Location. Location. Location. What is true for real estate certainly holds true for ACL Reconstruction. Accurate placement and drilling of femoral tunnels are critical to this procedure and have become more of a focus for surgeons over the past few years. In this issue, Joint Intelligence had the opportunity to spend some time with Dr. Richard Parker, one of the foremost thought leaders on ACL Reconstruction techniques. We discussed Dr. Parker’s thoughts on the Clancy Anatomic Cruciate Guide/Flexible Drill System and his reasons behind modifying his original ACL reconstruction technique after so many years. The key takeaway – Dr. Parker wanted to improve upon his ability to reproducibly drill his femoral tunnels in the best possible “location”.

JI: Dr. Parker, could you first tell us a bit about yourself and your background?

RP: I’d be happy to. I am originally from Youngstown, Ohio and have lived here in Northeast Ohio my entire life other than Medical School at Ohio State and my Sports and Arthroscopy Fellowship in Salt Lake City, Utah with Tom Rosenberg and Lonnie Paulos. I now live in Cleveland where I have been practicing since 1987. I chose Orthopaedics and specifically Sports Medicine with an emphasis on Surgery of the Knee because of my athletic background, my love of arthroscopy and genuine interest in the most complex and frequently injured joint - the knee.

JI: You’ve modified your original ACL reconstruction technique. What drove the need for modification? And, why did you choose to go
with a flexible guide wire and reaming system?

RP: I modified my ACLR technique due to improvements in the understanding of the anatomy of the ACL attachment sites. I used to do a transtibial technique, but it became obvious that this technique resulted in less than anatomic placement of the graft 2 out of 3 times. Though my patients were doing well, I felt that drilling my femoral and tibial tunnels independent of each other would improve anatomic placement and would maintain excellent clinical outcome.

As I began drilling through the medial portal for my femoral tunnel I felt uncomfortable at times with hyperflexion of the knee and possible loss of visual checks and balances regarding accuracy. I used the Clancy Anatomic Cruciate Guide/Flexible Drill System by Smith & Nephew for the first time two years ago and enjoyed the accuracy and the consistent visualization of the guide pin placement and reamer. This allows me independent tunnel placement and complete visualization all with an endoscopic approach. In addition, if I wish to perform a double bundle ACLR, I can still use the same instruments.

2.4 mm Flexible Passing Pins, Endoscopic Femoral Guide Handle (Also available in the ACUFEX® Director Set), Curved Endoscopic Femoral Guide - 2.7 mm i.d., 42”, 6.0 mm Flexible Drill, 7.0 mm Flexible Drill, 8.0 mm Flexible Drill, 9.0 mm Flexible Drill, 10.0 mm Flexible Drill
JI: Could you walk us through the key technique steps using the flexible reamer system?

RP: Certainly. Let me step through some of the key areas of consideration for the flexible reamer:

1. Patient Positioning
The key consideration in patient positioning is that the knee be able to flex 110 degrees.

2. Portal placement
For portal placement, I utilize a medial portal, an inferior medial portal next to the patellar tendon and a lateral portal.

3. Femoral tunnel preparation and drilling
I prepare the femoral attachment site with the scope in the inferior medial portal and the shaver, Vulcan and drills in the medial portal. No notchplasty is necessary. I make sure to mark the center of the femoral attachment site of the native ACL with an awl or an RF probe. Then, I insert the CLANCY curved drill guide into the joint and place it at the mark to ensure proper placement of the passing pin. Next, I insert the flexible passing pin through the guide and drill it through the femur until it exits on the distal thigh. After taking the guide out of the joint, I choose the appropriate sized CLANCY Flexible Drill and insert it over the passing pin, into the joint and drill a socket approximately 20 – 25 mm into the femur. Next, I make a small incision at the exit point of the pin on the distal thigh and place the 4.5mm Endoscopic Cannulated Drill bit over the tip of the pin in order to drill my 4.5mm ENDOBUTTON® tunnel from the outside-in. By taking a reading at the skin prior to drilling and another reading just as the drill break into the socket, I can estimate my 4.5mm tunnel length and, therefore, my total tunnel length.
4. Tibial tunnel preparation and drilling
I visualize the tibial site with the scope in the lateral portal and the Vulcan and shaver in the medial portal. I can measure the tibial attachment footprint of the ACL with a ruler through the inferior medial portal.

5. Graft passage and fixation
I usually use an ENDobutton™ CL Fixation Device 15-20 mm and pass the graft through the tibial tunnel and into the femoral tunnel.

JI: Could you describe for us the key advantages of this technique?
RP: I would describe the key advantages as:
• Versatility (can do either a single or a double bundle)
• Complete visualization
• Anatomic restoration of foot prints
• Reproducibility of results
• Easy to teach to colleagues, fellows and residents

JI: In your experience, what are the primary tips and tricks that may be helpful to others who are just becoming familiar with this technique?
RP: Some of the pearls for this technique are:
1. Use inferior medial portal for visualization
2. Do not do notchplasty, and
3. Use Vulcan to define femoral and tibial attachment anatomy
4. Drill your 4.5 mm ENDobutton™ tunnel from the outside-in
JI: Dr. Parker, thanks so much for taking the time to talk with us today and sharing your technique pearls.

For more technique information, please click [HERE](#) to view a short animation on the using the Clancy Anatomic Cruciate Guide/Flexible Drill System. For an alternative technique using the Clancy Anatomic Cruciate Guide/Flexible Drill System, you can refer to the Journal of Arthroscopy, October 2009, Volume 25 Number 10 in “Footprint” Anterior Cruciate Ligament Technique: an Anatomic Approach to Anterior Cruciate Ligament Construction” by Asheesh Bedi, M.D. and David W. Altchek, M.D.