Reaching new heights
Reach for proven performance

Compatible with the different head and liner options including VERILAST® Technology

Various acetabular cup choices
Reach for proven performance

15 years of proven clinical history

OR efficient Instrumentation

Multiple stem options to match your patient pathologies and bone quality

performance
Reach for proven options

The SYNERGY® Hip System provides a clinically proven design with multiple stem coating options covering all aspects of primary hips from fracture management to cementless fixation. Each of these options uses the same surgical technique and the same two trays of surgical instruments. The SYNERGY Cementless System offers sizes 8-18 in 1mm increments, as well as sizes for patients with special needs or unusual anatomy. Progressive stem lengths of 120-180mm provide enhanced anatomical replication. The SYNERGY Cementless Stems (sizes 9-17) are available in two offsets.
One complete system for all primary indications

- High-demand options: Porous Plus HA, Porous, HA
- Medium-demand options: Cemented, Ti-Press Fit
- Fracture Management (FX) options: CONQUEST FX™

Stable fixation
The SYNERGY® Hip System achieves stability through three point fixation as demonstrated in the X-Ray. SYNERGY stems wedge in posterior proximally, anterior midway and posterior distally.
Reach for proven design

A stable hip joint is essential for implant longevity, pain relief and a sense of normalcy to the patient. The SYNERGY® Hip Stems offer two true dual offsets that allow biomechanical restoration of the joint without a change in leg length.
The circulotrapezoidal neck in SYNERGY provides greater range of motion than traditional neck designs and reduces the potential risk of dislocation. The ROM difference is illustrated by the cone of motion.

The cone of motion of a circulotrapezoidal neck is much larger than that of a cylindrical neck. This difference equals greater ROM for the SYNERGY Hip System. Compared to the competitive implant, the SYNERGY system gets 17% more flexion.

The SYNERGY Hip System goes beyond similar designed tapered implants with the use of fins. The anterior and posterior fins on the SYNERGY Hip System have been shown to provide a 20% improvement in rotational stability over a similar-geometry stem without fins.
Reach for proven coatings

The design of the SYNERGY Hip System addresses the issue of transmitting stress and helps to reduce stress shielding by incorporating surface transitions. The ROUGHCOAT porous surface in the proximal region of the Porous and Porous Plus HA stem designs, allow bony ingrowth. Below the proximal third, the stem has been grit blasted for bony ongrowth. The distal tip of SYNERGY stems is polished and bullet-shaped, which allows no bone growth and assists with the reduction of thigh pain.
Advanced proximal coatings

Porous

The sintered-bead ROUGHCOAT™ Porous Coating from Smith & Nephew, manufactured from commercially pure titanium, has demonstrated several advantages over plasma spray or simple macro-textured surface. The irregularly layered beads provide 3-D interlock; studies have reported that sintered beads provide 2-3 times less wear than plasma spray. Also sintered beads have been shown to have a greater bond strength than either plasma spray or diffusion bonded wire. Mechanical testing has shown the optimal pore size for bone ingrowth to be between 50-400 microns. The pore size of the coating on the SYNERGY™ Cementless Porous Stem is 200 microns.

HA

The SYNERGY HA Cementless Stem is a press-fit stem with the proximal one-third sprayed with 50 microns of 100% pure HA over a grit-blasted surface. A thin HA coating can be discontinuous, causing loss of mechanical integrity. On the other hand, a thick coating is likely to have lower attachment strength, leading to cracking and delamination under fatigue loads. The optimum thickness of HA has been shown to be 50 microns with a minimal amount of impurities.

Porous Plus HA

The SYNERGY Porous Plus HA Cementless Stem uses the same technology as the SYNERGY Porous Stem. HA is applied to the porous coating using the same specifications as the HA stem. Tests have shown that HA does not occlude the porous beads.
Reach for proven compatibility

Smith & Nephew offers Cobalt Chrome, Biolox® Ceramic, and OXINIUM® Femoral Heads. OXINIUM heads, coupled with XLPE Liners, is VERILAST® Technology, a high performance bearing with proven laboratory and clinical performance. All head types are available in a wide variety of sizes and lengths.
The R3™ Acetabular System, combined with the Smith & Nephew portfolio of hip stems, provides advanced hip replacement systems with:

- Wide range of advanced bearing options
- Excellent primary stability
- Flexible instrumentation

Polished inner surface to minimize backside wear

STIKTITE® coating on an R3 Acetabular Shell ensures a true scratch-fit feel immediately upon impaction.

A choice of femoral heads

Advanced bearings

XLPE (offered in 0° and 20° options both in neutral and +4 lateralized)

OXINIUM®

Ceramic

CoCr

NO HOLE, THREE HOLE and MULTI-HOLE hemispherical shell offering
Reach for proven OR efficiency

A streamlined set of instruments can provide surgeons and hospitals with time and cost savings.\(^9\) The entire family of implants in the SYNERGY\(^\text{TM}\) Hip System utilizes the same two trays of instrumentation. Designed to flow with the surgery, the first tray contains specialized two-in-one femoral reamers. The second tray includes the femoral broaches and optimized trial necks and heads.
All stems of the SYNERGY® Hip System use the same two trays of instrumentation. Designed to flow with the surgery, the first tray contains the femoral reamers, and the second tray includes the femoral broaches.
Reach for proven history

With over 600,000 stems implanted, the SYNERGY® Hip System celebrates 15 years of clinical success.
Restoration of biomechanics and reducing dislocations are important factors for patient satisfaction. In February of 2007, results with the SYNERGY® Hip System were published in the Journal of Arthroplasty. At an average of 75 months, the SYNERGY Hip System had a survivorship of 99.5%.\textsuperscript{10} In another Journal of Arthroplasty publication in 2002, SYNERGY porous implants were shown to restore offset in patients 90% of the time. Another competitive design only accomplished this restoration in 40% of the patients.\textsuperscript{11}
References


3. Data on file at Smith & Nephew, TM328802.


