The National Joint Registry for England, Wales and Northern Ireland is working to improve your experience of joint replacement

Patient FAQs
Summary of key facts
Hospitals and surgeons
Procedures and implants
Welcome to this Public and Patient Guide to the NJR Annual Report 2014

As joint replacement patients, we know how important it is to receive good quality information to help you understand more about your options and the treatment that has been recommended for you. That’s why the NJR continues to produce a patient guide alongside its main report.

Joint replacement is a highly successful operation that can bring relief from pain and improve mobility. In fact, looking at patient feedback before and after their operation, a national survey revealed that the majority of patients were more than satisfied after their operation and 85.6% reported they were much better1. However, going through the process can be baffling and many patients do not always understand their options or the detail of their treatment plan. There are also lots of variables that can affect the final outcome for each individual. We know that access to NJR data – including details of more than 1.85 million operations carried out since 2003 – can be a helpful tool for thought and discussion.

We hope this guide provides information to help you consider questions for your surgeon and healthcare team about the treatment and implant recommended for you. The same is true for friends and family members who might be supporting you at this time.

We hope you seek out support, or share this guide with others in order to get a better sense of how the information and data inside can help you.

Whatever the reason for your hip replacement, there are many others going through the same process, and it may help to know you are not alone. There is additional support out there for you on shared decision-making as well as advice on looking after yourself before and after surgery. We have listed some of the organisations that can help at the back of this guide.

The National Joint Registry, now in its 11th year, doesn’t work in isolation – the information in this document is just one source that we hope will help you feel more confident in asking questions about your surgery, your implant and your recovery.

We will produce this guide each year, as the NJR continues to report on the growing number of joint replacement records it holds. Feedback is welcome at any time and you can contact NJR Communications on 020 7997 7370 or email: communications@hqip.org.uk

We would like to extend thanks as always to our NJR Patient Network, for their helpful thoughts, ideas and comments in ensuring this guide is as useful to patients as it can be.

1. PROMs are a series of pre- and post-operative questionnaires that ask patients about their experience and perspective of the quality of care and treatment received in England. These results are taken from 93,881 hip replacement patients who filled in both questionnaires between 2009-2012.

Mary Cowern
Right and left knee replacement patient including revision

Sue Musson
Pre-operative hip replacement patient
What hip replacement patients said about their progress after surgery²

² Overall, patients who filled in both questionnaires tended to be healthier before surgery therefore would be less likely to have potential complications after the operation.
About the NJR

How does the NJR help patients?
We record information about joint replacement operations in England, Wales and Northern Ireland in order to monitor the results of joint replacement surgery and protect patient safety. Using those records, we provide information and evidence to:

- Help surgeons choose the best artificial joints (implants) for patients
- Empower patients by helping them find out more about the implants available to them
- Improve patient safety by showing how well implants, surgeons and hospitals perform and take action where it is needed
- Give hospitals, surgeons and implant manufacturers feedback about their performance to help them improve patient care
- Help surgeons quickly decide whether patients need to return to hospital if implant problems are found

We currently collect information on hip, knee, ankle, elbow and shoulder procedures however elbow and shoulder joint replacements have only been part of the registry since April 2012.

England and Wales have been covered since 2003 and Northern Ireland joined in February 2013. Currently, Scotland has its own joint replacement registry.

What information is collected?
Your hospital will input specific details of your operation into the NJR. This will include the type of implant you received, which surgical technique was used, which side of your body the implant went into as well as your age and gender.

The NJR asks all patients to consent to have their personal details (name, date of birth, address and NHS or national patient number) recorded with their operation details – this allows the NJR to be more effective in its role of monitoring and improving patient care.

Why does the NJR need my personal details?
Your details allow the NJR to link you to the implant(s) you received during surgery. If for instance, you need an operation in the future to replace a first-time implant, the NJR can measure the time between the operations. Adding together this time from all patients’ operations tells us how well different implants, hospitals and surgeons perform.

Also, in the rare event that a problem is found with a particular brand or type of implant, recording your personal details on the NJR can also speed up and support the hospital process of reviewing affected patients.

