge and, by that knowledge, give you the assurance that you no longer have to be afraid of your back.

Once you understand the anatomy and learn how to care for your back, you will discover a newfound freedom like you haven't experienced since you were a kid. A freedom from pain, a freedom from injury and best of all a freedom from expensive doctors.

No, there is no way you can seriously injure yourself by doing these gentle exercises. If you follow the directions and don't try to over do it -- or get in too big of a hurry -- you'll be fine. The fact of the matter is you're hurting yourself if you're not following this program.

DON'T I NEED A CHIROPRACTOR?

Can a few simple stretching and strengthening exercises actually take the place of trained chiropractic treatment?

The answer is yes. In fact, seeing a chiropractor cannot take the place of these simple exercises.

Chiropractors perform a type of physical therapy they refer to as spinal manipulation. This spinal manipulation is a very aggressive and violent method of moving the bones of your spine supposedly back into alignment.

But wait a minute.

You don't have a bone problem. You have a *support structure* problem. The bones of the spine do not support themselves. It is the surrounding soft tissue that supports the bones as we explained in the anatomy section.

I like to compare it to a brick wall.

When a brick wall is new, all the bricks line up nice and straight. They line up that way because the mortar between each brick holds them in alignment. If the mortar breaks down the bricks will start to shift and sag and pretty soon they will be out of kilter.

You can move the bricks all you want but they won't stay in position until you repair the mortar. Repair the *support structure* and the bricks will once again line up nice and straight.

The bones of the spine are held in alignment in exactly the same way. They are held in whatever position the disks, ligaments and muscles hold them in. If something is out of alignment it is because of collapsed disks, shortened ligaments and weak muscles.

Moving the bones once a month will not correct the problem. The bones will simply return to whatever position the support structure dictates even before you leave the doctor's office.

On the other hand, if you restore the disks, ligaments and muscles you will restore the alignment of your spine.

MEDICAL MIND GAMES

And there is something else I feel you have a right to know. Chiropractors don't just practice spinal manipulation. I contend that they also practice a form of psychological manipulation as well. Leading -- or at least allowing -- you to believe that your spine is out of alignment or somehow dislocated and must be "popped back in."

The popping sound you hear when a chiropractor "adjusts" your back is the same sound you heard as a kid when you used to crack your knuckles. (You have out-grown that habit, right?) It may feel good, but it is entirely unnecessary and potentially harmful especially for someone with osteoporosis.

I believe they do it more for show than out of any real medical reason. They do it because you can't do it yourself. They do it because it makes you think they've done something really spectacular… something you can't get anywhere else.

Think about that for a moment.

What does this do to you psychologically?

Doesn't it make you think they've done something important? Doesn't it make you think they've done something your back needed in order to recover? And since you can't do it yourself, doesn't this make you entirely dependent on the chiropractor for this magic pop?

Exactly… They now have a patient for life.

Chiropractors are not all bad. I would not go so far as to say they are all crooks or frauds (although those words tend to come to mind if you've been one of their victims… err, I mean patients… for any length of time).

No, all I'm saying is that this type of manipulation is usually not necessary and should not be done on a regular basis.

Spinal manipulation will not do anything towards actually rebuilding the support structure of your back. Your back needs more than an occasional "knuckle cracking" if it is going to recover.

Your back needs to be stretched and exercised frequently throughout the day, every day if it's truly going to improve. And it should be mobilized gently. Not in a way that is just going to add to your troubles, later on down the road.

If you still have any doubts about chiropractic I would invite you to check the numerous articles on this and other fringe alternatives on my website at RebuildYourBack.com.

WHEN SHOULD YOU SEEK PROFESSIONAL HELP?

You should *always* consult your doctor before you begin this or any exercise program. (And by doctor, I mean a real doctor… not a chiropractor.)

While this program will help anyone with a normal human anatomy, it will only be effective in providing pain relief for about 90% of all back problems.

In other words, it will not be the total cure in every case. Not everyone will find total relief from these exercises alone. A few -- and I'm talking extremely rare cases -- will still need to seek treatment from a medical doctor.

If you have numbness, muscle weakness or if you're just unsure -- let me repeat -- by all means check with your doctor before undertaking any therapy or exercise program.

Also, you should consult your doctor under any of the following conditions:

- If your pain is the result of a severe accident.
- If your pain is getting worse instead of better.
- If your pain does not get better within 10 days, even after rest.
- If you have pain below the knee accompanied with numbness, weakness or "pins and needles" in the foot or toes.
- If you develop bladder or bowel problems or otherwise feel sick in conjunction with the back pain.

And finally, don't be embarrassed to inform your doctor that you've read this book and are planning a course of self-treatment. Most doctors are happy to have their patients take an active role in

their own healing process. A good doctor will be willing to work with you. He may even give you some additional suggestions.

WHAT ABOUT SURGERY?

Surgery is not the ideal solution and any ethical doctor will only turn to it as a last resort. You should try everything else available before you consider surgery. Most people find they still have problems after surgery… only different ones than they had before.

I also just read an article stating that nearly 100% of the people who are treated successfully with surgery develop back problems again within a few years.

I believe this happens because they never learned how to take care of their backs in the first place.

For more articles and reports on the subject of surgery visit my website at RebuildYourBack.com.

3. HOW TO HEAL YOUR BACK

Treating a bad back is a two-phase process. The first step is the healing phase where we are dealing with the repair of actual damaged tissue as the result of an injury. The second part is the rehabilitation phase, which can only take place *after* the healing is complete.

The healing part is easy because we don't really have to do anything. The body takes care of that all by itself. However, there are some things you can do to help things along and in this chapter we're going to examine a couple of those techniques.

WHAT ABOUT MY DIAGNOSIS?

I'm going to let you in on a little secret… and it's something you really need to know… so put down the Twinkie and pay attention.

Despite all of the sophisticated high-tech equipment at their disposal doctors are only about 15% accurate in their diagnosis of what is really wrong with your back. Even after all the X-rays,

MRIs, Cat Scans -- and even surgery -- the doctor can only make an educated guess.

In fact, a survey was conducted a few years back and among one of the respondents was a man who had been to 12 different specialists and had received 12 different diagnoses. And if you go to several different doctors, you're likely to receive a confusing array of explanations for your back pain, as well. And there's a simple explanation for why this is so.

The doctor can't really tell what's wrong with your back because all that high-tech equipment cannot detect pain. It can only detect what are called *abnormalities* in your spinal column. And these abnormalities may or may not be playing a part in your back pain.

That's why I'm always quick to point out that this program cannot eliminate all of the abnormalities in your spine. There is nothing that can do that and it would be pointless to try.

THE GOAL IS NOT PERFECTION

The good news is that you don't need to worry about those so-called abnormalities because they are actually *normal*. That's right. There is no such thing as a perfect spine. Everybody has something that would show up as an abnormality on the various scans and x-rays whether they have a bad back or not.

Everybody has bulging discs. Everybody has crooked vertebrae. Everybody has bone growths. You name it. The bottom line is everybody is walking around with little imperfections… and you

know what… research has shown that you can live a long, productive, pain-free, active life despite these little imperfections as long as the muscles and ligaments in your hips and back are strong and flexible.

So you see, our goal is not to build you a perfect spine because there is no such thing. Rather our goal is to help you build a back that is not prone to injury and is not bothered by whatever abnormalities are normal for you. In other words, rebuild the support structure and you will rebuild your back into a strong flexible one that won't be affected by a few imperfections.

So, getting back to the diagnosis question; the truth is, you may never really know exactly what's wrong with your back. And that's okay because it doesn't really matter. The rebuilding process will be the same regardless of what the doctors say you have.

For that reason we're not going to discuss or analyze every possible condition that the medical profession has decided to hang a name on. And we're not going to try and figure out just exactly what's wrong with your back. Because you don't really need to know what's wrong in order to get started rebuilding.

And, if you're worried that you might not be doing the right thing for your situation, you can relax. Recent studies have shown that the most commonly prescribed therapies for back pain – that is spinal adjustments, massage, traction, steroid injections, narcotics and even surgery – have proven to be ineffective and, more often than not, detrimental to the health of your back.

On the other hand, there is only one therapy that has proven to be universally effective at curing a bad back -- and at the same time *improving* your overall health and well being -- and you're holding it in your hands.

THE HEALING PHASE

The first step toward healing your back is to allow it time to do just that. You're just going to have to rest. During this first stage the tissues need time to begin knitting back together the fibers that have torn.

You can compare it to cutting your finger. When you cut your finger, the skin needs to be held together for a day or two until the sections bond together. After that, you can begin to move the cut a little and -- as long as you don't over stretch the new tissue and reopen the wound -- you can go on about your business. We know the healing process has begun because we can see it.

The cut is still sore but that is actually a good thing. The soreness gives us a gauge we can use to measure how far we can move.

Ligaments are the same way. The fibers of the ligament have torn. It takes a day or two for them to knit together again and during this time it is critical that you don't re-open the wound. After that they should fully heal in about a week or two.

Unfortunately, we can't see the healing going on in our ligaments so we just have to go on faith. If your body can heal a cut, it can heal a torn ligament or ruptured disk or whatever.

HOW LONG TO REST

In the past, it was generally believed that you should stay in bed until the pain had completely subsided. Today we know that this is not the best thing to do.

Once you are able to get up and get around, you should try to walk as much as common sense will allow. This movement helps increase circulation. It helps keep the disks hydrated. And it helps to reduce the amount of stiffness that usually accompanies a joint injury.

It's best not to return to work or do anything that might put you in a position of having to do anything physically stressful for about a week. Don't lift anything heavy. Don't try to clean the house. Don't drive. Don't try to go to the gym or the ball field. Just take it easy.

But at the same time, don't just lie in bed for a week. Try to walk around a bit. Keep the blood flowing. Strive to maintain correct posture at all times.

Healing time can vary for each individual and each injury. As a general rule, ligaments take about 2 weeks to heal completely and herniated disks take about 6 weeks or longer. I know that this seems like a long time but just keep in mind that you don't have to be bedridden the entire time. Just be aware that your back isn't fully healed yet and, if you must go back to work, try and make arrangements to accommodate your back.

Perhaps you will need to wear a brace part of the time to keep from aggravating the injury. Just don't make the mistake of wearing a brace all the time.

HOW TO SPEED THE HEALING

One thing you can do during this healing phase to increase circulation and reduce swelling and inflammation is to treat the injured area with alternating heat and ice.

Get some ice packs and a heating pad. Place an ice pack on your lower back for about 10 to 15 minutes or until the cold has had a chance to seep into and numb the affected area. Then follow immediately with a heating pad for about 20 minutes.

Alternate between the hot and cold for about two hours and repeat the process three or four times throughout the day. Always start with the ice and end with the heating pad. You may need to do this for several days.

