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Low Back Pain in Adolescent Athletes; Evaluation and Rehabilitation

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Abstract

Low back is a problem on the rise in adolescents which can be specific or non specific type. The risk increases in adolescents with their participation in sports activities that place a high amount of stresses on the lumbar spine. This not only leads to increased absenteeism from school but also increases the risk to have low back pain in adulthood, hence it is important to do proper evaluation and rehabilitate these adolescents at the beginning. An accurate and comprehensive history goes far in establishing the differential diagnosis. The red flags have to be cleared and proper physical and functional evaluation has to be done. Rehabilitation has to be comprehensive with the aim to facilitate the return of the athlete back to sports. The purpose of this review is to outline the assessment and management methods available for adolescent athletes with low back pain.

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Introduction:

Low back pain is a widely recognized health problem amongst adults *(Airaksinen et al, 2006)*. However, the incidence of low back pain amongst adolescents is also on the rise. The lifetime prevalence of low back pain in individuals below the age of 20 years is estimated to be as high as 70 to 80% *(Lutz et al, 2003; Houghton, 2010)*. Low and very high levels of physical activity in adolescents is found to be associated with the risk of low back pain *(Fritz and Clifford, 2010)*. With the increasing participation of children and adolescents in organized and competitive sports, adolescent athletes are being subjected to very high levels of physical activity that can increase the risk of low back pain in this population *(Cassidy et al, 2005)*. The risk of developing low back pain is found to be higher in adolescent athletes participating in sports activities that place a high amount of hyperextension, flexion and rotation stress on the lumbar spine, such as football, gymnastics, cricket and racquet sports *(Hughton, 2010, Fritz and Clifford, 2010)*.

Although the lifetime prevalence of low back pain amongst adults and adolescents is roughly similar *(Airaksinen et al, 2006)*, there is a significant difference in anatomy and biomechanics of the adult and the adolescent spine *(MacDonald and D'Hemecourt, 2007)*. The presence of increased cartilage to bone ratio, secondary ossification centres, hyper-elasticity of soft tissues, the continual development of the spinal curvature and the ongoing development of the adolescent body mark the difference between the adult and the adolescent spine *(MacDonald and D'Hemecourt, 2007)*. These differences predispose the adolescent spine to greater risk of acute and overuse injuries than the adult spine. Specific low back pain is suggested to be more common in adolescents than in adults, with spondylolysis and spondylolisthesis being the common cause of low back pain in adolescents *(Lutz et al, 2003)*. When 80-90% of the adult low back pain conditions are diagnosed to be non-specific in nature, only 67% of back pain in adolescent athletes is of non-specific origin *(Cassidy et al, 2005)*.

Low back pain in adolescents has been associated with increased absenteeism from school, lowered quality of life and an increased use of pain relieving medication *(Cassidy et al, 2005)*. Additionally, adolescents with low back pain are at an increased risk of developing low back pain in adulthood *(Cassidy et al, 2005)*. Acknowledging the uniqueness and the subsequent consequences of low back pain in adolescents, we should direct our efforts in determining the best available investigation and management strategies for this population. The purpose of this review is to outline the assessment and management methods available for adolescent athletes with low back pain.

Evaluation of low back pain in adolescent athletes:

An accurate and comprehensive history goes far in establishing the differential diagnosis. Parents or the athletic trainer/coach may be consulted during the history taking process to find out the specific sport played and the intensity of training being done *(MacDonald and D'Hemecourt, 2007).*
Some of the key questions in history includes- *(Geraci et al 2005)*

- Demographic data?
- The level of the pain?
- Type of sport and level of competition?
- Location and changes in character of the pain?
- How severe is the pain especially during the patient's sport? *(MacDonald and D'Hemecourt, 2007)*
- How the pain does affects the activities of daily living and participation in sport?
- Any specific position or movement which increases the pain (e.g during a tennis serve or a golf swing)
- Variation of the pain? *(Daniels et al, 2011)*
- Location of the pain?
- Problems associated with red flags?
- Biomechanical errors during training?

