CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION

Adult spinal deformity

What you're feeling

Adult spinal deformity means your spine has developed a curve that it should not have. The curve may bend to the side, which is called scoliosis, or forward, which is called kyphosis. Some people have a mix of both. The curve may have been present for years without trouble, or it may have developed slowly as the joints and discs in your spine wore out.

The most common symptom is back pain. It often sits in the lower back, where the curve puts uneven load on muscles and joints. Standing or walking for a while can make it worse, because your body works harder to hold you upright against the curve. Many people find they cannot stand as long as they used to before the ache builds. Sitting or leaning forward may ease it.

The curve can also press on the nerves in your spine. This can cause pain, tingling or numbness running down a leg, sometimes past the knee. Some people notice their legs feel heavy or tired after walking a short distance, and they need to sit down or lean forward before the legs settle.

As the curve progresses, changes become visible and practical. One shoulder or hip may sit higher than the other, or your waistline may look uneven. Your trunk may shift to one side of your pelvis. Clothes may hang differently. Tasks that need balance and stamina become harder: walking through a shopping centre, standing at the kitchen bench cooking, climbing stairs, or getting through a day on your feet at work. Some people find their height has shortened, or that they lean forward more when they walk so they can see ahead.

If the curve is severe, it can affect breathing by crowding the chest, and it can make sitting uncomfortable or unsteady. Nerve pressure can also cause weakness in the legs.

If any of these symptoms are getting worse over time, that is worth acting on. Progressive curves and nerve compression are the two changes your surgeon will want to assess.

What's actually happening

Your spine is built from a stack of bones, each separated by a disc that works like a cushion between them. The discs and the small joints behind them share the load of your body. When everything lines up well, that load passes down through the spine evenly and into your hips.

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In adult spinal deformity, the stack has drifted out of line. Instead of a straight column with gentle natural curves, your spine has developed a bend to the side, a forward hunch, or both. The curve is measured as an angle on an X-ray, and a curve greater than 10 degrees in a fully grown adult counts as a spinal deformity.

Two main things cause this. In some people the curve began years earlier, often in adolescence, and stayed quiet until adulthood. In others the curve is new, developing as the discs and joints of the lower back wear out over time. Worn joints can no longer hold the spine steady, so one level slowly slips and tilts against its neighbour, and the curve grows from there.

The trouble is that an out-of-line spine does not carry load evenly. Some parts of the spine take more than their share, which is why standing and walking build up an ache. The curve also tends to be stiffer in adults than in younger people, so it does not simply straighten out when you lie down.

The curve is three-dimensional as well. As the spine bends sideways it also twists, and that twist is what makes a rib or the muscles beside the spine bunch up on one side when you bend forward. The twist and the sideways shift can narrow the space around the nerves inside the spine, which is where the leg pain, tingling and heaviness come from.

Your body also tries to compensate. To keep your eyes level and your balance, your hips and lower back adjust their posture, and those adjustments put extra strain on joints that are already worn.

What we can do about it

Dr Kieran Hirpara, a spine surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your condition. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. At your first visit we take a history, examine your spine, and arrange X-rays where they are needed. Standing X-rays let us measure the curve and check how your spine holds you upright. Scans such as MRI can show whether nerves are being squeezed.

For many people, we begin with non-operative care. Activity changes, physiotherapy and pain medication can settle symptoms without touching the curve itself. Physiotherapy aims to build the strength and stamina your back needs to carry you through the day, and to ease the ache that builds with standing and walking. We usually suggest giving this a fair trial before talking about surgery. Non-operative care tends to hold things steady rather than improve function, so we will monitor your symptoms and your curve over time and act if either gets worse.

Surgery enters the conversation when the curve or its symptoms stop you managing daily life, when the curve keeps progressing, or when nerve compression is causing leg pain that has not settled with nonsurgical treatment. Your general health matters too, because conditions such as severe osteoporosis can make it hard to hold the spine in a corrected position. In those situations we may advise against a large operation.

There is more than one operation, and we match the operation to your spine. Some people need only the nerve pressure relieved, which is called decompression. Others need decompression plus a fusion limited to a few levels. Larger or stiffer curves need a longer fusion that straightens the spine and holds it there while the bones

heal together. For very stiff curves, we may cut and reshape part of a vertebra to restore balance. Each option carries different risks, and we will talk those through with you.

Surgery for adult spinal deformity is major surgery, and we want you to have the full picture before deciding. Complications are common with these operations, and a second operation later is a real possibility. We also use several measures during and after surgery to reduce blood loss and lower the chance of infection, and we monitor your nerves throughout the operation. Most complications settle without lasting harm to your quality of life. This is a shared decision, made together with you, based on what your symptoms, your scans and your goals for daily life are telling us.

What to expect

Adult spinal deformity usually does not go away on its own. A curve that has already developed tends to stay, and some curves slowly worsen over time. How quickly that happens depends on the cause of the curve and how much growing your spine has left to do. Curves can progress as long as the spine is still growing, and growth typically finishes around fourteen and a half years in girls and sixteen and a third years in boys. Once the spine is fully grown, some curves stop changing, while others, particularly those that came on with wear and tear in adult life, can keep progressing.

Without treatment, the outlook varies. Some curves stay mild and cause little trouble. Others worsen steadily, and the symptoms you already have, such as back ache with standing and leg pain from nerve pressure, tend to build rather than settle. A severe forward curve left alone can crowd the chest and affect breathing, and it can make sitting and balance harder. Nerve pressure that is not relieved can lead to lasting weakness in the legs. These are the changes your surgeon will watch for at review.

With treatment, many people get real relief. Non-operative care such as physiotherapy and pain medication tends to hold things steady rather than improve them, so it works best when your symptoms are mild and your curve is stable. Surgery aims to straighten the spine, take pressure off nerves and restore your balance when you stand. It can correct a forward hunch and provide lasting improvement in pain and function over time. Straightening the spine can also improve breathing where the curve has been crowding the chest, and it can ease the practical burdens of a severe curve, such as sitting comfort and the help you need with daily care.

Surgery is not a quick fix, and it carries real risks, as covered earlier on this page. Some people need a second operation down the track. Your surgeon will talk you through what the evidence says about your own situation, because the right choice depends on your symptoms, your curve and your general health.

When to see someone

See your GP if you have back pain that keeps building when you stand or walk, or leg pain, tingling or numbness that has not settled after a few weeks. Ask for a specialist review if one shoulder or hip sits higher than the other, your waistline looks uneven, or you have visibly lost height or started leaning forward. These changes suggest the curve is progressing. Ask for review sooner if your legs feel heavy or weak after short walks, if you need to lean on things to stay upright, or if the curve is changing fast. Go to an emergency department if

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you suddenly lose feeling or movement in your legs, or lose control of your bladder or bowels. Severe nerve compression needs same-day assessment.

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