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Ceramic-on-ceramic and metal-on-metal bearings in total hip Arthroplasty

Introduction: One of the greatest challenges in hip surgery has been wear particles from the polyethylene liners in metal-on-polyethylene (MoP) bearings, potentially leading to osteolysis and aseptic loosening of the implant. Other bearings have therefore been introduced in hip replacement: Since 1970 ceramic bearings have been used in total hip arthroplasty (THA), and the use of metal-on-metal (MoM) bearings in total hip arthroplasty (THA) was initially described more than 60 years ago. During the last decade, implantation of large diameter MoM bearings on stemmed prostheses has become popular.

Purpose: The purpose of this Ph.D.-study is to investigate the revision risk and clinical outcome of CoC THA and MoM THA compared to MoP THA.

Study 1: Based on data from the Danish Hip Arthroplasty Registry (DHR), revision causes and revision risk of CoC THA will be compared to MoP THA.

Study 2: 5,730 patients identified from the DHR will receive a questionnaire containing HOOS, EQ-5D, ULCA Activity Level Rating, and questions about noises from THAs.

Study 3: Based on data from the Nordic Arthroplasty Register Association, revision risk of stemmed MoM THA will be compared to MoP THA. Stratified analyses will focus on different brands of components.

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