

Editorial



I have posted some recent pictures from the Residents and Fellows meeting this year at Palm Island Florida, at the web site www.flickr.com/photos/donjohnson. This was another successful meeting, with high quality, well presented papers. We are going to continue with this format, and open it up to more international submissions. I think that this will give the North American fellows a chance to interact with some of their colleagues from other countries. I am amazed at how the level of orthopaedic research keeps improving each year. A good sign for our future.

Palm Island Residents and Fellows Meeting



Fig 1. This year's group of residents and fellows.

13th Annual Residents and Fellows Conference – Dr. Derek Smith

A good time was had by all at the recent Residents and Fellows Conference in Palm Island, Florida. It was a multinational affair, with surgeons from as far away as Singapore and Australia as well as the usual mix of Canadians and Americans. Families – and children in particular – were in abundance as this conference lived up to its billing as one of the friendliest affairs around.

The morning talks provided a wonderful stage for young surgeons to present their research, with a variety of projects put forward. Dr. Monika Volesky described changes in articular cartilage at time of surgery for ACL deficient knees and correlated them with the presence of bone bruises on pre-operative MRI's. She found medial changes correlated well with the presence of a bone bruise, but not on the lateral side. She was also excited to note someone else was interested in bone bruises when Dr David Green presented his research on bone bruises in an animal model. He examined the relationship between bone bruise size and inflammatory changes in the knee joint including markers of cartilage breakdown. His experiments reinforced the thought that the size of bone bruise directly correlates to the amount of cartilage breakdown seen after impact injuries.

Last year's winner of best paper, Dr. Jerome DaSilva, once again had a strong showing describing early anatomical changes in the knee following a medial opening wedge high tibial osteotomy. He examined the effect on posterior tibial slope and patellar height, finding the former to be increased and the latter decreased in all ranges of motion. Despite his well-organized paper, he was unable to top this year's winner. Dr. James (Jim) Bond took the award with his presentation on repairing "irreparable" rotator cuff tears using the GraftJacket[®] allograft. He showed impressive results and expanded on some of what Dr. Stephen Snyder had described at the Fall AANA. He also clarified that he was the inspiration behind the term "crimson duvet" to go with previous Snyder fellow and current conference co-chair John's Mehalik stitch.

It was, of course, not all work and no play. The afternoons were spent on the beach enjoying magnificent weather, Dr. Don Johnson's kayaks, and Dr. Mehalik's boat. More than one person was somewhat sore from holding on to the inner tube being towed across the waves while colleagues in the boat encouraged Dr. Mehalik to go faster. Later, Dr Mehalik took some people fishing – although there were only stories of the one that got away when they returned. There were even a small number of participants who chose to play tennis in the middle of the very hot Florida afternoon. The process to have them committed has been initiated. Nights were spent eating wonderful meals, imbibing too much alcohol <cough> and smoking a couple of stogies.

In conclusion, it was both an educational and enjoyable success. Thanks to Linvatec for having us and being such amazing hosts.

Spring AANA – Hollywood FI May16-21, 2006



Fig 2. Westin Diplomat Hotel in Hollywood FL

This is an ideal hotel for a meeting, the conference rooms are adjacent to the hotel, the workout room is located in the same area, and they now have a re-claimed beach! We arrived in a thunderstorm that took a couple of go arounds of the airport by the pilot before he could land the plane! That experience was a great way to start off. They do need the rain in south Florida, lots of brush fires etc, by why this week?

For the first couple of days the view out over the ocean was rain, cloudy, and not very hospitable. We had a nice ocean view suite this year, to be compared to the suite with the view of the building cranes that we had during our last visit here. There was no beach last year, but they reclaimed one that will only last until the next hurricane.



Fig 3. The pool and reclaimed beach.

The meeting had the best attendance ever for a spring meeting 1,036 registrants. The program had about 90 podium presentations, plus the same number of e-posters were recorded to a CD. The master's presentations were well received. The instructional courses and optional courses all were well attended. Ric Ryu did a great job on planning and carrying out the meeting. The spring meeting just keeps getting better.



