Australian Orthopaedic Association National Joint Replacement Registry

NATIONAL JOINT REPLACEMENT REGISTRY

Data Collection Information/Protocol

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1. TITLE

Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR)

2. INVESTIGATORS

The Australian Orthopaedic Association National Joint Replacement Registry is an initiative of the Australian Orthopaedic Association (AOA). It is owned and managed by the AOA. The Federal Board of the AOA is responsible for the management of the AOANJRR and has established a subcommittee to oversee the AOANJRR.

The committee comprises:

Chairman
AOANJRR *Director*
AOANJRR *Deputy Directors (3)*
Representative from each State and ACT
Representative from the Foot & Ankle Society
Representative from the Spine Society of Australia
Representative from the Neurosurgical Society of Australasia
Representative from the AOANJRR Consultative Committee
AOA CEO (Ex Officio)
AOA Advocacy, Fellowships and Governance Manager

The Director and Deputy Directors are responsible for the day-to-day management of the AOANJRR. The AOA employs an AOA manager who is responsible for liaising with hospitals, industry and government to ensure effective data collection and site coordination.

The South Australian Health and Medical Research Institute (SAHMRI) has been contracted by the AOA to provide data management and analysis services to the AOANJRR.

3. INTRODUCTION

The AOA, industry and Commonwealth Government recognises that the outcome of joint replacement surgery is an important health issue. Following a successful application by the AOA in March 1998, the Commonwealth Government provided funding to establish the AOANJRR. The AOANJRR continues to be funded entirely by the Commonwealth Government through the Department of Health and Ageing. In June 2009, legislation was passed through Federal Parliament to permanently fund the AOANJRR, thus ensuring its long term stability.

The purpose of the AOA National Joint Replacement Registry is to:

- Define the practice and improve outcomes of joint replacement surgery in Australia
- Provide an auditing facility to Australian orthopaedic surgeons that will enhance the success of joint replacement in Australia

Privacy and consent issues that are relevant to this application include:

1. The AOANJRR was first declared a Federal Quality Assurance Activity under the Commonwealth Health Insurance Act 1973 in 1999 and this

continues to be maintained by the Registry ongoing (see attachment 11 for the most recent declaration)
2. No direct patient contact is required by AOANJRR staff
3. Patient confidentiality will be maintained
4. Patients will be informed about the AOANJRR
5. Consent will be obtained using an 'opt off" approach
6. No individual patient, surgeon or institution will be identified in reports produced by the Registry
7. Data will be stored securely

During 1998, the Registry undertook a pilot study to determine the most appropriate method of data collection, transfer and analysis as well as finalising management arrangements for both the Registry and data. Information presented in this application is based on the results of this study.

4. AOANJRR IMPLEMENTATION

Implementation of the AOANJRR was undertaken in a staged manner manner commencing in South Australia in September1999. Full national implementation was achieved by mid 2002. Initially hip and knee joint replacement data only was collected however following a request from the Commonwealth Government in 2006 data collection was expanded to include shoulder, elbow, wrist, ankle and spinal disc replacement. In November 2007, implementation of data collection of these additional joints commenced nationally. In 2017 a pilot project was implemented to test the AOANJRR collecting data on Knee Osteotomy procedures. The pilot was completed in 2019 and following on from the success of the pilot the Registry is now in the process of obtaining approvals to collect knee osteotomy data from all hospitals nationally.

5. BACKGROUND TO THE AOANJRR

Joint replacement surgery is a common procedure in Australia, with over 110,000 hip and knee replacements undertaken nationally each year. Approximately 7,800 other joint replacements such as shoulder, elbow, wrist ankle and spinal disc replacement are undertaken each year. In addition, there are approximately 1,200 knee osteotomy procedures performed each year.

Joint replacement has considerable success in alleviating pain and disability in individuals suffering a variety of major joint disorders. The procedure is most commonly performed in the elderly; however the success of the procedure has led to increased use in younger individuals. This, combined with an aging population has resulted in an increased incidence of primary joint replacement. The rate of revision surgery is also expected to increase, as more patients survive longer than the life expectancy of the joint replacement. Revision surgery is associated with increased morbidity and mortality and has a far less successful outcome than primary joint replacement.

A large variety of prostheses have been developed and are currently available on the Australian market. However, prior to the implementation of the AOANJRR the mid to long-term survival of the majority of these was unknown. It is well established that there is considerable variation in outcome for different prostheses. Surgical technique and specific patient characteristics also affect outcome. Prior to establishing the AOANJRR, inadequate outcomes data for the majority of prostheses, as well as variability related to different surgical techniques and diagnostic groups, made it difficult for surgeons to identify the relative effectiveness of different prostheses and treatments.

Until the implementation of the AOANJRR there was no reliable information on the demographics of the population receiving joint replacement, the total number and type of joint replacements, the incidence of revision surgery and importantly the results of this surgery within Australia. The AOANJRR provides essential information necessary for resource planning and improved outcomes.

