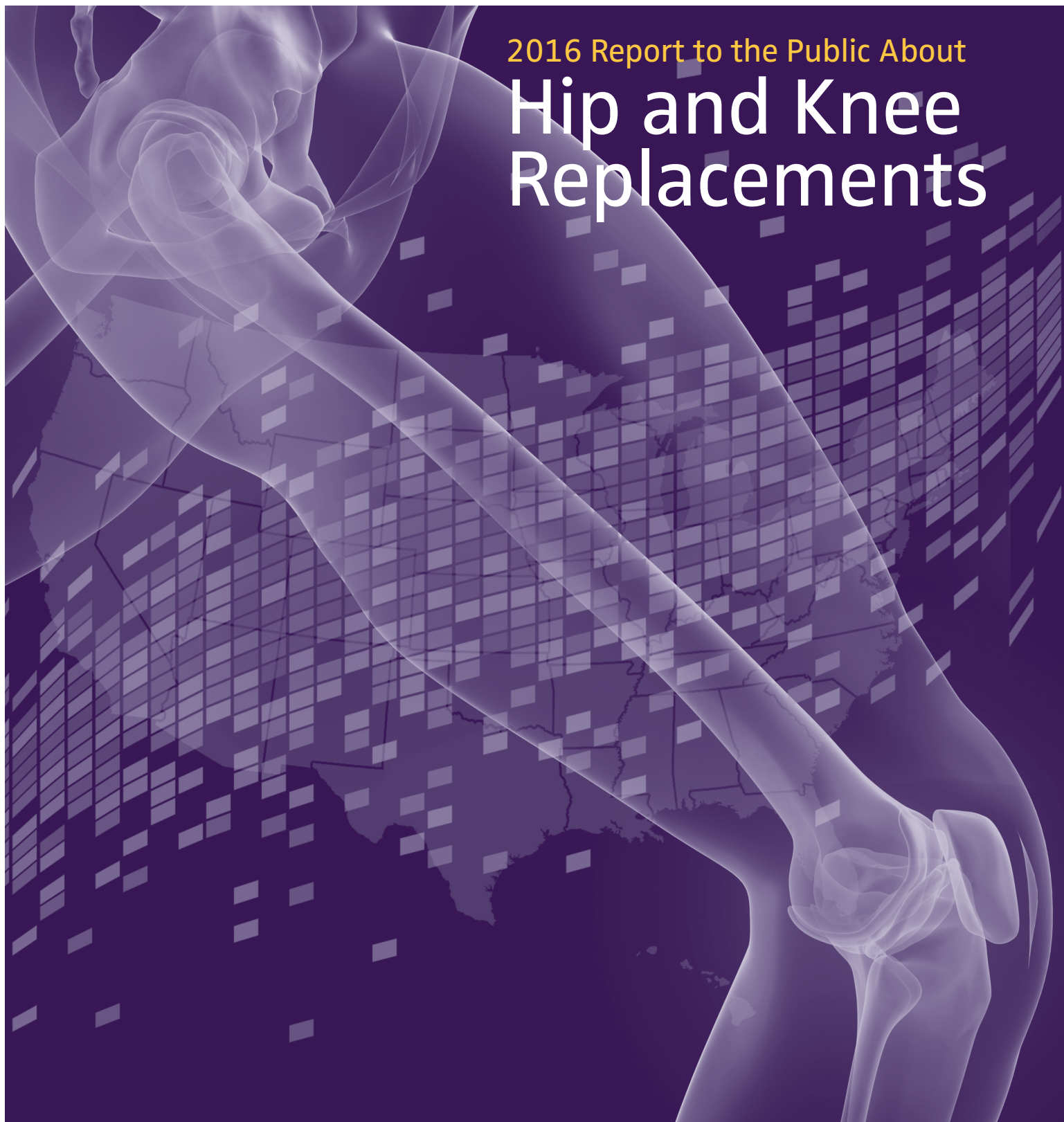


2016 Report to the Public About
**Hip and Knee
Replacements**



Using Data to Improve Patient Care

Joint replacement surgery has helped relieve pain and restore function for millions of people. Most people who have a hip or knee replacement say they have much less pain after surgery and are much better able to do their usual activities. But every patient is different, and many things can affect the outcomes of surgery for an individual patient. Collecting and analyzing data on many joint replacement operations helps doctors and other experts understand how to provide the best possible care for each individual patient.

