

# 20 Years Corail® ...

By Arnaud Hutten  
International Product Manager

The Corail is an integral part of the Intelligent Hip Surgery Campaign: Corail maximizes survivorship: 95.1% survivorship rate in 5'130 cases at 15 years, The Norwegian Arthroplasty Register, 1987-2004, 2005. The extensive neck geometry of Corail optimizes function: the AMT taper is fully compatible with our high performance bearings. E.g. the range of motion of a Corail with an ASR XL Head goes from 141° up to 155° depending on the size of the ASR XL Head. Accelerated recovery is achieved through MI surgery together with the right implant. Dr M. Michel, our international champion surgeon based in Switzerland, explains in his article the reasons why Corail is the best stem for the mini anterior approach.

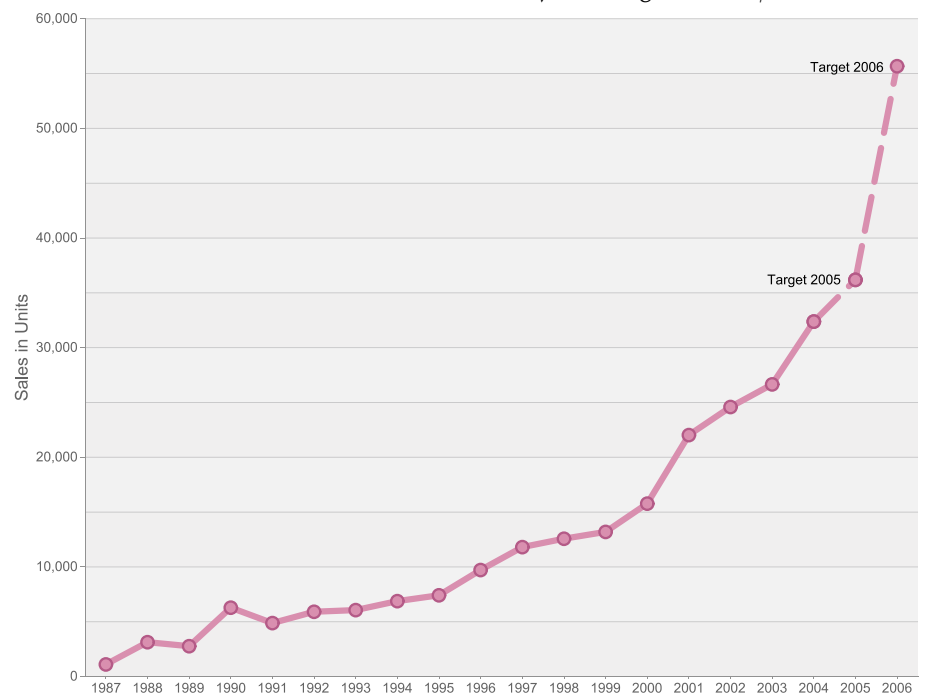


Corail® Product Rationale Brochure  
9066-35-000 English  
Clinical Papers Folder  
9072-74-000

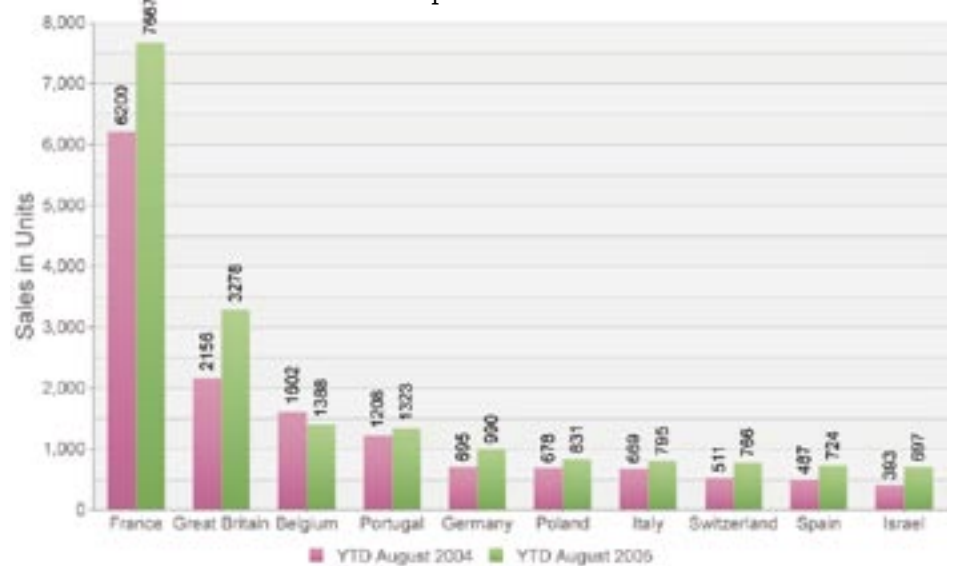
We offer your surgeons the opportunity to visit our Corail Learning Centers in Annecy now aligned with the Intelligent Hip Surgery campaign including presentations on tribology, MI surgical techniques, Spirofit / Pinnacle and ASR XL Heads. We also give your surgeons the great opportunity to see live surgeries with Corail performed through MI approaches.

