

ORIGINAL ARTICLE

**Primary total hip arthroplasty in Catalonia: What is the clinical evidence that supports our prosthesis?☆**



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**KEYWORDS**

Arthroplasty  
replacement hip;  
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**Abstract**

*Introduction:* The implementation of National Prostheses Registries allows us to obtain a large amount of data and make conclusions in order to improve the use of them. Sweden was the first country to implement a National Prostheses Registry in 1979. Catalonia has been doing this since 2005. The aim of our study is to analyse the evidence that supports primary total hip replacement in Catalonia in the last 9 years, based on the Arthroplasty Registry of Catalonia (RACat).

*Material and methods:* A review of the literature was carried out of the prosthesis (acetabular cups/stems) reported in the RACat between the period 2005 to 2013 in the following databases: ODEP (Orthopaedic Data Evaluation Panel), TRIP database, PubMed, and Google Scholar. Those prostheses implanted in less than 10 units (182 acetabular components corresponding to 49 models/228 stems corresponding to 63 models) were excluded.

*Results:* A total of 18,634 (99%) implanted acetabular cups were analysed out of a total number of 18,816, corresponding to 74 different models. In 18 models (2527 acetabular cups) no clinical evidence to support its use was found. An analysis was performed on 19,367 (98.84%) out of a total number of 19,595 implanted stems, corresponding to 75 different models. In 16 models (1845 stems) no clinical evidence was found to support their use. Variable evidence was found in the 56 models of acetabular cups (16,107) and 59 models of stems (17,522), most of it corresponding to level IV clinical evidence.

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**Conclusions:** There was a significant number implanted prostheses evaluated (13.56% acetabular cups/9.5% stems) for which no clinical evidence was found. The elevated number of models is highlighted (49 types for acetabular cups/63 types for stems) with less than 10 units implanted, which corresponds to only 1% of the total implants. The use of arthroplasty registers is shown to be an extremely helpful tool that allows analyses and conclusions to be made for the follow-up and post-marketing surveillance period.

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## PALABRAS CLAVE

Prótesis total cadera;  
Registro;  
Evidencia clínica

## Artroplastias primarias de cadera implantadas en Cataluña: ¿qué evidencia clínica respalda a nuestras prótesis?

### Resumen

**Introducción:** La cumplimentación de registros sobre la implantación de prótesis permite obtener una gran cantidad de datos y extraer conclusiones que redundan en la mejora de la utilización de las mismas. Suecia fue el primer país en implantar un sistema de registro de artroplastias en 1979. Cataluña lo viene haciendo desde el año 2005. El objetivo de nuestro trabajo es analizar la evidencia que respalda a las prótesis implantadas en artroplastias totales de cadera primarias en Cataluña en los últimos 9 años sobre la base del Registro de Artroplastias de Cataluña (RACat).

**Material y métodos:** Se realizó una revisión en la literatura de las prótesis (cotilos/vástagos) registrados en el RACat entre los años 2005-2013 en las siguientes bases de datos: Orthopaedic Data Evaluation Panel (ODEP), Tripdatabase, Pubmed, Google académico. Se excluyeron aquellas prótesis implantadas en número inferior a 10 unidades (182 cotilos correspondientes a 49 modelos/228 vástagos correspondientes a 63 modelos).

**Resultados:** De los 18.816 cotilos implantados, se analizaron 18.634 (el 99%), correspondientes a 74 modelos diferentes. En 18 modelos (2.527 cotilos) no se encontraron evidencias clínicas que respalden su uso. De los 19.595 vástagos implantados se analizaron 19.367 (el 98,84%), correspondientes a 75 modelos diferentes. En 16 modelos (1.845 vástagos) no se encontraron evidencias clínicas que respalden su uso. En los 56 modelos de cotilos (16.107) y los 59 modelos de vástagos (17.522) restantes las evidencias variaron en función del número de pacientes y los años de seguimiento, predominando los estudios con nivel de evidencia IV.

**Conclusiones:** Existe un número significativo de prótesis implantadas evaluadas (13,56% cotilos/9,5% vástagos) en los que no se han encontrado evidencias clínicas. Cabe destacar el alto número de modelos (49 tipos para cotilos/63 tipos para vástagos) con una implantación inferior a 10 unidades que corresponden únicamente al 1% del total. La implantación de registros de artroplastias se revela como una herramienta extremadamente útil al permitirnos analizar y extraer conclusiones para la evaluación y el seguimiento poscomercialización.

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## Introduction

Scientific associations have been responsible for the introduction of prostheses registries which provide follow-up and evaluation of the different existing models of prostheses. The patient's quality of life is improved by joint replacements and arthroplasty registries optimise orthopaedic treatment and improve scientific knowledge concerning the use of information on the outcome of this type of surgery. Sweden was the first country to introduce an arthroplasty registry system in 1979.<sup>1</sup> Since then, different implant registry models have been implemented,<sup>2-5</sup> which has led to an improvement in healthcare quality and a higher level of transparency in the use of prostheses.

In Spain, a ministerial order was published in the Official State Bulletin (Order SCO/3603/2003 of 18th December) to

create National Implant Registries, and although they are not yet available, the Spanish Society of hip Surgery (SECCA), together with the Spanish Orthopaedic and Traumatology Society (SECOT), and the Spanish Agency for Medications and Healthcare Products (AEMPS), are working towards the creation of this tool.<sup>6,7</sup> In March 2005, Catalonia established the Catalan Arthroplasty Register (RACat). This registry principally collects the activity carried out in hospitals belonging to the Catalan public health system and contains information relating to patients, interventions and outcome from prostheses used. Initially, due to practical reasons, only knee and hip prostheses were included, which are those most frequently implanted.<sup>8,9</sup>

In today's context of continuous technological innovations and advances, the number of implants available is increasingly greater. It is therefore pertinent to have

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