Back pain in children
Summary

- Back or neck pain are common complaints in Australian children.
- Many cases of back pain in young people are due to, or worsened by, poor posture, lack of exercise and carrying heavy schoolbags.
- Always see your doctor for diagnosis if your child complains of ongoing back pain.

Back pain is common in Australian children, particularly during adolescence. Some causes of back pain in young people include poor posture, inappropriate forms of exercise and carrying heavy schoolbags.

If your child’s back pain persists, and felt in the same place, take your child to see a doctor. Since children with back pain may become adults with chronic bad backs, it is important to encourage sensible back care in young people.

Causes of back pain in children

While a single incident can cause sudden spinal injury, cases of nagging, ongoing back pain seem to be caused by a range of factors working in combination.

Relatively minor injuries as a result of normal sports and games may lead to muscle spasm, so some back muscles may have to work harder than others. This can cause fatigue, pain and changes in posture.

Poor posture can further contribute to back pain. A child with a sore back may avoid sporting activities, and the lack of exercise may then cause further problems.

Many things can lead to back pain in children, including:

- gender – back pain is more common in females
- age – children at 12 years and over experience significantly more back pain than younger children
- obesity and poor posture
- heavy schoolbags carried on one shoulder or in one hand
- incorrectly packed backpacks
- sedentary (sitting down) lifestyle, such as watching a lot of television or sitting or lying down in front of the computer
- injuries caused by vigorous sports such as football or horse riding, flexibility-dependent sports such as gymnastics or dance, and power sports such as weightlifting or rowing
- soft tissue injuries, such as strains and sprains
- competitive sports that demand intense training – for example, tight thigh muscles can trigger lower back pain.

Medical conditions that can cause back pain in children

Always see your doctor for diagnosis if your child complains of ongoing back pain, particularly if it wakes them at night or is associated with long periods of stiffness in the morning. Soft tissue injuries are the most likely cause, but in some cases the pain is caused by medical conditions that require professional treatment. These can include:

- injuries to bones and joints – such as compression fractures and disc injuries – these are rare in children
- fibromyalgia – although more common in adults, this chronic pain disorder does occur in adolescents, causing back and neck pain, with muscle spasm and fatigue
- sciatica – pain radiating down the buttock and leg, caused by compression of the sciatic nerve – this is rare in children
- Scheuermann’s disease – a growth disorder of the vertebrae in adolescents, which may produce a humpback curvature (kyphosis)
- idiopathic scoliosis – sideways curvature of the spine with an unknown cause. It is usually not painful. Any persistent pain associated with a fixed curvature must be carefully investigated
- spondylitis – a congenital structural defect in the vertebrae. Certain activities may increase the potential for pain (for example, hyperextending the spine in gymnastics).

Back pain and schoolbags

A heavy bag slung over one shoulder can, over many years of schooling, cause chronic back problems that linger into adulthood. Risks include muscle strain, distortion of the natural “S” curve of the spine and rounding of the shoulders.

Parents and carers can reduce the risk of schoolbag-related back problems by making sure their child has an appropriately sized backpack and a load that isn’t too heavy.

Schoolbag risk factors

Schoolbag-related risk factors for back pain include:

- a schoolbag that weighs more than 10 per cent of the child’s weight
• holding the bag in one hand by its straps
• carrying the bag over one shoulder
• an incorrectly packed backpack
• an incorrectly fitted backpack.

Buy the right kind of backpack

Your child should have a backpack, rather than a traditional schoolbag with handles. While some schools require the use of a specific backpack, check whether it meets the following recommendations:

• Look for a backpack endorsed by an Australian professional organisation, such as the Australian Physiotherapy Association or the Chiropractors’ Association of Australia.
• Don’t try to save money by buying the biggest backpack you can find – make sure the backpack is appropriate to your child’s size.
• Choose a backpack with a moulded frame or adjustable hip strap, so that the weight of the filled backpack will rest on your child’s pelvis instead of their shoulders and spine.
• Make sure the shoulder straps are adjustable, and the rear of the backpack is padded for comfort.
• To help with packing, check that the backpack has a few separate compartments.
• Choose a canvas backpack over a leather one, as they are usually lighter.
• Make sure you take your child with you when buying their backpack. This will help you to make sure that it fits and that your child likes it. (If the style you choose is ‘uncool’, your child may compensate by carrying the backpack in a ‘cool’ way, such as over one shoulder.)
• Using a carry-on bag with wheels rather than a backpack may help avoid or minimise ongoing back pain issues.

