Practical Arthroscopy Newsletter Vol 12 No 5 2007

Editorial

There has been ongoing debate about the efficacy of microfracture for full thickness chondral defects. This may be, in part, that many people do not follow the rigid post-op regime as suggested by Dick Steadman. He suggests the patient be non to partial weight bearing for 8 weeks and use the CPM machine for 8 hours a day. He also feels that Glucosamine is valuable during this time. The rehab after this then takes several more months to completely regain the muscle strength. The problem, in our situation, is that many times the chondral defect is found at the time of arthroscopy. A microfracture is done and the patient is expecting to follow a fairly quick rehab protocol to return to sports or work. If he is presented with this prolonged recovery, I think many may be non-compliant, and I don't blame them. In Steadman's situation the patients are usually sent to him with previous scope or MRI and they have googled mircrofracture and are aware of the rehab. I think that his good results are due to the protection of the healing lesion. He has stated that it may take a year for the tissue to become mature.

Microfracture in Professional Basketball Players.

Fig 1. Microfracture of a full thickness cartilage lesion

Ceryink et al presented an e-poster at AANA this spring that showed 37% of pros never got back, or went back for less than 2 seasons, after microfracture for chondral lesions. The clinical significance of this should be explained to high impact athletes who have a chondral lesion, and perhaps, unrealistic expectations of returning to high level impact sports.

Predictors for the size of hamstring grafts.

Fig 2. Small hamstring tendons.

Miller et al reported in an e-poster that the predictors for small hamstrings are height, weight, age, and gender. Shorter, lighter, older patients had smaller tendons.

The most significant factor was the height, and patients who were 57 inches or 145 cm tall were likely to have a 4 bundle graft less than 7 mm in diameter.
The clinical implication is that the patient should be consented to the possibility of adding a tibialis allograft to the construct to have a satisfactory sized graft.

Hamstring harvest and weakness in full flexion.

Nyland et al published in Arthroscopy in 2005 a study of post 2 year ACL hamstring reconstructions that had significant hamstring weakness when tested in prone lying with an isokinetec device (Biodex).

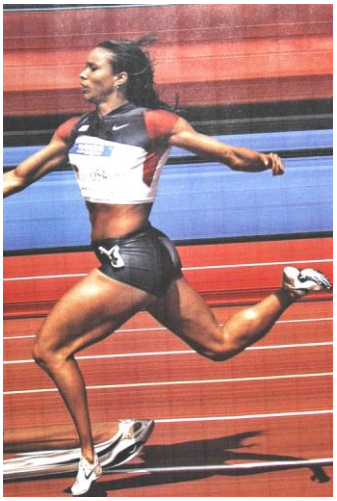


Fig 3. a track sprinter.

Don't do a 4 bundle autogenous hamstring graft on a sprint athlete!

The more patients that I see for their 2 year follow-up the more impressed I am about the resulting flexion weakness above 90*. I think many sports such as skiing, hockey, and even basketball, can get along with some full flexion weakness, but not sprinters, such as soccer, and football.

Suprascapular block for shoulder surgery

Weber et al reported on a randomized study on suprascapular nerve block for shoulder surgery. Their study did not show a significant reduction in pain, but the VAS was 20% better with the block. They further felt that the block should be administered with the patient awake and with a nerve stimulator for localization of the nerves.

Bioabsorbable plugs for treatment of chondral defects.

Fig 4.The Trufit OBI plugs

The plug consists of a cap of a surface polymer, and a socket of a bioactive synthetic bone graft. This corresponds to the architecture of normal bone. In the studies that David Caborn has done looking at the plug after implantation, the surface is gradually covered over by hyaline like cartilage.

An e-poster presented by Mission et al reported on the results of 25 patients who had chondral defects on the femoral condyle (average size was 1 cm) treated with the OBI plugs. 13 of the 20 patients had excellent or good results. This is an off label use, not currently approved by the FDA.

84% were satisfied. 5 patients had continued pain at 6 months and all were the double plugs. The MRI showed considerable edema, cystic changes in the bone, and the biopsy showed hyaline like cartilage.

The authors conclude that the best results were with the single plug in a small defect. The obvious question is: does this small chondral defect of 1 cm in size even need treatment? Recall that Don Shelbourne reviewed the results of non-treatment of the 1 cm full thickness chondral lesion at 10 years, and showed no difference compared to the patients who had no chondral injury.

Where to put the second tunnel in the double femoral tunnel PCL reconstruction?

There has been ongoing debate of where to put the second tunnel in PCL reconstruction.

Make the incision first in suture repair of the meniscus.

