

clinical conduit



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2009 Course Schedule

Lumbar Course

April 4-5 - Grapevine, TX

Athletic Performance Course

May 30-31 - Grapevine, TX

Knee Course

May 2-3 - Iowa City, IA
July 11-12 - Plano, TX

Cervical Course

Feb 28-Mar 1 - Salina, KS
August 15-16 - Grapevine, TX

Shoulder Course

September 26-27 - Plano, TX

A detailed description of the course content and learning objectives is available at our web site - www.continuing-ed.cc



Throwing Guidelines for Adolescent Athletes

Youth baseball is considered a relatively safe sport but there is an undeniable predisposition for injuries to the shoulder and elbow in pitchers. The American Sports Medicine Institute (ASMI) in Birmingham, AL has generated numerous studies over the past ten years to educate adult supervisors and coaches on appropriate means to reduce this risk of injury and maximize the younger player's ability to perform and advance to higher levels of competitions.

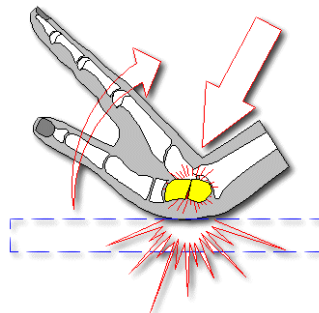
Case controlled studies comparing pitching practices in adolescents with a history of injury to those without an injury revealed that the "volume" of throwing was an elevated risk factor. Specifically, injured pitchers threw more months/year, more games/year, more innings/game, and more pitches/game or year. Additionally, adolescent pitchers with an injury history were more frequently starting pitchers who were larger in size, pitched with a higher velocity, and often pitched despite arm pain or fatigue.

Demographic data did not differentiate those with and without an injury history based on private instruction, self-rating of exercise, stretching habits, pitch type, or when pitch types were first thrown. The strongest correla-

tions were between overuse (volume of throws) and fatigue. Previous investigations have correlated injury with the early introduction of throwing curve balls and sliders. Most authorities advocate for the mastery of a fast ball and change up before emphasizing other pitch types. These pitches seem to be less stressful on the immature musculoskeletal system of the adolescent pitcher.

Based on these findings, both ASMI and USA Baseball have issued medical and safety guidelines that should be utilized to protect the youth pitcher from unnecessary risk of injury. General guidelines are available on page 2.

- continued on page 2



A Clinical Prediction Rule for Detecting Scaphoid Fractures

Scaphoid fractures are the most common bony carpal injury in the wrist. Unfortunately, they are often misdiagnosed as a wrist sprain. Missing a scaphoid fracture can lead to a non-union complication which may have a devastating affect on a patient's pain and function. Because many of the recommended tests to detect the presence of a fracture (including point tenderness in the anatomical snuffbox and

acute radiographs) have an unknown or limited diagnostic accuracy a clinical decision tool has been developed to assist the practitioner in providing appropriate management. The decision tool uses 7 clinical tests. A brief description of each test and its diagnostic point value will be offered.

1. **Loss of snuffbox concavity** - swelling is noted in anatomical snuffbox - 1 point
2. **The "Clamp" Sign** - when asked to indicate the most painful area the patient uses his thumb and index finger to encircle the scaphoid like a clamp - 4 points
3. **Snuffbox tenderness** - there is increased tenderness to palpation in the snuffbox - 1 point
4. **Scaphoid palmar tenderness** - pain is elicited with palpation of the scaphoid from the palmar side of the hand - 2 pts



- continued on page 3

Throwing Guidelines for Adolescent Athletes continued ...

References

Olsen SJ, et al. Risk factors for shoulder and elbow injuries in adolescent baseball pitchers. *Am J Sports Med.* 2006; 34(6):905-912.

Lyman S, et al. Effect of pitch type, pitch count, and pitching mechanics on risk of elbow and shoulder pain in youth baseball. *Am J Sports Med.* 2002; 30(4):463-468.