A national Registry simultaneously monitors all types of prosthetic design. It is the most effective method to determine which prostheses and surgical techniques are most successful for given demographic and diagnostic sub-groups. A number of registries have been established in other countries. The ability to identify factors important in achieving successful outcomes has resulted in both improved standards and significant cost savings. We cooperate closely with these international registries and the AOANJRR is a founding member of the International Society of Arthroplasty Registries (ISAR) which was established in 2004 to ensure effective cooperation and collaboration between registries.

In recent years the Australian Knee Society approached the AOA to consider undertaking a pilot study to test collecting knee osteotomy data. Knee osteotomy is undertaken prior to knee replacement in an attempt to delay or avoid this procedure. The long-term outcomes in Australia remain unknown. The AOA agreed to undertake the pilot, and this has now been successfully completed and a decision has been made to implement to knee osteotomy program nationally, The principle outcome measure will be the time to subsequent knee replacement, this will be assessed using Registry data.

6. SPECIFIC AIMS

The specific aims of the AOANJRR include:

- Establish demographic data related to joint replacement surgery and knee osteotomy procedures in Australia
- Provide accurate information on the usage of different types of prostheses
- Determine regional variation in the practice of joint surgery and knee osteotomy procedures
- Identify the demographic and diagnostic characteristics of patients that affect outcomes
- Analyse the effectiveness of different prostheses and treatment of specific diagnoses
- Evaluate the effectiveness of the large variety of prostheses currently on the market by analysing their survival rates
- Educate orthopaedic surgeons on the most effective prostheses and techniques to improve patient outcomes
- Provide surgeons with an auditing facility
- Provide information that can instigate tracking of patients if necessary
- Provide information for comparison of the practice of joint replacement in Australia and other countries
- Analyse the outcome of knee osteotomy procedures

7. SUBJECT SELECTION AND EXCLUSION CRITERIA

The AOANJRR receives data on all patients undergoing hip, knee shoulder, elbow, wrist, ankle and spinal disc replacement nationally as well as patients undergoing knee osteotomy procedures. The only exclusions are those patients who notify the AOANJRR that they would prefer not to have their name and details of their joint replacement or knee osteotomy procedure included in the AOANJRR database.

8. AOANJRR PLAN AND DESIGN

The AOANJRR identified the core information required to achieve the aims of the AOANJRR. This has been defined as the minimum data set.

The principal outcome measure is the time between primary and revision surgery. Existing registries such as the Swedish and Norwegian Joint Replacement Registries had shown this to be a very efficient measure when monitoring large number of joint replacement procedures. These Registries were responsible for the early identification of a variety of prostheses and a particular form of bone cement that performed poorly. The experience of the AOANJRR has been similar.

Prior to establishment of the AOANJRR the databases of hospitals , health insurance companies, state health departments and orthopaedic companies to determine the nature, quality, availability and relevance of this information to the AOANJRR. None of these databases were able to supply all the necessary details required by the AOANJRR. It became apparent that the only way for the AOANJRR to collect the minimum data set was to introduce an independent method of data collection.

The existing databases remain important for use as a cross-reference tool that permits validation of different components of the AOANJRR data. The AOANJRR has been able to demonstrate that the combination of independent AOANJRR data collection and subsequent validation provides data accuracy approaching 100%.

Data Collection

Minimum Data Set

The essential purpose of the minimum data set is to identify patients undergoing hip shoulder, elbow, wrist, ankle, spinal disc replacement and knee osteotomy procedures and accurately link the patient to details of specific prostheses used. Data collection is undertaken successfully at all hospitals both public and private that undertake hip joint replacement surgery and knee osteotomy procedures (REFER ATTACHMENT 1).

1. Patient details (name, date of birth, sex, address, post code, hospital unit record number and Medicare number)
2. Hospital
3. Surgeon code
4. Date of surgery
5. Primary or revision/ re-operation surgery
6. Diagnosis
7. Side of surgery
8. ASA Score, Height and Weight
9. Operative approach
10. Procedure details
11. Prostheses identification

Data can be collected and transferred to the Registry in one of two ways, either by proforma or electronically.

The Proforma

Most hospitals do not have facilities to collect and transfer data electronically and therefore collect the minimum data set on specifically designed colour coded proforma (REFER ATTACHMENTS 2 – 7). The form used for hip replacement is yellow, green is used for knee replacement, orange is used for shoulders, purple is used for a multijoint developed for wrist, elbow and ankle replacements. A proforma has also been designed for spinal disc replacement and is coloured blue. A

proforma has also been designed for knee osteotomy procedures and it is coloured teal. The proforma are supplied to the hospitals.

The data set provides information on a number of areas. These include patient identification and Medicare number. The Therapeutic Goods Administration has requested that the AOANJRR collect the Medicare number to assist with prostheses recall if required. Also included is operative diagnosis for primary or revision surgery, hospital and surgeon code as well as prostheses identification by company name, catalogue and lot numbers.

The catalogue and lot numbers are unique identifiers of specific size and type of prostheses. As such the use of these numbers allows outcomes analysis to be undertaken not only on particular prostheses but also specific features that may be common to a variety of different prostheses. Data collection on cement and prostheses additions is also included as they are considered to be part of the prostheses.