Please be assured that your personal information is kept confidential at all times and secure protocols are in place to ensure it is kept safe. If you would like more information about this then please see the NJR patient consent form and NJR patient information leaflet. Alternatively, you can find out more on our website at www.njrcentre.org.uk

Giving your consent is voluntary however, 91.8% of patients agreed to have their details added to the NJR last year.

Who else do you share the data with?
There are lots of different ways we share and use the data, ensuring that the evidence we collect is used to inform clinical decisions and improve joint replacement surgery. For example, surgeons, hospital management and manufacturers of implants can all use their own unique online system (via a secure log-in) designed to give them access to information that can inform, influence and improve their work.

Security and confidentiality is always paramount and there are multiple safeguards in place to ensure that patient identities are protected.
Can I access the information recorded about me?

Yes. As a patient, if you gave consent to have your details added to the NJR, you can request to see your records at any time by completing a patient operation request form. This is available to download from www.njrcentre.org.uk

I’ve heard the data are also used for research?

We are pleased to have an active research policy and make sets of data available for specific research so that more can be learnt about implants, surgery and their results. The release of data for projects are subject to very strict scientific and ethical controls and are only approved where they can prove that the work will enhance the understanding of joint problems and how they can be best treated.

An example here is the NJR’s extended Patient Reported Outcome Measures (PROMS) project (mentioned in the welcome). These are questionnaires sent to patients before and after surgery to collect measurements of pain and physical function.

We are following-up with a group of 50,000 patients at the moment and have recorded information at 1 and 3 years and will soon be planning to do this again at 5 years. This research project was approved because it can help build up a very detailed picture of the factors that are most important in ensuring a successful surgical outcome from the patient’s perspective.
About hip replacement

There are many organisations that provide additional general information about joint replacement, including specific guidance before and after surgery as well as online discussion forums. Please see page 19 for their contact details.

What is a hip replacement?

A hip replacement, often referred to as a hip implant (and sometimes simply as a ‘device’), is, in basic terms, an artificial implant that replaces a hip joint that is damaged.

Joint replacements are nearly always carried out because of pain that cannot be controlled by other methods such as painkillers, physiotherapy or other surgery. The most common cause of pain is osteoarthritis or inflammatory arthritis.

Patients receiving a partial hip replacement following a hip fracture are not recorded on the NJR but are recorded on a separate National Hip Fracture Database. If you are interested in finding out more about this, please visit www.nhfd.co.uk

What healthcare staff will be involved with my treatment?

Once it has been suggested to you (commonly by your GP) that a hip replacement may be advisable, they may well refer you to a musculoskeletal clinic (MSK) or another GP with a speciality in the area for further assessment.

If you are then referred to hospital you will see an orthopaedic surgeon or a member of his or her team. This may be followed by a pre-surgery assessment clinic(s) where you may be seen by nurse practitioners. Either at this clinic, or on the day of your surgery, you will also see an anaesthetist to discuss options for anaesthesia and pain relief.

These appointments are also the times when you are most likely to receive information about the registry and be asked whether you would like to consent to have your personal details recorded. Your hospital should ask you to consent to your details being entered into NJR, and we recommend that you do.

Please ask for the NJR consent form if it is not offered to you.

During your hospital stay, you might also see an occupational therapist or physiotherapist who will advise you on your aftercare and help you prepare for your recovery after the hospital stay. Together, these staff make up what is commonly called your healthcare or clinical team.

Do I have to have a hip replacement? What are the alternatives to surgery?

The final decision to have an operation or not remains with you the patient. It will be based on the risks and benefits of having a hip replacement or choosing not to (these choices should be made clear to you). It may be that other options are available including, but not limited to, medication, physiotherapy, weight loss or other lifestyle changes.

Can I choose which hospital and surgeon perform the operation?

In principle, yes — as part of the NHS Choices initiative, you do have the option in England to be referred to a specific hospital or surgical team (options may be more limited elsewhere). Of course each individual case is unique, and the reasons for requesting a specific hospital need to be justified, as do any costs and other implications associated with a request to be treated at a non-local hospital. The NHS is not able to provide a commitment that a specific surgeon will carry out your operation.