Next year, we will be celebrating the 20 years of Corail in Lyon (France) on the 29th and 30th of June. This meeting will be a fantastic opportunity for you to invite your loyal Corail users but also to invite competitor surgeons. Prepare your success now, target your top competitor surgeons and invite them to this event, you will increase your chance to convert them to the Corail stem.

Evolution of Corail Sales (including the USA)

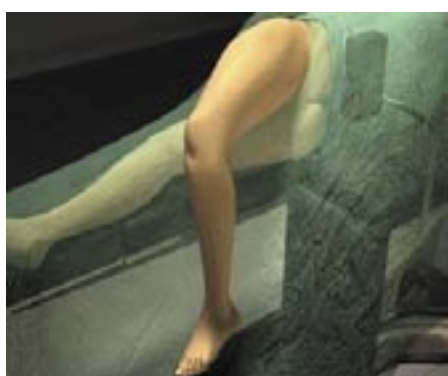


Top Ten Corail Customers



# MicroHip: Minimally Invasive Hip Endoprosthesis

By Dr. Markus C. Michel and Dr. Pierre Witschger  
Head physicians, Münsingen Orthopaedic Centre, Switzerland



For a long time the received wisdom was "major operation, major incision", but with time biological understanding grew and the medical world became aware that every incision represents an additional trauma which may lead to permanent destruction of tissue. This not only causes post-operative pain, thus increasing hospitalisation and rehabilitation times, but may under some circumstances also lead to loss of fine motor skills. The significant factors here are certainly not just the length of the cut but also which structures are affected. Most important in this respect are undoubtedly muscles and ligaments, with the abductor muscles, particularly the gluteus medius and minimus, playing a particularly central role. These structures have a major influence on perception, in view of which damage to the nerve pathways should be kept to an absolute minimum. Accordingly, an ideal minimally invasive approach would not only avoid muscles and ligaments

altogether but also be situated on an internervous plane, i.e., one not traversed by nerve branches. This represents a difference between our technique and the OCM technique (stands for Orthopädische Chirurgie München / Munich Orthopaedic Surgery), technique developed by Röthinger in Munich. Our technique involves using a short section of the Smith-Peterson approach, which is located in the internervous plane between the tensor fascia lata and rectus/sartorius muscles, whereas the OCM approach is located between the gluteus medius and the tensor fascia lata. This plane corresponds to a section of the Watson-Jones approach, and this does run along an internervous plane. The nerve branch to the tensor fascia lata passes through the section of the space between the gluteus medius and the tensor fascia lata muscle that is relevant for our purposes, and as a result the OCM approach involves a significant risk of damage to this nerve branch. This would lead to impaired functioning of the tensor fascia lata muscle, which is particularly important for persons pursuing sports such as running or cycling. This problem is circumvented by the MicroHip procedure which we describe below. This is because, as we noted above, it is aligned along an internervous plane and does not involve any damage to ligaments or muscles, and even the joint capsule remains intact. This is not only beneficial for stability: it has been shown that nerve fibres present in the joint capsule play a role in the fine control of the joint which should not be

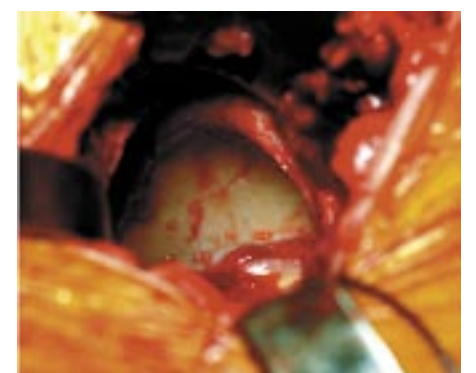
underestimated. It should also not be overlooked that leaving the joint capsule intact greatly lessens the size of the wound surface, thus not only reducing pain but also the amount of blood loss and post-operative scar formation.

The patient is operated on in the lateral position, so stable dorsal and ventral support of the pelvis is very important. The dorsal foot part of the operating table is removed so that the leg can be placed dorsally in hyperextended position in order to display the femur. The incision begins mid-way along the greater trochanter on its ventral edge and runs for c. 5-7 cm in the direction of the anterior



superior iliac spine. The subcutis is severed, revealing the tract and the fascia. Next, a c. 4 mm incision is made in the tract at its ventral end and the incision is extended distally and proximally in the direction of the fibres.