Magra M, et al. A review of epidemiology of pediatric elbow injuries in sports. *Sports Med.* 2007; 37(8):717-735.

www.asmi.org/asmiweb/usabaseball.htm

www.littleleague.org/Assets/old_assets/media/Pitch_Count_Publication_2008.pdf

Safety Recommendations for Adolescent Baseball Pitchers

1. Avoid pitching with arm fatigue or arm pain
2. Avoid pitching too much. Further research is needed on this topic, but reasonable guidelines are:
 - A limit of 80 pitches per game.
 - Limiting competitive pitching to no more than 8 months per year.
 - A limit of 2500 pitches in competition per year.
3. Monitor pitchers with the following characteristics more closely for injury:
 - Pitchers who regularly use anti-inflammatory drugs or ice to “prevent” an injury
 - Regularly starting pitchers
 - Pitchers who throw with velocity over 85 mph
 - Taller and heavier pitchers
 - Pitchers who warm up excessively
 - Pitchers who participate in “showcase” events



A great resource for the youth baseball coach is the publication by Little League Baseball. The link for this 22-page document is in the reference box to the left.



Question of the Month – Calf Pain in an Elderly Patient



I have a 70 year-old patient with a “hot, cramping” like symptom complaint in both calves after a few minutes of light activity. What do you think is the most likely cause?

G.T., PT, - FL

Leg pain in a geriatric patient is a pretty common complaint and could stem from a number of different sources. I think the differential diagnosis should include Lumbar Radiculopathy, Peripheral Artery Disease (PAD), Spinal Stenosis, Restless Leg Syndrome, Deep Vein Thrombosis, and Exertional Compartment Syndrome. So the question becomes how can I rule in or out some of these pathologies as each entity would require a different medical and/or rehabilitative intervention strategy.

Probably the most likely causes would be the intermittent, neurogenic claudication from Spinal Stenosis or a vascular claudication as the result of PAD.

Typical findings associated with PAD include male gender, history of smoking, and risk factors for atherosclerosis such as hypertension, hypercholesterolemia, and diabetes. Conversely the stenotic patient may not have these predispositions.

Objective examination differentiation usually shows a spinal motion preference for the stenotic patient (they prefer flexion). A nice quick screen is to ask your patient to do some prone press ups causing extension in a non-weight bearing position to see if the symptoms are reproduced without adding a weight-bearing component that might elicit the ischemic symptoms of a PAD patient. Another proven method to differentiate between the two pathologies is the elevated treadmill walking test. The stenotic patient will have a delayed onset of symptoms, quicker recovery, and prolonged walking ability when the treadmill is inclined while elevation of the treadmill does not benefit the symptom onset with the PAD patient.

The PAD patient may also have diminished pedal pulses and an elevated ankle brachial index (systolic BP in the ankle/systolic BP in the arm below 1.0).

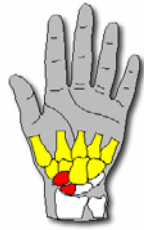
Other possible sources could be identified by recognizing the signs and symptoms that are more typical of their presence.

For instance, Exertional Compartment Syndrome is more typical of the younger, “exercising” athlete with symptoms more often located in the anterior compartment of the leg. Similar to PAD, the symptoms tend to dissipate pretty quickly with non-weight bearing postures and rest.

Restless Leg Syndrome is more typically reported as a “creepy, crawling” sensation in the legs that is present during the night with involuntary calf contractions.

You could rule out the presence of a Deep Vein Thrombosis with the application of the Wells Clinical Prediction rule. You didn’t mention any recent surgery/immobilization, local tenderness, entire extremity swelling, vein collateralization, or pitting edema that is more common with DVTs. You should be careful to not solely rely on the Homan’s sign because of its suspect sensitivity.