DEEP BREATHING

In the next chapter we're going to introduce the first stage of rebuilding exercises. During these exercises it is important to understand how to breathe correctly. This may sound strange, but most people don't know how to take a deep breath. If you ask them to take a deep breath, they will try to expand their chest, which is pointless. The correct way to take a deep breath is to expand and

contract the abdominal muscles. This is called lower abdominal breathing or breathing from the diaphragm.

The diaphragm is located horizontally just below your ribcage. By expanding or pushing out with your stomach muscles you pull the diaphragm downward drawing more air into your lungs like a bellows. When you contract or pull in your stomach muscles the air is forced back out. (Practice this a few times to get the feel of it.)

What difference does it make? What does this have to do with treating back problems?

Well, as it turns out, deep breathing accomplishes several things, the most important being:

- First, deep breathing is fundamental to relaxing the entire body and this includes tight back muscles.
- Secondly, deep breathing has been shown to reduce stress and there is abundant evidence that stress is a major cause of lower back pain.
- Deep breathing exercises your respiratory muscles.
- And finally, deep breathing while exercising helps remove carbon dioxide from your blood.

The reason we breathe harder during heavy exercise is because our body is trying to get more oxygen while at the same time dispelling excess carbon dioxide produced by the extra work.

Practicing deep breathing will help stretch, condition and strengthen your respiratory muscles and help make this process more efficient.

BREATHING IN ENERGY

Try this popular yoga exercise:

1. Stand up straight and relaxed.
2. Now – with your eyes and your mouth closed – breathe in through your nose slowly and deeply by expanding your diaphragm down and out.
3. Exhale just as slowly and smoothly by drawing the diaphragm in and up.
4. Do this two or three times while visualizing that your entire body is hollow and filling with life giving oxygen.
5. As you inhale feel the energy flowing into your organs and the oxygen bathing and cleansing your entire body.
6. As you exhale, picture fatigue and exhaustion flowing out with the spent air.

FINAL CLEANSING BREATH

7. Now breathe in deeply and when the lungs are fully inflated, expel the air suddenly through your nose by a quick inward pull of the abdomen.
8. Drain every ounce of air from your lungs.

9. Do this two or three times and notice how refreshed you feel.

You should get in the habit of practicing deep breathing whenever you think of it throughout the day.

Abdominal breathing is the way babies breathe, but for some reason we forget how as we grow older. Strive to get back the habit.

Once the injury has healed, the rehabilitation process can begin.

4. REBUILDING YOUR BACK; Part I

Unlike most forms of therapy that only provide temporary pain relief our motto here at Rebuild Your Back is: *Recovery Requires Rebuilding.*

What's more, the only recovery we recognize is *total recovery*. And total recovery will only be achieved when your back is strong and healthy again.

Therefore, the goal of this book is not to help you manage the pain… nor is it to help you learn to cope with a bad back.

Our goal is to rebuild your back to such an extent that injury is no longer a factor. And the only way to do that is to teach you the proper way to stretch and strengthen the muscles and ligaments of your back and, thereby, restore the strength, elasticity and agility you once had.

When you restore the elasticity and agility of the muscles and ligaments in your back you no longer have to worry about them failing when you try to lift something heavy. And you won't have

to worry about them tearing simply because you tried to move in a new direction. You will be free to flex and bend as you once did and this new mobility will set you free to live your life.

The bottom line is rebuild your back and you never have to worry about injuring it again.

HOW LONG WILL IT TAKE?

Keep in mind that all things are relative and that how long it takes to fully recover will depend on the present condition of your back. The average person can rebuild their back in from two to six months. However, don't be surprised or discouraged if your back takes a little longer.

All in all that's not bad when you consider that you probably will be pain free within a few days of starting the program. And, if you stick with it and continue to exercise, you should remain pain free for the rest of your life.

Tip:

Don't make the mistake that many people make of thinking that the job is finished once the pain goes away. Or even that you can slack off after a couple of months. Pain relief is only the beginning. And back health is a lifestyle… not a quick fix.

Fortunately, the exercises are easy and only take a few seconds to perform. Once you get in the habit of doing them, they will become your best friends.

BUT I DON'T LIKE TO EXERCISE

Relax. We're not talking about grueling sweaty workouts at the gym or hours spent mindlessly peddling a piece of machinery.

I have personally trained along side big strong burly athletes who have had bad backs despite all their bodybuilding, weightlifting and aerobic conditioning.

This program is only going to require about 10 to 15 minutes of your time and you probably won't even work up a sweat.

It involves gentle stretching exercises and a few specific strengthening movements designed specifically to target the muscles and ligaments that are usually missed by sporting activities and conventional exercise.

The following exercises are very low impact and -- for some people -- almost too easy. But don't be mislead by their simplicity. The fact that they *are* so easy just goes to show you how easy it's going to be to achieve total recovery.

It does not require the strength of Hercules to achieve a healthy back. All it takes is the right exercises.

THE DAILY EXERCISE PROGRAM

Now that you've had a few days of rest you can begin gently stretching the affected area using the following exercises.

Here is the part where everyone's mileage will vary. Some back injuries will benefit from doing the exercises immediately as a form of first aid. With other injuries it may be best just to wait a few days. You'll have to rely on your own instincts and listen to what your body is telling you.

As a general rule, if you find pain relief from one of the movements then by all means utilize it. If on the other hand the exercise is painful then back off and go at a slower pace.

Tip:

If you are still in too much pain to perform the following exercises, even after applying what you learned in the last chapter, you should get a copy of my new book, *The Pain Relief Manual*. That book goes into greater detail on the subject of healing and pain relief and is specifically designed to deal with especially difficult back and joint pain problems.

DON'T CHEAT YOURSELF

Performing these exercises correctly is crucial to your progress. This cannot be overstated. You must perform the exercises exactly as described in order for them to be effective.

Don't just look at the illustrations and then try the movements. Read the instructions carefully and be sure you understand and follow them to the letter. Failure to do so will lead to disappointing results and could slow your recovery.

For relief of pain, the exercises must be performed 6 to 8 times a day or once every 2 hours. Once the pain has subsided and you're back to normal twice a day will be sufficient.

During the pain relief phase only stretch up to the edge of the pain and then relax back to the beginning. Once the back is healed and the pain has subsided, then you can begin to stretch farther to increase your range of motion and flexibility.

All of the following exercises are to be performed slowly and gently. Don't try to stretch all the way at once. Take it easy and only stretch to the point of mild discomfort. Tomorrow you can try a little farther. And the day after that, do a little more. This is not the time to get in a hurry.

If a procedure calls for 10 stretches only the last few should be to full stretch. The first few are warm-ups for the ones to follow. The idea is repair. All we want to do is stretch and limber up the joints.

THE BASIC EXERCISES

Tip:

If you are suffering with pain, numbness or tingling in one leg (or your pain is only on one side of your lower back) due to sciatica and you do not experience relief from the following three-step Cobra exercise after 7 to 10 days, try the Shifted Cobra variation that I've included in the Optional Exercises section of Chapter 6.

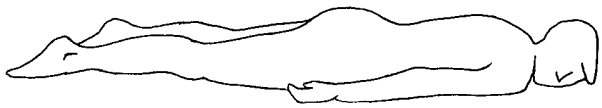
THE COBRA TRIO

The following 3-step exercise is an adaptation of a 3000 year-old yoga posture known as "the Cobra." It is perhaps the most important exercise in this guide. It is -- hands down -- the single most effective exercise for relieving back pain that I have found to date.

You should perform this exercise step by step each time you do it. Don't skip any steps. Step one is a good first-aid exercise right after a back injury and you may even wish to try steps 2 and 3. But use common sense. Don't proceed to the next step until you can do so comfortably.

STEP 1: LYING ON YOUR STOMACH

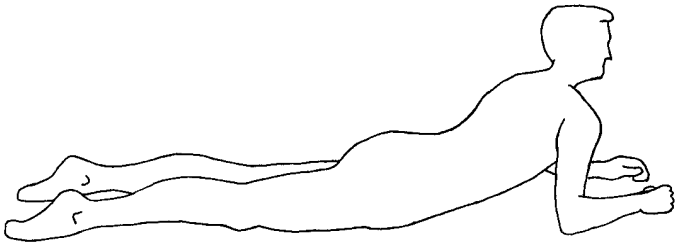
1. Lie facedown with arms relaxed and straight at your sides.
2. Your head can be turned to one side as shown in the illustration.
3. Breathe deeply. Concentrate on relaxing the muscles of the lower back. This is very important. Just let the tension flow out of your back with each deep breath.
4. Relax in this position for two to three minutes then proceed to step 2.



As stated earlier, this is a good "first-aid" exercise right after a back injury. Don't proceed to the next step until you can do so comfortably.

STEP 2: ELBOW RAISE

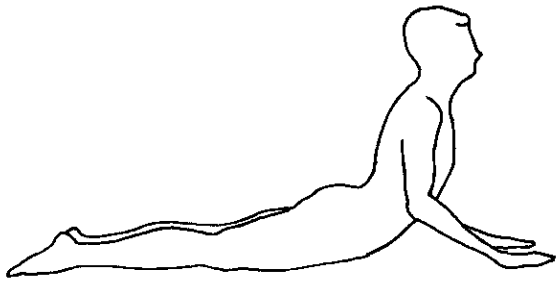
1. Rise up with your elbows under your shoulders and lean on your forearms as shown in the illustration.
2. Breathe deeply and again let the tension flow out of your lower back.
3. Picture in your mind the muscles of your lower back becoming very loose and relaxed.
4. Hold this position for two to three minutes then lie back down flat.



If you can't quite manage to bend this far because of the pain, a pillow under your chest can be used as an intermediate step.

STEP 3: THE FULL COBRA:

1. From the flat face-down position, place you hands under your shoulders like you were going to do a push-up only… instead of doing a regular push-up… keep your hips on the floor and just raise the upper half of your body as shown below. Note that your head should not sink down between your shoulders.
2. Raise up only as far as the pain will allow and then hold it for a couple of seconds while you concentrate on relaxing your lower back, hips and legs.
3. Then you can ease back down.
4. Do this 10 times and try to stretch a little farther each time being careful not to over do it.



Concentrate on relaxing the muscles of the lower back and just holding the stretch long enough to take a couple of deep

relaxing breaths. Only your arms should be lifting your upper body. The back must remain loose and passive.

Remember, at this point you're only trying to relieve the pain, not trying to see how far you can stretch. Once the pain is gone and your back is healed, you can stretch to the full extent to increase flexibility. Again, it is crucial that your lower back muscles be totally relaxed during this exercise. Your arms should do all the work.

Finish the exercise by repeating step 2 followed by step 1.

Tip:

To get up from the floor after doing these exercises, roll onto one side and curl your legs up in a fetal position. Then roll up onto your legs and from there get into a squatting position. Now - with the legs - slowly stand up while using your arms to help.