Ease of use was a major consideration in the development of the proforma. Completing the forms involves using hospital and company labels to provide patient and prostheses identification and marking relevant boxes in relation to diagnosis, type and side of procedure. The pilot study demonstrated that using labels ensures the proforma is easy to use and reduces the need for handwriting, thereby minimising the risk of errors when transposing names and numbers and overcomes potential problems of illegibility. Spaces are provided for writing should labels not be unavailable.

Electronic Data Collection and Transference

Procedures are in place for those hospitals that have facilities to collect and transfer the required data electronically. This eliminates the need for hospitals to collect data on the proforma. The Registry will work with hospital information services staff and nurses to develop the most appropriate systems for data transfer. This has to be tailored for individual hospitals due to the different computer systems in place.

Data Validation

As mentioned previously, existing databases were examined to determine their relevance and availability to the AOANJRR. The combination of state health department, hospital, and orthopaedic company databases provides a very effective method of validation.

State health departments collect separation data on all patients both public and private. This information can be used to verify the number of joint replacements and knee osteotomy procedures undertaken in each state or territory and more specifically is able to identify the number of primary and revision operations as well as re-operation procedures undertaken by each hospital. The separation data is accurate, although the AOANJRR has identified a small percentage of errors in this information. It is not possible to obtain date of surgery, side or prostheses details. It has however been a very useful data validation tool as it is able to quickly identify the AOANJRR capture rate for each hospital and to relate the procedure to the hospital's patient identity number.

Hospital databases can be used to validate data collected on individual patients as well as additional verification of the number of patients undergoing joint replacement and knee osteotomy procedures. The information already collected on hospital databases includes patient identification, date and type of surgery and in some hospitals, prostheses identification. Should any discrepancies

occur between the minimum data set collected on individual patients or the number of patients identified as having had joint replacement surgery or knee osteotomy procedure, we will liaise with a member of staff (see hospital involvement) who can access patient case-notes, theatre books or databases for verification.

For accurate data analysis it is necessary to identify patients on the AOANJRR who have died and when this occurred. The National Death Index housed at the Australian Institute of Health and Welfare records all deaths occurring in Australia. This information is entered against the AOANJRR data twice a year, allowing identification of those patients.

Data Transference (proforma)

The most appropriate method for transferring data consists of photocopying the completed proforma, filing the photocopy in hospitals and returning the original to the AOANJRR by post using the AOANJRR reply paid service. The photocopies at the hospitals provide a source for cross-checking individual data should any discrepancies arise. Further to this, it provides a reference to identify that the correct number of proforma are returned to the AOANJRR. The photocopies need only be kept until the data has been validated and entered in the AOANJRR.

Hospital Involvement

The principal role of hospitals is to ensure data collection. Surgeons and/or theatre staff are required to complete a proforma at the time of surgery. The proforma are then returned to the AOANJRR.

To achieve this effectively it was necessary to have a member of staff take on the role of hospital coordinator. This was usually a member of the theatre nursing staff. The hospital coordinator liaises closely with AOANJRR staff, provides direction to hospital staff, ensures efficient data collection, and is available to follow up any discrepancies. An information manual to provide information on the AOANJRR and instructions on the collection and transference of data is provided to each hospital. Copies of the general information sheet and coordinator role sheet are attached (*REFER ATTACHMENTS 8 AND 9*).

Commencement of Data Collection

Data collection commences as soon as practicable after receipt of hospital approval. Following approval, hospital administration are required to nominate the hospital coordinator and the person responsible for the hospital report. The AOANJRR project coordinator subsequently contacts the appropriate personnel to establish effective liaison and provide education. Arrangements for delivery and return of the proforma will be made. After the appointment of the hospital coordinator and following discussion with AOANJRR staff, a convenient date for the commencement of data collection is determined..

9. EFFICACY

Not Applicable

10. ETHICAL CONSIDERATIONS

Beneficiaries of the AOANJRR

The principal beneficiaries of a national joint replacement registry are those individuals requiring joint replacement surgery or knee osteotomy procedure. The AOANJRR produces reports on a variety of factors that influence the outcome of joint replacement surgery and knee osteotomy procedures. The identification

and use of prostheses and techniques associated with lower failure rates will in the long term contribute to significantly improved outcomes for patients undergoing joint replacement surgery and knee osteotomy procedures. Further to this, the identification of features related to improved prostheses survival provides important information for future research and development.

There are also benefits to the wider community. A decrease in the incidence of revision surgery and re-operation procedures and its associated morbidity, mortality and less successful outcomes will result in a significant reduction in health care costs.

Surgeons benefit, as the AOANJRR can provide a confidential secure audit of their joint replacement surgery practice. It will also provide ongoing education in appropriate techniques and prostheses selection.