Questions you would like addressed in a future issue can be sent to mulliganpt@tx.rr.com



Scaphoid Fracture Clinical Prediction Rule continued -

5. **Longitudinal axis compression of the Thumb** – compressive stress parallel with the 1st metacarpal elicits pain – 2 points
6. **Pain with Resisted Supination** – hand shake position resistance to supination elicits pain – 3 points
7. **Ulnar Deviation Pain** – snuffbox pain is reproduced with maximal ulnar deviation from a forearm pronated position – 4 points



“Featured Internet Link”



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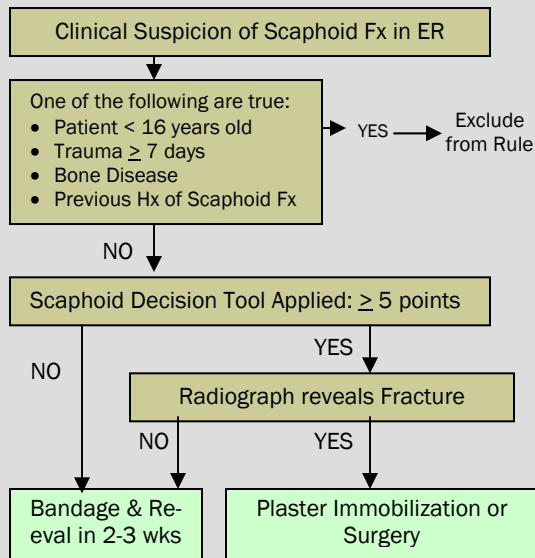
eMedicine is a comprehensive, authoritative, and easily accessible point of care medical reference guide available to any health care provider with Internet access. The evidence-based content is regularly updated by thousands of physician authors and editors.

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The information undergoes extensive peer review and is subject to an editorial board’s approval. The eMedicine site which has been available for over 12 years is certified by the Health On the Net Foundation which verifies its compliance with its 8 principles of conduct.

eMedicine is also a part of the WebMD Health Professional Network and includes a direct link to Medscape.com

Scaphoid Decision Tool as applied in Emergency Room



The clinical decision tool goes on to recommend further management after 2-3 weeks of bandage protection. If at this time there is no longer any sign of a fracture or less than 5 points with the prediction tool then the patient is diagnosed as a sprained wrist. If more than 5 points are assigned based on the prediction tool and there is still not radiographic evidence of the injury then a bone scan should be requested in another 2 weeks. Obviously if a fracture is detected through conventional x-ray or bone scan then the management recommendation is either plaster immobilization or surgical fixation.

Further information on the prediction tool with a complete description of the seven tests along with the sensitivity and specificity values that fostered their point value can be found in the article. As with any clinical prediction tool further research is needed in an independent population to assess its validity and its ultimate impact on management strategies. The reference is:

Steenvoorde P, et al. Development of a clinical decision tool for suspected scaphoid fractures. *Acta Orthop Belg*; 2006, 72:404-410.



With the beginning of our next legislative session in Texas our professional association will again prioritize the direct access issue as an important initiative to the citizens of the state. Despite valiant efforts in past years Texas remains one of the few states without unrestricted direct access legislation. It is my hope that all physical therapists will support this effort through their legislative contacts and endorsements from medical colleagues that realize the benefits of this progressive legislation.

Why do I think this type of legislative change is important? 1) Direct access expedites a patient’s entry into the health-care system without any proven increase in risk or cost; 2) Direct access will enhance the collegial interaction with other healthcare providers and demonstrate our unparalleled expertise in musculoskeletal movement dysfunction, and 3) elevates our profession’s standing to the level consistent with our academic preparation.

If you simply look at our military colleague’s mode of practice you can see the efficiency and efficacy of a direct access environment. Their therapists are outstanding examples of the experience, expertise, and skill that flourishes when our profession is not bound by the current unnecessary restrictions.