Forceps are then used to lift the ventral portion of the tract in order to undertake initially sharp then blunt detachment of the tensor fascia lata muscle, from the intermuscular septum to the femoral neck. Next a Hohmann retractor is used at the base of the greater trochanter and at the calcar, then the capsule is revealed and a t-shaped incision made in it. Hohmann retractors can then be inserted beneath the capsule prior to osteotomising the femoral neck in accordance with pre-operative planning. A chisel is used for the osteotomy to tilt the femoral neck ventrally, allowing the corkscrew to be inserted axially in the femoral neck. Twisting several times allows the head to be freed before it is extracted. To reveal the acetabulum we insert two Hohmann retractors, one medially and one laterally, plus a



third one, doubly bent, distally. Next the acetabulum is reamed out in standard

(continued on page 8...)



# International Training & Development – Hip Update

By Tim Webb  
International Training & Development Manager

2005 has been a significant year for the training of DePuy International's sales and marketing teams around the EMEA and ASPAC markets.

Let's start with the Intelligent Hip Surgery "Tribology University" programme of sales training - Designed to complement the similarly branded surgeon Intelligent Surgery Learning Centres, these events enable the Intelligent Surgery Campaign to be explained, discussed and the key components practised by every member of the International sales force – the first time in recent years that a sales campaign has been followed up with such a major training initiative – and delivered in 7 different languages!. The intention is to build on this training in 2006 with similar events aimed at further enhancing the understanding of tribology to ensure our sales and marketing teams are able to clearly differentiate DePuy's unique proposition against the competition and thus drive sales of our focus brands .

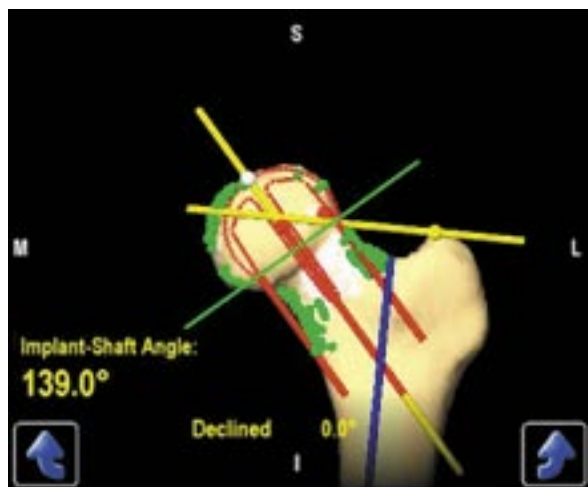
The ASR Blackbelt Programme, started in 2004, has continued throughout 2005 and is seen as the model for future "Expert" training programmes for other focus brands in the future. The involvement of surgeon champions and the level of training and testing ensure that those who gain certification as a Blackbelt really are experts capable of guiding surgeons through their initial surgeries. 5 Blackbelt programmes have been delivered in 2005, resulting in an expected 80 qualified Blackbelts by the end of the year across EMEA and ASPAC markets.

The Introductory and Advanced Hip Courses have evolved this year, also reflecting the Intelligent Surgery theme. These courses will benefit from further investments in people and instruments for 2006.

## Ci™ DePuy ASR & Hip Navigation Software 2005 Launch

By Francois Urvoy  
International Product Manager

This Autumn 2005 i-Orthopaedics will be launching two new navigation systems: Ci DePuy ASR that will enable minimally invasive ASR hip resurfacing and De Puy Hip Navigation Software, for more precise THR.



### About Ci DePuy ASR Launch

Ci DePuy ASR is built on the ASR surgical technique and supports the surgeon during the whole procedure. There are two main benefits of Ci ASR:

1. It enables to control the alignment and the sizing of the femoral implant to avoid neck notching
2. It allows the surgeon to control the cup placement and thus allows reduction of the incision size and soft tissue damage

Priority target surgeons are those who use competition's hip resurfacing implants and for whom Ci DePuy ASR will make the difference. Second targets are surgeons who do not implant hip resurfacing yet, because they find the technique too complex or invasive or who just did not find the adequate hip resurfacing solution yet. Finally, Ci ASR will help to secure the implant business of current DePuy ASR users, who will improve their technique and strengthen their image as innovative surgeons.

We will roll out Ci DePuy ASR in November this year, first with the navigation of the head. The cup navigation will follow. Product Rational and Surgical Technique will be released in November.

No training, no use. You will find many training opportunities for your surgeons and sales staff .

### 2005 Training calendar in EMEA and ASPAC:

Ci ASR, EMEA	October	November
Surgeon course	6 - 7, 13 - 14	3 - 4
Sales course	20 - 21	24 - 25

Ci ASR, ASPAC	October	November
Surgeon course	20 - 21	17 - 18
Sales course	18 - 19	

To learn more about Ci DePuy ASR, please visit the iZone.