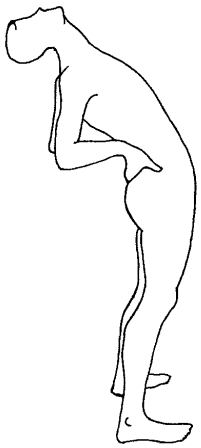
A solid piece of furniture like a chair or the footboard of a bed can be used to help pull you up. Avoid using the back muscles as much as possible.

Just as when lifting any heavy object… lift with the legs… not with your back. This time the heavy object is your head and shoulders. Get your legs under the load and use leg muscles to lift. Don't use your back as a lever to raise your head and shoulders.

THE STANDING BACK BEND

A variation on the Cobra is the standing back bend. You should finish every exercise session with 5 of these. Also, you should do this maneuver before bending or lifting anything heavy and again immediately after lifting or bending.

1. Stand with your feet about shoulder width apart.
2. Place the palms of your hands on your lower back and then just bend backwards as far as you can for a few seconds.
3. Do not bend your knees.
4. Do this five times. (10 times if you are unable to do the Cobra for some reason during the first phase of your treatment.)



We tend to do this maneuver almost instinctively after bending over for a spell, but the problem is we don't bend far enough and we don't do it enough times for it to be effective. Try it the next time you get a backache and remember to do it at least 5 times.

The nice thing about this maneuver is that you can do it almost anywhere at anytime. You don't have to get down on the floor and you don't have to schedule a time for it.

The problem is that it is not as effective as the Cobra because it doesn't allow you to relax the muscles while doing the stretch.

However, if you are like most of us, you can't be lying down on the floor every two hours so this is the next best thing.

Once you get in the habit, this trick will become your constant companion throughout the day.

Please Help Me Help Others:
Thousands of people all over the world are struggling to overcome back, neck and joint pain. They deserve to know the truth.

If you have a blog or website, please help me help them by adding a link to The Back Pain Blog (http://www.rebuildyourback.com/). Thanks.

SIDE BENDS

At least once a day, preferably right after doing the back bends, you should do some side bends. This is a great overall back exercise.

1. Extend your arms over your head like you were diving into a swimming pool.
2. With the feet planted about shoulder width apart, bend as far as you can to the left and hold for 15 – 30 seconds.
3. Then come back up to the starting position.
4. Now bend as far to the right as you can and hold it.
5. Relax back to the top.
6. Do between five and ten for each side holding the stretch occasionally to increase your range of motion.

Some people like to do the side bend with one hand on their hip and only one arm in the air. However, if you grab the opposite wrist or hand and pull as shown in the illustration you will also stretch the upper back and shoulders. This way you get two exercises for the price of one.

Tip:

If you have pain, tingling or numbness in one leg (or on only one side of your back) due to sciatica… as you do these exercises each day you will probably notice that the pain moves to some other location. Usually it moves up the leg and eventually lodges in the middle of the lower back. This is a sign of progress. As pressure on the pinched nerve is relieved, the pain should relocate.

If you continue with the routine the pain should go away completely.

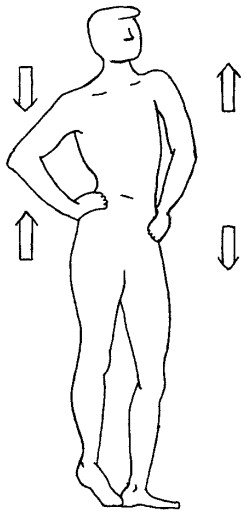
Tip:

You should not continue any other exercise or sports activities until your back has fully healed and the pain is long gone. If you are worried about losing muscle tone or fine motor skills read my book, *The Pain Relief Manual* and learn how you can improve those areas during your recuperation and actually return stronger than before.

THE HIP SHRUG

This is just like shrugging your shoulders only you do it one hip at a time. The first few should be slow prolonged stretches.

1. Raise the left hip as far as you can while raising the right shoulder and feel the stretch in your lower back and hip.
2. Next raise the right hip while raising the left shoulder and again feel the stretch.
3. After two or three of those – and once you get the opposite hip/shoulder coordination down – increase the pace and just shrug back and forth without going for a full stretch.
4. Do as many of these as you like putting in a good slow full stretch every once in a while.



This exercise is usually performed standing up but you can also do it lying down either on your stomach or on your back.

You'll probably hear or feel little pops and clicks throughout your spine from the lower lumbar all the way up through your neck as you work those vertebrae loose and get them moving.

This is a great exercise that really gets the lowest lumbar vertebrae (L4 and L5) moving. These are the two vertebrae that usually developed collapsed disks from prolonged sitting and slouching and need to be mobilized the most and yet are the hardest to get at with any exercise.

That's why this exercise is so important. It's crucial that you do it as often as you can throughout the day and follow it with 5 good back bends. The pumping action will hydrate the disks and get them pumped back up to their former youthful condition.

Tip:

If you come up with something that works well for you (or you have any questions) we would welcome your input on the user forum at RebuildYourBack.com. Many people utilize that forum and it is a great place to share ideas and ask questions. The user forum is a community of back rebuilders where we all put our heads together to come up with solutions. We would love to have you join us.

KNEE-UPS

This exercise is also a good first aid technique right after a back injury. You'll have to rely on your own instincts and listen to what your body is telling you. Start out lying flat on your back. If that doesn't hurt, slowly progress into trying this exercise.

1. Start by lying on your back with your knees up and feet flat on the floor.
2. Now bring one knee up and pull it against your chest with your hands for about 3 seconds.
3. Relax and lower your knee.
4. Now bring the other knee up and hold it the same way.
5. Lower that knee back down.
6. Now bring both knees up together and hold for 3 seconds.
7. Repeat this exercise 5 times stretching a little more each time.

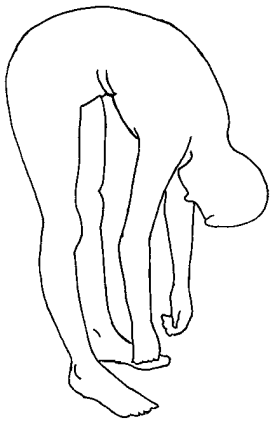
Your head should remain flat on the floor and you should hold this position for about three to five seconds… gently pulling on your knees the entire time.

Keep your legs bent as you lower them back down.

FORWARD BEND

At least once a day - preferably right after doing some back bends - bend over and try to touch your toes.

1. To start, stand up straight with feet shoulder width apart.
2. Take several deep breaths followed by a couple of cleansing breaths and then slowly lower your chin to your chest.
3. Let your chest collapse and slowly -- vertebrae by vertebrae -- bend down until you are totally bent over.
4. Try to touch your toes or the floor, but don't strain. Just hang limp like a rag doll.
5. After a few seconds relaxing in this position, slowly -- vertebrae by vertebrae -- raise back up to the starting position.
6. Repeat this two or three times.



Most people spend far too much time bent forward as it is, so there is no reason to work this direction extensively. Most of our effort will be better spent counterbalancing this movement.

It should also be noted that if you are dealing with sciatica, you might wish to modify this program and not do the forward bending exercises until your symptoms abate. Experiment with some of the easier exercises from the advance section instead.

SEATED BENDS

This is a good one to do at the office. It combines the forward bend, the side bend, and the back bend to give you a good way to loosen up if you can't stand up and do them.

1. Sit on the edge of your chair and slowly bend over and touch the floor or grab your ankles and pull to get a good stretch.
2. Then slowly - vertebrae by vertebrae - rise back up to a seated position.
3. Repeat this five times.
4. Now reach overhead and grab your hands.
5. Do five side bends to the left.
6. Do five side bends to the right.
7. Remember to hold the bends and really stretch.
8. Follow the side bends with a seated back arch.
9. Place your palms on your lower back and just arch back in your chair as if you were doing standing back bends.
10. Do this five times.

Now finish with five good Standing Back Bends and you're done. Remember, you should try to do this entire program twice a day. Do it once in the morning and then again once at night.

Note: Some people with sciatica find that they do better if they skip the forward bending exercises in the beginning. For others, just the opposite is true. See the Forum discussions for more info.

Tip:

Ideally you should stretch as often as you can throughout the day. You don't have to do a full workout program… but the more you stretch the faster you will progress. I've never heard of anyone stretching too much.

SORENESS VS. PAIN

Whenever beginning an exercise program such as this, it's important to distinguish the difference between soreness and sharp, stabbing pain.

It's not uncommon to experience a dull ache in your muscles the day after performing an exercise you haven't done in a while. Athletes view this mild pain as a sign of progress and learn to relish it. They see it as an old familiar friend rather than a foe. They know from experience that it is *not* harmful… but actually beneficial. This muscle soreness will go away in a few days as you continue to perform the exercises.

On the other hand, sharp stabbing pain is a different story altogether. The purpose of these exercises is to relieve this type of pain.

It is very unlikely that performing these stretching movements *gently* will cause you any harm. When done to relieve pain, only move up to the edge of the pain and then back off.

If you have just injured yourself, rest for a day or two and give the injury a chance to begin healing. Then you can start to gently coax movement back into the area. And remember, correct posture must be maintained at all times.

If performing these exercises causes your pain to increase severely, you should consult your doctor.

END OF PART I

This is the end of the first part of your rebuilding process. In the next two chapters we're going to build on what we've learned so far and ease you into the advanced exercise program.

There are no hard and fast rules about how long you should perform these initial exercises before you advance to the next stage. It really depends on you and the condition of your back.

I generally recommend a minimum of 4 weeks for the average person but it's really a subjective thing. There is no reason you can't add a few additional exercises right away as long as you can do so comfortably.

5. SHORING UP THE FOUNDATION

Ask any builder and he will tell you the strength of any structure depends on its foundation. If the foundation is weak or damaged the entire structure will be weak and will begin to deteriorate. If the foundation of the building is even slightly tilted or off-kilter, any effort to rebuild the structure will be in vain.

Therefore, in any major renovation job, the first thing the builder must do is make sure the foundation of the building is sound. He must check it from every angle and make every effort to ensure that it is strong and in proper alignment.

Your back is no different. Your back needs a firm foundation if your rebuilding efforts are going to be successful.

ESTABLISHING A FIRM FOUNDATION

Although often overlooked by most back treatment programs the pelvis is the foundation of the entire spinal column. It is the pelvis that determines the alignment of your spine more so than any other factor. So -- rather than make the mistake of focusing exclusively on the lumbar spine like other back treatment programs -- we're going to focus our attention on a far more important player in the game.

THE PELVIS

The pelvis is comprised of a group of bones all fused together or tightly bound together by very stiff ligaments.

The heart of the pelvis is a bone called the sacrum, which forms the base upon which all of the spinal vertebrae sit. Attached to the bottom of the sacrum is the coccyx or tailbone. On either side of the sacrum are two wing-like bones that you and I refer to as hipbones. (They're actually named iliac bones and where they connect to the sacrum is called the sacroiliac.)

This entire structure is pretty solid so, for our purposes, we are going to treat it as just "the pelvis" rather than worry about the individual bones.