I realize that each physical therapist is entitled to their own opinion on the issue of direct access. For those opposed to this legislation I would simply request that you not work “against” those that are in favor of this change. Direct access legislation would not require a therapist to work in an autonomous environment if they are not comfortable with this privilege but allow those that have been properly trained and educated to practice in a less restrictive and more collaborative environment with our medical colleagues.

For more information about this issue you can access our state and national websites at www.tpta.org or the “Advocacy” link at www.apta.org

Previous issues are archived at
www.continuing-ed.cc/newsletter.htm

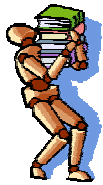


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1901 Pintail Parkway
Eules, TX 76039

Phone: 817-488-2061
Fax: 817-684-7201
Email: mulliganpt@tx.rr.com
www.continuing-ed.cc

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The best teacher is one who makes himself progressively less necessary



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C1-C2 SNAG EXERCISE

(Self-sustained Natural Apophyseal Glide) for Cervicogenic Headache

Rehabilitation Exercise Technique

A double-blind, placebo controlled trial published in the *Journal of Orthopedic and Sports Physical Therapy* in 2007 demonstrated the efficacy of a C1-C2 self-sustained natural apophyseal glide in the management of patients with headaches of cervical dysfunction origin. A proven test to identify cervical rotation restrictions that contribute to headache pain is the flexion-rotation test. This test is performed by assessing the amount of rotation available at C1-C2 by fully flexing the lower cervical spine to isolate motion at this level. The patient should have approximately 40-45° of symmetrical rotation available. Asymmetry of greater than 10-15° has been shown to be both highly specific and sensitive to headaches of cervical origin. To perform the corrective exercise the patient uses a thin strap or towel to facilitate cervical rotation at C1-C2. The patient is instructed to place the strap across the posterior arch of C1 and pulls the strap across the face in the direction of the limited rotation. The patient is asked to facilitate this rotation with concurrent active motion into the restricted range. The patient holds the stretch at the end of the range for 3-5 seconds. The strap provides the accessory anterior glide on the C1 transverse process on the opposite side of the direction of rotation during the active movement. It is important to emphasize this technique should only be performed in the pain-free range and no sensation other than a "stretch" should be elicited. Commercially available straps are available if the towel can not be made "thin" enough or is difficult to grasp.



Featured Home Study Program Ethics and Professional Responsibility

What is the difference between ethics and morals? The Greek derivative of "ethics" comes from the word *ethos*, which means character. The Latin origin of ethics comes from the term *mores* that means customs. Although "morals" and ethics are sometimes used interchangeably they do have distinct differences.

Ethics is the practical and theoretical structure by which morals are formed. Morals include ethically examined practices, but can also include scenarios or perspectives that have not been ethically analyzed or judged. Examples might include social customs, prejudices, and lifestyles. No one should feel compelled to abide by another person's morality, although individuals are clearly obliged to comply with organized ethical and legal mandates.

Ethical behavior is important because it intrinsically makes people feel better about themselves if they work and act in such a manner. On a professional level, ethics promote good business. A time tested truth is that over the long run, ethical associations perform better than unethical groups. Ethical standards simply push our profession to truly determine what "is best" through disciplined, internal accountability. In fact, the credibility of our profession rests not only on technical competence, but also on the public's trust and expectation that we will judge the quality of our service and validate its legitimacy. Many states now require education in professional conduct. We have a TPTA approved written home study that will meet this requirement and explain the rules and regulations that define our practice and professional responsibilities. This inservice can be read free of charge. A post-test for CEU credit is available at <http://www.continuing-ed.cc/homestudy.htm> for a reasonable fee.

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- Orthopedic Hip Injuries .2 CEUs
- Principles of Joint Mobilization .2 CEUs
- Functional Anatomy of the Shoulder .3 CEUs
- Scapular Significance: Ortho Perspective .2 CEUs
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- Subacromial Impingement Syndrome .2 CEUs
- Examination-Treatment of Hand/Wrist .3 CEUs
- Ethics and Professional Responsibility .2 CEUs**

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