Pack the backpack correctly

Suggestions include:

• Make sure the backpack weighs less than 10 per cent of your child’s body weight – for example, a child of 40 kg should carry less than 4 kg in their backpack. Ideally, the child in this example should only carry around 2–3 kg of books.
• If the child is expected to carry books and other items that in total exceed this weight recommendation, discuss with the school whether this is necessary. If so, discuss the option of a second set of books to be kept at home, or the possibility of accessing e-versions.
• Pack the heaviest items so they are closest to the child’s back. If the heaviest items are packed further away from the child’s back, this throws out the child’s centre of gravity and causes unnecessary back strain.
• Make sure that items can’t move around during transit, as this could upset your child’s centre of gravity. Use the backpack’s compartments.

Correct backpack lifting and carrying techniques

To reduce your child’s risk of injury when using a backpack:

• Adjust the shoulder straps so that the bottom of the backpack is just above the child’s waist – don’t allow them to wear the backpack slung low over their buttocks.
• Make sure that the backpack is fitted correctly – it should follow the shape of the child’s back, rather than hang off their shoulders.
• Teach your child to:
  o lift the backpack with a straight back, using their thigh muscles
  o lift the backpack with both hands, holding it close to their body
  o slip an arm through one shoulder strap, and then the other.
• Check whether the child has to lean over to carry the load – if so, their backpack is too heavy, incorrectly fitted or wrongly packed.
• Make sure your child understands that carrying the backpack over one shoulder will cause back pain and potential injury.

Prevention of back pain in children

Suggestions to reduce spinal stress include:

• Reduce the risk of falls for younger children by always using safety straps in prams, strollers and change tables.
• Spread tanbark around home playground equipment to cushion falls.
• Encourage regular ‘walking and stretching’ breaks when doing homework, because sitting for long periods of time can fatigue back muscles.
• Limit television and computer time.
• Teach them how to sit properly in a chair. This means, instead of slouching, sitting up straight with their bottom square on the seat.
• Consider buying them an ergonomic chair to improve their posture while doing homework.
• Make sure their lifestyle includes plenty of exercise.
• Stress the importance of straight posture and regular stretching to strong back and core muscles.

Where to get help

• Your GP (doctor)
• Physiotherapist
• Chiropractor
• Osteopath

References

• Backpacks and back pain in children, spine-health.com, USA.

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More information
Bones muscles and joints

The following content is displayed as Tabs. Once you have activated a link navigate to the end of the list to view its associated content. The activated link is defined as Active Tab

- Bone muscle and joint basics
- Healthy bones muscles and joints
- Bone and bone marrow conditions
- Osteoporosis
- Muscle conditions
- Joint conditions
- Hand and foot conditions
- Back neck and spine conditions

Bone muscle and joint basics

- Bone marrow
  Bone marrow is the spongy tissue in the hollow centres of a person's long bones and is the blood cell 'factory'.
- Bones
  The adult skeleton is made up of 206 bones, which provide the structure for our bodies.
- Choosing the right shoe
  The right footwear can help keep your feet healthy, make your physical activity easier and help keep your body safe from injury.
- Growth hormone
  Some athletes and bodybuilders wrongly believe that taking synthetic growth hormone will help build up their muscles.
- Joints
  A joint is the part of the body where two or more bones meet to allow movement.
- Locomotor system
  The skeleton and skeletal muscles work together to allow movement.
- Muscles
  There are about 600 muscles in the human body.

Healthy bones muscles and joints

- 10 tips for getting enough vitamin D
  A balanced UV approach is required to ensure some sun exposure for vitamin D while minimising the risk of skin cancer.
- 10 tips for safe stretching
  Make stretching part of your life... 10 tips for safe stretching.
- 10 tips on how to eat more calcium
  Reduce your intake of coffee, alcohol and soft drinks... 10 tips on how to eat more calcium.
- Ageing - muscles bones and joints
  Exercise can prevent age-related changes to muscles, bones and joints and can reverse these changes too.
- Bone density testing
  Most procedures that measure bone density are quick and pain-free.
- Calcium
  If you don't have enough calcium in your diet, your bones will eventually become weak and brittle.
- Choosing the right shoe
  The right footwear can help keep your feet healthy, make your physical activity easier and help keep your body safe from injury.
- Posture
  Bad habits such as slouching and inactivity cause muscle fatigue and tension that ultimately lead to poor posture.
- Vitamin D

betterhealth.vic.gov.au
A balanced approach to sunlight exposure will help you get enough vitamin D while protecting against skin cancer...

- **Vitamin D - maintaining levels in winter (video)**
  
  Vitamin D is important for healthy bones, muscles and the nervous system...