Can I get a second opinion?

The appointments you have prior to the operation (referrals to a musculoskeletal clinic and/or hospital-based assessments) are designed to further discuss and analyse your GP’s initial diagnosis. If you are unsatisfied having met with your surgeon, you can return to your GP and ask to see a different surgeon.

You could also use services like NJR Surgeon and Hospital Profile at www.njrsurgeonhospitalprofile.org.uk and NHS Choices to find out more about the hospitals and surgeons that provide services in your area. The services currently cover England but may extend to Wales and Northern Ireland in the future.
What are the risks involved with having a joint replacement procedure?

The overall risk involved in joint replacement is very low. With any surgical procedure there is a small risk of medical complications such as heart attack, stroke and developing blood clots (thrombosis). Infection is rare, typically less than 1%.

Other surgical problems are also rare, but include dislocation, fracture, unequal length, nerve damage, pain and stiffness. Your surgeon will go through all of the risks before you sign a surgery consent form.

With time, some implants wear out or become loose and occasionally break, leading to the need for further replacement (revision) surgery. The latest NJR data shows that most patients have less than a 5% chance of needing revision replacement surgery within ten years of having the original operation. In many cases, patients’ implants last for much longer than ten years.

What kind of implant (artificial joint) will be used? Are there options?

There are several types of implant largely described by how they are put together and the materials that they are made out of. As part of your hospital-based assessments, the most suitable device for your individual situation will be established and you will be able to discuss this choice with your surgeon. The most regularly used implants and options are outlined in this guide on page 12. Evidence on the revision rates for different types of implant and for different brands of implant can be found (in part) on page 16 of this guide and in the full NJR Annual Report at www.njrreports.org.uk starting at page 34.

How can I find out how many joint replacement procedures my local hospital carries out and the results of those operations?

For the third time, the NJR has published hospital-level information for hip and knee replacements as part of its full NJR Annual Report. It includes for example, information on the number of procedures reported to the NJR in 2013 as well as the number of Consultants at the hospital and average patient age. This section also includes analysis of hospital data and reports which hospitals were identified as having higher than expected revision or mortality rates.

A summary is included on pages 10 to 11 of this guide.

My local hospital seems to have higher than expected rates for procedures such as revisions, should I be concerned?

Your GP and/or your clinical team should also be able to provide information as to the numbers and results of procedures carried out locally. Statistics such as the numbers of revisions carried out should not on their own be taken as a guide to the standards of a hospital.

The fact that your local organisation carries out significant numbers of revisions could be due to a number of reasons, for example, it could be a specialist centre in performing such surgery. If you have any doubts or questions, speak with your GP or your healthcare/clinical team.

How can I find out how many joint replacement procedures my surgeon carries out?

As part of NHS England’s transparency initiative, the NJR now publishes surgeon performance information along with information about the hospitals where those surgeons work. The information is not contained in the NJR Annual Report but can be found online at www.njrsurgeonhospitalprofile.org.uk

In 2014, more than 2,000 records were available to search for any surgeon who had carried out one or more hip, knee, ankle, elbow or shoulder replacements for the NHS in England. For each surgeon listed, it is possible to access information about their practice including how many procedures they carried out of each type, and information about mortality rates. See page 9 of this guide for more information about this service.

Did you know that many hospitals run ‘Joint Replacement Schools’ as part of the NHS Enhanced Recovery Programme?

This is a chance to meet patients who have had or will be having a joint replacement operation.
**Facts about hip replacements in 2013**

**Hips**

89,945 replacement procedures were recorded 2013

↑ 3.8% over 2012 (86,488)

recorded on NJR since April 2003

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60%

average ages:

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
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<tr>
<td>67.3</td>
<td>69.8</td>
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Diagnosis

91% osteoarthritis

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89%

NHS funded:

88%

Average BMI

28.7 = 'overweight'

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*Facts shown relate to primary operations in 2013 – the first time a total joint replacement is carried out on any individual joint in a patient*
Surgeon and hospital information

Information on more than 2,000 joint replacement surgeons carrying out orthopaedic surgery for the NHS in England is available for public access at www.njr.surgeonhospitalprofile.org.uk

The data, published for the second time, are collected and presented by the NJR. Around 500 additional surgeons are covered this year for the first time as surgeons carrying out ankle, elbow and shoulder joint replacement surgery are now included alongside hip and knee surgeons.