Knowing the demographic data (age, sex, type of sport) can give a start in the examination process as young athletes are more prone to discogenic pain while adolescent athletes are more predisposed to spondylolysis *(Micheli and Wood, 1995).* Having a basic understanding of the type of sport played by the athlete and the level of competition can help understand the mechanism of injury better. For example, back pain is seen in 30% of the athletes who undertake cycling *(D'Hemecourt, 2007).* There might be progressive weakness of the anterior abdomen muscles and lordosis will also be decreased in such athletes. Rehabilitation in such cases will include extension exercises to gain back the lumbar lordosis and will also include a look in the fit of the bicycle correcting the seat height and height of the pedal *(D'Hemecourt, 2007*). Level of competition is important as rookie players are more prone to injuries as compared to elite athletes due to improper playing techniques. Athletes involved in sports involving hyperextension of the spine such as ballet dancing, gymnastics and figure skating are predisposed to injuries to the posterior elements of the spine. Racquet sports and golf requires the spine to undergo flexion & torsional loads and makes the athlete's spine prone to disc disorders *(D'Hemecourt, 2007).* Repetitive flexion-extension of the spine in gymnasts can predispose them to back problems *(Piazza et al, 2009).* A study done on junior Australian rules footballers suggested that Australian Rules football participation is not a risk for adolescent LBP, but elite junior participation is *(Hoskins, 2010).* A 5-year period study on young cross-country skiers (Mean age- 13.6$\pm$0.9) at elite level showed that growing individuals participating in cross-country skiing might lead to the development of a hyperkyphosis over time *(Alricsson and Werner, 2007).*

Location of the pain and its association with sporting activities is helpful. There is a need to differentiate between referred pain and radicular pain as radicular pain will indicate a spinal nerve or a nerve root involvement and referred pain indicates involvement of tissues away from the spine *(Magee, 2008).* Referred pain will not follow a particular dermatomal pattern. Pain during forward bending and sitting may indicate a disc disorder whereas pain during extension may be indicative of spondylosis or facet joint involvement *(MacDonald & D'Hemecourt, 2007).*

Vascular claudication and neurogenic claudication should be differentiated. If pain is experienced during uphill walking, the problem is often disc related while pain with downhill walking is often canal stenosis (neurogenic claudication) *(D'Hemecourt, 2007).* Vascular claudication gets worse with cycling or walking while neurogenic claudication often gets relieved in a flexed position on the bike. Nocturnal pain may be due to disc or SI joint involvement but should always raise the alarm for tumors and systemic illnesses *(D'Hemecourt, 2007).*

History of previous physical therapy is important because there is a need to know the response of the patient to the previous treatment. The earlier treatment might have been just modalities based rather than core stabilization exercises. Even the core stabilization exercises vary a great deal *(D'Hemecourt, 2007).* Therapist should also know if any injections or medications are used and their response *(D'Hemecourt, 2007).*

Clearing the red flags

- Night pain
- History of tumor
- Pain increasing at rest and decreasing with activity
- History of trauma, weight loss or fever
- Gastrointestitial conditions like diarrhea and inflammatory bowel disease
- Bowel/ bladder incontinence
- Eliminating the history of eating disorders

Studies have pointed out an association between family history of stress fractures, osteopenia and osteoporosis with a risk of stress fractures in female adolescent athletes *(Loud et al, 2007).*

Young athletes have a tendency to not complain or exaggerate their symptoms too much in order to continue participation *(MacDonald and D'Hemecourt, 2007)* hence it indicates that social pressure dictates the responses to pain and injury behavior in sports and there is a need to better understand this ability of the athlete to tolerate pain and still perform *(Fenton and Pitter, 2010).*

History should be taken for any previous injuries to the spine or any lower limb injuries as they form a part of the functional kinetic chain. It should be an important part of the history retrieving process *(Geraci et al, 2005).* Improper spinal mechanics during weight lifting on seated weight machines is one of the common factors in predisposing an adolescent athlete to low back dysfunction *(Geraci et al, 2005).*

The physical examination

After taking the history from the patient, the therapist is in a better position to make the differential diagnosis. The physical examination ranges from observation of gait and obvious muscle weakness to biomechanical analysis of movement *(D'Hemecourt, 2007).*

The physical examination should always be done in an orderly sequence from sitting posture, supine and then prone *(D'Hemecourt, 2007).* The physical examination should include a functional screening of the entire kinetic chain of the spine, pelvis, upper back and lower limbs.