Fig 4. The meeting is a great social event, and I love meeting all my old friends.

AANA 25th Annual Meeting Hollywood, Florida May 18-21, 2006

Derek Smith MD. Fellow in Arthroscopy and Sports Medicine

The twenty-fifth annual meeting of the Arthroscopy Association of North America was recently held in Hollywood, Florida, USA. There was a number of interesting research presentations on arthroscopy of a variety of joints.

Arthroscopic treatment of snapping scapula by inserting the scope into the scapulothoracic space and performing a bursectomy and endoscopic resection was a fascinating retrospective study by David Cole *et al.* The technique was well presented and they found good to excellent results in 22/23 patients. Ian Lo presented a technique for arthroscopic decompression of the suprascapular nerve – once again, an excellent demonstration of the technique during his talk – although he noted the limitation of only being able to release the superior transverse scapular ligament. The technique does not allow bony resection or careful neurolysis; nonetheless, it provides a minimally-invasive approach for the case where release of the ligament is the only issue. Ian also presented a device he has developed to help in answering the question “How big is the partial thickness rotator cuff tear?” His intra-articular depth gauge allows a quantitative description of the tear and his cadaveric study showed it was more accurate than the more commonly used estimations and average-sized footprints. Look for this to become an aid in determining which tears should be completed and repaired.

On a slightly sobering note, Markus Kessler presented some long-term results of patients with ACL-deficient knees, half of whom were treated with a reconstruction and half of whom were treated non-operatively. His group found no significant difference in osteoarthritis between the groups at an average follow-up of 11.4 years, despite similar activity levels. At the instructional course lecture on “Principles and Practical Options for Reconstruction of the PCL and Posterolateral Corner: Tibial Tunnel versus Inlay, Single vs. Dual Femoral Tunnel” there was good discussion on the panel members’ techniques. A key point seemed to be that the location of the graft with respect to the posterior aspect of the tibia is most important, rather than the technique itself of inlay

versus tunnel. As well, although there are many measurement techniques for the femoral tunnels using 2 bundles, the location used by the panel seemed more that they were relatively vertical with the knee in 90° of flexion, and that they were close to the articular margin. They also mentioned, as a pearl, to pull the posteromedial bundle first to avoid visualization problems.

Brazil – 2006.



Fig 5. The Sofitel beach resort in Costa Do Sauipe.

I had an opportunity to attend the annual Orthopaedic meeting in Salvador Brazil. This was a high quality scientific meeting held in a beach resort in the northern area of Bahia state of Brazil.

I was impressed at some ingenuity to do an operation with minimal expense, such as this double bundle fixed with a staple. Dr. Rodrigo Kaz presented this technique as a poster presentation. He is from Rio di Janero, and is doing a fellowship in Pittsburgh. He drills 2 femoral tunnels from outside in, Fig 6, and loops the 2 hamstring grafts around a staple between the bone bridge. Fig 7. He fixes the 2 grafts with a single staple on the exterior of the femur. This avoids the costly 2 endobutton fixation for the femoral fixation of the hamstring graft. The tibial side is also fixed with staples on the external surface of the tibia. The total cost is about \$10!



Fig 6. The 2 femoral tunnels.



Fig 7. The single staple looped around the 2 hamstring tendon grafts.

Updates from our research on ACL Graft Fixation.

Tibial Fixation: a randomized clinical trial comparing the Intrafix device versus the XtraLok Screw.