The published surgeon profiles cover:
- Hospitals where a Consultant in charge works
- Number of primary and revision joint replacement procedures undertaken and overseen by each Consultant in charge over one and three years
- Mortality rates within 90 days of surgery for hip and knee replacements (2003-2014)
- Information about the use of hip implants that have been independently assessed against safety guidelines
- New Consultant in charge indicator

Your surgeon might not be listed on NJR Surgeon and Hospital Profile website if they have not undertaken NHS-funded joint replacement surgery in England since 2011 as Consultant in charge (a Consultant in charge is responsible for the operation but may not have performed the surgery). Consultant surgeons who only practice in Wales, Northern Ireland or the independent (private) sector are not automatically included.

Remember you can also talk to your surgeon about their experience. If you would like to ask but feel uncomfortable doing so, perhaps consider taking a friend or family member to your appointment

Why can’t I find my surgeon on the website?

Your surgeon might not be listed on NJR Surgeon and Hospital Profile website if they have not undertaken NHS-funded joint replacement surgery in England since 2011 as Consultant in charge (a Consultant in charge is responsible for the operation but may not have performed the surgery). Consultant surgeons who only practice in Wales, Northern Ireland or the independent (private) sector are not automatically included.

Remember you can also talk to your surgeon about their experience. If you would like to ask but feel uncomfortable doing so, perhaps consider taking a friend or family member to your appointment

Find out more: This website service will be updated with additional hospital and surgeon information in 2015, so check back to see how the online profiles have been updated. Share www.njr.surgeonhospitalprofile.co.uk with your friends and family.
The NJR annual report gives performance indicators for NHS and independent hospitals in England, Wales and Northern Ireland in 2013. Participation in the NJR has been mandatory for the NHS since 2011. For the independent sector, it has been mandatory since 2003 (when the registry started).

- In 2013, 154 NHS Trusts and Health Boards (234 hospitals) and 175 independent hospitals reported patients to the NJR
- 77% of NHS Trusts and Health Boards reported 95% or more of the joint replacements they carried out and only
- 7% of NHS Trusts and Health Boards reported less than 80% of the joint replacements they carried out
- The independent sector do consistently submit their operations to the NJR though the registry currently does not have a way of cross-checking to ensure all of the relevant procedures are submitted. This is the reason why there are no specific facts relating to independent (private) hospitals

Of 409 hospitals that carried out operations:
- There were no outlier hospitals identified for hip mortality rates
- A total of 34 hospitals had higher than expected revision rates for hip surgery

Hospitals with higher than expected revision rates 2003-2013 (outliers)

What is an outlier?
Outlier analysis aims to identify ‘unusual differences’ in data from ‘normal variations’ which might indicate the need for a hospital to investigate its clinical practices and processes.

How is it worked out?
The numbers of hip replacement revision operations for each hospital are compared to the expected numbers for the period 2003-2013. The expected number takes into account the types of patients the hospitals operates on as some providers see different proportions of higher-risk or lower-risk patients. For example, adjustments are made for the age of the patients a hospital might see.

How many hospitals were outside of the expected range?
A total of 34 hospitals had higher than expected rates of revision for hip surgery. They all reported a result that was outside the expected range. How far a hospital falls outside of the expected range varies and for the purposes of this analysis, two groups were identified. One group of hospitals fell a little outside the expected range and one group fell a longer way outside the expected range.

It should be noted that these results are based on all cases submitted to the NJR since 2003. Some of these outlying hospitals may have changed their practice but their overall results have not yet reflected this change. Patients are encouraged to view the additional information at www.njrseourchospitalprofile.org.uk to gain a wider understanding of the operations this hospital carries out. See page 9 of this guide.

Please ask your surgeon or healthcare team for more information about this result if you are concerned.