That's why the American Joint Replacement Registry (AJRR) was established: to collect data from joint replacement surgeries and use it to improve future care and patient outcomes. This information helps doctors decide which type of artificial joint will work best, which surgical approach to use, and which recovery program is needed to ensure the best possible outcomes for each patient.

The American Joint Replacement Registry prepared this annual report to show the public what we are learning about hip and knee replacement surgery in the United States, and how that information is being used to continually improve the quality of patient care.

Protecting Your Privacy is a Priority

The American Joint Replacement Registry takes data privacy and security very seriously. Both the Registry and all participating facilities follow Federal laws to protect the privacy of your health information.



What Kind of Information is in the Registry?

A clinical data registry is a computer database that collects information (called data) about your health and the care you receive as a patient. The AJRR tracks information about hip and knee replacements in the United States. The Registry includes information such as:

- The age and sex of patients who have joint replacements, and basic information about their health
- The names of the surgeon and hospital
- Whether the joint replacement was a first-time (primary) or 're-do' (revision) surgery
- The reason for the surgery
- Whether the patient experienced any complications (problems after surgery)
- What type of artificial joint parts (implant components) were used

This kind of information is routinely collected by hospitals. The Registry gathers this information from hundreds of hospitals around the United States. Collecting the data in a central Registry allows the information to be used in many ways to improve patient care.

How is this Information Used?

Data collected from joint replacement surgeries can be used to help doctors see how they are performing. Over time, as the Registry collects this information over many years, it will be possible to see if there are patterns in the data that help doctors monitor joint replacement outcomes and continue to improve the process so that it is as safe and effective as possible. The information provides valuable insight that helps with future care.

Surgeons use the information to decide which joint replacement materials and procedures are best for an individual patient.

Hospitals use this information to understand how well their patient safety practices and their surgeons contribute to successful outcomes.

Companies that produce hip and knee replacement components use this information to learn about how their products perform and what they can do to improve them.

Patients use this information to understand the value of the specific treatment plan their doctor recommends.

In addition, the Registry keeps track of implants in case a defect or problem is discovered so that doctors can determine if patients may need to seek care if problems are found. In no way are we sharing your data with companies. The output is **not** identifiable.

7
MILLION

More than 7 million
Americans have
had hip or knee
replacements

Why is a Registry Important?

When information about patient care and outcomes is collected in a registry, it can provide valuable insight that doctors and hospitals can use to improve the quality and safety of care for hip and knee replacement patients. Researchers may also use the data to study specific questions about joint replacement. Additionally, data from clinical registries also support medical education and the certification of health professionals, such as nurses and physical therapists. In short, the Registry helps patients receive the best possible care.

How do I Know if my Hospital Participates in the Registry?

You can visit our website at www.AJRR.net to see if your hospital, surgery center, or private practice group is providing data to us. Additionally, many of the facilities will promote their AJRR participation on their website or in their orthopaedic department. Or, you can ask your surgeon if his/her institution is participating.

“AJRR’s data has been invaluable in our pursuit to provide better care for our joint replacement patients.”

Amanda James, CEO Swedish Covenant Hospital

XYZ hospital proudly participates in the American Joint Replacement Registry. The AJRR is committed to improving care for patients who receive or are considering hip and knee replacement by collecting and reporting data to support continuous quality improvement and safety in surgical procedures and protocols, outcomes management, and medical device efficacy.

Why do People Have Hip Replacement Surgery?

HIPS

70% Almost 70% of hip replacement operations are done to relieve symptoms of osteoarthritis. About 10% of hip replacements are done to treat a hip fracture.

