

**LET'S TALK
ABOUT**

**WHY KIDS GET
INJURED**



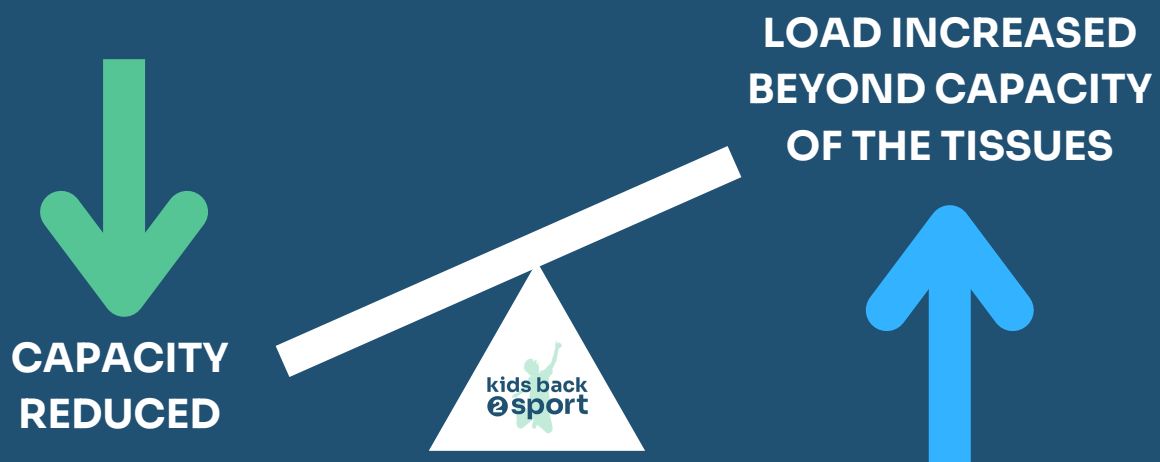
**kids back
@sport**



WHY DO SOME KIDS GET INJURED?

Injuries occur when we exceed the current capacity of the body and place more stress on young tissues than they can tolerate at that time. This may occur after a period of lower-level activity such as the long school holidays, when kids go back to a new or increased volume of activities that they haven't prepared or trained for. They do too much, too soon.

INJURIES OCCUR WHEN WE EXCEED THE CAPACITY OF THE BODY



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 and muscles are exposed to sudden spikes in activity, they lay down new bone or muscle to try and reinforce the existing tissues. This new tissue takes time to mature and get strong enough to withstand repetitive loads and during that time, it is more susceptible to injury.

Traditionally, we have always thought of childhood overuse injuries as occurring because they do too much sport, but that thinking has changed. Athletes of all ages can cope with incredibly high volumes of activity such as marathons and endurance events ... if their bodies are given time to gradually adapt.

Think about when your child might experience a spike in either how much they do, or the intensity of the activity might increase. Try and predict when the spikes might occur and consider how you might mitigate those potential stressors on the body.

HERE ARE SOME EXAMPLES:

Causes of spikes in activity

- Post long holidays
- Post injury or illness
- Pre-season training camps
- Start of a new season
- Overlapping seasons
- New sports or activities
- Fixture postponement
- Calendar congestion
- Sports tours & camps
- Changes to technique
- Changes in format
- Equipment changes

BETTER TO START SLOWLY THAN NOT START AT ALL

PLANNING AHEAD FOR WHAT EVENTS ARE IN THE CALENDAR MEANS YOU CAN HELP THE CHILD PREPARE FOR THE INCREASE IN LOAD AND AVOID SUDDEN UNPLANNED SPIKES IN ACTIVITY

If adults decide they want to run a marathon, the majority of people would follow a graduated training plan, especially if they are new to running or have not participated for some time. The plan would start slowly and build up week on week giving time for adaptation. This approach is a sensible way to prepare a young athlete for the new term or season. If they haven't participated in the activity before or since last season, they shouldn't start hard and fast.

Start slowly, avoiding high intensity activities on back to back days. Avoid starting all their activities in the first week of a term, and encourage them to pace themselves for a few weeks.

PLAN AHEAD

Chat with your child about what they want their sporting week to include:

- How many sports do they want to play?
- How often do they want to do it?
- How many teams do they want to play for?
- What level do they want to achieve?

HOW DO I KNOW HOW MUCH MY CHILD CAN DO?

We used to think that a child should do no more sport each week than their chronological age. So, for example, a 12-year-old child should do no more than 12 hours of structured sport a week. However, children mature at different rates.

