LET'S TALK ABOUT

YOUNG ATHLETE LOW BACK PAIN

HOW TO RETURN TO SPORT & PLAY

kids back 2 sport

WHAT IS THE MOST COMMON CAUSE OF LOW BACK PAIN IN JUNIOR ATHLETES?

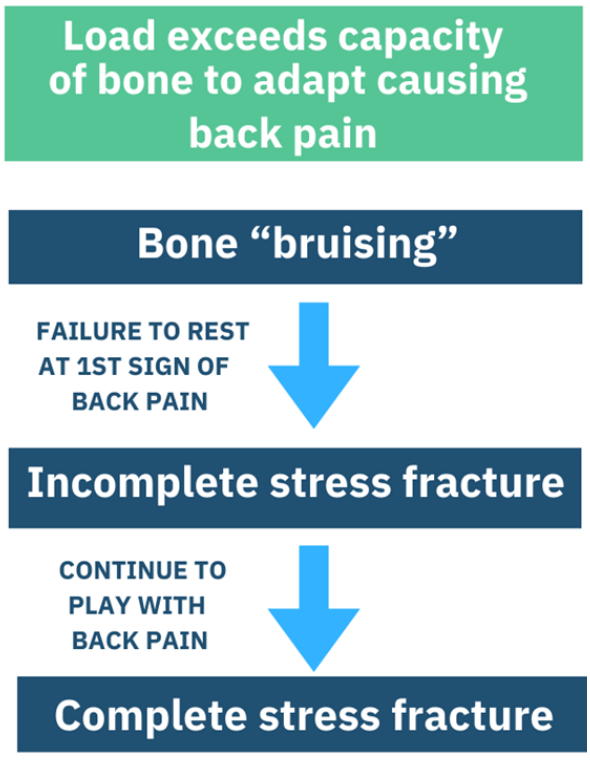
Most low back pain in young athletes is the result of a bone stress injury. The lower back bones (lumbar vertebrae) do not fully mature until the child is around 23 years of age. During growth, a small part of the bone called the pars, elongates and becomes thinner and weaker causing a greater potential for injury.

When the volume or intensity of activity exceeds the current capacity of the body, the body takes steps to try and protect itself. When bones are exposed to sudden spikes in activity, they lay down new bone to try and reinforce the existing bone. This new bone takes several weeks to get strong enough to withstand repetitive loads and during that time, it is more susceptible to injury. Bone stress injuries occur when the capacity of the bone is exceeded.

A sudden increase in activity can overload the immature bones and create a bone “bruise” which is quickly reversible if you do the right things in the early stages. Often the child complains of intermittent low back pain on activities like bowling, kicking, and sprinting. Initially, the pain is usually felt on the opposite side to their throwing/bowling arm. For example, a right handed person would initially get left sided low back pain.

If the bone is given time to adapt and become stronger, this bone “bruise” will settle and given time become more robust and better able to tolerate more load. However, it needs time to do so.

If at the first signs of even mild low back pain, the young athlete fails to rest completely from all sporting activities for a short time, the “bruise” may develop in to an incomplete hairline fracture, or in some instances a lumbar stress fracture. These injuries are rarely serious, but they do take many months to heal.



WHAT ARE THE SYMPTOMS?

Any young athlete aged 8-23 who is involved in repetitive kicking, overhead sports and sports involving excessive over arching of the lower back is at risk of a lumbar bone stress injury.
If you develop the following symptoms for more than 1 week, it is assumed you have a bone stress injury until proven otherwise:

- Low back pain on the opposite side to the one you throw with
- Pain that gets worse with activity then settles on rest
- Worse on arching backwards, throwing, bowling, running, jumping or kicking and improves with rest
- Pain may spread to both sides and radiate in to the legs (If this happens, you need to be checked by a health professional before playing again).

"This injury is often just a bone bruise and, in some instances, a very small hairline crack in the bone which given the rest and the right treatment can heal."

CAN I PLAY WITH PAIN?

To prevent the "bone bruise" from progressing to a hairline stress fracture, as soon as you get low back pain, stop all activities for at least 2 weeks to let the bone adapt and get stronger.

Continuing to play sport with pain will likely cause a progression of the injury that will mean you are out from sport for longer. To help the symptoms settle, you need to reduce what you are doing.

- Avoid high impact activities (running or jumping activities).
- No repetitive extension or rotation of the back eg. kicking, throwing, golf, gymnastics, swimming, gym or resistance training.
- No school PE or organised sports.

YOU CAN CYCLE ON A STATIC BIKE TO KEEP FIT IF PAIN FREE

EVEN IF YOUR PAIN SETTLES IN A FEW DAYS, THIS IS NOT AN INDICATOR THAT THE BONE HAS HEALED. IT IS IMPORTANT TO STILL AVOID ACTIVITIES THAT MIGHT "BRUISE" THE BONE FURTHER FOR THE FULL 2 WEEKS

DO I NEED AN X-RAY OR SCAN?

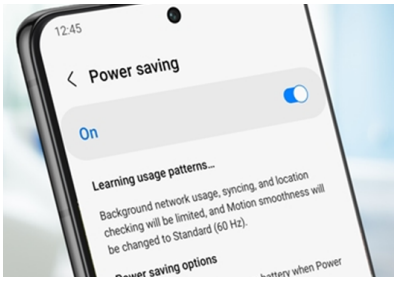
X-rays do not show bone bruising (oedema), unless they have progressed to a fracture so are of little use in assessing bone stress injuries. An MRI scan is helpful to determine the level of the injury and the time frame for healing. These can be expensive and are not readily available on the NHS. However, under the guidance of an experienced clinician, they can be managed without scanning, but the return sport may be slower.

IS IT JUST ABOUT DOING TOO MUCH?