Find out more: This information relates to hospital-level activity in 2013 across England, Wales and Northern Ireland and can be found in the online Annual Report information at www.njrreports.org.uk
Who was identified as an outlier?

**Hospitals a little outside of the expected range**

10 hospitals returned a result outside of the expected range. This indicates ‘unusual differences’ in data which indicates the need for further investigation.

Around 1 in 500 hospitals would find themselves in this group by chance.

- Colchester General Hospital
- Conquest Hospital
- Homerton University Hospital
- St Michael’s Hospital
- Salisbury District Hospital
- Pilgrim Hospital
- University Hospital (Coventry)
- Ramsay New Hall Hospital (Wiltshire)
- Spire Gatwick Park Hospital (Surrey)
- Spire Tunbridge Wells Hospital (Kent)

**Hospitals a longer way outside of the expected range**

24 hospitals returned a result further outside of the expected range. This indicates more significant and ‘unusual differences’ in data which indicates the need for further investigation.

Around 1 in 10,000 hospitals would find themselves in this group by chance.

- Nevill Hall Hospital
- The Royal London Hospital
- Sussex Orthopaedic NHS Treatment Centre
- Llandough Hospital
- Prince Charles Hospital
- Queen Elizabeth The Queen Mother Hospital
- Basingstoke and North Hampshire Hospital
- Medway Maritime Hospital
- University Hospital of Hartlepool
- University Hospital of North Tees
- North Tyneside General Hospital
- Musgrove Park Hospital
- Rotherham District General Hospital
- St Albans City Hospital
- Watford General Hospital
- York Hospital
- BMI The Somerfield Hospital (Kent)
- Nuffield Health Brighton Hospital (East Sussex)
- Nuffield Health Tees Hospital (Cleveland)
- Nuffield Health York Hospital (North Yorkshire)
- Ramsay Ashtead Hospital (Surrey)
- Ramsay Clifton Park Hospital (North Yorkshire)
- Spire Dunedin Hospital (Berkshire)
- Spire Cardiff Hospital (Glamorgan)
Introduction to hip implants

To help you digest the information and analysis included in this guide, we have included an explanation of hip replacement. Hip replacements are made up of a number of parts (components) which can be made of different materials. As a result, the surgeon can select a number of different combinations to help meet a patients’ needs.

When a hip replacement stem and cup are fixed into place using bone cement, this is known as a cemented procedure. When they are fixed into place without any bone cement, this is called an uncemented procedure.

Some procedures will use bone cement with just the hip stem and not the cup, this is known as hybrid procedure. Some require the hip cup to be cemented but not the stem and these are referred to as reverse hybrid procedures.

The main implant components are described below:

Femoral stem
This part of the joint replacement is seated in the thigh bone (femur) after removal of the ball at the top of the thigh bone (the patients’ existing femoral head). It may be cemented in place using bone cement. Alternatively, it may be uncemented. This tends to rely on a tight fit into the space in the centre of the thigh bone (known as the shaft of the femur) and in some cases, subsequent bone growth onto the surface of the implant itself. Sometimes a special coating is applied to encourage this.

Femoral head
This is the artificial ball that fits on the top of the femoral stem and moves in and against the hip socket (the acetabular component or cup). The head can be made of metal or ceramic and comes in a number of different sizes.

Earlier designs of hip replacement used femoral head sizes between 22.25mm and 32mm in diameter. More recently larger head sizes have become widely used, but not for long enough to know if they have any effect on the long-term outcome of total hip replacement.

Acetabular component
This is the cup or socket of the hip and there are two basic types.

Cemented cups are made of a type of hard wearing plastic (known as ultra-high molecular weight polyethylene). This type have only undergone minor modification since the 1960s. They are fixed into the prepared hip socket (acetabular) with bone cement.

Cementless cups generally have a metal shell with a back that encourages bone growth into it. They are fitted tightly into the prepared hip socket and the fixation may be reinforced with screws. A liner is then fixed into the shell. The liner may be plastic, ceramic, or metal.

