Back Pain and Women

Research suggests that up to 80% of people will experience low back pain during their lifetime, with its prevalence being slightly more common in females than males across all age groups. Back pain in women increases significantly with age; similarly, there is an increased incidence of back pain in females compared to males at post-menopause age.

We humans are terrible at pinpointing pain. You might wonder how you can mistake menstrual cramps, even labour, for back pain – but it happens. A woman's reproductive anatomy can sometimes contribute to back pain. It's all the same general area, and there are certain conditions that make your core just a muddle of pain. Women are also susceptible to degenerative conditions that affect the structure of the spine, specifically when oestrogen levels start to deplete. Then, apart from women-specific 'problems', you are just as susceptible to musculoskeletal sprains and strains.

With all the various factors that can cause you to bend over in agony, it can be tricky to identify the exact root of your pain. Reasons for your back pain may be related to playing sports, keeping fit, chasing after children, having those children, carrying or lifting babies, caring for an elderly or disabled family member, carrying the groceries, doing the housework, or preparing a meal. Maybe you sit too much at work, stand too long at work, or bend and lift at work. The way you move and the way you don't move often influences your back health. Many muscles, ligaments and tendons work together to help move, stabilise and protect your spine. The spine itself is composed of many pieces – 24 small bones (vertebrae) cushioned by gel-like discs all controlled by hundreds of nerves. So when one of these parts (whether muscular, skeletal, or neurological) is out of whack, you may experience aches, stiffness, numbness, and an inability to do normal, everyday activities. Likewise, changes in hormones and the close proximity to your pelvic and abdominal organs means pain can easily be felt in your back but not actually come from your back, which makes accurate diagnosis and treatment essential. The most common causes of back pain in women are listed below.

PREGNANCY

Pregnant women may experience back pain that is localised to (ie. stays within) the lower back area or radiates (ie. extends) into the buttock, thigh and legs, causing or mimicking sciatica symptoms. The pain may be constant, get worse with activity, interfere with sleep, and/or reduce overall functioning. Although the symptoms usually resolve spontaneously after delivery, some conditions may remain as chronic disorders. Women with pre-existing lower back problems are typically at a higher risk of developing pregnancy-related back pain.

During pregnancy, natural anatomic and postural changes cause mechanical challenges to the musculoskeletal system, especially in the lower body. With up to 10kg 'hanging' off the front of you, the increased load on your back to counter that (so you don't flop over face first onto the floor) is immense. Back pain and pelvic discomfort commonly start between the fifth and seventh month of pregnancy as the foetus grows bigger. A small percentage of women may experience pain as early as 4 to 16 weeks.

The cause of back pain during pregnancy is multifactorial. The factors include anatomical and postural changes (increased lordosis or hollowing of the lower back), and vascular and hormonal changes. These changes are considered normal, if not pleasant.

Levels of the hormone relaxin increase considerably during pregnancy. It affects ligaments and soft tissues increasing their flexibility to allow for expansion as the foetus grows and preparation of the pelvis for childbirth. This effect of the relaxin hormone on ligaments is not limited to the pelvis. 'Looser' ligaments in the back can result in altered stability and strain on surrounding muscles which causes pain. The sacroiliac joint (where the spine meets the pelvis) becomes increasingly lax. This joint is responsible for maintaining pelvic stability and transferring loads between the spine to the legs; the loosening of these joints may add to postural problems and increase the risk of back pain.

Levels of the hormone oestrogen also

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increase during pregnancy. Its combined effect with relaxin is to widen the pelvis. This widening begins from the 10th to 12th week of pregnancy and can cause severe pain in the lower back, referring down the thighs. The muscles and soft tissues in the area are often affected, causing pain while walking and resulting in an altered gait.

MENSTRUAL CYCLE

Low back pain during menstruation is typically muscular in nature and thought to be caused by hormone changes. Prostaglandins (hormones released during a menstrual cycle to promote uterine contraction to shed the uterine lining) can affect the lower back muscles. An excess of prostaglandins can cause severe muscle contraction resulting in dysmenorrhea or painful menstruation. Intense contractions can lead to low back pain, as the pain can radiate from the lower abdomen into the lower back.

Dysmenorrhea is defined as painful menstruation, typically involving abdominal cramps. It is a uterine dysfunction in some women that results in cramping and predisposes women to back pain. There are two types of dysmenorrhea.

- Primary dysmenorrhea begins when a woman starts her period and continues throughout her life. Its harsh and atypical uterine contractions can result in recurrent and severe menstrual cramping.
- Secondary dysmenorrhea usually begins later in life, and it's caused by another condition such as endometriosis or pelvic inflammatory disease.

MENOPAUSE

Chronic low back pain is one of the most common musculoskeletal challenges faced by women during the menopause. Around 70% of perimenopausal women will experience symptoms related to oestrogen deficiency, with musculoskeletal pain reported in over half of women in perimenopause. Most studies show that as menopausal symptoms increase so do chronic back pain symptoms. Oestrogen promotes the activity of osteoblasts, (bone-building cells in your body) and it helps slow the breakdown of bones, thus encouraging bone growth. Studies show that the risk of developing osteoporosis is higher in postmenopausal women where lower oestrogen levels lead to the loss of bone density over time.

Hot flushes, mood swings, trouble sleeping, changes in libido – and, if you are not dealing with enough, the drop in oestrogen can also reduce levels of vitamin D, which can be painful. How? you may ask.

