



Learning to beat **LOW BACK PAIN!**

by Dr Chris Chan



Low back pain is a common disorder affecting almost everyone at some stage in their lives. Sometimes it is mild and goes away by itself, but more often than not it persists and becomes a chronic problem - or, it keeps coming back. It is not only a problem for older adults; nearly 40 per cent of people get their first attack of back pain before the age of 30.

In young children, the pain often radiates to the front of the body presenting as abdominal pain. In teenagers, it radiates into the groin and presents as groin pain, pelvic pain and period pains. In adults, it often radiates to the hip and down the leg into the calves and ankles presenting as sciatica.

Numerous treatments are available

Over the years, there have been many treatments available that have claimed to improve back pain or cure back pain, and many patients try all sorts of things to try to alleviate their pain. Treatments vary from psychological techniques, energy techniques, physical techniques, nutritional and herbal techniques, medications and surgery.

A lot of money and radiation is spent on people with back pain despite studies showing that X-rays and CT scans rarely show exactly where the pain is coming from. The fact is that most of us show signs of degeneration or arthritis on radiography, whether or not we are suffering from back pain.

For most of us with back pain, the pain is never constant - it fluctuates from time-to-time. For some, it fluctuates from day-to-day, but for others there may be stabs of pain lasting a few minutes or hours. Some of us are aware that if we do something wrong or sit on something not suitable, then the pain will get worse.

Unfortunately, most of us are unaware of exactly what we are doing wrong or what postures are contributing to our back pain.

People often come to me saying they have done nothing wrong, so why did their pain get worse all of a sudden? The reason for this is often when we do the wrong thing - sit the wrong way or move the wrong way, although we don't feel pain or the pain getting worse until some time later - often three to six hours later, or even in the next day or two.

The many causes of back pain

There are as many proposed causes of low back pain as there are therapies to treat them. Common causes include disc protrusions, nerve root irritation, facet joint arthritis or degeneration, sacroilitis, short leg syndrome, muscle spasm (especially of the psoas muscle or the piriformis muscle), abdominal and spinal muscular dysfunction (core stabilizer muscles). Some people have one or two of these causes, but some have almost all of them. So what is the mechanism that causes this?

Common causes of low-back pain

The discovery of hip-rib impingement

Over 20 years ago, I discovered the reason why most people get back pain is that their ribs are hitting their hips and damaging their abdominal, back and hip muscles. They are very often not aware of this, but develop muscle spasms and trigger points which lead to neuromuscular dysfunction, and eventually to the degeneration of the joints, discs and ligaments of the spine and pelvis. All the patients I have examined who come to me for treatment for their back pain have this same problem. They often say "how come no one has told me this before?"



Forward bending and side bending at the waist causes hip-rib impingement (see Fig. 1 and Fig. 2). *Are you aware of the size of the gap between your hip and rib?*

Most people don't realize that their rib cage is lower than they think, and their hip bones are higher than they think they are. In fact, most people think their hip bone is actually their leg bone. This is because there is only a small gap between the lower ribs and the top of the hip bone. A 2004 study showed that the average gap between the eleventh rib and the hip bone is only 5 cm.¹ This space diminishes with people who slouch or have osteoporosis or disc problems, and the space diminishes further with age. Shorter people have a smaller space between these two bones, and some tall people have very long ribs and hip bones.

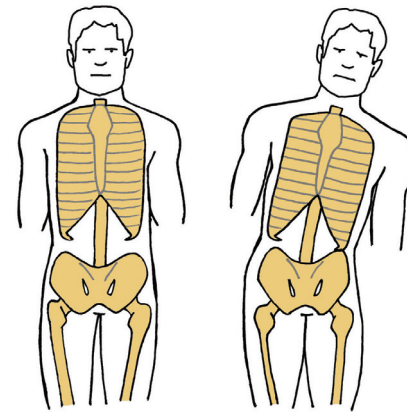


Fig. 1.

A study of back pain sufferers show an average gap of only 5 cm between lower ribs and hips

Measure your gap

Are you aware of how much space you have between your ribs and your hips? Being aware of how much space you have is the first step to being able to prevent back pain. If your hips never hit your ribs again, your pain is less likely to come back. Before you continue reading put your hands on your hips, find the top of your hip bone and push inwards and upwards until the top of your hands touch your ribs. You can now feel how small the gap is between your hips and your ribs. If you can feel tender areas around your ribs and the top of your hips then you will realize that they can easily come together and injure the muscles and their attachments in the area.

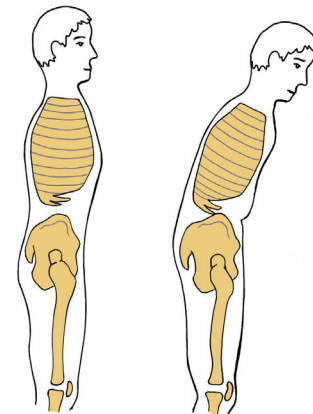


Fig. 2.