Now, because the spine sits atop the pelvis like a stack of bricks, any direction the pelvis moves the spine is going to follow.

If the pelvis tilts to the left (which you can demonstrate for yourself with the Hip Shrug exercise) the spine is pulled to the left.

If the pelvis tilts to the right the spine once again has to follow its lead.

The same holds true if the pelvis is angled too far forward. In that case, the muscles of the abdomen have to make extra effort to hold everything back.

If the pelvis is angled too far backwards then it's the back muscles that are called upon to work overtime.

Based on these observations it's easy to see that if the pelvis is off even slightly it's going to throw everything else out of whack. And when that happens maintaining your posture becomes twice as hard and backaches become that much more frequent.

CHECKING YOUR FOUNDATION

You can check the condition of your foundation simply by checking your posture in a full-length mirror. One of those three angle mirrors like they have in clothing stores works great for this because it allows you to easily see from every angle, but a single mirror will suffice.

All you have to do is just stand totally relaxed like you would if you weren't paying attention to your posture and note the

alignment of your pelvis. Check yourself from the front, of course, but what we really want to see is how you look from the side. (You may even want to try catching yourself off-guard sometime if you want to see how you really look.)

Pay close attention to the angle of your beltline or the waistband of your clothes. Is it level? Does it slope downward in front or maybe even angle downwards toward the back?

Just as no square shapes occur in nature, there are no level surfaces in the human body and your waistline is no exception.

Everything in nature is rounded or angled to some extent and, therefore, normal posture from the side is when the belt or waistband of your clothes angles downward a few degrees to the front.

I doubt that anyone can say what the exact angle for you should be since everyone is different but my guess is about 2 or 3 degrees is about right. Much more than that and you have what is known as a forward pelvic tilt.

THE FORWARD PELVIC TILT

The most common pelvic tilt is to the front. That is, the pelvis tilts forward causing the tummy to sag and pooch out in what most of us call a pot belly. If your belt or waistband angles downward in front more than 2 or 3 degrees, you have a forward pelvic tilt.

A forward pelvic tilt is caused by weak muscles and short, tight ligaments. The muscles that need strengthening are the abdominal and hip muscles as well as a group of smaller often overlooked muscles that surround the spine itself.

The ligaments we want to stretch and lengthen are in the front thigh and hips. We will be targeting these muscles and ligaments in the next chapter, but first there is a little trick I want you to learn.

CORRECTING A FORWARD TILT

In the next chapter we're going to be adding some more exercises that will help you stretch and strengthen your pelvis - along with the rest of your back – and in no time you'll be standing tall and straight again.

But before we get back to exercising there is one easy little technique I want you to master first. This simple little movement is a key element in many of the exercises and is also a clever little trick you can use anytime to shore up your back and prevent back strain. It utilizes your body's natural corset to keep the back firm and supported. It makes maintaining your posture a snap. And it is the ultimate "secret weapon" for preventing back strain.

This little trick is called the Pelvic Pinch.

THE PELVIC PINCH

This movement can be performed standing, sitting or lying down. It is the key to aligning your posture and preventing back stain. Its purpose is to slightly flatten the tummy and stabilize the lower back.

1. Start by standing in front of your mirror so you can see the changes take place as you practice this movement.
2. Next, gently squeeze your buttocks together like you were trying to hold a dime between your cheeks
3. Then, while you're squeezing, simultaneously tighten the lower abdominal muscles and notice in the mirror how your hips naturally roll backward.
4. Practice this movement until it becomes second nature.

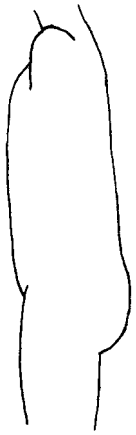
Use this trick whenever you need to bend over or whenever you have to reach for something. You should always use it when lifting any object even if what you're lifting is relatively light.

Also, it's the perfect way to keep from hurting your back when you roll over or get out of bed.

Hold this position whenever you are performing any movement that could strain your lower back. Try it the next time you have to sneeze. It's the perfect way to safeguard your back and prevent unnecessary strain.

THE BACKWARD TILT

If your beltline or waistband is level or tilting toward the back this is a condition known as lumbar kyphosis or a backwards tilt. People who complain that they "have no butt" are usually members of this category since it's the gentle inward curve of the lower back that gives the hindquarters its rounded shape.



This is a far less common occurrence than a forward tilt, but it does happen. The famous actor, John Wayne appeared to have this type of posture. I'm not sure if he had back problems or not. But it might account -- at least in part -- for the unique signature swagger for which he is so famous.

CORRECTING A BACKWARD TILT

Short muscles and tight ligaments in the hamstrings and buttocks usually cause the backward pelvic tilt. Hamstring stretches and other forward bending exercises seem to work the best at lengthening those muscles. We'll cover several examples you can try in the next chapter.

Also, if you have a backward pelvic tilt you should experiment in front of the mirror with rolling your hips forward until you identify the muscles involved in holding a more normal posture. Then you can just develop your own version of the Pelvic Pinch to help you maintain that posture.

Tip:

Remember, if you come up with something that works well for you we would welcome your input on the user forum at RebuildYourBack.com. Many people utilize that forum and it is a great place to share ideas and ask questions. The user forum is a community of back rebuilders where we all put our heads together to come up with solutions. We would love to have you join us.

WHAT IF YOU DON'T TILT?

If you don't have a pelvic tilt consider yourself lucky. You will probably have an easier time rebuilding your back for the simple fact that you have one less thing to worry about.

If you do have a pelvic tilt, don't despair. You have just discovered one of the major factors causing your back pain and that means you're halfway home. Now all you need to do is to focus on the specific exercises for your situation. Pelvic tilt is not difficult to correct and the back rebuilding exercises in the next chapter will help make it easier.

TO RECAP

There's more to this posture business than just bending forward too much. You can exercise, eat right, take vitamins, get plenty of sleep, play sports, you name it… but if you neglect the mechanical foundation of your body you're going to have trouble.

The lumbar spine does not exist in a vacuum. It is only one part of a greater machine that we call the human skeleton. In order to have a totally healthy lumbar spine you must treat the entire skeletal structure as a whole. In other words, a healthy lumbar spine requires a healthy foundation.

Because the pelvis is the very foundation of the spinal column, it plays a crucial role in determining your posture and, therefore, in the alignment of your spine. The key to maintaining correct posture is to correct the pelvis. If the pelvis is straight, everything else will easily fall into place.

On the other hand, if you try to maintain correct posture without focusing on the pelvis it requires too much effort and you will soon grow tired and relax back into a slump.

The reason most back treatment programs fail is because they tend to focus their attention on the bones of the spine and trying to align them by brute force. The vertebrae get all the attention and all the glory even though they are totally inanimate objects that have virtually no control over the entire production.

We know it is the soft tissues surrounding the bones that do all the work and, therefore, should be the real stars of the show. After all, it's the ligaments and muscles that hold and support the bones. Not the other way around.

The success of the Rebuild Your Back system is attributable in large part to the recognition of the importance of this support structure and how it affects the alignment of the pelvis and lumbar spine.

If your pelvis is tilted incorrectly, it's not because there is anything wrong with your bones. It is because the muscles and ligaments surrounding your pelvis are not holding it in place correctly. They have adapted to whatever posture you've spent most of your life in.

In the next chapter we're going to help you correct those wayward soft tissues and get them to re-adapt to a new pain-free healthy posture.

6. REBUILDING YOUR BACK; Part II

These exercises are primarily for increasing flexibility and strength AFTER you recover from a back injury and after you've spent at least two to four weeks doing the basic exercises.

There are four types of exercises in this advanced program. There are stretching exercises, mobilization exercises, decompression exercises and strengthening exercises. No one type of exercise is more important than the other. You need all four if you're going to be successful at rebuilding your back.

The scarred ligaments must be stretched in all directions in order to restore their elasticity. The vertebrae need to be mobilized and decompressed in order to pump and hydrate the disks. And finally, the muscles must be strengthened so they can support your back.

Performing these exercises correctly is crucial to your progress. This cannot be overstated. You must perform the exercises exactly as described in order for them to be effective. Like we said before, don't just look at the illustrations and then try the movements. Read the instructions carefully and be sure you understand and follow them to the letter.

Needless to say, you will get out of these exercises what you put in. If you approach them casually and only make a half-hearted attempt to do them, you'll only be shortchanging yourself. If you take the time to understand the anatomy involved and if you do the exercises exactly as described and as often as instructed I'm confident you'll be amazed at the results.

These exercises work, plain and simple. And what's great is they're not all that hard to do. They don't take much time… only a few minutes a day. And all of these exercises have the added benefit of making it easier to maintain correct posture.

Almost everyone, regardless of their situation will benefit from these exercises because they are based on (and designed to work with) the natural anatomy of the spine.

BEFORE YOU BEGIN

You should warm-up the entire body -- including the neck -- before attempting any of the exercises in this advanced section.

Some of the advanced moves require you to incorporate your hips, shoulders, arms and legs and it wouldn't do to set out to treat your back only to injure your shoulder in the process.

The best warm-up technique is the one I explain in my book entitled, *The Pain Relief Manual*. If you follow those instructions you'll not only effortlessly strengthen and tone your entire body,

but you'll be warmed up for these more advanced exercises as well.

THE ADVANCED EXERCISES

The following section is divided up into categories for the sake of clarity only. It is not my intention that you do these exercises in the order that they are presented unless instructed to do so. Instead, you should select exercises from each category when building your custom exercise program so that you end up with a balanced and complete program.

- The first category is stretching exercises.
- The second category is decompression exercises.
- The third category is mobilization exercises
- And finally, some strengthening exercises.

I've laid out the categories in this order on purpose.

Although not a hard and fast rule, I generally prefer to do some stretching and mobilization before I do decompression. Then I move on to the strength movements.

I also like to group exercises together for the sake of efficiency. For example, if I'm doing exercises on my back I'll do all of the "on my back" exercises at that time.

Also I like to follow the more taxing exercises like sit-ups or crunches with more relaxing movements like stretching or

mobilization. That way, instead of just wasting time resting between the different strength exercises, I can "rest" by doing an easy exercise and get it out of the way before moving on to the next muscle builder.

You don't have to do all of the exercises every day. You will probably want to incorporate most of them into an every other day routine.

You may want to divide up your exercise program in such a way that you do part of the exercises in the morning… another group of exercises throughout the day… and another set of exercises sometime in the evening. This is the most efficient way to manage time and tends to yield the maximum results.

STRETCHING

We've already covered many of the basic stretching movements in chapter 4. By now you should have mastered them and realize their value as core exercises in any back rebuilding program.

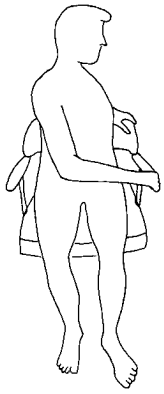
You should continue to do all of those exercises daily regardless of how many other new exercises you learn. The mere fact that they're "basic" exercises does not diminish their importance in any way.