Hospitals stand to gain significant advantages. Involvement with the AOANJRR improves the accuracy of hospital data. The AOANJRR has been effective in identifying miscoding or non-identification of patients in hospital separation data. This has important funding implications. Furthermore, hospitals are legally required to accurately link prostheses by catalogue and lot number to individual patients. This is essential to permit recall of prostheses, which is necessary from time to time. It has been the experience of the AOANJRR that many hospitals do not record the information in a manner that is easily accessible if a recall is necessary. It is a simple matter for the AOANJRR to provide this information to a hospital in this situation. The Registry also provide standardised hospital reports which allows hospitals to identify how they are performing against national averages.

In addition, State and Federal Governments as well as hospitals will have access to accurate demographic and performance based information. This is necessary for cost/benefit analysis, resource planning and allocation of funds. Furthermore, a mechanism that ensures monitoring and improvement of clinical standards has been established.

Data Management and Confidentiality

SAHMRI undertakes data entry, validation and analysis as well as providing secure data storage.

The Data Management and Analysis work was moved from the University of Adelaide to SAHMRI in December 2015. Staff include; data managers, database programmers, statisticians and data assistants. SAHMRI is engaged in an increasing variety of research including clinical trials, pharmaco-epidemiological studies, consultations and cohort studies.

The list of personnel with access to identified Registry information is as follows:

- AOANJRR Director and Deputy Directors
- AOANJRR Manager
- AOANJRR Administrative Staff
- SAHMRI AOANJRR project staff including data manager and data assistants

Declaration of the project as a Quality Assurance Activity ensures that AOANJRR and SAHMRI staff are bound to maintain confidentiality. In addition, the contract between the Commonwealth and the AOA to establish the AOANJRR prohibits the release of identified data. As a consequence AOANJRR reports only contain de-identified data. This includes any ad hoc reports prepared by the AOANJRR.

Confidentiality not only applies to individual patients but also includes surgeons and hospitals.

SAHMRI has security systems to limit access to SAHMRI and Registry staff only. There are policies and procedures in place as well as software barriers to protect personal information. These include the use of codes, passwords and encryption.

The proforma used for data collection are stored in a secure locked area at SAHMRI. After a period of time the forms will be optically scanned and stored electronically. As with all data these will be securely stored. All data will be retained in accordance with good scientific practice.

Confidentiality and Privacy of Patients

Joint replacement patients are not contacted directly by the AOANJRR. No individual patient is identified during analysis or in the reports and publications produced by the AOANJRR. Patient operative and prostheses data are managed in accordance with the Guidelines for the Protection of Privacy in the Conduct of Medical Research. Personal data collected is for use by the AOANJRR only.

Surgeon Confidentiality

To protect surgeon confidentiality codes have been allocated by the AOA. Surgeons enter their codes on the proforma if they wish to access information on their own joint replacements. AOANJRR staff cannot access surgeon codes and it will not be possible to identify surgeons in the reports produced by the AOANJRR. Any further information on the proforma that identifies a surgeon will be blocked out.

Patient Consent

The AOANJRR uses the 'opt off; approach to patient consent i.e. patients are automatically enrolled unless they choose to 'opt off'. This is the most appropriate method for the AOANJRR for two reasons: -

- No direct patient contact is required
- The large number of joint replacements undertaken in Australia

Important aspects to the 'opt off' approach include the availability of information and clearly defined avenues should a patient wish to have their name removed. If this is the case the patient contacts the AOANJRR to ensure that their details are not included.

A patient information sheet on the AOANJRR has been developed (REFER ATTACHMENT 10). We require this to be given to patients when consent for joint replacement is being sought in either surgeons' rooms or hospitals. This sheet provides information on joint replacement and the AOANJRR as well as the name and contact details for the AOANJRR coordinator and a toll free number. The patient information sheet is also available in the 12 most commonly spoken languages in Australia and can be accessed on the AOANJRR website via the following link https://aoanjrr.SAHMRI.adelaide.edu.au/all-languages.

Although it is important to include as many patients as possible we understand that not all patients are comfortable with providing their personal details on a central registry. The information sheet provides directions and an avenue for withdrawal at any time for patients that do not want their name registered.

Quality Assurance Activity Declaration

The AOANJRR was declared a Quality Assurance Activity and this declaration continues to be maintained by the Registry. Knee osteotomy was added to the declaration in 2016. This ensures freedom from subpoena and absolute confidentiality of information held by the AOANJRR (REFER ATTACHMENT 11).

The Quality Assurance legislation is part of the Health Insurance Act of 1973. This act was amended in 1992 to include quality assurance confidentiality. The Act operates on the underlying assumption that quality assurance activities are in the public interest. A declaration as a quality assurance activity by the Commonwealth Minister of Health and Ageing prohibits the disclosure of information which identifies individual patients or health care providers, that is known solely as a result of the declared quality assurance activity. It is not possible to provide identifying information to any individual or organisation including the government.

To encourage efficient quality assurance activities "Part VC-Quality Assurance Confidentiality" contains the following provisions:

a) Prohibiting:

    1. The disclosure of information that became known solely as a result of those activities; or
    2. The production to a court of a document that was brought into existence solely for the purposes of those activities; and

b) Protecting certain persons engaging in those activities in good faith from civil liability in respect of those activities.