For example, one 12-year-old may have the body of a 9-year-old if they are a late developer, and another 12-year-old may have the body of a 15-year-old if they developed earlier than their peers.

In addition, if the child has already been playing a specific sport for 5 years, their body will have built up more resilience and adapt better to the loading than someone new to the game. They can therefore tolerate greater fluctuations in training load.

To work out how much a child can do this week, most sports rely on a calculation based on the training completed in the last 3-4 weeks which will have prepared the child for the week ahead.

What have they done in the last 4 weeks?

Create a spreadsheet with the volume of sport played in hours or balls bowled or miles run or swum. Each week calculate their training load performed relative to the training load prepared for by calculating the average done over the last 4 weeks.

Everyone is different and has their own “training sweet spot”. Most people can tolerate spikes in activity of around 10% with increases that exceed 15% being associated with greater injury risk.

HOW MUCH SPORT THEY CAN DO THIS WEEK, DEPENDS ON HOW MUCH RECENT TRAINING THEY HAVE DONE

1. HOW MUCH HAVE THEY DONE IN THE LAST 3-4 WEEKS?
2. TAKE THE AVERAGE OF THE LAST 4 WEEKS
3. IF THEY COPE WELL LAST WEEK – ADD 10% MORE



Specialising in just one sport all year round before the age of puberty, can also increase injury risk, so it is helpful to play different sports, not just one.

IS IT JUST ABOUT DOING TOO MUCH?

If all injuries were caused by doing too much, too soon, how do we explain why, when a group of children do the same sports session, they do not all get injured at the same time? If load alone was the problem we would expect them all to drop down with injuries simultaneously, but we know that this is not the case.

If the child has a reduction in their capacity to exercise due to inadequate sleep, nutrition or recovery, or they are going through a period of heightened stress, or a growth spurt, they may not be able to tolerate the same level of exercise intensity or volume as usual and be more at risk of developing an injury.

At other times, they may tolerate much greater loads without consequence, but it is better to track the load they are doing especially as a new season or term approaches, and plan ahead.

HOW HARD SHOULD THEY TRY?

As adults, we can relate to how much harder a run or gym session can feel from one day to the next, especially when we are tired or stressed. It is possible to assess how hard a session is on the body by using a Rate of Perceived Exertion scale (RPE). It is a scale of 1-10 where higher scores relate to higher effort and intensity and place greater strain on the body. A 5km run on one day might be assigned a score of 6/10 versus a day when you are tired might be then marked as an 8/10. Same volume, but different stress on the body. Each session needs different degrees of recovery and have different energy requirements.

NOT ALL SESSIONS ARE EQUAL

- 10  Jelly legs.. I am going to throw up
- 9  WOW starting not to enjoy this
- 8  Can't keep this up for long
- 7  Sweating buckets and panting
- 6  Breathless and sweaty
- 5  Getting warm, breathing heavier
- 4  Sweating a little but can chat away
- 3  I am enjoying this
- 2  Can keep going all day
- 1  Still half asleep



DO YOU VARY HOW MUCH FOOD YOU GIVE YOUR CHILD EACH DAY, DEPENDANT UPON THE VOLUME OR INTENSITY OF THE DAY'S ACTIVITIES?

TRY HARD... DO YOUR BEST?

“TRY YOUR BEST” BE CAREFUL WHAT YOU WISH FOR

Many children only have one gear. They operate in 1st gear at a 100% every time they play. This can be a result of their desire to win, to improve, to impress a parent or coach, or they may be a perfectionist who is only happy with their absolute best. They go hard in the pursuit of excellence every time they play. But this is not sustainable. When we are working at the limits of their capacity, the margin between coping and not coping is very small so injuries and illness are much more likely.

Many children will be fearful of reducing their effort level, for fear that they are seen to be not doing their best or trying hard. They might worry about being dropped or failing to progress, so they need to learn to communicate with teachers and coaches so that they understand the logic and are involved in the decision making.

There are many other reasons why children might inadvertently be working harder than others. A smaller child, a late developer, or a less able child might be working harder than their peers due to the need to keep up with bigger or more skillful children. Their effort score might exceed what the coach had planned for the session, but it is not possible to adapt a session plan to meet the needs of 30 children all at different stages of fatigue and maturation.

Coaches and parents may drive children to function on the edge of their capacity by inadvertently encouraging children to “do their best” or “try your hardest”. Old fashioned approaches included sentences such as “Go hard or go home”. These words have the power to influence a child to believe that they must always work at a 10/10 effort and risk an injury or burnout.