The hip is a 'ball and socket' joint. The 'ball,' which is the top of the leg bone (femur), is called the femoral head. The 'socket,' which is part of the pelvis, is called the acetabulum. Most hip replacements (about 80%) involve replacing both parts with artificial components or surfaces. But sometimes the surgeon may choose to replace just one part. For example, data from the Registry looked at the surgical treatments for hip fractures. Over the past several years, partial hip replacement (called hemiarthroplasty) was the most common surgical treatment for hip fractures that involve just the head of the femur. However, the Registry data showed that, over these past few years, total hip replacements are increasingly being performed for hip fractures, thus indicating a slight change in surgeon practice.

Registry Data from 2012 to 2015 Show:

About 10% of hip replacements are so-called 'revisions.' That means that the patient had a 'first-time' (primary) hip replacement, and is now having a 're-do' (revision) hip replacement. Sometimes a revision is done within the first few months; for example, because of dislocation, infection, or fracture. Other times, a revision is done many years later; for example, because the original implant has worn or become loose. Over time, data in the Registry will be able to 'link' information about primary and revision hip replacements to better understand what happens to joint replacements over time and how to help them last as long as possible.

Who has hip replacements?
More than half are women



57%



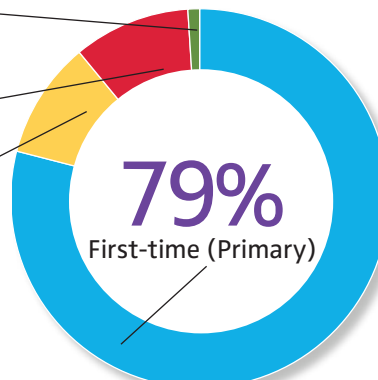
43%

Most hip procedures in 2015 were first-time (primary) hip replacements

1% Hip Resurfacing

10% Partial/Hemiarthroplasty

10% Re-do (Revision)



People having revision replacements are about 2 years older than those having their first hip replacement



65 | 67

Why do People Have Knee Replacement Surgery?

87%

About 87% of knee replacements are operations done to relieve symptoms caused by osteoarthritis.

Knee replacements use two components. The femoral component attaches to the bottom end of the thighbone (femur). It moves against a hard plastic tray attached to a metal component at the top of the shin (tibia). If only one side of the knee joint is damaged, smaller components may be used to replace only the damaged area (called a unicompartmental or partial knee replacement).

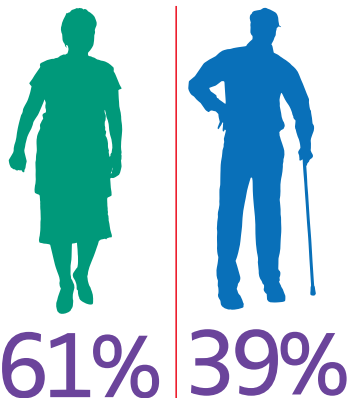
Different types of knee implants may be used, depending on the strength and stability of the muscles, ligaments and other soft tissues around the knee joint. Other factors include how active the patient is, how much range of motion they need in the knee, and how long the artificial knee is expected to last.

Registry Data from 2012 to 2015 Show:

Less than 10% of knee replacements are so-called 'revisions.' That means that the patient had a 'first-time' (primary) knee replacement, and is now having a 're-do' (revision) knee replacement. Sometimes a revision is done within the first few months; for example, because of infection or loosening of the implant. Other times, a revision is done many years later; for example, because the original implant has worn or become loose. Over time, data in the Registry will be able to 'link' information about primary and revision knee replacements to better understand what happens to joint replacements over time and how to help them last as long as possible.

SEE
KNEES

Who has knee replacements?
Most are women



People having revision replacements are about 4 years older than those having their first knee replacement



Patient-Reported Outcomes

In 2014, the Registry added a new category of information to its database: patient-reported outcomes (PRO). Patient reported outcomes can be valuable tools for understanding a patient's health status, making decisions about patient care, and for evaluating the effectiveness of quality improvement efforts.