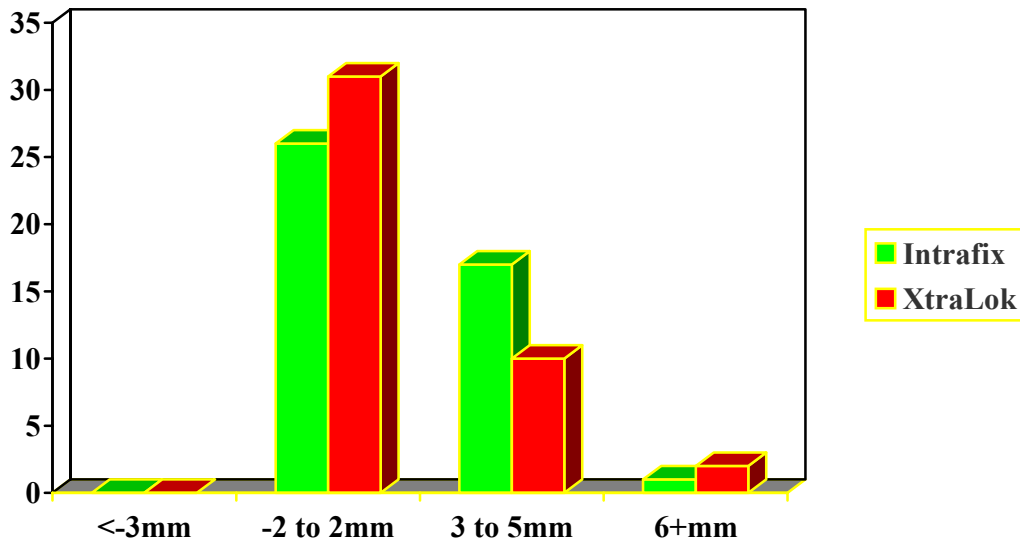


Fig 8 This chart shows the KT side to side values of the Intrafix and XtraLok screw. There is a trend to better performance with the XtraLok screw at this latest follow-up. In fact, there is better performance in the female patients with screw fixation. Fig 9 and 10.

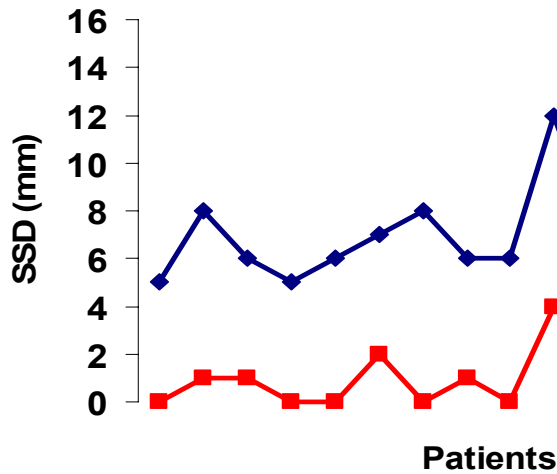


Fig 9. The SSD values in female patients for the XtraLok. The top line is before surgery and the bottom line is the KT value post-op.

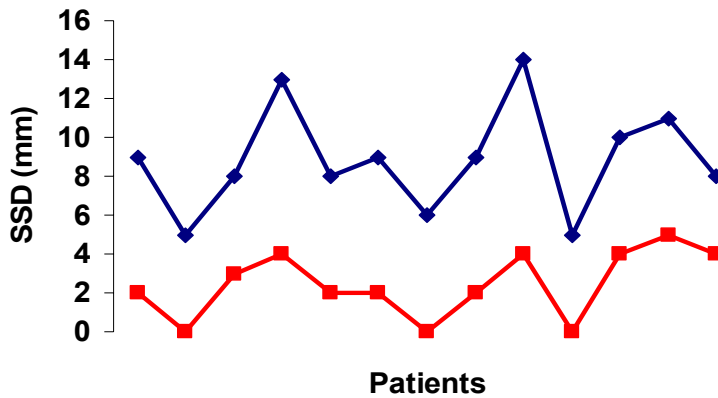


Fig 10. The SSD values in female patients for the IntraFix device.

The mean values were:

Xtralok = 1.3 +/- 1.2mm

Intrafix = 2.6 +/- 1.6mm

p = 0.02

The IKDC evaluation scoring.

It has always bothered me that the KT value of 4 mm side to side difference marked the evaluation down to a B on the IKDC evaluation scale. I have always stated that the patient can't distinguish between a 2 mm and 4 mm side to side difference. They certainly know when they have a 6 or 7 mm SSD, as they will usually pivot shift and have symptomatic giving way. I think that the division of 0-2, 3-5, and > 5 mm is an artificial determination. It should be 0-5 mm SSD and > 5mm. We decided to look at the 0-2 mm SSD compared to the 3-5 mm SSD, and in fact saw that they had the same functional score on the IKDC scale.