In the rest of this section we're going to add some additional stretching movements to your arsenal. Some of these exercises are optional and you don't need to do all of them on the same day.

THE CHAIR TWIST

This exercise is performed while seated in a solid chair like an office chair. One with arms is preferable but it can be done without.

1. While seated in the chair tighten your tummy muscles.
2. Next, lift your spine, chest and head high.
3. Now take hold of the arms and back of the chair and twist around as far as you can.
4. When you get as far as you can, hold it and tighten your tummy again and twist farther.
5. Hold it and tighten the tummy a third time and twist even farther.
6. Now relax and do the other side.

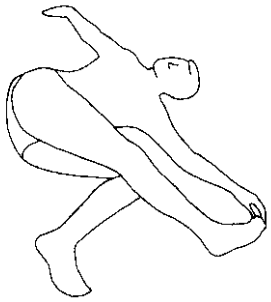


This is a good one for decompressing the spine after you've been sitting for a long period of time.

THE FLOOR TWIST

Like most torso twisting stretches, this exercise is very valuable in treating sciatica and other conditions where you want to separate any stiff, impacted vertebrae that might be pinching a nerve.

1. Lie on your back with your arms out to your side palms down like a cross.
2. Bring your knees up to your chest and then roll them over to one side while keeping your arms flat on the floor.
3. Now straighten the upper leg and take hold of it with your hand and pull for more of a stretch.
4. Breathe deeply and relax in this position for about 30 seconds then return to the knee-over-chest position.
5. Now roll the other way and repeat the process for the other leg.
6. Stretch both ways at least twice.



THE STANDING TWIST

Make sure you're completely warmed up before doing this exercise. Especially loosen up your shoulders and neck.

1. Stand near a wall and lean your fanny against it.
2. With your arms outstretched like a cross, bend at the waist and twist slowly like you were doing alternate toe touches.
3. The hand near the floor should move past the opposite foot and your head should be looking at the thumb of your raised arm.
4. Stretch as far as you can each time you pivot.
5. Stretch both ways at least twice.

The nice thing about this exercise is it works the mid to upper back quite nicely while decompressing the lower spine.

THE THIGH BUTTERFLY

This exercise will stretch the inner thigh and, like most of the hip exercises in this book, it has been helpful in relieving and correcting sciatica for some people.

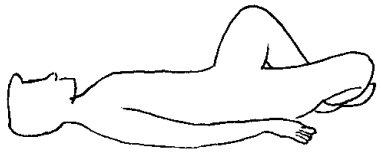
1. Lie on your back with your knees up, your feet together and flat on the floor.

2. Do a pelvic pinch and then just spread your knees as far apart as you can.

3. At the bottom of the stretch you can use your hands on the inside of your thighs to stretch even further.

4. Open and close your legs like the wings of a butterfly for 30 or more repetitions remembering to stretch each time.

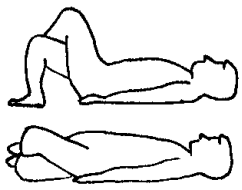
5. One set of butterflies should be sufficient.



THE KNEE CROSS

This exercise primarily stretches the outside of your hip, buttocks, and the side of your back. It is a good exercise for sciatica (pinched nerves) since twisting often results in shifting the pressure off of the irritated nerve. But that is not the only purpose of this exercise. It is also an important all around back exercise. It is great for correcting a pelvic tilt.

1. Lie on your back with your knees up and your feet flat on the floor.
2. Clasp your hands behind your head.
3. Cross your right leg over your left knee so your right foot touches your left ankle.
4. Then while keeping your shoulders on the floor, do a Pelvic Pinch and then just use your right leg to pull your left knee over towards the floor on your right side.
5. Relax in this position and hold the stretch for about 30 seconds.
6. Then return to the knees up position.
7. Switch legs and do the right hip.
8. Stretch both ways at least twice.



Some people mistakenly consider this exercise as do-it-yourself chiropractic since you may hear a pop in your back similar to what you heard when the chiropractor adjusted your back. But the popping sound is the only similarity. This is not a chiropractic adjustment. The popping sound is neither good nor bad and is not the point of the exercise. Don't be concerned if you don't hear a pop.

THE PIRIFORMIS STRETCH

The piriformis is a muscle in the buttocks that just happens to pass over your sciatic nerve. If this muscle is short and tight it can compress and irritate the sciatic nerve and lead to the numbness and tingling in the buttocks, legs and feet known as piriformis syndrome, which is similar to sciatica.

1. Start on your back with your knees up and your feet flat on the floor.
2. Cross your left ankle over your right knee. (Like a man crosses his legs.)
3. Wrap your arms around BOTH legs and grasp the back of your right leg.
4. Pull your right knee towards your chest and feel the stretch in your left buttock.
5. Hold this stretch for 30 seconds then relax and switch legs.
6. Once or twice should be sufficient.

Leg pain can be caused by a number of things due to the length of the sciatic nerve. A short piriformis muscle is only one of the more common known causes. Keeping this muscle stretched and limber will not only prevent sciatica-like symptoms, but it also will help in correcting a backwards pelvic tilt.

HAMSTRING STRETCHES

The hamstrings are a group of muscles on the back of the legs. They run from the lower pelvis to the back of the knee.

Ordinarily you wouldn't think the hamstrings would have any affect on the lower back. However, when the hamstrings are tight, the back itself can be tightened due to the muscles pulling on the pelvis. Therefore, stretching the hamstrings will not only loosen up the leg muscles but will also take some of the strain off of the back.

This is probably most pronounced and noticeable in the backward pelvic tilt that we discussed in the previous chapter.

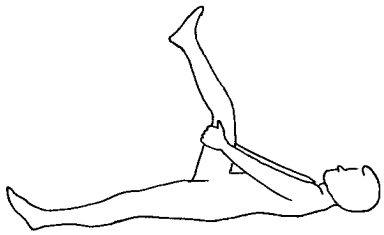
Short tight hamstring and buttocks muscles restrict the movement of the pelvis and cause you to have to work harder to maintain a proper pelvic angle.

Trying to maintain correct pelvic angle by muscle strength alone is futile. A smarter approach is to stretch and lengthen short tight muscles so that less effort is required to maintain correct posture.

PRONE HAMSTRING STRETCH

This version of the hamstring stretch is probably the least stressful version and can be done by almost anyone.

1. Start by lying on the floor with one leg straight and the other bent.
2. Next, bring your knee up to your chest.
3. Then straighten your leg and try to touch your heel to the ceiling.
4. With your leg as straight as possible take hold of it and pull towards your chest.
5. Hold this stretch for 30 seconds.
6. Finally, relax and switch to the other leg.



Keep the leg on the floor as straight as possible while doing this exercise. At first, all you may be able to do is work at straightening your raised leg. Later, as you progress you can stretch further and further.

HAMSTRING STRETCH VARIATIONS

There are so many variations of hamstring stretches that you could probably fill an entire book on just this one exercise alone. Two of my favorites are the forward bend mentioned in chapter 4 and a variation of the same we'll discuss here.

1. To perform the variation, you start from a full squat with your palms flat on the floor.
2. Next you just straighten your legs while keeping your palms on the floor.
3. Hold the stretch for 30 seconds and then relax back to a squat.

THE DANCER'S STRETCH

This is another variation of the hamstring stretch popular with ballet dancers. This is the one where they put their heel up on a bar and then touch their nose to their knee.

You don't have to put your foot up on something as high as a dance bar to perform this exercise. You can start with a low box or chair.

1. First put one foot up on a raised surface.
2. Then while you keep your leg straight, bend over and try to touch your nose to your knee.
3. Next switch and do the other leg.

SEATED HAMSTRING STRETCH

1. Start by sitting on the floor with one leg straight out in front of you.
2. Next, bend the other leg comfortably in front of you so that the sole of your foot is touching the inner thigh of the opposite leg.
3. Now bend at the waist and reach for your toes on the outstretched leg.
4. Hold the stretch for 30 seconds while you slowly try to touch your nose to your knee.
5. Relax back to a sitting position and switch to the other leg.

You should feel this stretch only in the back of your leg.

Stretching the hamstrings also stretches the buttocks and lower back muscles, which will take pressure off of your lower back. For this reason, you should do hamstring stretches even if you don't have a backward pelvic tilt.

Tip:

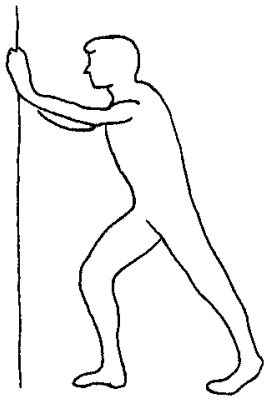
Holding a stretch for less that 15 seconds is fine for warming up and for some mobilization and strengthening exercises where you have to do 5 to 10 repetitions.

However, if your goal is to increase range of motion, try to hold the stretch for a minimum of 15 seconds… with 30 seconds being the preferred limit. This allows the muscle, ligament and tendon fibers to re-learn the new range expected of them.

THE PSOAS STRETCH

This is a great exercise for correcting a forward pelvic tilt. When done correctly, it really stretches the front of the upper thigh.

1. Start by placing both hands on a wall about shoulder width apart.
2. Next, place your right leg in front of you and your left leg behind you.
3. Extend your left leg back as far as you can comfortable stretch it.
4. Now shift your lower body forward while pushing your upper body backwards with your arms and feel the stretch in your upper thigh.
5. Hold the stretch for 30 seconds.
6. Relax and switch legs.



The psoas muscle is a muscle that runs through the front upper thigh. Stretching this region of the upper thigh is very important in correcting a forward pelvic tilt. This exercise is very good at counterbalancing years of sitting which has trained the upper thigh to think short is normal.

You should feel this stretch mostly in the front of your upper thigh. If you feel a stretch in the calf of your rear leg that's okay. You're doing what's known as The Runner's Stretch. Try to shift your attention to the upper thigh instead.

PROPER STRETCHING TECHNIQUE

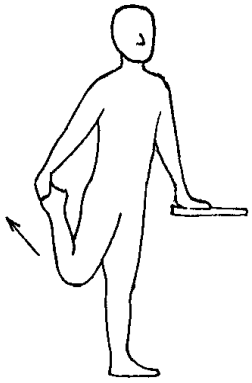
In order to increase your range of motion, you must hold a stretch for from 15 to 30 seconds. This allows the muscle, ligament and tendon fibers to re-learn the new range of motion. Anything less just doesn't seem to get the job done.

By taking your formerly injured ligament slowly and progressively into this stretching region and holding it for 30 seconds you literally call upon the body's natural ability to adapt and you, in effect, force the tissues to grow and conform. Soon this new demand you're placing upon the stiff region will become easy to perform and the pain and stiffness will be gone.