Resurfacing hip
These use a conventional uncemented hip acetabular cup, but instead of the femoral head being removed, it is reshaped and a metal cap placed over it. Both components are made of metal. NJR data has confirmed other reports that in most patient groups they have an inferior performance to conventional hip replacement and they are now not recommended in older patients, women or smaller men because of high failure rates.
**Bearing surfaces**

The movement between the femoral head (ball) and acetabular cup (socket) is known as the bearing surface. As with any two surfaces, repeatedly rubbing them together will cause the surfaces to wear and over time this produces minute particles of debris. These particles can spread into the tissues immediately around the hip joint and this has been shown to have a major role in artificial hip joints becoming loose over time.

**Metal-on-plastic**

The original hip replacement had a metal head articulating with a plastic cup. This produces minute plastic debris but is still in widespread use and long-term studies suggest that it is suitable for older patients. Efforts to reduce the amount of debris released and make hip replacements last longer have led to efforts to make changes to the bearing surfaces.

A new form of highly cross-linked polyethylene has better wear properties than standard polyethylene in testing. Studies to look at the wear rates of this modified plastic cup in patients are encouraging, but it has not been in use for long enough to know if this will contribute significantly to a longer lasting metal-on-plastic hip replacement.

**Ceramic-on-plastic**

The use of a ceramic head, as opposed to a metal one, has also been shown to reduce wear rates when used with plastic cups in testing and clinical studies. The ceramic surface is smoother and more resistant to scratching.

Early results from the NJR are very encouraging and at 10 years this is the bearing with the best reported outcomes. However, again, there are no longer-term studies to confirm that this will mean longer lasting hip replacement when compared to current products and other hip replacement types.

**Ceramic-on-ceramic**

In a continued effort to prevent the loosening of artificial hip implants, after years of wear, top alternative bearing surfaces have been used including metal-on-metal and ceramic-on-ceramic. Here, the head and cup are made of the same material.

Ceramic-on-ceramic bearings have been in widespread use for less than 10 years. Although early results are promising it is not yet known if this will result in a longer lasting hip replacement. As the NJR grows, the data will provide more evidence to help answer these questions.

**Metal-on-metal**

Metal-on-metal bearings became popular in the mid 2000s but the NJR identified very poor results for this type of implant. Their use has now largely been abandoned and in 2013, less than 0.1% of operations used this bearing type.

All patients are individuals and many have unique problems that require an operation to be tailored to their specific needs. If you have any questions about the hip type your surgeon is planning to use in your care, he or she would be happy to explain the reasons for choosing a particular implant.
Hip replacement operations in 2013

Operations
A total of 89,945 hip replacement operations were reported to the NJR in 2013. Of these:
• 80,194 were first-time (or primary) procedures – 4% more than in 2012. The average age for men was 67.3 and the average age for women was 69.8. Women were treated in 60% of cases
• 9,751 were re-do (or revision) procedures - around the same as carried out in 2012. Women were treated in 57% of cases

First-time hip replacement patients in 2013

How implants were fixed into place
Of all the 80,194 first-time hip replacements that took place in 2013:
• 33% were cemented procedures the same as 2012
• 42% were cementless procedures – 3% less than 2012
• 23% were hybrid procedures – 2% more than 2012
• 1% were resurfacing procedures and less than 0.01% were large head metal-on-metal. This decrease is due to proven poor results for these types of metal-on-metal implant

A patient’s age and gender, as well as diagnosis, continues to influence the type of hip replacement carried out and some further information and commentary can be been on the opposite page (page 15).

Surgical technique
Surgical technique is the approach the surgeon uses to make the incision and access the joint in order to carry out the hip replacement. In 2013:
• The posterior approach to surgery (making the incision and accessing the joint for surgery) was the most widely used, in 65% of cases. The lateral approach was also commonly used in just over 30% of procedures
• Minimally-invasive surgery (including the direct anterior approach) was used in just 5% of cases and less than 1% used image-guided surgery

Treatment to prevent blood clots (known as thromboprophylaxis)
• The most common chemical treatment used was low molecular weight heparin, used in 74% of procedures. This was followed by direct thrombin inhibitor at 15%
• The most commonly used mechanical treatment was TED (anti-embolism) stockings at 67%, followed by use of foot pumps at 26%
• Most patients were recommended both a chemical and mechanical treatment