How to measure your gap

The CHRIS Theory

My theory is that most people who have back pain, common everyday postures, movements and exercises which incorporate bending and twisting at the waist cause the ribs and the hips to compress the abdominal, lumbar and hip muscles, causing immediate or delayed muscle spasm and the development of trigger points which then cause referred pain to the back, hips, groin, and down the legs. Without the protective action of the surrounding muscles, the spine then degenerates, causing disc protrusions and joint arthritis. People with high pain thresholds may not feel pain until the degenerative changes start irritating or compressing the nerves as they come out of the lower spine.

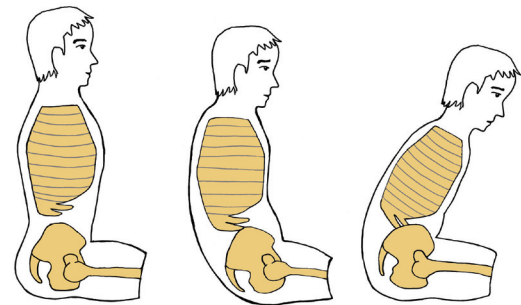


Fig. 3.

Abdominal and back muscles are compressed causing spasm and trigger points

Hip rib impingement occurs in the sitting position

The sitting posture puts the most pressure on the lumbar spine, and we are spending more and more time in this posture as there are so many jobs these days that require prolonged sitting. We also spend more time in our cars, whether this is for work or running the children around. Then when we get home, we slump on the couch and watch TV, and wonder why we wake up with back pain! Some people don't get pain until they use their back muscles, and when they feel the pain they blame that particular activity without considering how they may have been sitting over the last few days. It is no wonder that most work-related injuries occur after a weekend or shortly after returning from holidays.



Fig. 4.



Sitting postures: straight, banana position, slouched (see Fig. 3).

Sitting for prolonged periods in a slouched or banana position compresses the abdominal and back muscles between the ribs and the hips. The choice of seat also influences back pain – the lower and softer the seat the higher the risk. Comparatively, as the seat becomes higher and firmer the risk of back pain diminishes.

Hip-rib impingement also commonly occurs when squatting or sitting on the ground. Getting in and out of a seated position may also cause impingement, especially getting out of bed or out of the car where there is twisting and bending at the waist. People often say they limp for a while, or get a sharp pain as they get out of bed or from a chair.

You can significantly reduce the risk of aggravating back pain by being aware of how important sitting is to your back pain.

Getting in or out of a seat (see Fig. 4).

Common exercises can cause back pain

We all assume that exercise is good for us and the more we do the stronger we get. But what happens if the exercise or the sport we do causes back pain or back injuries? Is that a good thing? Isn't exercise meant to be good for your back? Although we know from experience that certain exercises are good for the back, clinical studies have not shown that exercise programs prevent back pain or help recovery from back pain. The reason is because common postures and movements during exercise such as bending or twisting at the waist can cause hip-rib impingement in individuals where there is a small gap or where there is muscle loss through poor posture or inactivity. These people may not be aware of impingement because there may be a delay between the impingement and the onset of muscle spasm.

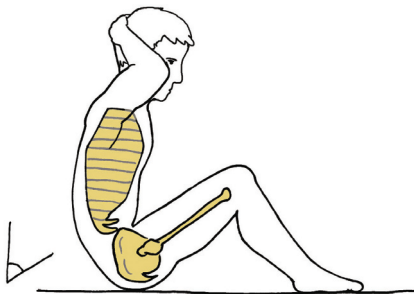


Fig. 5.

Hip rib impingement during sit-ups (see Fig. 5).

By modifying these postures and movements during exercise, we can avoid aggravating or causing back pain. Once low back pain is present, some people tend to avoid further exercise or activity for fear of further aggravating their back and this leads to further loss of muscle and bone mass. Then the benefits of exercise for the prevention of metabolic syndrome, cardiovascular disease, inflammation, depression, osteoporosis, even cancer is

lost.

Conclusion

By understanding how hip-rib impingement causes low back pain along with its pathology, we are able to take the first steps towards healing ourselves and healing others. We come in all shapes and sizes, but by being aware of how little this gap is between our hips and ribs, we can begin to understand how easily and how often impingement occurs and how much we need to limit bending and twisting movements at the waist. We need to work with our health practitioners, exercise trainers and sports coaches so that everyone is aware of bending limitations to improve core muscle strength without risking injury. Since we are spending more and more of our lives sitting, this has become an important cause of impingement and the development of delayed muscle spasm and neuromuscular dysfunction, so we may also need to modify our seating.

Now that you are aware of hip-rib impingement contributing to low back pain and referred pain, you can also personally take steps to avoid it in your daily lives to recover from pain more quickly or to prevent recurrences.

Reference:

1. *The CHRIS (Chin Hip Rib Impaction Syndrome) theory of back and lower limb injuries. An anthropometric and biomechanical study that supports the theory* presented at the 2004 Australian Conference of Science and Medicine in Sport 6-9th October 2004 Alice Springs. An abstract was printed in the supplement to *The Journal of Science and Medicine in Sport*



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Dr Chris Chin M.B.,B.S.(UWA) F.A.M.A.C. has been a general practitioner and laser acupuncturist for over 20 years. He has developed a novel theory on the biomechanical causes of low back pain and how it will change the management of this condition. For more info. visit www.drchrischinbackpain.com.au