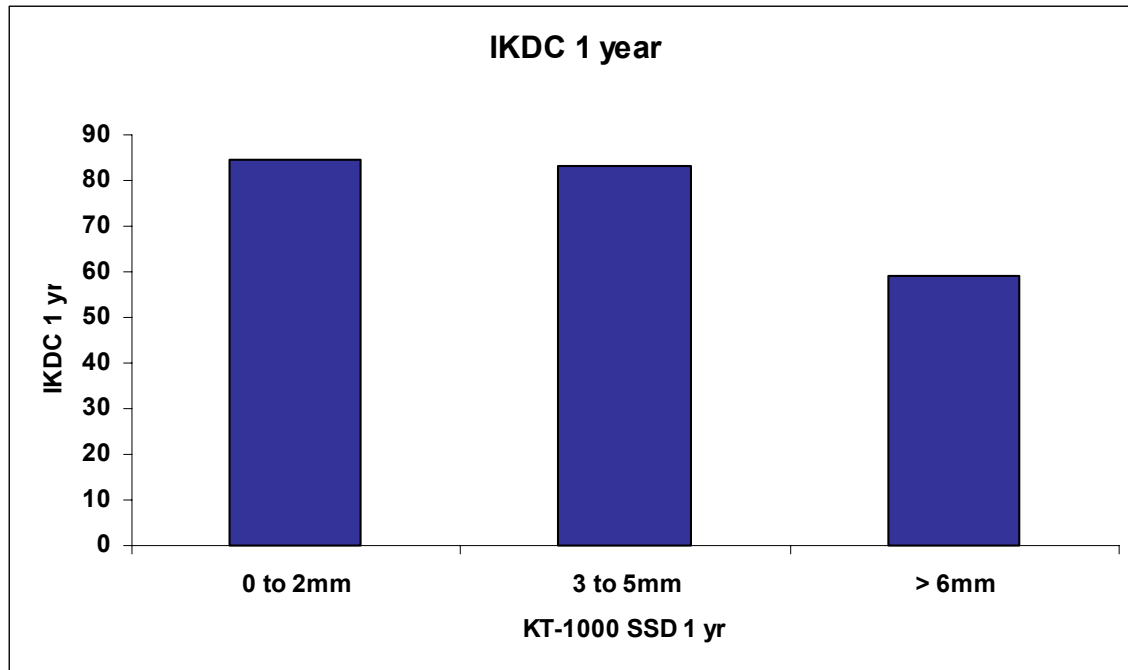


Fig 11. The Subjective IKDC score related to the KT SSD.

This chart shows the subjective IKDC score compared to the SSD of the KT. The 0-2 mm and the 3-5 mm SSD have the same subjective score, indicating that the patient rates his knee the same if he has a 2 mm or 4 mm SSD measurement. But, on the objective scoring a 4 mm gets marked down to a B level. This is unfair.

Conmed/Linvatec's 13th Annual Residents and Fellows Conference
Palm Island, Florida, May 5-6, 2006

Tim Whitehead MD Fellow in Arthroscopy and Sports Medicine

The venue for this year's meeting was absolutely fantastic. Palm Island produced beautiful weather, long sandy beaches and wonderfully warm water. The standard of accommodation and attention to detail by the Conmed/Linvatec people were much appreciated by all participants and families. The talks were not bad either! Here follows a summary of some of the papers presented.

Friday 5th May

The first talk, by guest speaker Treney Sasyniuk, focused on how to set up and perform excellent research. It was a fantastic summary from someone with significant expertise in the area and timely for the participants about to embark on academic careers. Treney was joined by Laurie Hiemstra to emphasize practical points regarding research, the posing of relevant questions and how to set up projects to answer them correctly.

Last year's winner Jerome DaSilva presented his work on the early anatomic changes following high tibial osteotomy using the RSA technique. Interestingly, he noted a reduction in patella height and slight lengthening of the patellar tendon, as well as a slight increase in posterior tibial slope. This is important information in a rapidly growing area, although the long term changes and consequences are not yet known.