Gait and posture should be observed from the posterior view such as a limp or an unsteady gait. An athlete should be observed from behind to note any asymmetries of the bony and soft tissue structures *(Purcell and D'Hemecourt, 2011).* Spinal abnormalities such as scoliosis and excessive lordosis and presence of listing in cases of disc involvement should also be observed as excessive lordosis is associated with increased stresses on the lumbar spine *(Purcell and D'Hemecourt, 2011).*

Movement testing should be performed in flexion and extension to get a clearer picture of the associated impairments such as the extent of hamstring tightness and reproduction of pain can be seen in forward bending as well as scoliosis and thoracic kyphosis *(MacDonald and D'Hemecourt, 2007).* Posterior structures involvement is revealed during extension movement of the lumbar spine *(MacDonald and D'Hemecourt, 2007).* Pain during forward flexion can indicate disc involvement, Scheuermann disease or a lumbar muscle sprain *(Daniels et al, 2011).* Pain while reverse extension indicates Spondylosis, facet pathology and hyperlordosis syndrome *(Daniels et al, 2011).*

To identify inflammation or fracture, palpation of the lumbar spinous processes and the sacroiliac joint is beneficial. The therapist should be alert towards the findings of ankylosing spondylitis such as presence of HLA-B27, presence of pain during rest and getting severe with activity, morning stiffness and progressively decreasing ROM. A therapist should be on a lookout for cysts, abnormal growth and tufts of hair as they might be indicative of congenital malformations *(Daniels et al, 2011).* Palpation may be done to check for muscle spasm of the paraspinal muscles.

A single legged extension test is one way to assess for possible injury to the posterior structures of the lumbar spine while loading the pars interarticularis and the facet indicating possibility of spondylolysis.

The sacroiliac joint can be assessed by using the Gillette's test *(Purcell and D'Hemecourt, 2011).* The thumbs of the examiner are placed on the athlete's PSIS and the patient is asked to march in one place. Normal response is when the knee moves up into flexion; the ipsilateral PSIS should move down unless there is loss of sacroiliac motion *(D'Hemecourt, 2007).*

Complete motor and sensory evaluation can be done including assessing the reflexes, dermatomes and myotomes. Deep tendon reflexes should be checked to clear out upper motor neuron involvement and any asymmetry should be noted as it could indicate to lower motor neuron injury or nerve root entrapment *(Watkins, 2002).* Toe (S1) and heel walking (L4) can be used to test myotomes. If Babinski sign is found positive during reflex testing, it might indicate an upper motor neuron lesion.

Slump test can be performed in the sitting position for assessing adverse neurodynamic tension *(Geraci et al, 2005).* If an athlete presents with pain in the posterior thigh and sitting in the slump position while raising the leg straight with dorsiflexion causes increase in the posterior thigh symptoms and if the athlete reports decrease in the symptoms on extending the neck, then adverse neurodynamic tension can be suspected *(Geraci et al, 2005).* A femoral nerve root tension test can be done in knee flexion and passive hip extension in prone *(MacDonald and D'Hemecourt, 2007).*

In supine, the pain provocation test that can be done are the straight leg raising test (positive if the pain is produced at less than 70̊ of hip flexion) *(MacDonald and D'Hemecourt, 2007).* A crossed leg raise can be done which has much more specificity and sensitivity *(D'Hemecourt, 2007).* The sacroiliac joint can be stressed by performing the FABER test, with the hip flexed; abducted and externally rotated and the foot on the opposite knee *(Purcell and D'Hemecourt, 2011).* The flexed knee is pressed into the table while stabilizing the opposite hip. Pain in the back on the same side of the flexed leg indicates that the test is positive *(Purcell and D'Hemecourt, 2011).*

Thomas test can be performed to test for hip flexors tightness *(MacDonald and D'Hemecourt, 2007).* The popliteal angle can be measured by flexing the hip to 90̊ and passively extending the knee. The angle between the calf and the vertical at the point where passive resistance is noted is the angle and should be less than 20̊°. Limb length discrepancy can be measured from the ASIS to the medial malleolus bilaterally to check for alignment of issues that might lead to low back pain. Piriformis muscle length and pelvic obliquity can also be assessed in supine *(MacDonald and D'Hemecourt, 2007).*

Palpation of the entire thoracolumbar spine can be done with the athlete in the prone position to note for thoracic spine involvement, scapular tenderness and paravertebral muscles and ribs *(D'Hemecourt, 2007).* Perianal examination can be performed in patients showing bladder and bowel involvement.