**Bone and bone marrow conditions**

- **Acromegaly**
  
  Acromegaly is caused by an excess of growth hormone in adults, which causes the overgrowth of bones in the face, hands, feet and internal organs...

- **Amyloidosis**
  
  A person with amyloidosis produces aggregates of insoluble protein that cannot be eliminated from the body...

- **Bone cancer**
  
  Bone cancer is a rare form of cancer that is treated with chemotherapy, radiotherapy or hormone therapy...

- **Bone fractures**
  
  Common sites for bone fractures include the wrist, ankle and hip...

- **Fibrous dysplasia**
  
  Fibrous dysplasia causes abnormal growth or swelling of bone, but it is not a form of cancer...

- **Leukaemia**
  
  Most children and many adults with acute leukaemia can expect to be cured, while chronic leukaemia can be successfully managed...

- **McCune-Albright syndrome**
  
  The severity of symptoms or how a child with McCune-Albright syndrome will be affected throughout life is difficult to predict...

- **Multiple myeloma**
  
  Multiple myeloma is cancer of plasma cells in the bone marrow...

- **Osteomyelitis**
  
  Osteomyelitis means an infection of bone which can either be recent or longstanding...

- **Paget's disease of bone**
  
  Paget's disease of bone is a chronic condition that causes abnormal enlargement and weakening of bone...

- **Rib injuries**
  
  Rib injuries may include bruises, torn cartilage and bone fractures...

- **Rickets**
  
  Rickets is a preventable childhood bone disease caused by a lack of vitamin D...

- **Scoliosis**
  
  Scoliosis is an abnormal sideways curve of the spine...

- **Shin splints**
  
  'Shin splints' refers to pain felt anywhere along the shinbone from knee to ankle...

- **Treacher Collins syndrome**
  
  Treacher Collins syndrome is a genetic disorder that affects growth and development of the head, causing facial defects and hearing loss...

**Osteoporosis**

- **Menopause and osteoporosis**
  
  Regular weight-bearing exercise and maintaining a diet rich in calcium from childhood will help reduce bone loss at menopause...

- **Osteoporosis**
  
  A healthy, calcium-rich diet and regular physical activity throughout life can help prevent osteoporosis...

- **Osteoporosis and exercise**
  
  Exercise can reduce the risk of fractures resulting from osteoporosis by both slowing the rate of bone loss, and reducing the person's risk of falling by building muscle strength and improving balance...
- **Osteoporosis in children**
  Osteoporosis in children is rare and usually caused by an underlying medical condition.

- **Osteoporosis in men**
  Up to 30 per cent of all fractures that occur in people with osteoporosis and osteopenia, occur in men.

**Muscle conditions**

- **Bell's palsy**
  The majority of people with Bell's palsy, around 90 per cent, will recover completely with time.

- **Helping a child with a disability in everyday activities**

- **Multiple sclerosis (MS)**
  Multiple sclerosis is not contagious, but it is progressive and unpredictable.

- **Muscle cramp**
  A muscle cramp is an uncontrollable and painful spasm of a muscle.

- **Muscular dystrophy**
  People affected by muscular dystrophy have different degrees of independence, mobility and care needs.

- **Myasthenia gravis**
  Myasthenia gravis is an autoimmune disease that causes muscle weakness.

- **Polymyositis**
  Polymyositis is hard to diagnose and may be mistaken for muscular dystrophy.

- **Spinal muscular atrophy (SMA)**
  A child with spinal muscular atrophy type 1 rarely lives beyond three years of age.

- **Sprains and strains**
  It is important to get the correct treatment for a sprain or strain as soon as possible after the injury to help you recover quickly.

**Joint conditions**

- **Ankle sprains**
  Ankle sprain is a common sports injury caused by overstrecthing and tearing the supporting ligaments.

- **Ankylosing spondylitis**
  Ankylosing spondylitis (AS) is a type of inflammatory arthritis that targets the joints of the spine.

- **Arthritis explained**
  People can manage their arthritis using medication, physiotherapy, exercise and self management techniques.

- **Baker's cyst**
  Baker's cysts of the knee don't always require active treatment and sometimes will only require observation by the treating doctor.

- **Bursitis**
  Bursitis is often caused by overuse and the inflammation will continue unless the particular activity or movement is stopped.

- **Carpal tunnel syndrome**
  Carpal tunnel syndrome can be caused by repetitive hand movements, pregnancy and arthritis.

- **Developmental dysplasia of the hip (DDH)**
  Around 95 per cent of babies born with developmental dysplasia of the hip can be successfully treated.