The protection provided by the declaration assures surgeons, hospitals and government that information supplied to the Registry remains confidential and secure.

The declaration of the AOANJRR as a Quality Assurance Activity is for a five-year period but covers information collected during this period indefinitely. It is necessary for the AOANJRR to renew the declaration every five years.

11. DRUGS

Not Applicable

12. SAFETY AND ECOLOGICAL CONSIDERATIONS

Not Applicable

13. ANALYSIS AND REPORTING OF RESULTS

Results of analysis of AOANJRR data are published in an Annual Report. No patient, surgeon or hospital are identified in the reports. Analyses are performed to provide accurate demographic data. In addition, a wide variety of factors that potentially influence outcomes of joint replacement and knee osteotomy procedures are also examined. The data are presented in the form of descriptive statistics and survival analysis. The AOANJRR identifies survival rates not only for different prostheses but also examines other specific features that influence survival outcomes of joint replacement and knee osteotomy procedures. Reports are produced annually as well as ad hoc reports, as required. The reports are provided to surgeons and other interested parties such as government organisations, hospitals and orthopaedic companies.

The AOANJRR is able to provide surgeons with a confidential secure audit of their own joint replacement surgery .

14. INDEMNITY

The AOA has indemnity insurance to cover the AOANJRR. This was a requirement of the Commonwealth Government for AOANJRR funding.

15. GOVERNANCE OF THE AOANJRR

The governance of the AOANJRR is both transparent and accountable. The Commonwealth Government contracts the AOA to manage the AOANJRR. The Board of the AOA is responsible for ensuring that the contractual obligations are fulfilled. When the AOANJRR was implemented the Board established the AOANJRR Committee to oversee and develop policies for the operation of the AOANJRR. This committee reports directly to the AOA Board of Directors and comprises a Chairman, AOANJRR Director and Deputy Directors, an orthopaedic surgeon from each state and territory, representatives of specialty groups and the Chief Executive Officer and Advocacy, Fellowships & Governance Manager of the AOA. The AOANJRR Committee meets four times a year.

The AOA Board appoints the Director and Deputy Directors of the AOANJRR. The Director and Deputy Directors are responsible for the day-to-day management. The AOA also employs a Manager who is involved in maintaining liaison with hospitals, surgeons and the government as well as implementing new strategies and coordinating the preparation of the annual report.

The AOA contracts the South Australian Health and Medical Research Institute (SAHMRI), to provide data management and analysis services to the AOANJRR.

The Registry Management Group which comprises the Director, Deputy Directors and AOANJRR Coordinator meet weekly together with key personnel from SAHMRI to discuss the day to day operations of the AOANJRR.

The AOANJRR is located in SAHMRI North Terrace Adelaide.

Finally there is the AOANJRR Consultative Committee, which is an external committee appointed and administered by the Commonwealth Government. The Committee was developed by the Commonwealth to provide a forum for Industry, Government and consumer representatives to provide guidance on the overall strategic direction of the functions and operations of the AOANJRR. The committee meets quarterly or as required.

Membership of the Committee comprises representatives from the following stakeholder groups:

Commonwealth of Australia	Chair
Department of Health and Ageing (DOHA)	1 representative
Therapeutic Goods Administration (TGA)	1 representative
Prostheses List Advisory Committee (PLAC)	1 representative
Private Healthcare Australia (PHA)	1 representative
Consumer's Health Forum (CHF)	1 representative
Orthopaedic sponsors/suppliers *(one of whom must be a MTAA member)*	2 representatives
Australian Private Hospitals Association (APHA)	1 representative
Australian Orthopaedic Association (AOA)	1 representative

AOA National Joint Replacement Registry (AOANJRR) representative (Director)	1

16. AOANJRR REPORTING

Each year the AOANJRR reports on the outcomes of joint replacement surgery in Australia. This annual and supplementary reports provide information on patient demographics and outcomes including morbidity and mortality as well as prostheses effectiveness and survival rate. Government organisations and other interested parties such as surgeons, hospitals, health insurance companies and orthopaedic manufacturing companies are provided with a hard copy of the annual report. The annual report is also publically available on the AOANJRR website together with 12 supplementary reports.

In addition, the AOANJRR produces additional reports from orthopaedic surgeons, hospitals, government departments, academic institutions and orthopaedic companies.

Administrative reports are regularly provided to the AOA. Reports are also provided to the Commonwealth Government three times a year. These reports detail the activities of the AOANJRR and include a financial statement and are reviewed by AOA Board prior to submission to the Government.