Highlighting to children that professional athletes don't train hard every day can teach them a valuable lesson. By varying their effort, they peak at the right time and avoid injury and illness.

WHAT ARE THE SIGNS THAT THE BODY IS NOT COPING?

If children are regularly tired, ill or stressed, it is often a sign that they are not coping with the current level of activity or not fuelling adequately.

Signs that the body is not coping include:

- Recurrent aches and niggles
- Recurrent viruses or sore throats
- Grumpy and mood swings.
- Stressed.
- Anxious.
- Exhausted.
- Growth may slow
- Struggling to sleep well.
- Losing motivation for the sport they love.
- Delayed onset of periods, or they become irregular or stop.
- Boys exhibit a loss of sexual drive

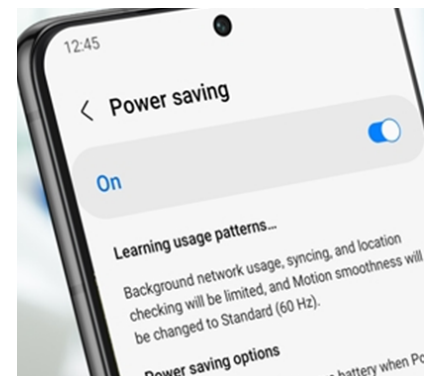
TEACH THEM TO LISTEN TO THEIR BODY

Encourage children to think of their body as functioning like a mobile phone. When the battery is low, it enters power saving mode and does not function as efficiently, limiting access to programmes that drain the battery quickly. The body is similar. If the body has inadequate energy for what it is doing, it prioritises where the remaining energy is spent and powers down specific systems such as immunity, growth, bone health, injury repair and reproduction.

Teach them to listen to their body. If they are ill, stressed or just tired, missing a training session or training at a lower intensity can ensure they don't become injured. Sometimes, it is better to have a day off than end up in bed for a week, or worse still injured.

How can we assess whether they are coping with what they do?

A great way to assess how well they are coping with what they do in a week is to use a wellness score. Think of it as an assessment of how full their battery is.



Ask your child each day before training to listen to their body. Ask them to give themselves a score out of 5 where 1 is very poor and 5/5 is feeling great, for each of the following:

1. How tired are you?
2. How sore are you?
3. How stressed do you feel?

	1	2	3	4	5
How tired?					
How sore?					
How grumpy?					

Add the total up out of 15. They may score stress as high, but soreness as low, so one might balance out the other. You can simplify this to use a combined score of out of 10, how do you feel today?

Pressures on kids to train

It is not always possible for kids to miss sessions. Sometimes, peer pressure, coach pressure, and school PE sessions mean some young athletes will play when their brain and body say no. On days like this, children might not be able to say no to playing, but we can support them as coaches and parents to adjust how hard they train. Teaching them about energy management and having conversations about their “wellness” can be a powerful tool. You soon get used to both the verbal response and the body language that accompanies it and know what scores your child gives on a good day and a bad day. It will differ from child to child and day to day.

Go Home: If they score mainly a 1 or 2 across all areas, they might be better not training at all and catching up on homework, relaxing and getting an early night.

Train technical or tactical: If their battery is around half full, encourage them to focus on tactical or skill-based stuff, not going hard and risking injury.

Go Hard: On days where you feel full of energy, go hard and have fun building up strength, fitness and power.

SHOULD THEY TRAIN OR NOT?



DO ALL KIDS HAVE TO DO LESS SPORT DURING GROWTH SPURTS?

Some children seem to grow without experiencing too many problems with injury or coordination. However, for others, especially those who have an excessively large or fast growth spurt, it can be a miserable experience.

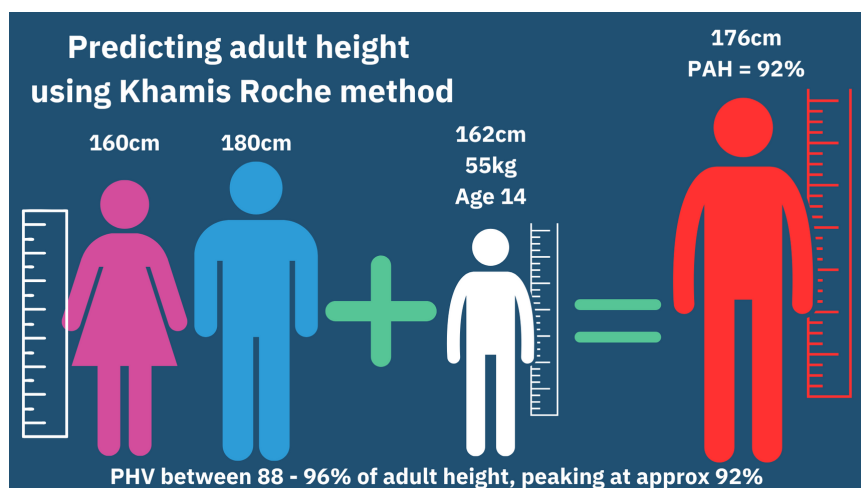
Energy required for growth can reduce the capacity of the young athlete. There is simply less in the tank and they may not be able to tolerate the same level of exercise intensity or volume as usual and be more at risk of developing an injury.