- **Hip disorders**
  The hip joint is complicated to allow a wide range of motion while still supporting the weight of the body.

- **Knee injuries**

** betterhealth.vic.gov.au **
Mild knee injuries may heal by themselves, but all injuries should be checked and diagnosed by a doctor or physiotherapist...

- **Osgood-Schlatter syndrome**
  Osgood-Schlatter syndrome is a painful knee condition that affects adolescents...

- **Perthes' disease**
  Most children with Perthes' disease eventually recover, but it can take anywhere from two to five years...

- **Reactive arthritis**
  Reactive arthritis is a form of arthritis that occurs as a result of some bacterial infections...

Hand and foot conditions

- **Achilles tendinitis**
  People who run regularly seem to be susceptible to Achilles tendinitis...

- **Children's feet and shoes**
  A child learning to walk receives important sensory information from the soles of their feet, and shoes can make walking more difficult...

- **Choosing the right shoe**
  The right footwear can help keep your feet healthy, make your physical activity easier and help keep your body safe from injury...

- **Cysts - ganglion cysts**
  A ganglion cyst is the most common lump on the hand, and tends to target women between the ages of 20 and 40 years of age...

- **Diabetes - foot care**
  Good foot care and regular check-ups can help people with diabetes avoid foot problems...

- **Dupuytren's contracture**
  Dupuytren’s contracture gradually causes clawing of the fingers as they are pulled towards the palm...

- **Feet - problems and treatments**
  Correctly fitted shoes help you avoid foot and leg pain or injury...

- **Foot care - podiatrists**
  Podiatrists can advise about how to choose the right shoes for your feet...

- **Foot odour - causes and cures**
  Even the most fastidiously clean people can suffer from foot odour...

- **Foot orthoses**
  People who have chronic foot or leg problems that interfere with their health may be prescribed orthoses by their podiatrist...

- **Foot problems - heel pain**
  The heel protects the structures of the foot, but heel pain is a common foot complaint...

- **Footwear for healthy feet**
  Wearing shoes that fit properly and support your feet is vital to avoid sore feet and to prevent or alleviate many common foot problems...

- **Left-handedness**
  If your child is naturally left-handed, don't try to force them to use their right hand...

- **Raynaud's phenomenon**
  Raynaud's phenomenon can be a sign of a more serious underlying condition, so see your doctor if you experience it...

- **Sever's disease**
  Sever's disease is a common cause of heel pain, particularly in the young and physically active...

Back neck and spine conditions

- **Back pain**
  Back pain is common. Some people will develop back pain that is persistent (lasts more than three months). There are many things that you can do to live well...
with back pain...

- **Back pain - disc problems**
  Most disc problems resolve without specific treatment...

- **Back pain in children**
  Children with back pain may grow into adults with chronic bad backs, so it is important to encourage sensible back care...

- **Living with persistent pain**
  Pain is our built-in alarm system. It makes us aware that something might be going wrong in our body. However, there are many things you can do to deal effectively with persistent pain...

- **Neck pain**
  Treatments like physiotherapy, osteopathy or remedial massage can generally help neck and shoulder pain...

- **Scoliosis**
  Scoliosis is an abnormal sideways curve of the spine...

- **Shoulder pain**
  Shoulder pain is common in our community. The good news is that with appropriate treatment pain will improve so you can get back to doing the things you enjoy...

- **Tendonitis**
  Most cases of tendonitis recover completely, but severe untreated tendonitis can lead to rupture of the tendon...

- **Treating persistent pain**
  Pain is our built-in alarm system. It makes us aware that something might be going wrong in our body. However, there are many things you can do to deal effectively with persistent pain...

- **When do I need to see my doctor about persistent pain?**
  Living with persistent pain isn’t easy. Your doctor can help you balance your pain, your treatment and hurdles you encounter in life...

**Related Information**

- **Asthma explained**
  Asthma cannot be cured, but with good management people with asthma can lead normal, active lives...

- **A Healthy Start to School**
  A Healthy Start to School – a guide for parents of children in their foundation year of school...

- **A Healthy Start to School**
  A Healthy Start to School – a guide for parents of children in their foundation year of school...

- **Children's feet and shoes**
  A child learning to walk receives important sensory information from the soles of their feet, and shoes can make walking more difficult...

- **Bedwetting**
  Bedwetting is a problem for many children and punishing them for it will only add to their distress...

**Related information on other websites**

- Dynamic Chiropractic - Back pain in school children.
- Scoliosis Australia - National Self-Detection Program for Scoliosis.

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