PARTICIPATING HOSPITALS

NEW SOUTH WALES

PUBLIC HOSPITALS	PRIVATE HOSPITALS
Albury Base Hospital	Albury Wodonga Private Hospital
Armidale Hospital	Armidale Private Hospital
Auburn Health Service	Baringa Private Hospital
Bankstown/Lidcombe Hospital	Bathurst Private Hospital
Bathurst Base Hospital	Berkeley Vale Private Hospital
Belmont Hospital	Brisbane Waters Private Hospital
Blacktown Hospital	Calvary Health Care Riverina
Bowral and District Hospital	Campbelltown Private Hospital
Broken Hill Health Service	Dalcross Adventist Hospital
Campbelltown Hospital	Delmar Private Hospital
Canterbury Hospital	Dubbo Private Hospital
Chris O'Brian Lifehouse	Dudley Private Hospital
Coffs Harbour Health Campus	East Sydney Private
Concord Repatriation Hospital	Forster Private Hospital
Dubbo Base Hospital	Gosford Private Hospital
Fairfield Hospital	Hawkesbury District Health Service
Gosford Hospital	Holroyd Private Hospital
Goulburn Base Hospital	Hunters Hill Private
Grafton Base Hospital	Hunter Valley Private
Hornsby & Ku-Ring-Gai Hospital	Hurtsville Private
Inst Rheum & Orthopaedic Surgery	Insight Clinic Private Hospital
John Hunter Hospital	Kareena Private Hospital
Lismore Base Hospital	Lake Macquarie Private Hospital
Liverpool Health Service	Lakeview Private Hospital
Maitland Hospital	Lingard Private Hospital
Manly District Hospital	Maitland Private Hospital
Manning Rural Referral Hospital	Macquarie University Hospital
Mona Vale Hospital	Mayo Private Hospital
Mt Druitt Hospital	National Day Surgery Sydney
Murwillumbah District Hospital	Nepean Private Hospital
Nepean Hospital	Newcastle Private Hospital
Orange Health Service	North Shore Private Hospital
Port Macquarie Base Hospital	Northern Beaches Hospital
Royal Newcastle Centre	Norwest Private Hospital
Royal North Shore Hospital	Nowra Private Hospital
Royal Prince Alfred Hospital	Port Macquarie Private Hospital
Ryde Hospital	Shellharbour Private Hospital
Shoalhaven District Memorial Hospital	Southern Highlands Hospital
South East Regional Hospital	St George Private & Medical Centre
St George Hospital	St Luke's Care
St Vincent's Public Hospital	St Vincent's Private Griffith
Sutherland Hospital	St Vincent's Private Darlinghurst

Tamworth Base Hospital
The Children's Hospital Westmead
The Prince of Wales Hospital
The Tweed Hospital
Wagga Wagga Base Hospital
Westmead Public Hospital
Wollongong Hospital
Wyong Hospital

St Vincent's Private Lismore
Strathfield Private Hospital
Sydney Adventist Hospital
Sydney Private Hospital
Sydney South West Private
Tamara Private Hospital
The Mater Hospital
The Prince of Wales Private
Toronto Private Hospital
Waratah Private Hospital
Warners Bay Private Hospital
Westmead Private Hospital

VICTORIA

PUBLIC HOSPITALS	PRIVATE HOSPITALS
Austin Health	Beleura Private Hospital
Bairnsdale Regional Health Service	Bellbird Private Hospital
Ballarat Health Services	Cabrini Private Hospital, Brighton
Bass Coast Regional Health	Cabrini Private Hospital, Malvern
Bendigo Health Care Group	Cotham Private Hospital
Box Hill Hospital	Epworth Eastern Hospital
Broadmeadows Hospital	Epworth Freemason Hospital
Cohuna District Hospital	Epworth Geelong
Colac Area Health	Epworth Richmond
Dandenong Hospital	Essendon Private Hospital
Djerriwarrh Health Services	Frankston Private Hospital
East Grampians Health Service	Geelong Private Hospital
Echuca Regional Health	Glenferrie Private Hospital
Footscray Hospital	Holmesglen Private
Frankston Hospital	John Fawkner Hospital
Goulburn Valley Health	Knox Private Hospital
Hamilton Base Hospital	Linacre Private Hospital
Kyabram & District Health Services	Maryvale Private Hospital
Latrobe Regional Hospital	Masada Private Hospital
Maroondah Hospital	Melbourne Private Hospital
Mildura Base Hospital	Mildura Private Hospital
Monash Medical Centre, Clayton	Mitcham Private Hospital
Monash Medical Centre, Moorabbin	Mulgrave Private Hospital
Northeast Health Wangaratta	Northpark Private Hospital
Portland Hospital	Peninsula Private Hospital
Sandringham & District Memorial	Ringwood Private Hospital
Seymour District Memorial Hospital	Shepparton Private Hospital
South West Healthcare	St John of God Ballarat Hospital
St Vincent's Public Hospital	St John of God Bendigo Hospital
Stawell Regional Health	St John of God Geelong Hospital

Sunshine Hospital
Swan Hill District Hospital
The Alfred
The Northern Hospital
The Royal Children's Hospital
The Royal Melbourne Hospital
Uni Hospital Geelong Barwon Health
West Gippsland Healthcare Group
West Wimmera Health Service
Williamstown Hospital
Wimmera Health Care Group
St John of God Warrnambool
St John of God Hospital, Berwick
St Vincent's Private East Melb
St Vincent's Private Fitzroy
St Vincent's Private Kew
St Vincent's Private Werribee
The Avenue Hospital
The Bays
The Melbourne East Private
Wangaratta Private Hospital
Warringal Private Hospital
Waverley Private Hospital
Werribee Mercy Hospital
Western Private Hospital

