



ELSEVIER

**EDITORIAL**

Establishing an international shoulder arthroplasty consortium

Shoulder replacement surgery has evolved dramatically since first attempted by Péan and Gluck² and modernized by Neer. Interest in shoulder replacement surgery is growing globally and, in many countries, is the fastest growing market in joint arthroplasty surgery. In the coming year, over 57,000 replacements will be undertaken in the United States and over 4,000 in Australia.^{1,4,6} To a large extent, this growth is based on successful outcomes with patients benefiting from carefully executed surgery, using implants with established track records. However, with arthroplasty surgery of any joint, problems may be slow to become clinically apparent and long follow-up is required. Inevitably, with increases in shoulder replacement rates, the future revision burden will increase as well. In addition, often large patient volumes are needed to detect differences in outcomes, which may be beyond the scope of clinical trials.

Internationally, joint arthroplasty registries are becoming increasingly recognized as important mechanisms for monitoring patient and prosthesis outcomes, providing large data sets that give an early indication when patient groups or implants are not functioning as expected. The ability to provide guidance and reduce revision burden in this current climate of increased scrutiny on health care expenditure has significant attraction. This level of monitoring requires informed clinician oversight to be relevant and interpreted appropriately.

International interest in collaborative arrangements among joint registries already exists in the sphere of hip and knee arthroplasty with the formation of the International Society of Arthroplasty Registries (ISAR) and a collaborative data-sharing arrangement sponsored by the Food and Drug Administration with the International Consortium of Outcome Registries (ICOR). This environment of high-level data sharing greatly increases the potential insights and level of understanding into causes for revision.

There are already a small number of national-level shoulder registries internationally, with the longest

experience coming from countries such as Sweden, Norway, Denmark, Finland, and New Zealand. Larger and newer registries have developed in Australia and the United Kingdom. In this milieu are regional and institutional registries from the Mayo Clinic and Kaiser Permanente, among others, in the United States. However, each registry has its own personality and strengths,⁵ with regions differing in philosophy on surgical indications and prosthesis selection. Clear communication channels and a common language are imperative to understand these differences and appropriately interpret and compare findings across various registries. Data sharing, surveillance, and early explicit identification of prostheses that are experiencing high revision rates will thereby reduce revision burden on patients and health systems in a cost-effective manner.³

With this as a backdrop, an inaugural meeting was held in New Orleans on March 12, 2014, alongside the American Academy of Orthopaedic Surgeons meeting, consisting of a group of enthusiastic and engaged surgeons, to explore the utility of forming an international shoulder arthroplasty registry group. Able sponsorship was provided by ICOR, with the facilitation of Liz Paxton (ICOR US Food and Drug Administration representative) and Professor Stephen Graves (ICOR Chair and Director of the Australian Orthopaedic Association National Joint Replacement Registry). The meeting was attended by representatives from national registries in Australia, Denmark, Finland, Norway, and Sweden. Regional registries from Kaiser Permanente, Hospital for Special Surgery, and the Mayo Clinic also had representation. Surgeons from Massachusetts General Hospital, Brazil, Japan, and Korea, with staff from a range of registry institutions, filled the small conference room, signifying the level of interest in this area.

We are very grateful to those who attended, as speakers from each institution and country shared insights on the establishment and structure of their respective registries

and participated in the collaborative discussion that followed. The highly engaged group is far from exhaustive, and wider international involvement is to be actively encouraged.

It is our hope that this will eventually form the basis of a group with aims to exchange information, collaborate, share data, and in the end, improve the outcomes of shoulder arthroplasty for surgeons and patients by enhancing our understanding of factors that influence revision. There are fundamental challenges going forward, such as establishing simple definitions of the types of implants and revisions and standardizing data sets across disparate registries for collaborative analysis. The group hopes to continue dialog remotely and unite again in the next year with some goals already emerging. We have the engagement and support of all in attendance and know that much work remains.

But, as Laozi, the Chinese philosopher, tells us, “A journey of a thousand miles begins with the first step.”

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