Aesculap Orthopaedics

MIOS®

Minimally Invasive
Orthopaedic Solutions

powered by OrthoPilot® navigation system

Knee Arthroplasty

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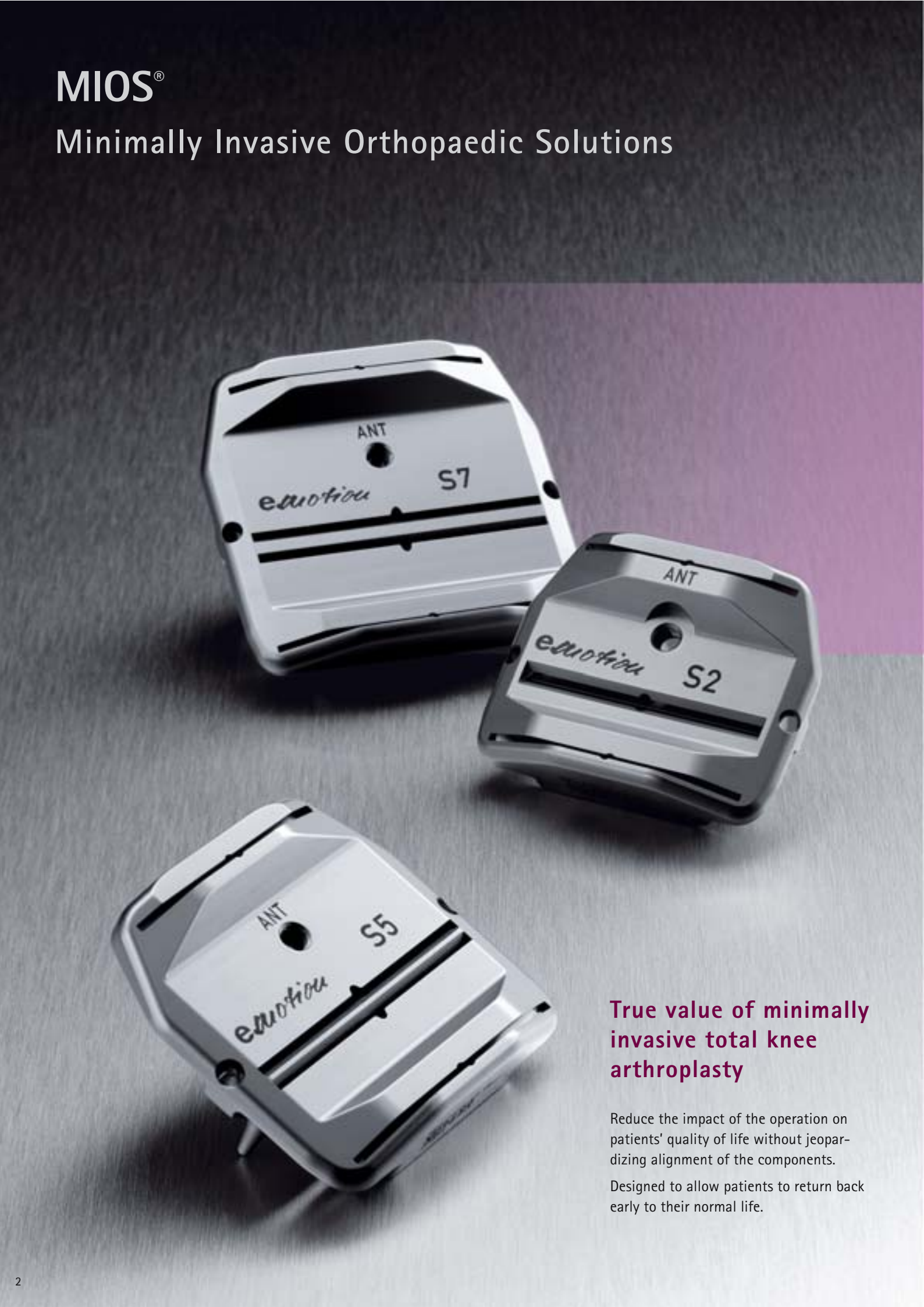
SHARING EXPERTISE

MIOS®

Minimally Invasive Orthopaedic Solutions



True value of minimally invasive total knee arthroplasty

Reduce the impact of the operation on patients' quality of life without jeopardizing alignment of the components.

Designed to allow patients to return back early to their normal life.

An evolution towards a better and more functional total knee arthroplasty

MIOS® is the comprehensive solution integrating the best aspects of minimally invasive surgery and computer assisted surgery.

Aesculap improves the process of care associated with knee arthroplasty combining the surgical technique, instrumentation, implant design and computer navigation system to help surgeons optimize the surgical outcome.