STANDING THIGH STRETCH

I personally like this exercise better than the previous one for stretching the front of the thigh. Both are good for correcting a forward pelvic tilt. I just seem to get a better stretch with this one and find it easier to do.

1. Start by standing with one hand on a solid support.
2. Bring your leg up and grab your foot or ankle.
3. While keeping your back straight, pull backwards and up on your leg.
4. Feel the stretch in the front of your thigh for 30 seconds.
5. Relax and switch legs.



You should only feel this stretch in your thigh and not your knee. Pulling backwards more will take pressure off your knee and make the movement more effective.

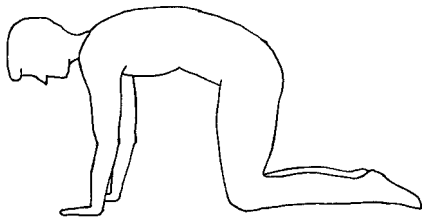
MOBILIZATION

My favorite mobilization exercise is the Hip Shrug mentioned in chapter 4. However, there are a couple of others that you should add to your routine as well.

THE CAT

Cats are the most agile and supple creatures on the planet. They are the masters at stretching and there is much we can learn from their expertise. This exercise was inspired by observing how cats stretch their backs and you should think like a cat while your doing it.

1. Get down on your hands and knees as shown in the illustration.
2. Next arch your back up like a cat and go for a good stretch.
3. Then try arching your stomach down toward the floor.
4. Finally just alternate up and down like this for about 10 reps.



This is a very easy exercise to do and might not feel like you're doing much, but the position will decompress the spine and the movement really helps hydrate the disks. It works the middle back as well as the lower back. It is excellent for mobilizing the vertebrae and rebuilding deflated disks.

THE TAIL WAG

I suppose we could say this exercise was inspired by dogs just to give equal time to the K9 aficionados but in reality the name came only as an afterthought. Most people do this one right after the previous exercise.

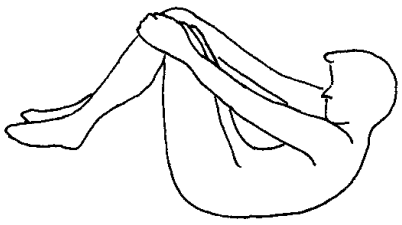
1. After you finish The Cat stay on all fours and just shift your fanny to the left as far as you can for a good stretch. (similar to doing the Hip Shrug)
2. Then return to center.
3. Next, shift your fanny to the right and stretch.
4. Continue to slowly wiggle back and forth like this 10 to 12 times.
5. Finish with a good stretch in both directions.

If you do this one correctly you should hear little pops in your spine similar to doing the Hip Shrug. This is another good low impact way to mobilize the vertebrae and get some movement back.

THE LUMBAR ROLL

This is a good one for gently mobilizing any stiff segments in your spine. If you do this one every day along with the other mobilization exercises in this section, you won't have to resort to the violent and potentially damaging chiropractic manipulation. This will help free up any stubborn vertebrae that are reluctant to get moving again.

1. Lie on your back and bring your knees up far enough that you can grab them with your hands.
2. Then just roll back and forth over your spine concentrating on any stiff places.
3. Next use your hands to move your knees in a circular fashion while you roll over your lumbar region… again concentrating on any stiff or sore spots.
4. Roll first in a clockwise rotation a few times and then reverse and roll counterclockwise.



I have heard that putting two tennis balls in a sock and rolling back and forth over them can serve as a variation of The Lumbar Roll.

I have never tried this but my understanding is that you tie the sock so that the balls are spaced just wide enough that one ball travels on either side of your spine. Then you just roll the pair up and down your spine like someone walking on your back.

Since I've never tried it, I can't recommend it. I only mention it for informational purposes so that you can look into it further if you think it might help you.

DECOMPRESSION

Decompression is simply the process of allowing the disks to expand and to refill with moisture.

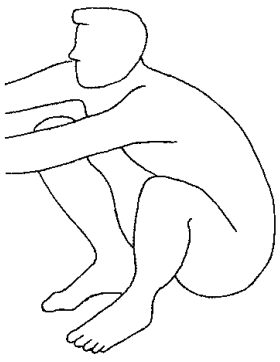
Performing the next exercise will require healthy knees because you are going to have to squat. If you've lost the ability to perform this movement then I encourage you to begin redeveloping the skill.

If you have knee or ankle problems that currently prevent you from squatting down you may wish to get my book entitled, *The Pain Relief Manual*. It covers natural techniques for healing and reconditioning troublesome joints and is designed to help you get back your mobility.

THE SQUAT

To perform this exercise needs little explanation. It's just a slow deep knee bend like you've no doubt done in the past

1. Space your feet about shoulder width apart and hang onto the back of a chair for support if you need to.
2. Then just squat down with your knees out making a slight V.
3. Just do one and be sure to stop at the bottom, relax and take time to feel the lower vertebrae decompress.
4. Don't bounce and don't do it fast.
5. Keep your feet flat on the floor with your heels down. Resting on the balls of your feet will place unnecessary stress on your ankles and feet.
6. After a few minutes relaxing in this natural position, you can stand up slowly taking care not to strain your knees.



Contrary to popular belief, squatting is not hard on your knees or back. It is a very natural body position. All primitive people squat as a regular part of their daily life and back and joint problems are almost unheard of among these "undeveloped" people.

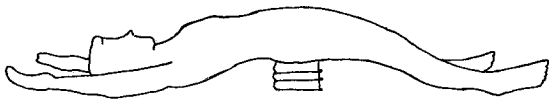
Only people who sit in chairs develop back problems.

Anytime you stop to rest try squatting instead of sitting. It's more natural and better for you than sitting. Also it's a great way to decompress the spine after you've been sitting for a while.

THE BRIDGE

For this next exercise you're going to need a thick book like a phone book or catalog. About 3 inches thick is sufficient. As you progress, you will increase the thickness. Warm up good with the basic exercises before doing this exercise.

1. Start by lying on your back on the floor with your knees bent.
2. Lift up far enough to slide the book under the flat bony area just above your fanny.
3. Now straighten your legs out and just relax in this position for about a minute.
4. Release all tension and just let your lower vertebrae "separate" or decompress.
5. Remember to only hold this position for one minute and then slowly and carefully lift up and slide the book out from under you. You're going to be stiff after a minute of elevation like this so be careful and lower your back down slowly.
6. Always follow this exercise with 5 knee ups followed by 10 sit-ups.



This one really separates the lower vertebrae so don't be concerned if you feel a little pain at first following this exercise. You're probably separating segments that haven't moved in years. Start with about 3 inches of elevation and gradually increase it week by week. Some people go as high as a foot. I get good results with 5 to 6 inches and don't see the need to go any higher.

STRENGTHENING

Let's face it, we spend most of our waking hours sitting and, as we all know, this causes the muscles to atrophy and grow weak. The less we use them the weaker they become. The muscles around our waist become weak and they allow the body to sag. Instead of holding the spinal segments apart, our weak muscles place the burden of supporting the weight of our upper bodies on the disks.

When you do try to sit or stand with correct posture those weak muscles tend to tire easily and you eventually sag back into your old shape.

What's more, most people think that the spine is held in alignment by those two big muscles that you can see running up your back on either side of the spinal column. Since they are so big and so

visible and because of their close proximity to the spine itself, they must be the muscles that control the shape of your back.

However, that is not the case. Those two big muscles are there to hold you in an upright position. Their job is to allow you to stand up and to lift heavy loads. They have very little to do with aligning the individual spinal segments.

Numerous small muscles that surround and connect the individual vertebrae deep inside the body control the actual alignment of your spine. These muscles are not visible to us at all and most people don't even know they exist.

The exercises in this section are designed to strengthen these small overlooked muscles of the spine but only if we do them correctly. And herein lies the crux of the situation. Most of us have been doing these exercises for years. The only problem is we've been doing them wrong.

SIT-UPS

I know you don't like sit-ups. Nobody likes doing sit-ups. The good news is we don't have to do very many because we're going to do them correctly.

1. The correct way to perform a sit-up is to slowly curl up one spinal segment at a time with the tummy creased.
2. Don't jerk up and make sure you don't have a hollow in your lower back. This is one time it should be curved.
3. Curl-up slowly and smoothly one vertebra at a time.
4. Strive to feel the tension and the burn in your tummy muscles.
5. Do as many as you can and don't worry about how many that is. If done correctly you should feel it in your tummy, not your hips.

Remember, it is pointless to jerk or fling yourself up like so many people do in order to do more repetitions or to get it all over with quickly. By doing sit-ups and other abdominal exercises as slowly

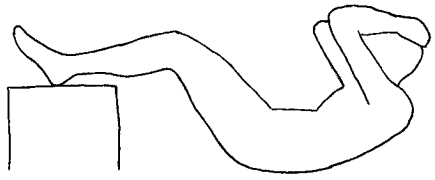
as possible -- mentally curling one vertebra at a time -- you reach and strengthen the small muscles that surround the spine. These small muscles are what connect and support the vertebrae and are just as important to rebuilding your back as the larger more visible abdominal muscles.

One properly done sit-up is worth 10 done incorrectly. You'll still get those six-pack abs and you'll get them sooner with less work. So take your time.

CRUNCHES

This next exercise is performed just like sit-ups except that you twist slightly and touch your elbow to the opposite knee. In other words, right elbow touches left knee and vice versa. Again, just like the sit-up, you want to move as slowly as possible and do not jerk or fling your self up.

1. Start by raising your legs up on a low stool or bench.
2. Next slowly curl up like you would to perform a sit-up only twist and try to touch your left elbow to your right knee.
3. Lower back down and then curl up again this time touch your right elbow to your left knee.
4. Continue to crisscross like this touching opposite elbow to knee.
5. Do as many as you can and each day try to do two more than the day before.



You should feel this exercise on the sides of your waist (the external obliques) whereas sit-ups work the center abdominal muscles.

ALTERNATE ARM LEG RAISE

Start this exercise on all fours with your head level facing the floor. Don't arch your neck. It should be relaxed and you should be looking down at the floor at all times.

The first four movements of this exercise are a warm-up for the real exercise. They are designed to prevent injury so don't skip them.

1. Raise your left arm up to shoulder level and back down 5 times.
2. Now raise your right arm up and down 5 times.
3. Next, extend your left leg back and up 5 times.
4. Then extend your right leg back and up 5 times.
5. Once you've done each arm and each leg individually move on to raising the left arm and right leg at the same time.
6. With each extension try to raise the arm and the leg higher than the time before. Do this 10 times.
7. Switch and do the other arm and leg 10 times each.

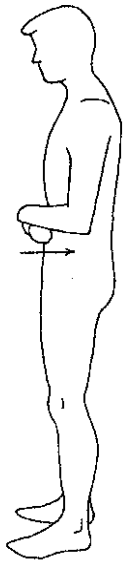
Be sure and keep your neck relaxed, head level facing the floor throughout this exercise.