QUEENSLAND

PUBLIC HOSPITALS

Bundaberg Base Hospital
Cairns Base Hospital
Gold Coast Hospital, Robina Campus
Gold Coast University Hospital
Hervey Bay Hospital
Hervey Bay Surgical Centre
Ipswich Hospital
Lady Cilento Children's Hospital
Logan Hospital
Mackay Base Hospital
Maryborough Hospital
Mater Misericordiae Public Adult's
Nambour General Hospital
Prince Charles Hospital
Princess Alexandra Hospital
Queen Elizabeth II Jubilee Hospital
Redcliffe Hospital
Redland Public Hospital
Rockhampton Base Hospital
Royal Brisbane & Women's
Sunshine Coast University Hospital
Toowoomba Hospital
Townsville Hospital

PRIVATE HOSPITALS

Brisbane Private Hospital
Buderim Private Hospital
Caboolture Private Hospital
Cairns Private Hospital
Friendly Society's Hospital
Gold Coast Private Hospital
Gold Coast Surgical Hospital
Greenslopes Private Hospital
Hervey Bay Surgical Centre
Hillcrest Rockhampton Private
John Flynn Hospital
Mater Health Services North Qld
Mater Misericordiae Bundaberg
Mater Misericordiae Gladstone
Mater Misericordiae Mackay
Mater Misericordiae Rockhampton
Mater Misericordiae Private Hospital
Mater Private Hospital Redland
Mater Private Springfield
Nambour Selangor Private Hospital
Noosa Hospital
North West Private Hospital
Peninsula Private Hospital
Pindara Private Hospital
St Andrew's Private Hospital, Ipswich
St Andrew's Hospital, Toowoomba
St Andrew's War Memorial Hospital
St Stephen's Private Hospital
St Vincent's Hospital Northside
St Vincent's Hospital
Sunnybank Private Hospital
Sunshine Coast University Private
Wesley Hospital

SOUTH AUSTRALIA

PUBLIC HOSPITALS

Clare Hospital and Health Services
Flinders Medical Centre
Gawler Health Service
Lyell McEwin Hospital
Modbury Public Hospital
Mt Barker DSM Hospital
Mt Gambier Regional Hospital
Murray Bridge Soldiers Memorial
Naracoorte Health Service
Noarlunga Hospital
Port Augusta
Port Lincoln Hospital
Port Pirie Hospital
Queen Elizabeth Hospital
Repatriation General Hospital
Riverland Regional Hospital
Royal Adelaide Hospital
South Coast District Hospital
Whyalla Health Service
Women's and Children's Hospital

PRIVATE HOSPITALS

Ashford Community Hospital
Burnside War Memorial Hospital
Calvary Central Districts Hospital
Calvary North Adelaide Hospital
Calvary Wakefield Hospital
Flinders Private Hospital
Glenelg Community Hospital
North Eastern Community Hospital
Parkwynd Private Hospital
Sportsmed SA
St Andrew's Private Hospital
Stirling District Hospital
The Memorial Hospital
Western Hospital

WESTERN AUSTRALIA

PUBLIC HOSPITALS

Albany Regional Hospital
Armadale Health Service
Bunbury Regional Hospital
Busselton Health Campus
Fremantle Hospital
Fiona Stanley Hospital
Geraldton Hospital
Kalgoorlie Health Campus
Osborne Park Hospital
Rockingham General Hospital
Royal Perth Hospital, Wellington St
Sir Charles Gairdner Hospital

PRIVATE HOSPITALS

Bethesda Hospital
Hollywood Private Hospital
Joondalup Health Campus
Mount Hospital
Peel Health Campus
South Perth Hospital
St John of God Health Care Bunbury
St John of God Health Care Geraldton
St John of God Health Care Midland
St John of God Health Care Murdoch
St John of God Mt Lawley
St John of God Health Care Subiaco
Waikiki Private Hospital

TASMANIA

PUBLIC HOSPITALS

Launceston General Hospital
North West Regional, Burnie Campus
Royal Hobart Hospital

PRIVATE HOSPITALS

Calvary Health Care, St John's
Calvary Health Care, St Luke's
Calvary Hospital
Hobart Private Hospital
North-West Private Hospital

AUSTRALIAN CAPITAL TERRITORY

PUBLIC HOSPITALS	PRIVATE HOSPITALS
The Canberra Hospital	Calvary John James Memorial Hospital
Calvary Public Hospital	The National Capital Private
	Canberra Private Hospital
	Calvary Bruce Private Hospital

NORTHERN TERRITORY

PUBLIC HOSPITALS	PRIVATE HOSPITALS
Alice Springs Hospital	Darwin Private Hospital
Royal Darwin Hospital	

HIP FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 1

Place **PATIENT DETAILS** label here
and/or
if any patient details are not available on the hospital label please complete below

Surname: ..... Female: ☐ Male: ☐
First Name: ..... Middle Initial: .....
Address: .....
..... Post Code: .....
Hospital Patient No: ..... DOB: ...../...../.....
Medicare No: ..... DVA No. ..... (If applicable)

Name of Hospital: ..... State: .....
Consultant Surgeon Code: .....