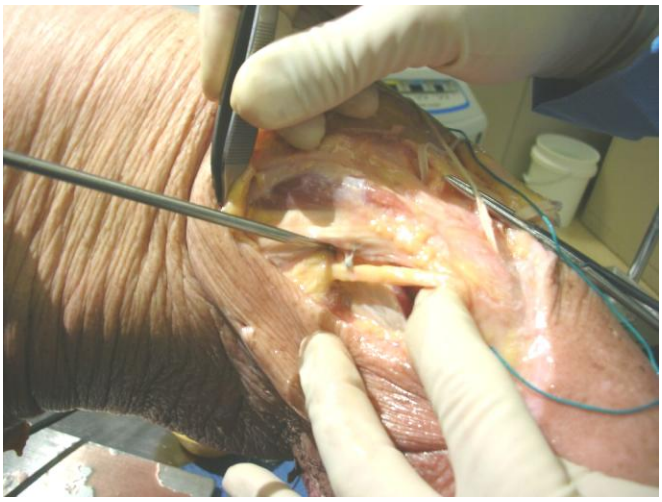


Fig 5. A suture through the nerve.

Fig 5 shows a suture tied through and around the peroneal nerve when doing an inside out suture repair without making the incision first. Fortunately, this was done in a cadaver during a hands on teaching workshop. I have always believed that you should make a small incision to visualize the needles as they exit the capsule posteriorly.

Fig 6. The posteromedial incision.

The incision on the medial side should be just behind the MCL and three quarters below the joint line.

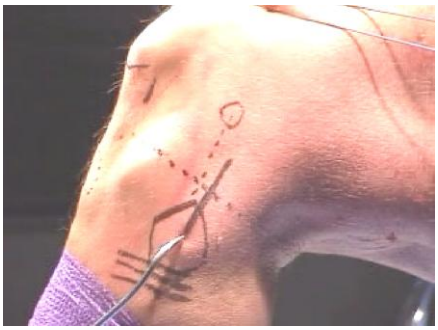


Fig 7. The posterolateral incision.

The incision on the lateral side should be behind the LCL , and along the posterolateral border of the tibia. The IT band is incised, and the posterior aspect of the tibia palpated. A retractor should be inserted to prevent deflection of the needles and injury to the nerve.

Fig 8.The retractor is inserted to prevent injury to the peroneal nerve.

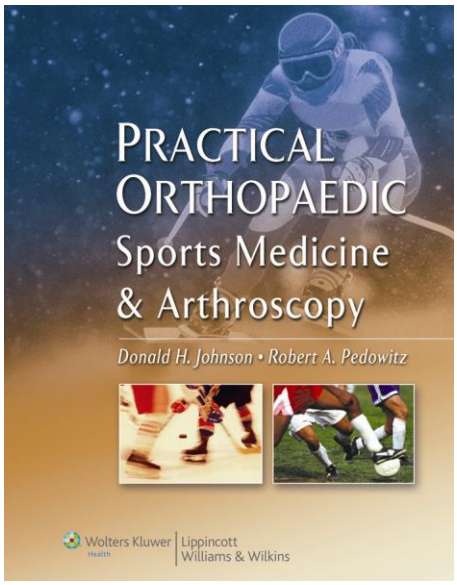
Fig 9. The use of the probe to determine the site of the incision.

To locate the proper site of the incision, the probe is pushed across the joint just under the area of the meniscus tear and palpated with a finger, the incision is made over the tip of the probe, as shown above.

Teaching the anteromedial portal technique for creating the femoral tunnel in ACL reconstruction

Fig 10. The leg holder at the learning center in Chicago set up to allow full flexion of the knee.

Yes, it is possible to hypflex the cadaver knee to allow drilling the anteromedial portal. In an e-poster Cristel et al presented a cadaver project to determine the optimum knee flexion angle when drilling the femoral tunnel through the anteromedial portal. They found that at 90* the tunnel was too short, and the maximum angle was 110*, and not full hyperflexion as many surgeons have felt to be optimum.



Written by noted experts in orthopaedic sports medicine, this book is a comprehensive, practical guide to diagnosis and treatment of sports-related injuries. It covers all the material required for the American Board of Orthopaedic Surgery's new Subspecialty Certificate in Sports Medicine examination. Emphasis is on detailed, step-by-step descriptions of surgical techniques for treating sports-related injuries, including the latest arthroscopic procedures. These techniques are illustrated with over 800 full-color original drawings and photographs. The authors describe their preferred methods for treating each injury. Bulleted key points appear at the beginning of each chapter.

Available at: http://www.lww.com/product/?978-0-7817-5812-3

Upcoming Meetings

- American Orthopaedic Society of Sports Medicine Annual Meeting
    - July 12-15, 2007 Calgary Alberta Canada
    - Contact www.aossm.org
- AANA fall course
    - Marriott Grand Lakes Orlando FL. Nov 1-3, 2007
    - Contact AANA www.aana.org
- Deadline for submissions to the AANA annual meeting 7 Sept 2007