Untoward events
• 1% of operations experienced untoward events, the commonest of which was fracture

Find out more: This information relates to the reports on clinical activity in 2013 across England, Wales and Northern Ireland and can be seen in the online Annual Report information at www.njrreports.org.uk. This includes a number of interactive charts where filters can be applied.
### Analysis: Hip replacements 2003-2013

About first-time hip replacement types in men and women 2003-2013

#### Men: How implants were fixed into place by age group

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<thead>
<tr>
<th>Type of Implant</th>
<th>&lt;55</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
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<tr>
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<td>7.8%</td>
<td>17.6%</td>
<td>36.3%</td>
<td>51.3%</td>
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<tr>
<td>Uncemented</td>
<td>49.1%</td>
<td>50.5%</td>
<td>41.7%</td>
<td>28.6%</td>
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<tr>
<td>Hybrid</td>
<td>10.7%</td>
<td>13.4%</td>
<td>16.3%</td>
<td>17.1%</td>
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<tr>
<td>Reverse hybrid</td>
<td>0.9%</td>
<td>1.71%</td>
<td>2.4%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Resurfacing</td>
<td>31%</td>
<td>16.8%</td>
<td>3.2%</td>
<td>0.3%</td>
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</table>

#### Women: How implants were fixed into place by age group

<table>
<thead>
<tr>
<th>Type of Implant</th>
<th>&lt;55</th>
<th>55-64</th>
<th>65-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cemented</td>
<td>12%</td>
<td>23.4%</td>
<td>43%</td>
<td>57.7%</td>
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<tr>
<td>Uncemented</td>
<td>56%</td>
<td>51%</td>
<td>36%</td>
<td>22%</td>
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<td>Hybrid</td>
<td>15%</td>
<td>17%</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>Reverse hybrid</td>
<td>1.4%</td>
<td>2.4%</td>
<td>2.8%</td>
<td>2.7%</td>
</tr>
<tr>
<td>Resurfacing</td>
<td>15.2%</td>
<td>5.8%</td>
<td>0.6%</td>
<td>0.04%</td>
</tr>
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</table>

#### Type of implant used by age and how they were fixed into place

- **Patients under the age of 65 years**
  - For cemented procedures, both metal-on-plastic and ceramic-on-plastic implants were used.
  - For uncemented cases, patients were more likely to have ceramic-on-ceramic implant, however there was significant use of ceramic- and metal-on-plastic implants.

- **Patients who were 65 years or older**
  - For cemented procedures, male patients were more likely to have a metal-on-plastic implant.
  - For uncemented cases, male patients were more likely to have received a metal-on-plastic or ceramic-on-ceramic implant.

#### Find out more: These results are taken from implant survivorship analysis carried out in the NJR’s 11th Annual Report. It looked at more than ten years of data kept on the NJR covering 620,400 hip replacement records however it should be noted analysis by implant type, fixation, age and gender presents smaller groups for each of the results. The information included here corresponds to the information found in the Part Three of the full NJR Annual Report starting at page 34, where further detail can be found (www.njrreports.org.uk). This includes notes about the methodology.
How long hip implants last 2003-2013

Over time, implants will wear and need to be revised, often due to loss of function or pain. These operations are commonly known as revision procedures.

The NJR records operation information and patient details (by consent) so that we can measure the length of time an implant lasts. This is to ensure that any implants that are failing earlier than expected are picked up and the information acted upon.

Key finding

- Most patients have a revision risk of 5% or less at ten years after their first surgery
- Results were slightly higher for younger patients, especially those under the age of 55
- Results for metal-on-metal and resurfacing procedures were significantly higher for all age groups. Overall, use of metal-on-metal implants has fallen and was less than 0.1% in 2013

Reasons why implants were replaced

- Within the first year, the most common reasons were dislocation, fracture or infection
- After five years, the most common reasons were implant loosening or pain

Risk of revision by how implants were fixed into place

Overall, the risk of revision at 10 years for:

- All cemented procedures was 3.20%
- All uncemented procedures was 7.68% (it should be noted that the stemmed metal-on-metal articulation was usually fixed into place without cement and its poor performance affects these results)
- All hybrid procedures was 3.95%
- All reverse hybrid procedures was 4.77%
- All resurfacing procedures was 13.01%

Risk of revision by type of implant and fixation

Within the different fixation categories, the most favourable revision rates at 10 years for:

- Cemented procedures were associated with ceramic-on-plastic (2.09%) or metal-on-plastic (3.13%) implants
- Cementless procedures were associated with metal-on-plastic (3.98%), ceramic-on-plastic (3.73%) and ceramic-on-ceramic (4.75%) implants

For hybrid procedures:

- Favourable revision rates at 10 years were associated with metal-on-plastic (3.58%) implants. However, for ceramic-on-plastic and ceramic-on-ceramic implants in this category, only 9-year revision estimates can be presented and these were 2.19% and 2.25% respectively. This is because of the small number of patients in these groups 10 years after the first surgery means a slightly less reliable statistical result

For reverse hybrid procedures:

- Favourable revision rates were associated with both metal-on-plastic or ceramic-on-plastic implants. Again, owing to small numbers of patients in these groups for follow-up at 10 years, only results at 8 and 7 years can be shown – these are 2.88% and 2.63% respectively

It is worth noting that this information has not been adjusted to take into account patient age or gender therefore, there will be some variation in success dependent on these factors. Other factors also have an influence including a patient’s individual diagnosis and health. Please talk to your surgeon if you have questions about the implant and surgical technique proposed for your surgery.
Mortality after surgery

- Mortality in the first 30 or 90 days after surgery remains very low
- A special in-depth study, looking at NJR data over eight years and for those patients with osteoarthritis, found that the 90-day mortality rate had halved from 0.56% to 0.29%. They also found some of the factors associated with a reduced chance of death were:
  - Use of spinal anaesthetic
  - Posterior surgical approach
  - Use of chemical treatment to prevent blood clots (eg low weight molecular Heparin)
  - Use of mechanical treatments to prevent blood clots (eg TED stockings)

Find out more: These results are taken from implant survivorship analysis carried out in the NJR’s 11th Annual Report. It looked at more than ten years of data kept on the NJR covering 620,400 hip replacement records however it should be noted that carrying out analysis by implant type, fixation, age and gender presents smaller groups for each of the results. The information included here corresponds to the information found in the Part Three of the full NJR Annual Report starting at page 34, where further detail can be found (www.njrreports.org.uk). This includes notes about the methodology.

All patients are individuals and many have unique problems that require an operation to be tailored to their specific needs. If you have any questions about the hip type your surgeon is planning to use in your care, he or she would be happy to explain the reasons for choosing a particular implant.
Notes and questions

Please use this page to make notes and questions, either for your surgeon or clinical team at the hospital. Some commonly asked questions are listed below:

Do I need joint replacement surgery?
Are there other options available to me?


What type of implant are you recommending?


What surgical technique would be used?
What are the pros and cons?


If I do, how should I prepare for surgery?


What should I know about my aftercare?


What are the pros and cons?
Useful contacts and information

Age UK
www.ageuk.org.uk
0800 169 6565

Alkaptonuria Society
www.alkaptonuria.info
01223 322897

Arthritis Care
www.arthritiscare.org.uk
020 7380 6500

Arthritis and Musculoskeletal Alliance
www arma.uk.net
020 7842 0910/11

Arthritis Research UK
www.arthritisresearchuk.org
0300 790 0400

British Hip Society
www.britishhipsociety.com
020 7406 1756

British Orthopaedic Association
www.boa.ac.uk
020 7405 6507

Healthcare Quality Improvement Partnership
www.hqip.org.uk
020 7987 7370

National Joint Registry
www.njrcentre.org.uk
0845 345 9991

National Rheumatoid Arthritis Society
www.nras.org.uk
0800 298 7650

NHS Choices
www.nhs.uk
www.nhs.uk/mynhs

NHS Improvement Enhanced Recovery
www.improvement.nhs.uk/enhancedrecovery
www.nhsiq.nhs.uk/improvement-programmes/acute-care/seven-day-services/enhanced-recovery

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