As adolescent bones elongate, they are less dense and more susceptible to a fracture. Muscles become tensioned as they try to catch up with bone growth and injuries occur where the tendons attach to the bone. Some athletes also go through a phase of adolescent awkwardness as they struggle to adapt to increased limb length and find catching, kicking and simply running harder to control. All of this can add up to a period of intense frustration for children who have been successful junior athletes and suddenly find themselves less coordinated and experiencing multiple aches and pains.

If the child is coping with what they are doing in terms of activities, there is no need to reduce their activity level down. If they are starting to getttered, grumpy and sore, then they need to adjust how much they are doing for a while.

AM I IN A BIG GROWTH SPURT?

TRACK GROWTH: : Keep a record of changes in monthly growth rate to predict flare ups. Injuries occur with greater than around 0.5cm of growth per month. Knowing how tall the child is going to be, helps assess how far off that predicted height they are now. Use the Khamis Roche method or use the biobanding widget on the [Bath University site](#)



HOW CAN I BUILD UP MY CHILD'S CAPACITY TO DO MORE?

Children are just like mobile phones. They need to be recharged each night to perform well and they need adequate energy for optimal performance. If they don't eat enough for what they do, they will prioritise where the remaining energy is spent and that rarely includes bone health, immunity and building new muscles.

RECHARGE THEIR BATTERY

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 that is achieved by plugging your phone in to the mains. We perform vital updates, virus scans, repair damaged tissues, build stronger muscles and bones and upload skills learnt in the day to the hard drive. Children need more sleep during growth spurts so make sure they are getting lots of early nights and feel refreshed in the morning.

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.

GET STRONGER

Stronger athletes have been shown to develop fewer injuries and be able to tolerate greater changes in sport volume and intensity.

When can kids start weight training?

Just like numeracy and literacy, children should get a good base of physical literacy before adding more complex skills under load. The focus should be on learning how to do basic movements like a squat, lunge, and deadlift before adding weights. The decision to add weight training is not based on age, but competence. When starting resistance training, employ the services of a good strength coach who has experience working with children. They need to have knowledge of the different stages of maturation, the impact of growth on movement competency, and the nutritional needs of adolescents.

EAT FOR ENERGY

Growing children need a balanced diet and adequate nutritional intake for the level of activity that they do, in order to promote bone health, develop stronger muscles and for optimum wellness.

Failure to eat enough for the demands of what they do can result in the body prioritising where it uses the available energy it has. This is usually directed towards life saving functions such as the heart, brain and lungs in order to ensure survival. There is often insufficient energy left over for growth, immunity, reproduction and bone health. As a result, some adolescents become more susceptible to viruses, loss of motivation, slower growth, and in some instances it can affect menstrual regularity and bone health.

Try to make sure children eat a balanced diet including good protein and fibre sources for building muscles and repairing injured tissues. Many children are not hungry in the morning, but try to encourage them to eat breakfast, or take something nutritious to school for break time. On days when they do more, or the intensity is higher, give them additional food and drink, especially during growth spurts.



DEVELOP STRESS COPING MECHANISMS

Stress has been associated with a broad spectrum of health and wellness problems. It can lower the capacity of athletes to perform and is associated with chronic pain in adolescents.

Mental recovery is just as important as physical recovery. Help your child to develop different methods of relaxation and make sure you add in some fun days as a family and with their friends so they can switch off. Yoga and deep breathing can be a good way to relax and recover. Introduce an app like Headspace to listen to before bed or in the car and encourage them to develop calming playlists they can relax to. It is best to avoid high stimulation games and films on TV that make their adrenaline levels rise further. Encourage them to leave their phones downstairs at night and restrict exposure to blue light in electronic gadgets before bed.

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