White Paper on the combining of R3° cup with XLPE° liner, OXINNIUM° femoral head and POLARSTEM°.
Conclusion

Based on the calculations and test performed in this investigation Smith & Nephew Orthopaedics AG declares all articles of product families R3® (cup and XLPE® liners), OXINIUM® femoral heads and POLARSTEM® can be combined for safe and effective use.

Materials and methods
This analysis was done to evaluate the combination of the following implant components:

• R3 cup with XLPE liner
• OXINIUM femoral head
• POLARSTEM standard and lateral

The tribological pairing OXINIUM on XLPE is well known as VERILAST®. To evaluate the possible combinations, the most critical items have been tested on:

• Biocompatibility
• Stem taper and head cone compatibility
• Material intersection of ball heads cone with the stem
• Range of motion (ROM)
• Edge loading
• Ball head offset

The investigations on geometrical compatibility, ROM and edge loading are calculated by CAD using 3D implant models.

Legal manufacturer
POLARSTEM Smith & Nephew Orthopaedics AG, Baar
R3 & OXINIUM Smith & Nephew Inc., Memphis