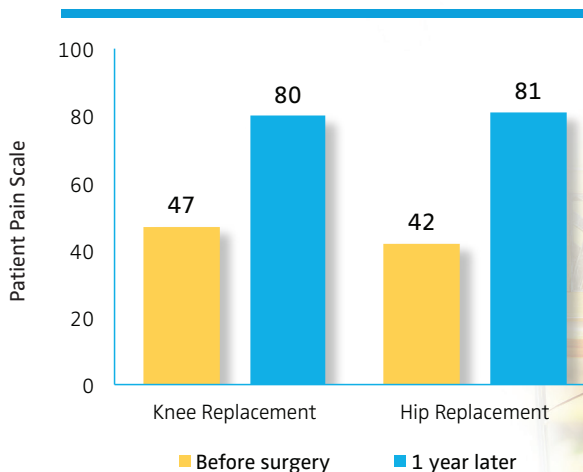
What are Patient-Reported Outcomes?

A patient-reported outcome is any information on the results of health care that comes directly from patients without being modified or interpreted by health professionals. Patient-reported outcomes measures include quality of life data, such as how well a patient reports their progress on physical function or mental attitude at different times in the recovery process, or disease-specific data, such changes in pain following knee replacement.

This kind of information can provide a fuller picture of the impact of the care you receive. By reporting on issues such as how much pain you have or how well your hip or knee is functioning as you progress through your recovery, you can help your healthcare providers make better decisions for patients in the future.

For example, in 2016, the Registry began collecting patient-reported data from patients who had hip and knee replacements. The surveys asked patients how much pain, stiffness, or difficulty they had while walking, sitting, standing, shopping, bathing, and doing other daily activities. These patients took surveys before surgery and again one year later.

Pain, stiffness, and function are all improved after joint replacement surgery



If the hospital or ambulatory surgery center where you have joint replacement surgery is collecting patient-reported outcomes, you may be asked to complete surveys before surgery and again six and/or 12 months later. When you fill out and return these surveys, you help physicians and hospitals make better decisions that improve patient care and patient



AJRR's MISSION

To improve orthopaedic care through the collection, analysis,
and reporting of actionable data

AJRR's VISION

To be the National Registry for orthopaedics through comprehensive data
and technology resulting in optimal patient outcomes

The voice of the patient is present in the governance activities of the AJRR through the Public Advisory Board (PAB) and representation on the AJRR Board of Directors. The mission of the PAB is to improve the value of the American Joint Replacement Registry by ensuring a public voice in the Registry's data collection, reporting, and utilization activities. The PAB members during the publication of this report include:

Margaret VanAmringe, MHS – PAB Chair and AJRR Board Member

John A. Canning Jr.

David G. Mekemson

Timothy M. Mojonier

Richard Seiden, Esq.

Diana Stilwell, MPH

Lori Boukas, MS – AJRR Staff

Resources

The American Joint Replacement Registry believes that the more you know about hip and knee replacement as well as the Registry, the better you will understand the important role you play in improving care for these procedures. You can learn more by visiting the patient section of the AJRR website at www.ajrr.net/for-patients.

The full 2016 clinical AJRR Annual Report can be found here www.ajrr.net/publications-data. (ISSN 2375-9119)

Here are Some Other Helpful Patient Education Resources Related to Hip and Knee Replacement:

American Academy of Orthopaedic Surgeons OrthoInfo

<https://orthoinfo.aaos.org>

American Association of Hip and Knee Surgeons

<http://www.aahks.org/care-for-hips-and-knees>

National Institute of Arthritis and Musculoskeletal and Skin Diseases

<http://www.niams.nih.gov>

WebMD

Hip Replacement Surgery

<http://www.webmd.com/arthritis/surgery-hip-replacement>

Knee Replacement Surgery

<http://www.webmd.com/osteoarthritis/guide/knee-replacement-surgery#1>

This is our first patient summary of our data, and in time, will become more useful as we capture more data. The ultimate goal is to provide better care by being able to report how long a hip or knee will last. For suggestions on what you would like included in future editions, please contact the AJRR.

The material presented in this report has been made available by the American Joint Replacement Registry for educational purposes only. This material is not intended to present the only, or necessarily best, methods or procedures for the medical situations discussed, but rather is intended to represent an approach, view, statement, or opinion of the author(s) or producer(s), which may be helpful to others who face similar situations.

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