### About DePuy Hip Navigation Software Launch



DePuy Hip Navigation on Ci allows navigation of the cup and the stem without CT or fluoroscopy. Surgeons will be able to control the offset and the leg length as well as the stem anteversion. The software will also guide the cup placement and display cup inclination and anteversion

Surgeons will have the possibility to navigate the Corail AMT, Summit, G2, Replica A, AML, AML plus, Pinnacle, and Duraloc implants.

Priority target surgeons are those who require a complete solution for hip and knee navigation. Second targets are surgeons who already use Ci Knee, especially if they use competitive hip implants. Third targets are surgeons who are interested in minimally invasive hip surgery and require increased visibility and safety.

We will launch DePuy Hip Navigation on Ci in November 2005. Minimally invasive cup instruments will be available in Q1 2006. The Product Rational and Surgical Technique will follow.

There will be one surgeon and one sales training this year in EMEA and we plan 14 more next year:

Hip Navigation, EMEA	November
Surgeon course	17 - 18
Sales course	15 - 16

(...continued from page 3.)

fashion using MI instruments before the cup, usually a Pinnacle cup, DePuy, a Johnson&Johnson company, is inserted. Although standard straight instruments can be used on slim patients we recommend always using the MI instruments in order to familiarise yourself with them in straightforward cases rather than only using the angled MI instruments on obese patients who are initially more difficult to operate on. When inserting the cup great care must be taken to avoid excessive anteversion. To this end the fixation instrument must be aligned along the table axis at an inclination of 45 degrees. The course of the transverse ligament may be used as a control.

To display the femur a Hohmann retractor is first inserted dorso-laterally on the trochanter and the femur is then placed in an outwardly rotated hyperextension position. While doing this, the lower leg is either placed in a bag or a second stocking put on it to ensure sterility. In order to evaluate the anteversion it is important for the lower leg to be aligned vertically to the ground. Next another Hohmann retractor is positioned at the calcar. The entire femoral entry plane must now be displayed carefully to allow the precise opening point to be determined. We normally use a sharp scoop to open the femur and then use medullary cavity reamers. The prosthesis is inserted taking careful account of the anteversion. After repositioning, the joint capsule is closed using single stitches and the fascia using a running stitch. The procedure takes about 3/4 of an hour, and is performed in an internervous plane without detaching ligaments or muscles or resectioning the capsule. To date we have performed several hundred MicroHip operations, and thus far we have never observed any nerve lesions or trochanter fractures. Our greatest initial difficulty was with the alignment of the acetabulum, but provided the above-mentioned guidelines are followed carefully it can be positioned securely. Calcar fissures do not as a rule pose any problem, but they can be avoided by displaying the femur correctly in order to ensure that the right entry point is chosen.

The implant design had to meet various specific requirements. The acetabulum can be seen very clearly, in view of which inserting the cup does not pose any great challenge, and most types of cup can be positioned without difficulty. In our experience the Pinnacle cup, DePuy, a Johnson&Johnson company, from Pressfit has proven best. This is due among other things to its versatility. It comes in variants made of high-density crosslinked polyethylene, metal-metal and ceramic-ceramic, and in sizes from 28-36 mm, thus ensuring that the ideal pairing can be found for every patient. A number of essential considerations lie behind the stem design. The operative technique we have developed does everything possible to avoid muscle damage, especially to the abductors. It is possible, albeit more difficult, to insert a straight implant via this approach. However, this would make little sense given that a straight implant often has to be inserted so far into the trochanter that significant damage is done to the abductor ligaments. In contrast, a straight implant with a minimized lateral shoulder is preferable both in that it is easier to insert and in that it does not have to be inserted as far into the trochanter region, as a result of which it does not come into contact with the abductor ligaments. We chose the Corail, DePuy, a Johnson&Johnson company, stem because it has ideal geometric properties as well as registering excellent long-term results in a study conducted by the Norwegian Joint Registry. A further factor we regarded as important is that a hydroxyapatite-coated implant grows in significantly more rapidly, and this can certainly be advantageous in promoting a faster return to full use of the joint.

The MicroHip technique allows an endoprosthesis hip joint replacement to be inserted using a very short incision and without damaging the musculature. Definitive study results are not as yet available, but our experiences to date show that the method we have developed allows us to operate reliably on virtually any patient. However, a precondition for this is of course suitable training such as that offered by the DePuy Learning Center. The results are often so good that it can be difficult to persuade patients that it is important to carefully build up the loads exerted on the joint. Although the post-operative pain is far less, so that early full loading would be possible, the biology nevertheless remains the same, and this means that the healing of the wound and related muscle development takes time. Even in our ever more hectic world the patient should devote the necessary time to his or her new hip joint.

If you have any comments or suggestions please e-mail Terri Beddows: [TBeddows@dpygb.jnj.com](mailto:TBeddows@dpygb.jnj.com)