Derek Smith presented a paper on the long term results of electrothermal shrinkage of the ACL. As others have recently suggested, the indications for this procedure are very limited and should not be performed in ACL reconstructed knees. It is likely that many of these cases of partially intact ACL's were in fact cases of intact bundles and would have benefited from a reconstruction of the missing AM or PL bundle. Derek is about to collaborate with Tom Carter to combine their results.

There were several papers on bone bruising and ACL injury. David Green presented his work on the size of the bone bruise and the extent of the cartilage injury. Research in this area may lead us to some early treatments to minimize or eradicate cartilage breakdown that occurs at the time of injury. This paper fits in well with the current push to reduce the incidence of arthritis in ACL injured and reconstructed knees. Monika Volesky presented her work on bone bruises and the mechanism of injury. Contrary to previous published studies and similar to recent research, she found an increased incidence of medial bone bruising which

may be due to either better MRI technology or a more significant mechanism of injury.

David Penn presented an excellent paper assessing the relevant biomechanical properties of various allografts used in ACL reconstruction. He found no differences between the various grafts tested, but instead reported a strong correlation between cross sectional area and biomechanical properties. A lively discussion followed regarding the benefits and disadvantages in general of using allograft tissue. Dr Johnson mentioned the possibility of the transmission of as yet unidentified diseases, which is a real problem to consider.

One of the highlights of the morning was Mark Ritter's video demonstration of the perturbation board used to test neuromuscular reflexes in 3 groups of patients injected with either bupivacaine, saline or no (control) injection. This was an excellent paper, which concluded that the reflex response did not change with the intraarticular injection of anaesthetic, which paves the way for ongoing in vivo testing.

Saturday 6th May

After a long night reacquainting or making new friendships, the morning session began with excellent demonstrations of the Donnie knee model and Alex shoulder model. A variety of procedures were able to be performed and it gave us the opportunity to try new equipment and techniques.

John Mehalik presented an excellent practical talk on how to make the transition from resident or fellow to an Orthopaedic Consultant. His tips and pearls were greatly appreciated and discussed in detail amongst the participants.

Jeremy Moses presented his work on in vivo kinematics after ACL reconstruction. Although anterior laxity appeared to be restored, under weight bearing conditions, the normal knee kinematics, specifically anterior translation and external rotation were not restored.

James Bond presented Dr Snyder's novel technique of using the Graft-Jacket® to repair massive rotator cuff tears. His results were impressive given the difficult nature of the problem. James won the prize for the best paper presented at the meeting.

After a power failure and several computer malfunctions, Martyn Snow eventually was able to present the work that saw him travel from Wales to deliver. His paper focused on the correlation or lack thereof between clinical signs and symptoms of subacromial impingement and arthroscopic findings.

Guest Faculty

One of the highlights of the meeting was the fantastic assembled faculty and their talks. Keith Merrill discussed tunnel position in ACL reconstruction, the history, some pitfalls and where we are currently. It presented us with an opportunity to critically look at how history has guided the tunnel positioning as well as what the future may hold. Tom Gill discussed the pros and cons of arthroscopic anterior stabilization of the shoulder in the contact athlete. It was an excellent paper from a surgeon with 3 Superbowl rings, who has obviously treated a number of large contact athletes. Don Johnson rounded out the meeting with an excellent current concepts summary of all aspects of the ACL and its treatment. Many attendees rushed to copy this talk and it would not surprise to hear it make the circuit of local talks around the globe shortly.

The meeting concluded after another afternoon at the beach and night's festivities. This is one of the best informal educational meetings offered to fellows and residents. It presents the attendees with a fantastic opportunity to meet likeminded people and their families and set up life long friendships.

Upcoming Meetings

- **Esch Shoulder Course June 21-24, 2006. San Diego CA**
Contact www.shoulder.com
- **AOSSM Annual Meeting 29 June - 7 July, 2006. Hershey PA**
contact www.aossm.org
- **AANA Fall Course - November 9-12, 2006**
JW Marriott Desert Springs Palm Desert, California Contact www.aana.org