THE PELVIC PUSH

During all of these exercises you should be doing deep breathing as explained earlier. Here's a quick recap: To take a deep breath, you will use the abdominal muscles like a fireplace bellows. Pushing the abdomen out will cause the diaphragm to draw air into the lungs. Pulling the abdominal muscles in will push the air back out of the lungs.

This next exercise expands on the deep breathing technique.

1. Stand with your back against a wall or a door jam.
2. Breathe in through your nose by expanding the abdominal muscles as usual.
3. Now do the Pelvic Pinch and exhale while you press your lower back into the wall in a smooth flowing movement.
4. But don't just exhale. Instead, purse your lips to create a resistance to the airflow while you press your lower back into the wall.
5. You can even use your hands to press on your stomach as you exhale to increase the tension.
6. The point of this exercise is to really work those abdominal muscles.
7. Do as many as you can but be careful not to get dizzy.



If you do this one right you should also feel it in the muscles surrounding your lower spine. This is one of the best back strengthening exercises you can do. It reaches muscles you can't reach any other way.

LYING PELVIC PUSH

1. Start on your back with your knees up and your feet flat on the floor.
2. Do the Pelvic Pinch and just press the small of your back into the floor. (Your hips will tilt upward.)
3. You can place your hands on your tummy and press down if your wish.
4. Hold this for 10 to 15 seconds and then relax.
5. Repeat 10 times.

THE SWIM

This exercise is very similar to the alternate arm leg raise. It's not really like swimming but the leg movements remind me of the flutter kick as you see in the illustration.

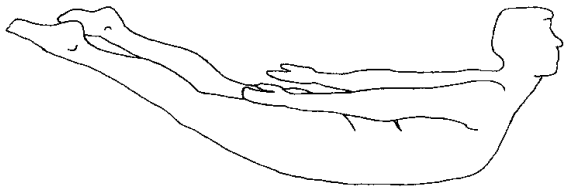
1. Start by lying face down with your arms outstretched over your head like you were diving into a pool.
2. While keeping your legs straight, raise your left leg and your right arm simultaneously and hold for a count of two.
3. Lower them and then raise the opposite arm and leg.
4. Alternate back and forth slowly and steadily for about 20 reps or as many as you can.

This really targets the muscles of the lower back like no other exercise.

THE SEAL

This is really an advanced exercise so don't feel bad if you aren't quite ready for it yet. Start with The Alternate Arm Leg Raise and work up to The Swim. Once those two exercises become easy, use them as warm-ups before trying this one.

1. Start by lying face down on the floor hands clasped behind your back.
2. Then, while keeping your legs straight, lift both your legs and your torso as high as possible.
3. Remember, to lift slowly, one vertebra at a time.
4. Try to do 15 to 20 of these every other day.



Once you can do them with your hands behind your back, try them with your hands stretched over your head like you were diving into a swimming pool. This is a great exercise for strengthening the lower back.

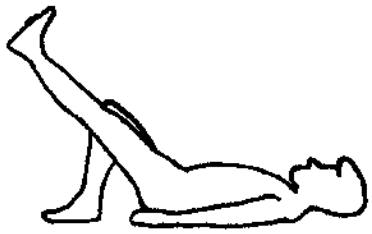
LEG LIFTS

Leg Lifts are done lying flat on your back either on the floor or on a padded bench. Keep your head flat on the floor or bench and it helps if you can grab the bench with your hands to hold your upper body down while you lift your legs.

Try to maintain a Pelvic Pinch throughout the exercises.

Step one:

1. Start with one leg out straight and one leg bent so your foot is flat on the floor.
2. Lift the straight leg up to no more than 45 degrees and then lower it back down.
3. Don't let the heel touch the floor and lift it back up.
4. Repeat this 10 times and then switch legs.



Step two:

1. With both legs out straight do The Pelvic Pinch.
2. While holding the pinch, curl both knees slowly up to your chest
3. Now slowly lower them back down until they are straight again.
4. Don't let your heels touch the floor and curl back up.
5. Repeat this about 10 times slowly curling vertebra by vertebra.

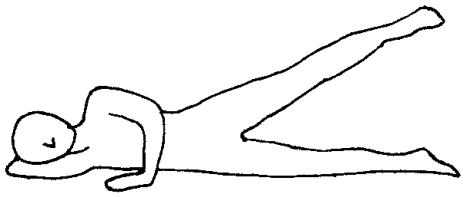
This exercise is similar to sit-ups only - instead of holding your legs stationary and curling up with your upper body - you hold your upper body stationary and curl up with your legs.

It works the abdominal muscles in a different way and most people find it more enjoyable than sit-ups. I generally warm up with a few sit-ups or crunches then switch to leg lifts.

THE SIDE LEG LIFT

This exercise strengthens the hips and is helpful for correcting a pelvic tilt.

1. Lie on your side with your legs straight.
2. Extend your top leg back behind you as far as you can and wave it up and down in the air about four to five inches.
3. Each time you wave the leg try stretching it back farther and farther.
4. Do 50 to 60 reps or until you can't do any more.
5. Switch and do the other leg.

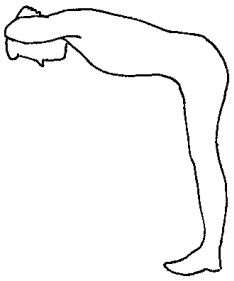


This is a great exercise for strengthening both the hips and the lower back.

GOOD MORNINGS/ROMAN CHAIR

This is an advanced exercise. You shouldn't attempt it until your back is fully recovered and you are well on the road to rebuilding your back. It's very similar to the forward bend except that you don't bend all the way down to the floor and you're going to do more than just two or three.

1. Start by standing with your feet about shoulder width apart and your hands clasped behind your head or folded across your chest.
2. Keep your back straight and bend at the waist until your upper body is parallel with the floor.
3. Then slowly, vertebra by vertebra, rise back up to an upright position.
4. Do 10 or more if you can.



After you get going with this exercise you can hold a barbell across your shoulders to increase the difficulty and there are even commercial products you can buy known as Roman Chairs specifically designed for doing this exercise.

OPTIONAL EXERCISES:

The following exercise is only for people with sciatica. If you don't have sciatica you can skip to the next exercise.

THE SHIFTED COBRA

If you are experiencing numbness, tingling or pain in one leg - or your pain is more on one side than the other – (and you don't find relief after seven to ten days from the basic three-step Cobra exercise) try this variation.

While lying on your stomach during Step 1 shift your hips about 3 to 4 inches **away from the side that is hurting**. Relax in this position for a few minutes. (Note: **This is not a misprint;** Pain on the LEFT, shift your hips to the RIGHT, or vice versa.)

Now try doing Step 2 while still shifted away from the side that is painful. Hold the position and relax for a few minutes just like before.

Finally, move on to Step 3 and perform the exercise exactly as before only this time with your hips still shifted away from the painful or numb side.

Do this for three to four days or until the pain either stops or moves to the middle of your back. Once either of these things occurs, you can go back to doing the exercises with your body straight.

Tip:

If you have pain or numbness in your legs (or on only one side of your back) due to sciatica, as you do these exercises each day you will probably notice that the pain moves to some other location. Usually it moves up the leg and eventually lodges in the middle of the lower back. This is a sign of progress. As pressure on the pinched nerve is relieved, the pain should relocate.

If you continue with the routine the pain should go away completely.

THE WEIGHTED COBRA

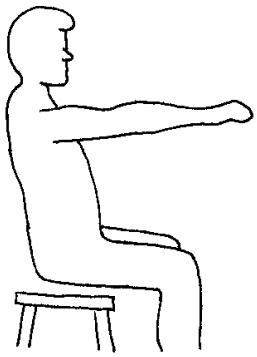
Sometimes increasing the pressure when doing Step 3 of the Cobra can help in stubborn cases. To do this requires really holding the pelvis down while you arch your back. Have someone hold down on your lower back or buttocks while you do the exercise. If no one is available, you can lie on an ironing board and place a belt or strap around the board and your waist.

This is a good specialized exercise for back injuries where the Cobra doesn't seem to be working. You may need to stretch into the pain farther than you did before. You may be taking it too easy… being too cautious.

THE CHAIR SQUAT

Everybody hates this one (including me) but hey, you'll feel so good about yourself afterwards…

1. Start by simply holding onto the back of a chair for support.
2. Do a Pelvic Pinch and then bending the knees until your upper thighs are parallel with the floor just as if you were sitting in a chair that isn't there.
3. Try to keep the back straight and just hold this position for as long as you can.
4. Once is enough, but feel free to do two or three.



This is not a fun exercise to do unless you're a masochist so to make it less boring and uncomfortable, try challenging yourself with a little game. For example, try holding it for the duration of one song on the radio or for an entire commercial break on TV.

Distracting yourself in this way makes it much easier because you can focus on the music and not on the pain in your legs.

This is a tough exercise but remember, "No pain, no gain". And it really works the thighs, hips and lower back. Some people prefer to do it with their back to a wall or door jam. Elderly people or anyone with unstable legs should do it with a chair under them so they can just sit down if their legs give out.

Anyone with unstable legs that will do this exercise daily will soon find they no longer have unstable legs. After a couple of weeks you can switch and do this one just two or three times a week.

VERTICAL LEG LIFTS

To perform this exercise requires a combination leg lift / dipping station which you can purchase at a sporting goods store or at Amazon.com.

If you don't have one of those available you can also just hang from a chinning bar.

The procedure is the same as for prone leg lifts. From the vertical position you just slowly draw your knees up to your chest and then back down.

Doing them vertically simply adds more resistance and therefore increases the difficulty.

INCLINE SIT-UPS

You can do sit-ups and even legs lifts on a slant board to increase the difficulty and really build your ab muscles. Slant boards are also available through sporting goods stores.

Just remember to curl slowly one vertebra at a time.

SWISS BALL EXERCISES

Swiss balls are great and I think they are a very valuable exercise tool. However, I don't recommend them as part of the Rebuild Your Back program for the simple fact that exercising on an unstable surface can lead to injury.

If you have a bad back you should avoid unstable situations until *after* you have fully rebuilt your back.

Every exercise that you need to do is already in this program. Which means you can exercise every muscle fully and completely on a safe stable surface and there really is no reason for you to risk injury when you don't have to.

Now, obviously, you may be knowledgeable enough and far enough advanced that incorporating a Swiss Ball into your program will not be a problem. But only you can know that. I have to assume that my average reader has a bad back and is inexperienced with exercise balls.

So, with that in mind, if you want to try exercising with a Swiss ball you should do so only with the supervision of a personal trainer… or at the very least in an exercise class where a trained instructor can fit you to the correct size ball and instruct you in how to properly do the exercises.

Also, you should inform your instructor that you have had back problems so that he or she can tailor a program to your specific needs.

Tip:

In all of the exercises, don't be afraid to rely on your own intuition. No one knows your body better than you. The more you become familiar with these exercises, the more your intuition will tell you which ones are working and how often to do them or how far to go with them.