The functional evaluation

To look at the kinetic chain as a whole, basic functional tests can be done which helps to identify fundamental biomechanical faults in the kinetic chain of the lower limbs, spine, pelvic girdle as well as the shoulders.

Functional tests may include*: (Geraci et al, 2005)*

- Core movements in all planes to check for core stability to produce efficient movements
- Single and double leg squats with hands crossed over the chest to check for biomechanical faults of the lower limbs and gluteal muscles strength
- Duck walk for screening of ankle, knees and hip
- Eccentric step downs for checking eccentric control of the core and the lower limb musculature
- Balance and reach for muscular stability and proprioception
- Unloaded foot and ankle evaluation as subtalar joint malposition can produce excessive torsional stresses on the lower limb joints during golf swings.
- Testing for hip and scapular coordinated movements for efficient bat and club swings.

Imaging studies

Imaging methods are available to assist in defining the cause of back pain, but it has been in studies that there is a high prevalence of positive findings even in asymptomatic individuals *(D'Hemecourt, 2007).*

Existence of any of the red flags is an indication of X-rays during initial evaluation of low back pain. X-rays are helpful in looking at scoliosis, lesions, spondylolisthesis, facet arthrosis, and fractures. MRI can reveal sacroilitis and characteristic changes in the lumbar spine e.g. appearance of a bamboo spine. SPECT (single photon emission tomography) is more sensitive in localizing the lesion. Bone scans can be used in the detection of tumors and sacroiliac joint inflammation.

CT is the gold standard for osseous structures and for visualizing central and lateral stenosis and classification of spondylolysis *(D'Hemecourt, 2007).* MRI shows well demarcated lumbar disc herniation. High intensity zone in T2 images may indicate an annular tear *(Purcell and D'Hemecourt, 2011).*

A comprehensive history taking and performing a detailed physical examination and functional screening tests can prevent the athlete from unnecessary radiation exposure as well as costs of the tests *(Geraci et al, 2005).*

Rehabilitation of adolescent athletes with low back pain

It is essential to know the anatomical abnormalities as it helps in decision-making and planning the optimum treatment program and prevent the progression of symptoms during the growth period *(Kujala et al, 1992).*

Knowledge of the involved sport is essential when it comes to management of a young athlete with low back pain. The difference between recreational activity and elite involvement should be understood. It is important to look at the "big picture" and not only at the structural diagnosis but also at the kinetic chain deficiencies *(D'Hemecourt, 2007).* If the lower extremities are not rehabilitated properly, the athlete can be predisposed to back injuries *(Nadler et al, 1998).* The growth and maturation of a young athlete should be considered. Risk factors should be addressed for e.g. technical errors during sport specific movement and training surfaces. Recognizing and reducing the risk factors form a key component of rehabilitation program *(Geraci et al, 2005).* A preparticipation screening evaluation is necessary to identify various risk factors before the start of the season. *(D'Hemecourt, 2007).* BMI, core musculature endurance (Side Bridge) and hip flexor length has been found to be significantly related to low back pain among trainee professional golfers *(Evans et al, 2005).* Being younger in age, greater leanness, greater flexibility and better athletic training represented the factors preventing rhythmic gymnasts from low back pain *(Cupisti et al, 2004).* Young athletes are prone to injuries during growth spurts due to loss of flexibility and muscle imbalances. Sports like ballet dancing, figure skating and gymnastics require repetitive maneuvers and the athlete may be required to reduce the number of repetitions *(Geraci et al, 2005).* Stretching of the hamstring and the hip flexors in adjunct to strengthening of the core muscles may be helpful in reducing the risk of low back pain *(Geraci et al, 2005).* Proper lifting technique should be employed to prevent back injuries in skating and dancing *(D'Hemecourt, 2007).* Athletes should be matched in terms of size and strength in a team and most importantly, young athletes should be matched to the demands of the particular sport *(Cupisti et al, 2004).* Rehabilitation should be done according to the stages of injury, i.e. acute phases, subacute phase, rehabilitation phase and sports specific phase (functional phase).

Acute phase

Pain guides the rehabilitation process during the initial phase. The traditional RICE protocol has been modified to MICE[7].