It is designed to make the minimally invasive approach to knee surgery straightforward, easy-to-learn and adopt.

- **A full compliment of small-scale TKA instrumentation**
- **A new streamlined approach to high-precision MIS TKA**
- **The next generation of TKA software for MIS navigation**

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Why is navigation so important in minimally invasive surgery?

"The rationale for merging minimally invasive surgical techniques with computer assisted orthopaedic technologies is that the accuracy and reliability that is possible with the use of computer assisted techniques can be retained when the less invasive exposures meant to improve function, reduce peri-operative morbidity and accelerate post-operative recovery are used."

S.David Stulberg, MD,
Nothwestern Memorial Hospital, Chicago, IL

"The results after change must be equivalent or better than previous techniques. OrthoPilot® substitutes and augments the classic visualization in MIS.
Navigation will be shown to be an essential part of reduced tissue trauma leading to viable and safe minimally invasive TKA."

Alberto Gregory, MD,
Hairmyres Hospital, Glasgow, Scotland

What are the advantages?

Standard total knee arthroplasty has shown excellent long term results with overall survivorship rates over 95% at 10 years and longer in many series (1-3). Minimally invasive surgery, reducing tissue trauma surgery, represents a new development and holds the promise to change the way in total knee arthroplasty.

Potential advantages

- **Decreased blood loss and need for transfusion from reduced soft tissue trauma and the elimination of the intramedullary instrumentation**
- **Accurate and reliable limb and implant alignment from using OrthoPilot® Navigation System**
- **Rapid wound healing**
- **Fast restoration of function**
- **Reduced post-operative pain**
- **Reduced hospital stay**
- **Improved cosmesis**