7. FINAL THOUGHTS

You will recall from the first chapter that most of our posture related back injuries are the result of sitting for long periods of time in the infamous "C" shape. That is, with the back rounded forward. That is still true, however, it is only part of the story.

There is another posture problem associated with sitting that goes along with our discussion of the pelvic tilt. If you closely examine the very act of sitting you'll notice that it results in the pelvis tilting forward in relation to your legs.

So anytime you're sitting you automatically have a forward pelvic tilt. Sit for 20 or 30 years and eventually your pelvis will begin to think that that's a normal position to be in. The muscles and ligaments shorten and adapt to that position making it that much harder to hold the pelvis correctly when you do decide to stand up.

So what should your do?

Well, if sitting for long periods of time is - in effect - training the muscles and ligaments to hold the pelvis tilted forward then the smart thing would be to do something to counterbalance that situation. After all, you can't just give up sitting.

Start by becoming aware of the situation and try not to sit for more than an hour at a time. Get up and walk around. This not only relieves the pelvic tilt, but also gives the disks a break and allows them to pump some fluid back in. Doing some Back Bends and Hip Shrugs will allow the disks to uncompress and will get the blood flowing. Plus the Back Bends will stretch the pelvis and keep it flexible.

Also practice the Pelvic Pinch whenever you think of it and don't neglect to do the exercises in the previous chapter for stretching the pelvis in the opposite direction.

HOW TO MAINTAIN CORRECT POSTURE WHEN SITTING

When you must sit, sit with your feet flat on the floor. Your knees should be slightly lower than your hips as this will lessen the pelvic tilt somewhat and makes it easier to hold your back against the backrest thus avoiding the tendency to slouch.

The seat back should not be so far back that you can't sit back comfortably. It helps to have a footrest under your desk that you can occasionally place one or both feet on. And you can do the Pelvic Pinch even when sitting.

Try to find chairs that are designed with good lumbar support. I know this is not easy but it is vitally important. Almost no household furniture is designed correctly so in many cases you will have to provide your own lumbar support.

Medical and orthopedic supply stores usually carry orthopedic cushions designed specifically for back support. In a pinch you can roll a large bath towel into about a two-inch diameter roll and place it in the small of your back for support.

Forget standard throw pillows as they are usually worthless for anything but decoration. You need something that maintains the gentle hollow (or lumbar lordosis) that we talked about at the beginning of this book. Throw pillows usually aren't the right size or shape.

Fortunately, most new office furniture is being designed today with good lumbar support. And automobile manufacturers are starting to get the right idea. For suppliers of properly designed furniture and back support products check our Resource Pages on RebuildYourBack.com.

HOW TO MAINTAIN CORRECT POSTURE WHEN STANDING

Okay, now that you're well aware of the negative effect sitting has on your back, what about standing? Why do you get a backache if you stand in one place too long?

Well, the answer is still bad posture and for most people that means *too much* lumbar lordosis. In other words, back pain while standing is caused by slouching in the opposite direction. (That is, opposite to the infamous "C" shape.)

Usually what happens is we relax and allow the pelvis to tilt forward which in turn allows the tummy to pooch out creating too much of a hollow in the lower back. This is still a strain on the back even though it is in the opposite direction of the slouch you do when you sit. After all, bad posture is bad posture and both are hard on your back.

You can easily maintain good posture if you remember the Pelvic Pinch. The Pelvic Pinch will automatically flatten your stomach and take most of the strain off of your back muscles.

Then all you need to do is hold your shoulders back slightly. Your chest should be high and there should be just a moderate lordosis in the lower back. You should be balanced equally with both feet about shoulder width apart.

If your back does start to ache from standing in one place too long simply do three Forward Bends followed by five Standing Back Bends as explained in the previous chapters. Then stand up straight and tall again. A few Hip Shrugs and Side Bends can also be thrown in for good measure.

HOW TO MAINTAIN CORRECT POSTURE WHEN SLEEPING

If you have back pain while lying down or when you first get up in the morning then you are probably not maintaining good posture.

Make sure your mattress is firm and does not sag. Secondly, you can roll up a long beach towel and wrap it around your waist. Tie

or pin it in the front to keep it from slipping. This will allow you to sleep on your back or side while keeping your spine from sagging.

There are also commercially available pillows designed for this purpose if you want something more sophisticated than a towel.

Another alternative is the new memory foam mattresses and mattress toppers that have recently come on the market. Many people swear by these new products and you may wish to check them out for yourself. Again, we've listed several sources for these products on the website.

Of course, these are only general suggestions. The idea is to provide support to fill the space around your waist between your hips and the ribcage.

Your back should have the same moderate lordosis when you lie down that it has when standing straight and tall. Anytime you allow the spine to become distorted for any length of time you are going to develop a backache as I'll explain in just a moment.

Also, some therapists advocate that you avoid sleeping on your stomach as this places too much strain on the neck. It is better to sleep on your back or side.

BACKACHE OR BACK INJURY?

If any joint is bent in one direction for too long it will eventually begin to ache. You can demonstrate this for yourself by simply bending one of your fingers backward until you feel a slight discomfort. If you hold it there for a while it will eventually start to hurt.

This is the same thing as a backache.

If you continue to bend it … past the normal length of the ligament holding the joint… pain will be immediate. If you continue bending it you will tear the ligament and damage will occur. This is what happens when you really injure your back.

To avoid back ACHES, avoid holding the back in an unnatural posture for extended periods of time.

To avoid back INJURY, keep the muscles and ligaments limber and flexible so that they don't tear when you bend, twist or lift.

Since poor posture and excessive sitting are the root cause of 90% of all back problems, strive to develop an awareness of what good posture is and try to maintain correct posture at all times… especially when sitting.

We have not touched on the other health and esthetic benefits of improving your posture. I don't know if it's true, but some people report such things as relief from constipation and other unexpected results all from correcting your posture. (And you'll look more attractive, too.)

IT'S NOT ROCKET SCIENCE

By now, I'm sure you see that treating your own back is not rocket science. You don't have to be a medical doctor to understand the anatomy involved. And you don't have to be a genius to realize that rebuilding the support structure of your back is the only way to fully recover. It's really nothing more than common sense.

The mortar that holds the "bricks" of your spine has deteriorated and is crumbling. Moving the bricks may give temporary relief from the pain but that is not the same as total recovery. What you must do is rebuild the support structure so that the pain never comes back. Fix your back and you never have to worry about it again.

Of course, unlike a real brick wall, you can't just hire someone to fix the problem for you. No doctor – no matter how highly trained – no matter how skillful – no matter how well intentioned – can rebuild your back for you… you have to do it yourself.

Knowledge is the key and you must continue to gather as much information as possible on back and joint care. I never stop looking for new ideas and new ways to strengthen my back and I strongly urge you to do the same.

There are many fine publications on back and joint care and I encourage you to investigate as many of them as you can. Listen to your doctor. Listen to what other people are saying. And read everything you can get your hands on.

You never know when you'll find that one little piece of information that will make all the difference in the world.

How far you rebuild is entirely up to you. I've attempted to provide you with every possible tool you can use to make the process as quick and effective as possible.

My goal is to rebuild your back to such an extent that injury is nothing more than a distant memory. And total recovery will only be achieved when your back is strong and healthy again.

Remember, our bodies have an amazing capacity to heal and to adapt to whatever demands we place upon them. And it's this ability to adapt… even to our bad habits… that will allow your body to adapt to new habits.

Sure, it's going to take time. But the good news is that you'll probably be pain-free during the entire process. You have turned the page my friend and you are about to embark on a new chapter in your life. I thank you for allowing me to be a part of it.

Addendum:
Many of you have written to express your appreciation for this book and it has been truly gratifying to see so many people benefit from this work. To those of you who've asked how you can help spread the word, the answer is simple.

If you have a blog or website, you can help me by adding a link to The Back Pain Blog (http://www.rebuildyourback.com/).
Much appreciated, Dean

Appendix A.

SAMPLE EXERCISE ROUTINES

BASIC EXERCISES:

THE COBRA (10 times)

SIDEBENDS (5 to 10 times)

THE HIP SHRUG (10 or more)

THE CAT (5 to 10 times)

KNEE-UPS (5 times)

THE PELVIC PUSH (10 or more)

FORWARD BEND (3 times)

STANDING BACK BEND (5 times)

Always finish each exercise session with five Standing Back Bends no matter what. Also, you should do this maneuver before bending or lifting anything heavy and again immediately after lifting or bending. Try it the next time you get a backache and remember to do it at least 5 times.

TYPICAL ADVANCED ROUTINE

STRETCHING:	THE COBRA (10 times) SIDEBENDS (5 to 10 times) FORWARD BEND (3 times)
MOBILIZATION:	THE HIP SHRUG (10 or more) THE CAT (5 to 10 times) THE TAIL WAG (5 to 10 times)
DECOMPRESSION:	THE BRIDGE (1 minute only) follow with KNEE-UPS (5) SIT-UPS (10 or more) THIGH BUTTERFLY (10 or more) PIRIFORMIS FLOOR TWIST HAMSTRING STRETCH
STRENGTHENING:	CRUNCHES (10 or more) ALTERNATE ARM LEG RAISE LEG LIFTS (as many as you can) SIDE LEG LIFTS (as many as you can) STANDING PELVIC PUSH (10 or more) CHAIR SQUAT

Finish with the STANDING BACK BEND (5 times)

Always finish each exercise session with this exercise no matter what. Also, you should do this maneuver before bending or lifting anything heavy and again immediately after lifting or bending. Try it the next time you get a backache and remember to do it at least 5 times.

ADVANCED ALTERNATE DAYS ROUTINE

DAILY CORE EXERCISES plus…

MONDAY:
- THE BRIDGE
- KNEE UPS
- SIT-UPS
- THE SWIM
- LEG LIFTS
- FLOOR TWIST

WEDNESDAY:
- THE BRIDGE
- KNEE-UPS
- CRUNCHS
- THE SEAL
- LEG LIFTS
- PELVIC ROTATION
- CHAIR SQUAT

FRIDAY:
- THE BRIDGE
- KNEE UPS
- SIT-UPS
- ALT ARM-LEG RAISE
- LEG LIFTS
- THIGH BUTTERFLY
- SIDE LEG LIFTS

DURING THE DAY:

Do these exercises whenever you think of them throughout the day. It's crucial that you mobilize as often as you can. The pumping action of The Hip Shrug will hydrate the disks and get them pumped back up. And the others will counteract the effects of prolonged sitting or backache from standing too long.

- THE STANDING BACK BEND
- THE HIP SHRUG
- THE CHAIR TWIST
- SEATED BENDS
- SIDE BENDS
- FORWARD BEND
- PELVIC PINCH
- THE SQUAT

Remember, stretching and mobilization exercises should be done as often as possible throughout the day. Strengthening exercises need only be done once a day.

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