Is your child a couch potato or Olympic star in training? Both extremes can be problematic

By Paula Shingler, BSc, MCSP

There are two ends to the spectrum with kids and activity. One end is the child with the mouse glued to their hand and the sofa to their bottom, and the other is the child who does multiple sports with 3 training sessions a night. We all know what the first child ends up like but the second? Sport is important but what are the dangers of over –exercising our children?

Key vulnerabilities of the growing child

Kids can be more vulnerable to injury due to the fact that they are still growing- and they have no fear sometimes! Injuries can affect muscles, tendons, ligaments, and bones-especially their growth plates. Growth plates are sections of cartilage where the bone growth occurs and are located towards the ends of the bones. They are weaker than the surrounding soft tissues and so repeated stress can cause damage. A damaged growth plate can mean the bone never grows normally and can give lifetime problems. The growth of all parts of the body takes place at different rates so growth is uneven. Bones generally grow first which can then put a strain on tendons and ligaments until they lengthen to catch up.

Common complaints

Sever's Disease is inflammation of the growth plate in the heel bone. It occurs when the tibia (lower leg bone) grows quickly and does not give the Achilles time to catch up so it pulls on the underside of the foot and strains the growth plate of the heel bone. Treatment is rest, ice, use of a heel pad and gentle stretching of the Achilles tendon.

Osgood-Schlatter's disease is when there is pain due to inflammation just below the knee on the upper end of the tibia (shin bone) where the quadriceps (thigh) muscle attaches onto. This is caused by too much running and/or the femur (thigh) bone growing too quickly and not giving the quadriceps muscle time to catch up so the tendinous attachment to the tibia becomes irritated. Treatment is really the same-rest, ice, quadriceps stretching and gradual build up into activity as pain settles.

Jumper's knee is inflammation of the bottom of the kneecap where the quadriceps tendon attaches onto the growth plate of the patella. It occurs mainly in basketball and netball players but is caused by lots of repeated jumping so can happen to any active child. Treatment is the same as above.

Stress fractures can occur often in a child when their activity levels are high. These fractures occur when there is muscle fatigue due to weakness and extra pressure is transmitted onto the bones instead. As bone is a living tissue it is constantly being built up, broken down and then regrown. In a child the bone cannot be built up fast enough so a crack can develop. These mainly occur in the foot and lower leg and happen most commonly when there is a sudden change in activity e.g. rests all summer and then a long, physical bush event at SL1! Treatment is initially a proper diagnosis and then rest is essential to let the bones heal. Gradual build up into activity - especially the activity that caused the injury, is really crucial to prevent re-fracture.

Another condition that can affect growth plates is a **stress reaction**. This is where the growth plates widen due to overuse or a major trauma. If not treated can cause deformity. This is usually seen in throwers or lifters who throw badly and occurs in the elbow, but can be caused by trauma e.g. getting arm or leg caught and yanking it, putting excess stress on the joint. In an adult it might just cause a strain but in a child it could be more serious. Again an accurate diagnosis is essential.

The last condition that I think is commonly occurring in kids is **medial knee pain**. This is where there is pain over the knee cap, often with more intense pain on the inner side of the knee. This pain is often caused by muscle imbalance in the quadriceps muscle. Let me explain how it happens. The quads are in 4 sections with each section having a specific job to do to ensure the kneecap is kept in the groove it runs in. If the muscle is varying in its strength then the kneecap can be pulled more to one side causing pain. The section of quads, the Vastus Medialis if you want to be technical,

which controls the inside, is the weakest part of the muscle and so in a growing child it can be slower to strengthen thus allowing the kneecap to be pulled to the outside too much by the stronger outer part of the quads. This causes pain as the kneecap cannot run smoothly in its groove. Treatment for this is initially ice for the inflammation, and then a strengthening programme specifically to strengthen that vastus medialis.

Structure the programme and don't spoil the child

Even though some of these conditions sound terrible it is important for kids to be active and not assume the couch potato position. I think it is good to do a range of activities but not to train too intensely too young. A structured programme is ideal to ensure a proper build up and this will help prevent injury. If your child does want to take up something new then try to think about some general preparation before you let them go full pelt! If your child complains of pain that does not go away at rest and is exacerbated by activity over a period of time, then take it seriously and get it checked. Damage to growth plates or recurring stress fractures can cause lifelong troubles. It would be a shame to deny their gold medal chances - or at least a win at State League 1!

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