IInjuries occur when we exceed the current capacity of the body. That may occur when we do more than the body has trained for, however, it might be that the body has a reduction in capacity to exercise at that time, due to inadequate sleep, nutrition or recovery, or during a period of heightened stress, or a growth spurt. This might mean that the body may not be able to tolerate the same level of exercise intensity or volume as usual and may be more at risk of developing an injury.

HOW CAN I HELP MYSELF?

Children are just like mobile phones. They need to be recharged each night and they need adequate energy to perform well.



Nutrition: If you don't eat enough for what you do, the body will prioritise where the remaining energy is spent and that rarely includes bone health, immunity and building new muscles. To promote good bone health and build stronger muscles you need to eat a balanced diet that includes adequate protein, vitamins and fibre. If you regularly miss breakfast, you may be at risk of not getting enough energy, so whilst you are recovering from this injury, try to prioritise creating good eating habits. Bone stress injuries can be a result of low iron or vitamin D deficiency, so ask your doctor to check your levels and take supplements where needed.

Sleep: Just like your phone needs to be recharged to function efficiently, so does the brain and body. In the deep part of our sleep, we perform many of the same functions achieved by plugging your phone in to the mains.

The benefits of high quality sleep include:

- Perform vital updates
- Scan for viruses
- Repair damaged tissues
- Build stronger muscles and bones
- Upload skills learnt in the day to the hard drive

Children need more sleep during growth spurts so make sure you are getting lots of early nights and feel refreshed in the morning.

HOW DO I GET BACK TO SPORT?

If you have a lumbar bone stress injury, it is important to not return to sport immediately that the pain has settled as the bone can take 3-6 months to heal depending on the severity of the injury. Although you need to rest completely from sport, you can start strength exercises immediately under the supervision of a youth athlete trained healthcare professional. As these injuries are rare in adults, many healthcare professionals are not familiar with children's injuries, so check the Kids Back 2 Sport directory to find a clinician near you.

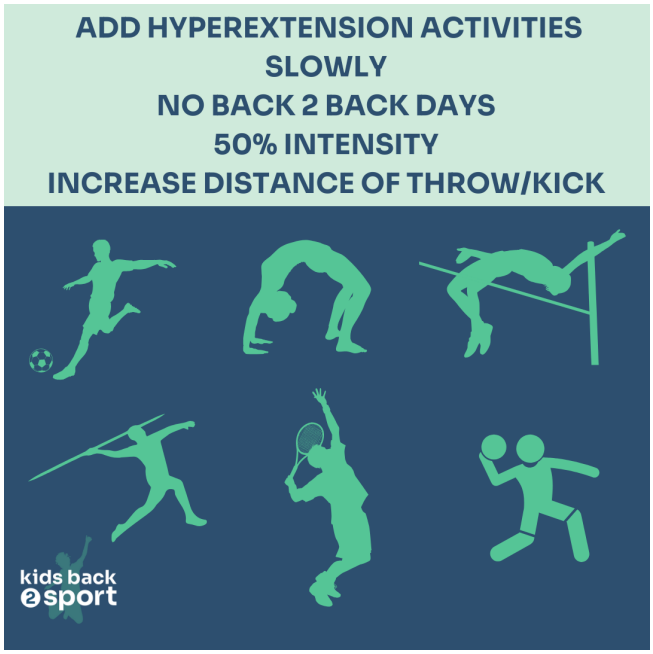
You will be taken through a progression of exercises to strengthen not just your back, but your leg, hip, and abdominal muscles. It is important to gradually build back up the volume and intensity of sport again, not rush straight back to what you were doing before the injury. Add one new activity in every other day so you can assess whether there is any adverse reaction.

Initially, you should avoid any extra high impact activities and repetitive activities such as

- Bowling
- Long range kicks or throws
- Sprinting
- Tackling in rugby
- Repetitive serving or overhead activity
- Butterfly in swimming

As you start to add these types of activity back in, keep the intensity low.

For example, do kicks, bowling or throwing at 50% effort and only over short distances.



Avoid doing these high intensity type activities on back-to-back days in the early stages of return to play.

DON'T REPEAT THE SAME ERRORS

If you do not change the factors that contributed to you developing low back pain, it is likely that the pain will recur. Stronger athletes get fewer injuries so taking the time to develop good movement patterns and more strength and power can protect you from further injuries, but also give you the capacity to do more of the activities you enjoy.

Research has highlighted that a rapid spike in volume or intensity of activity puts you at a greater risk of a bone stress injury in the 2-3 weeks that follow. Identify potential bottlenecks which might create a "spike" in activity such as starting a new season, when seasons are overlapping, competitions and training camps. In preparation for these potential spikes, build up how much training you are doing prior to the new season starting or the date of the training camp so that you have prepared the body for the increase in activity.

Keep a daily record of how much you are doing such as number of balls bowled, or serves hit in tennis. This helps you to recognise the level your body has trained for, by looking at the average volume over the last few weeks. You can then plan each week, according to what you have trained for and add around 10% more each week as you adapt and get stronger.

It is not just how much, but also how hard you try. Young athletes who always push themselves at their limits by applying 100% effort in everything they do are more at risk of injury. Your symptoms may recur at times when your capacity has dropped such as during a growth spurt, illness, times of stress or when you are tired. Listen to your body, and adapt how much and how hard you play to allow your body to recover and avoid increasing the risk of further injury. Sometimes a day out to recover can avoid a week off ill or injured. Vary the intensity of training, so that some days you work on technique rather than always pushing hard for greater distance or pace.

Before you go back to activities like bowling at cricket, or serving at tennis, it is important to get your action checked by a qualified coach, in case that was a contributing factor in the injury. If you enjoy going to the gym and include resistance it is equally important to check your lifting technique.