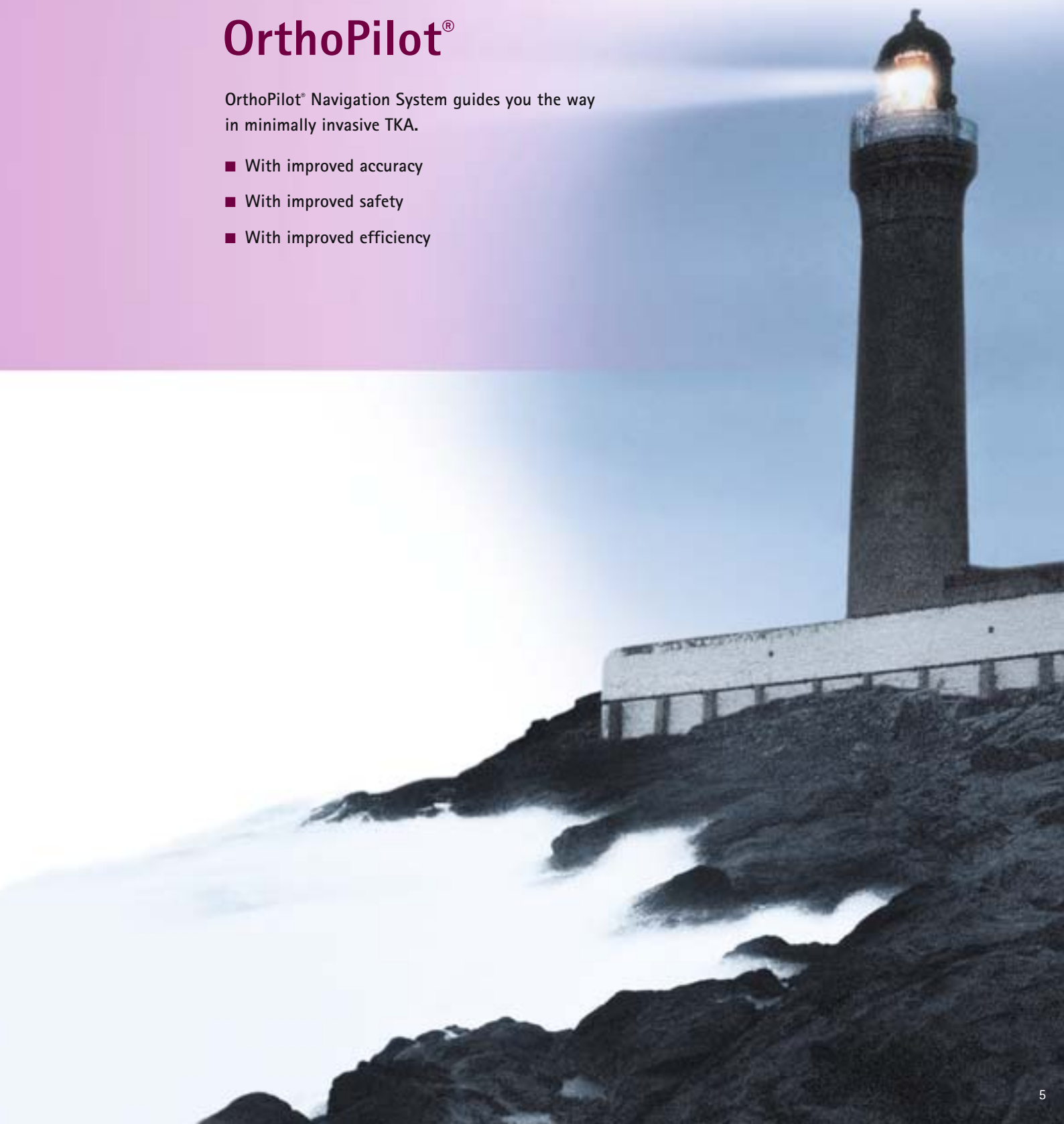
References

1. Keating EM, Meding JB, Faris PM, Ritter MA. Long-term follow-up of non modular total knee replacements. Clin Orthop. 2002;404:34-39
2. Font-Rodriguez DE, Scuderi GR, Insall JN. Survivorship of cemented total knee arthroplasty. Clin Orthop. 1997;345:79-86
3. Rand JA, Ilstrup DM. Survivorship analysis of total knee arthroplasty: Cumulative rates of survival of 9200 Total knee arthroplastya. J Bone Joint Surg Am 1991;73:397-409

OrthoPilot®

OrthoPilot® Navigation System guides you the way in minimally invasive TKA.

- With improved accuracy
- With improved safety
- With improved efficiency



MIOS®

Minimally Invasive Orthopaedic Solutions

Aesculap MIOS® instruments

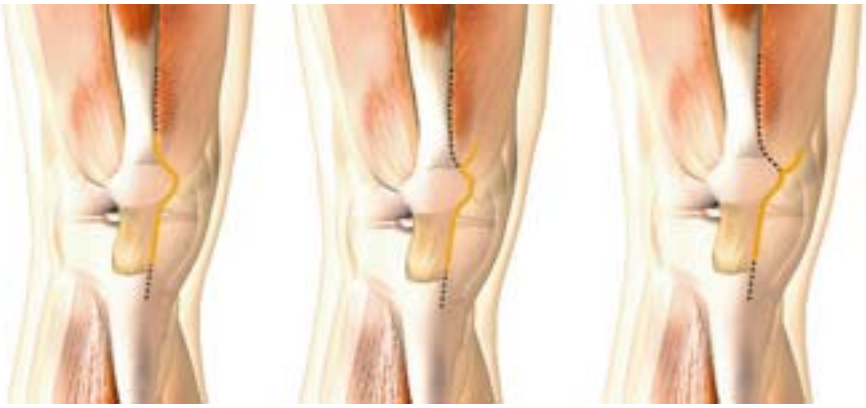
- Minimal shapes and dimensions to help avoid conflict with the limited exposure
- Specially designed cutting slots that facilitate accurate bone resections

- Profiles that provide excellent instruments-to-bone conformity
- Rounded edges to minimize tissue trauma
- Special pin fixations that provide better stabilization
- Enhanced visualization to avoid the potential error of alignment with OrthoPilot® Navigation System
- Minimal shapes and dimensions to avoid conflict with the limited exposure

Surgical approach for MIOS® TKA

It is a surgery that is not determined by the length of incision and should refer to the extent of violation of the anatomic structure of knee joint.

- **No violating of the quadriceps mechanism**
- **No violating of suprapatella pouch or everting of patella**



Mini Parapatellar *Mini Midvastus* *Mini Subvastus*

Knee prosthesis designed for use with OrthoPilot® Navigation System

Columbus®

With Columbus® you are on a safe and accurate course, and your patient benefits from improved quality of life.

Thanks to a design developed on the basis of numerous navigation studies and the combined experience of doctors, Columbus® offers a high medio-lateral stability of the femoro-patellar and femoro-tibial joints.

The system brings to surgeons a lot of intra-operative options: retaining of sacrificing of the PCL, fixed or rotating platform, use with or without cement.

e.motion®

e.motion® features the greatest possible contact of surface to surface.

The two femoral radii remain unchanged over long distances. The distal radius stays constant over a distance of 90°. For the retropositioned patella tracking there is a constant radius along the trochlea, too. The 6° anatomical orientation supports the restoration of the natural kinematics.

These two radii are the basis of the unique femoral e.motion® design. It permits the reconstruction of form and function.

AESCULAP®

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