M- Movements which do not provoke the symptoms

I- Ice application

C- Core stability

E- Extension trial. (Whether the pain centralizes with this movement)

Adjunctive medications, facet injections, use of bracing should be noted *(D'Hemecourt, 2007).* Injections can be considered when the lumbar ROM is limited in all directions or lumbar shift which worsens with extension movement *(Geraci et al, 2005).*

Prolonged rest may be detrimental in this phase but few days rest may be helpful in promoting early movement *(Geraci et al, 2005).* Boston overlap brace is commonly used for spondylolysis *(MacDonald and D'Hemecourt, 2007).* Between heat and cold therapy, not many RCTs exist to determine the effectiveness of one over another *(French et al, 2006).* A Cochrane review gave moderate evidence supporting superficial heat therapy in reducing pain and disability in patients with acute and subacute low back pain *(Petering and Webb, 2011).* Ultrasound can be used in the acute phase but there are no systematic reviews available regarding the use of ultrasound and proving its effectiveness *(French et al, 2006).* Low level laser therapy can be used for the treatment of low back pain in young athletes but its effectiveness is yet to be proven *(Petering and Webb, 2011).* Whether these modalities significantly change the functional outcome is unclear *(Geraci et al, 2005).*

Massage can be effective in the treatment of low back pain *(Furlan et al, 2008).* Lumbar traction was not found more effective than placebo for low back pain with or without sciatica *(Clarke et al, 2007).* The application of TENS is also under the scanner in the treatment of low back ache in young athletes *(Khadilkar et, al, 2008).* It has been concluded in a review that although pars interarticularis defects can be healed and pain can be decreased with external electrical stimulation in young athletes. Whether this form of treatment is more effective than any other form of conservative treatment is not proven *(Stasinopoulos, 2004).* Using braces with activity limitation has been proven effective in the treatment of low back pain in adolescents *(Kurd et al, 2007).* No differences were found in the healing rates in grade 1 spondylolisthesis treatment studies with the use of braces when compared with conservative treatment without bracing *(Klien et al, 2009).*

Cessation of sports for 3 months in young athletes in with lumbar spondylolysis has been shown to give good treatment outcomes including pain free return to sports *(El Rassi et al, 2013).*

Subacute phase

Stretching and strengthening exercises can be done together in the midrange during the initial phases of rehabilitation *(Geraci et al, 2005).* Manual therapy including joint mobilizations and muscle energy techniques can be given in athletes with low back pain with a dose of 3-5 repititions *(Geraci et al, 2005).* Grade 1 and 2 joint mobilizations have been shown to reduce subjects' pain and increased production of force in short term in collegiate athletes suffering from mechanical low back pain. The physical examination helps to determine the directional preference so that the therapist can find a neutral zone to initiate core stabilization exercises *(D'Hemecourt, 2007).* Closed chain exercises can be started early in the rehabilitation process to promote co-activation of muscles *(D'Hemecourt, 2007).*

A Systematic review has found evidence that segmental stabilization exercises are more effective in reducing the recurrence of low back pain *(Rackwitz et al, 2006).* Dynamic muscular stabilization exercises were found to be more beneficial than lumbar strengthening exercises given in combination with short wave diathermy and ultrasound *(Kumar et al, 2009).* Kinesio taping is another increasingly popular treatment method used in treating patients with low back pain but the cost of the treatment needs to be considered *(Added et al, 2013).* Posterior pelvic tilt taping has been shown to affect the pelvic inclination and the sacral horizontal angle and can help correct the sacroiliac joint dysfunction *(Lee and Woo, 2012).* Global postural Reeducation intervention in subjects with persistent low back pain produces decrease in pain and disability as compared to a stabilization exercise program *(Boneti et al, 2010).* Isokinetic exercise program was found to have an equal effect in treatment of low back pain when compared to standard exercise program in patient with chronic low back pain *(Sertpoyraz et al, 2009).* According to *Geraci et al, (2005),* strength exercises should be combined with balance exercises to increase proprioception & balance exercises like lunges with upper extremity reaches are helpful in accomplishing strength and endurance. They further suggest that closed chain exercises like two legged squats can be progressed to one-legged squats from a stable to an unstable surface.

