

Adolescent Muscular Back Pain

What is Adolescent Muscular Back Pain?

Back pain has been reported to be as common in adolescents as it is in adults. It is estimated that 30-70% of adolescents report episodes of back pain between the ages of 10-17 years.

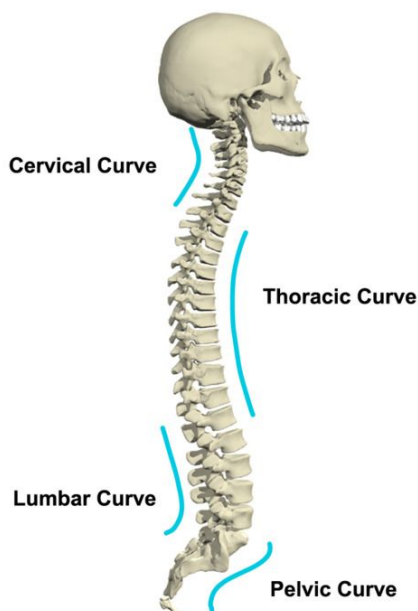
Most common causes of adolescent muscular back pain are thought to arise from the muscles either side of the mid and lower spine rather than the spine itself.

What are the symptoms of Adolescent Mechanical Back Pain?

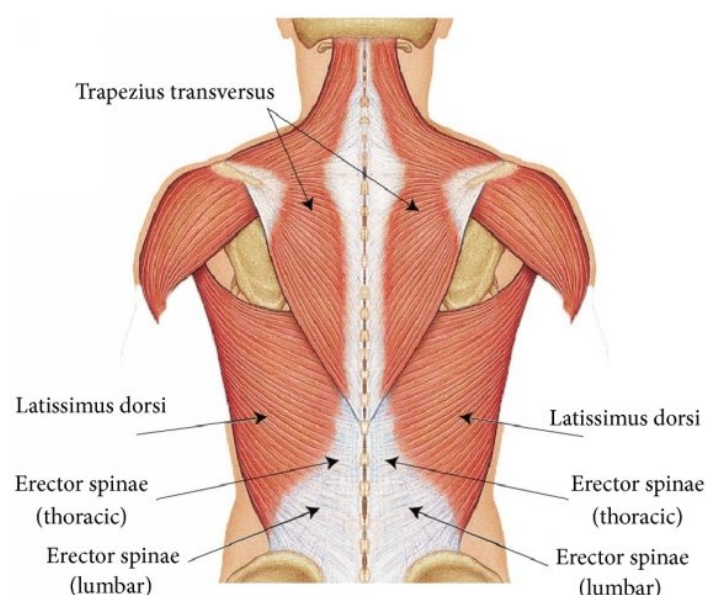
- Generalised aching into lower and/or mid back
- Tightness in back with activity
- Pain worsened with increased activity or prolonged activity
- Pain increased with sitting up straight from a slouched posture
- Pain improved with rest however irritated with prolonged sitting in hard chairs i.e. school chairs
- Pain improved with hot water bottle/shower or bath

Anatomy of the Back

Spinal anatomy



Muscle anatomy



What can cause Adolescent Muscular Back Pain?

- Prolonged standing or sitting
- Rapid or recent change in height and/or weight
- Very high levels of physical activity or low levels of physical activity
- Recent hormonal changes i.e. start of menstrual cycle or puberty
- Heavy school bags especially when worn on one shoulder
- Seating i.e. science stalls and benches
- Low mood or reduced social support or interaction
- High intensity sports
- Change in activity (increase or decrease)

What symptoms might need to be reviewed further by your GP?

- Regular or constant night pain
- Night pain relieved with anti-inflammatories i.e. nurofen/naproxen
- Regular night sweats
- History of trauma/fall or accident
- Noticeable curvature in spine (sideways or forwards)
- Unplanned weight loss
- Pain not settled with rest or reduction of activity
- Back pain including leg or arm pain
- Early morning stiffness that takes more than 20 minutes to resolve

What is the physiotherapy management?

- A period of reduced activity or modified activity is recommended initially if you are normally very active (2-4weeks) to help settle the pain. Return to sports would then need to be gradual and paced as not to exacerbate any back pain.
- Increasing general activity levels if you are engaging in less than the recommended amount.

Children and adolescents aged 5-17years should do at least 60 minutes of moderate to vigorous-intensity physical activity daily.

- Reviewing sitting postures and bag carrying.
 - Review screen time in comparison to physical activity and social interaction. Recommendations are that families should negotiate screen time limits with their children based upon the needs of the individual child and not to replace physical/social activities or sleep.
 - Exercises can also be helpful to help increase the flexibility of tight muscles and strengthen weaker muscles around your hips and back.
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Exercises to trial



Shell stretch

Kneel down and rest your buttocks on your heels. As you keep your buttocks on your heels, reach forwards with your arms creating a gentle stretch into your back.

Hold this gently for 30seconds.
Repeat this in the morning and the evening.



Hamstring stretch (Left and Right side)

Standing up, place your foot on a chair. Keep your leg straight. You should feel a stretch behind your knee and into the back of your thigh. To make the stretch feel stronger gently lean forwards.

Hold this gently for 30seconds.
Repeat this in the morning and the evening.



Quadriceps stretch (Left and Right side)

Lie on your side and pull your heel towards your bottom to feel a stretch down the front of your thigh. Do not allow your lower back to over arch.

Hold this gently for 30seconds.
Repeat this in the morning and the evening.



Bridge strengthening

Lie flat on your back with your knees bent. Squeeze your bottom muscles and lift your hips up. Keep your arms by your side to help you balance (cross your arms over your chest to make it harder). Make sure you do not over arch your lower back and think about gently pulling your tummy button to your spine.

Hold for 5seconds and then slowly lower back down. Repeat 5-20 times.



Plank strengthening

Rest on your forearms and your toes. Hold this position keeping a straight back and not allowing your lower back to arch. If this is too hard initially start resting on your knees.

Hold for 10seconds and aim to progress to 1minute.



Pelvic tilts

Lie flat on your back and gently pull your tummy button to your spine to engage your core muscles. Gently try to flatten the lower part of your back to the floor. Hold for 10seconds, relax and then repeat.

How quickly will my exercises start to make a difference?

Usually you won't feel any noticeable difference for at least 3 weeks, but your back pain should start to feel normal again after about 8 weeks. If you find the exercises increase your pain or it hurts your back then you should stop doing them. If the exercises fail to work you should see your Consultant or GP to ask for a referral to physiotherapy for a more in depth assessment and individualised treatment programme.

How soon will I be able to return to normal activities?

If you are experiencing severe pain or you find that the exercises aren't being effective it is advisable to stop all sports for a few weeks whilst your body adapts to the growth and allow the muscles time to stretch. After a few weeks slowly reintroduce the exercises and sport and pace your return to previous level.

Sources of information.

https://www.physio-pedia.com/Adolescent_Back_Pain

World Health Organisation <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
National Institute of Clinical Evidence.

<https://www.nice.org.uk/guidance/ph17/documents/promoting-physical-activity-for-children-consultation-on-the-draft-guidance3>

<https://www.rcpch.ac.uk/resources/health-impacts-screen-time-guide-clinicians-parents>

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Disclaimer

Please note this is a generic ESHT information sheet. If you have specific questions about how this relates to your child, please ask your doctor. Please note this information may not necessarily reflect treatment at other hospitals.

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After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

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The following clinicians have been consulted and agreed this patient information:

MSK Physiotherapy Paediatric special interest group

Miss J Dartnell, Consultant Paediatric Orthopaedic Surgeon

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