Vitamin D is produced by your body after exposure to sunlight, and can also be found in certain foods and supplements. One of the main functions of vitamin D is to support bone health. The body needs vitamin D to absorb calcium, which is essential for bone production. When the body is deficient in calcium, it breaks down your bone, reducing your bone density thus increasing your risk of developing osteopenia (the precursor to osteoporosis) and osteoporosis and subsequent back pain.

Oestrogen increases the activity levels of the enzymes responsible for producing vitamin D. Thus, declining levels of oestrogen during menopause can result in a vitamin D deficiency. Postmenopausal women are also at risk of vitamin D deficiency as they spend more time indoors with less exposure to the sun. Ageing and thinning skin reduces its capacity to produce vitamin D and decreased dietary intake with impaired intestinal absorption can reduce vitamin D availability.

Oestrogen also helps to maintain tissues that contain collagen, which can be found in intervertebral discs (the spongy shock absorbers in your spine). Lower oestrogen levels can cause disc degeneration and increased low back pain in women.

ENDOMETRIOSIS

Endometriosis is a chronic condition that can also be a cause of back pain in women. The condition occurs when tissue that behaves like endometrial tissue grows outside of the uterus, in the pelvic cavity and around the ovaries and fallopian tubes. The tissue responds to hormonal changes and can cause swelling, pain, spotting between periods and bleeding. This can irritate and inflame surrounding tissue resulting in heavy periods, chronic pain and scar tissue build-up. Pelvic pain can radiate to the lower back and down the legs, and some women encounter gnawing and throbbing pain that can range from mild to very severe. Pain can also be present when walking or standing, while using the toilet, and during sexual intercourse.

POSTMENOPAUSAL COMPRESSION FRACTURES

Approximately 25% – that's 1 in 4 – women will experience a vertebral compression fracture in their middle or lower back during their lifetime. The condition occurs more frequently with age, reaching 40% (that's nearly half, or 1 in 2 women) by the age of 80.

Small cracks in the vertebrae can cause substantial disability and limit function. Underlying osteoporosis is the most common cause. Postmenopausal women are at increased risk due to hormonal changes that decrease bone mineral density, making the bone more fragile and susceptible to fractures.

Some women have back pain and disability impacting their enjoyment of life and ability to carry out normal daily activities. Many are not aware they have fractured their vertebra – owing to the bone fragility it requires very little force to break; a sudden movement (not even a fall), or even a sneeze or bad bout of coughing can fracture the spinal bone. In severe cases, these brittle vertebrae can collapse on top of each other resulting in compression of the spine.

SPONDY-LOLISTHESIS

Spondylolisthesis occurs when one vertebral body, the thick oval bone segment in front of the protruding spine, slips against an adjacent vertebral body resulting in pain

or mechanical symptoms. Intermittent and localised low back pain is typical for lumbar (lower back) spondylolisthesis. The pain can radiate from the back to the hip, and into the legs. The pain is exacerbated when the affected area is flexed (bent) or directly touched.

In children, the cause is unknown and may have been present from birth. However, in older women, it may be due to childbirth or following a hysterectomy. This could be due to changes in hormones and back posture or load affecting spinal ligaments and stability.

PIRIFORMIS SYNDROME

Sometimes back pain isn't really back pain, it may actually be coming from your bottom. The piriformis muscle is a small muscle that extends from the lower spine to the top of the femur (thigh bone) crossing through your buttock. Piriformis syndrome occurs when the muscle involuntarily contracts or is in spasm and compresses or irritates the sciatic nerve in the same area. It presents with symptoms consistent with sciatica although it's not spinal in origin. Pain may be felt in the buttock/gluteal area, shooting, aching, burning or even tingling can be experienced along the back of the leg to the thigh or calf. It can be caused by altering loads or strain on your lower back, weakness of the buttock muscles (often due to inadequate use) and prolonged sitting. It can be common during pregnancy.

SACROILIAC JOINT DYSFUNCTION

Another condition where the source of pain is not the spine. Sacroiliac joint dysfunction is characterised by inflammation occurring in the sacroiliac joints, located at the connection of the pelvis and lower spine. The condition can present as lower back or buttock pain that can radiate down the legs. The pain is made worse by extended time standing or stair climbing. Like piriformis syndrome, sacroiliac joint dysfunction can be challenging to diagnose, as it can be mistaken for other causes of low back pain.

As mentioned earlier, it can be caused during pregnancy due to ligament laxity; however, the condition can persist after childbirth, causing chronic pain. Other causes may be trauma, arthritis or degeneration or improper mechanical loading.

PELVIC INFLAMMATORY DISEASES

Many women have chronic back pain and discomfort when pelvic inflammatory disease (PID) is the underlying cause. Symptoms of PID can include low back pain, abdominal pain, fever and unusual vaginal discharge. PID is generally a bacterial infection that can be dangerous if left untreated. Early treatment with antibiotics can resolve the infection and reduce the risk of scarring.

COCCYDYNIA

Pain in the coccyx (tail area of the spine) normally occurs as the result of trauma. However, the condition is common in women and may be due to injury during childbirth. Pain is worse while sitting, sitting on hard surfaces, standing up from a seated posture and leaning backwards while sitting.

KIDNEY INFECTION

This may follow a urinary tract infection (UTI) where a kidney infection can present with lower abdominal pain, mid-back and groin pain and is accompanied by fever and a frequency to urinate.

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