Early aerobic training can be included ranging from pool running to cycling but such sort of training should be given if tolerated well by the athlete *(D'Hemecourt, 2007).*

Failure of progression of the athlete during this phase questions the initial diagnosis and further imaging studies are indicated *(D'Hemecourt, 2007).*

Strength training including plyometrics can be useful in developing strength in a short period of time *(D' Hemecourt, 2007).* Theraband training during step-ups, step-downs and lunges with overhead reaches can help in increasing force production *(D'Hemecourt, 2007).*

Chronic phase

Cryotherapy can be useful to manage flare-ups of the condition *(Geraci et al, 2005).* Exercises in multiple planes of motion in preparation to return to sports should be carried out *(D'Hemecourt, 2007).* Use of therabands, plyometrics, free weights and resistive pulleys should be done. Recent evidence suggest that the therapist should include a biopsychosocial approach in the rehabilitation of the athlete *(Puentedura and Louw, 2011).*

Sport specific phase: return to play

There is a lack of evidence regarding standardization of guidelines for return to play *(Petering and Webb, 2011).* Return to play time frames are given for lumbar spine conditions *(Jackson et al, 2011).* It is always a challenge because there is always a risk of reinjury and the concern of sending the athlete back in sports with a lower level of competitiveness *(Geraci et al, 2005)* & empasise that a balanced sport specific and individualized training program is vital for return to sports. Functional training involving the principles of biomechanics is needed when preparing young athletes for return to athletic activities. According to *D'Hemecourt (2007)* well trained therapists and coaches are required to address faults and training errors like in gymnasts. The return to play progression is an extension of earlier exercises so it is important that the initial strength and conditioning program should be appropriate before making the athlete undergo aggressive form of sport specific training *(Geraci et al 2007).* The inability of an athlete to maintain kinetic control and balance during dynamic functional activities are contraindications for progression towards sport specific training *(Geraci et al 2007).* Periodized resistance training has been used in adults in rehabilitation of chronic non specific low back pain *(Keogh, 1999).*

There is an important role of the hip extensors in transferring the forces from the legs to the trunk during athletic activities *(Robbins, 2005).* If the gluteus maximus is not recruited efficiently, there is a risk of abnormal stresses being placed on the structures distal to the hip *(Geraci et al, 2005).* Biomechanically correct squats and lunges in multiple planes have been shown to stimulate gluteal muscle activity *(McGill, 2004).* Correct squat technique reduces forces at the intervertebral discs and increases muscle activity *(Juker et al, 1998).* Core stability exercises can be initiated during squatting with a "neutral spine" by making the athlete hold a physioball or weights. Plyometrics can be started in the later stages which include jump squats to promote explosive power *(Cook and Fields, 1997).* It is believed that the core plays a vital part in transmitting forces from the ground to the upper extremities and vice versa, so it is considered that athletes with lower core musculature strength and endurance are at risk of developing low back dysfunctions and they should not be progressed to the functional phase of training *(Duthie et al, 2002).* To increase the performance, sport specific movements should be mimicked like kicking a football or swinging a golf club or a cricket bat. Training should include motions in the transverse plane and speed of movement should be taken care of and the ability to concentrically and eccentrically control the core should be integrated in the athlete *(Geraci et al, 2005).* Back extensors, flexors, rotators and stabilizers should be trained for endurance in the initial part and then movement pattern which activate these muscles in a sport specific manner should be started with high repetitions and moderate resistance *(Geraci et al, 2005).* Examples include dumbbells clean and snatch exercises to build up a foundation of return to play. The strength should be increased once the neuromuscular control and muscular endurance have developed. This type of training helps the athlete develop confidence as the athlete performs sport-specific movements with higher loads. Since sports require movements performed with explosive power and at high velocities, training should be done to develop explosive power in different planes of motions *(Duthie et al, 2002).* According to one study, adolescents with low back pain taking part in sports received more treatment but they reported less improvement in disability as compared to non-athletic adolescents. This finding may have an impact on the prognosis of adolescents taking part in sports *(Cassidy et al, 2005).* If diagnosed early and treated efficiently, a young athlete has a very good chance of returning to play *(Fritz and Clifford, 2010).* Identifying the athletes who are at risk of injury and employing methods to prevent injury should be the main concern of the therapists dealing with adolescent athletes *(Fritz and Clifford, 2010).* Sport specific training should become a part of the normal training regime as the athletes is preparing for return to play *(D'Hemecourt, 2007).*

Conclusion: Low back pain in adolescent athletes is common with more prevalence in specific conditions than nonspecific pain. The characteristics of adolescents are different from that of an adult. Careful and accurate history along with physical examination and investigations can identify the cause. This may help in planning the management of the athlete and thus enhance the return to play.

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