MiniHip™

Patient demographics and expectations have changed. Being younger, more active and wanting to return to their normal way of life quicker and without compromise, these patients require an implant that overcomes the limitations of conventional hip replacement.

MiniHip™ is designed to give patients all the advantages of a traditional total hip replacement with the added benefit of preserving the natural anatomy, offering a solution that is an ideal intervention for a patient requiring treatment options into the second, third and fourth decade.

Preserving the natural anatomy and restoring patient biomechanics

MiniHip™ has shown 99.5% survivorship at 3 years for aseptic loosening and has been awarded 3A rating for clinical excellence by the Orthopaedic Data Evaluation Panel (ODEP)*.
- Conserving bone
- Preserving soft tissue
- Restoring biomechanics
Conserving bone

MiniHip™ allows for greater bone conservation at the time of operation and in the long term.

**Initial bone conservation**

1. **Trochanter conserving**
   MiniHip™ is designed to follow the natural anatomy: there is no lateral flare and the entry point avoids the greater trochanter.

2. **Diaphyseal sparing**
   The length and design of MiniHip™ allows for more bone preservation of the medullary canal than traditional THR. In addition, the distal tip of MiniHip™ is polished to reduce the risk of an increase in bone mineral density from occurring at this point.

3. **Neck preserving**
   MiniHip™ neck resection is intended to preserve the neck and calcar to assist in promoting more natural physiological loading, unlike conventional THR.[2]

MiniHip™ is designed to preserve significantly more bone stock in the femoral neck, trochanter and diaphyseal region in comparison to other short and conventional stems, helping to promote more natural, physiological loading.
MiniHip™ offers an early solution that is an ideal intervention for a patient requiring treatment options into the second, third and fourth decade.

**Long-term bone conservation**

**Physiological loading**

MiniHip™ loads the femur more naturally than a conventional THR in terms of medial strain, tensile strain, compressive strain and strain energy density. This may help facilitate good quality proximal bone stock into the future.

Finite element analysis shows compressive strain in the femur for an unimplanted femur, MiniHip™ and a conventional THR, (increasing areas of blue represent increased compression).

Measurement of medial strain in the proximal femur, comparing an unimplanted femur with a MiniHip™ and conventional THR.
Preserving soft tissue

MIAA™ (Minimally Invasive Anterior Approach) Instrumentation

Mini-Hip™ is an ideal implant for use with a direct anterior approach, soft tissue sparing procedure, as it follows the natural anatomy by going “round the corner” of the calcar.

Direct anterior approach patients have reported earlier discharge and mobilisation as compared to patients who receive the posterior approach\(^\text{[3]}\).

Mini-Hip™ implant and MIAA™ instrumentation systems are ideally suited to direct anterior, helping to facilitate patient recovery and a faster return to activity.
MiniHip™ and direct anterior, an ideal synergy.
Restoring biomechanics

Femoral varus/valgus anatomies

Mini-Hip™ offers a unique way of restoring biomechanics for different patient anatomies. Mini-Hip™ is a CT based design and is not constrained in its placement by a conventional, intrusive lateral profile. This provides a unique solution to restoring the biomechanics of multiple patient anatomies. Early and mid-term clinical results with Mini-Hip™ illustrate reproducibility of:

- CCD to less than 0.6°[8]
- Femoral offset to less than 3mm[6]
- Leg length to less than 1mm[6]

varus anatomy
neutral anatomy
valgus anatomy

3A ODEP rating
Femoral anteversion

MiniHip™ offers the ability to restore anteversion by retaining a portion of the femoral neck. The size and shape of the stem, coupled with the retention of the femoral neck enables MiniHip™ to restore the biomechanics of multiple anatomies including highly anteverted femurs7. 
Conserving bone
MiniHip™ is designed to minimise bone loss during the time of operation, and promote physiological loading to maintain good bone stock into the long term.

Preserving soft tissue
Ideally suited to the direct anterior approach, MiniHip™ is designed to be less invasive to soft tissues, potentially leading to faster patient recovery.

Restoring biomechanics
With an implant profile that preserves the femoral neck and follows the natural curvature of the medial calcar, MiniHip™ is designed to restore biomechanics for multiple anatomies.
References:


*ODEP (Orthopaedic Data Evaluation Panel) is an independent body commissioned by the UK’s National Institute for Health and Care Excellence (NICE) in 2003. ODEP independently assesses whether a device has reached a specified clinical benchmark for implant survivorship and translates these into ratings: greater than 97% survivorship at 3 years (ODEP rating 3A or 3B); greater than 95% survivorship at 5 years (ODEP rating 5A or 5B); greater than 93% survivorship at 7 years (ODEP rating 7A or 7B); greater than 90% survivorship at 10 years (ODEP rating 10A, 10B or 10C).

(The number in the rating relates to the average follow-up in years and the letter relates to the quality of data: A = strong evidence, B = reasonable evidence, C = weak evidence.)

For more information, go to:
www.nice.org.uk
www.supplychain.nhs.uk/odep

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