Weight (kg) ..... **Height** (cm) ..... **ASA** .....

PLEASE COMPLETE THIS SECTION IN FULL
(IF BILATERAL USE TWO FORMS)

OPERATION DATE ...../...../..... **L** ☐ **R** ☐

OPERATIVE APPROACH (Tick one box only)

Posterior ☐ Lateral ☐ Anterior ☐ Other *specify*.....

PRIMARY HIP ☐

Includes Unipolar (Austin Moore/Thompson Type), Bipolar or THR

DIAGNOSIS

Osteoarthritis ..... ☐
Rheumatoid Arthritis ..... ☐
Other Inflammatory Arthritis..... ☐
Osteonecrosis/Avascular Necrosis..... ☐
Developmental Dysplasia..... ☐
Fractured Neck of Femur..... ☐
Tumour *specify*..... ☐
Other *specify* ..... ☐

REVISION HIP ☐

Includes removal, exchange or addition of one or more components

DIAGNOSIS (Tick more than one box if applicable)

Loosening ..... ☐
Lysis ..... ☐
Dislocation..... ☐
Infection..... ☐
Implant Breakage Stem ..... ☐
Acetabular ..... ☐
Fracture *specify* ..... ☐
Other *specify* ..... ☐

ACETABULAR COMPONENTS

(Mark relevant box/es, place company labels on coloured areas or complete details by hand)

NONE ☐ CUP ☐ SHELL ☐ INSERT ☐ BIPOLAR ☐ REINFORCEMENT RING ☐ MESH ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

ACETABULAR CEMENT **NO** ☐ **YES** ☐
See over for femoral cement

CEMENT NAME: .....
(Use company label or complete details: if more than one mix is used, use only 1 label)

(Complete by hand, labels not required)

SCREWS: **NO** ☐ **YES** ☐ **Number used** .....

Please return form to **Locked Bag 2, Hutt St Post Office, ADELAIDE SA 5000**

Please complete Side 2

HIP FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 2

FEMORAL COMPONENTS

(Mark relevant box/es, place company labels on coloured areas or complete details by hand)

NONE ☐ STEM ☐ HEAD ☐ CENTRALISER ☐ INTRAMEDULLARY PLUG ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

FEMORAL CEMENT NO ☐ YES ☐

See over for acetabular cement

CEMENT NAME: .....

(Use company label or complete details: if more than one mix is used, use only 1 label)

ADDITIONS

(Use company label for grip and cable and/or complete details)

TROCHANTERIC GRIP: NO ☐ YES ☐

Company: .....

CABLE/S: (For multiple cables use 1 label) NO ☐ YES ☐

Number used: ..... **Company:** .....

WIRE: (Complete by hand) ..... NO ☐ YES ☐

COMPUTER NAVIGATED NO ☐ YES ☐

System used: .....
.....

IMAGE DERIVED INSTRUMENTATION (IDI) NO ☐ YES ☐

(Affix label here)

ADDITIONAL COMMENTS (or Extra Labels)

ALL SECTIONS of this form MUST be COMPLETED

Thank you for completing this form - For further information contact (08) 8313 3592

Completed by ..... **Date** ...../...../.....

KNEE FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 1

Place **PATIENT DETAILS** label here
and/or
if any patient details are not available on the hospital label please complete below

Surname: ..... Female: ☐ Male: ☐
First Name: ..... Middle Initial: .....
Address: .....
..... Post Code: .....
Hospital Patient No: ..... DOB: ...../...../.....
Medicare No: ..... DVA No. ..... (If applicable)

Name of Hospital: ..... State: .....
Consultant Surgeon Code: .....

Weight (kg) ..... **Height** (cm) ..... **ASA** .....

PLEASE COMPLETE THIS SECTION IN FULL
(IF BILATERAL USE TWO FORMS)

OPERATION DATE ...../...../..... **L** ☐ **R** ☐

PRIMARY KNEE ☐

includes primary partial or total knee replacement

UNICOMPARTMENTAL Indicate Medial ☐ Lateral ☐

DIAGNOSIS

Osteoarthritis..... ☐
Rheumatoid Arthritis..... ☐
Other Inflammatory Arthritis..... ☐
Osteonecrosis/Avascular Necrosis..... ☐
Tumour *specify* ..... ☐
.....
Other *specify*..... ☐
.....

REVISION KNEE ☐

includes removal, exchange or addition of one or more components

UNICOMPARTMENTAL Indicate Medial ☐ Lateral ☐

DIAGNOSIS (Tick more than one box if applicable)

Loosening ..... ☐
Lysis ..... ☐
Infection..... ☐
Implant Breakage *specify* Femoral ☐ Tibial ☐ Patella ☐
Fracture *specify* ..... ☐
Other *specify* ..... ☐

FEMORAL COMPONENTS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

NONE ☐ FEMORAL ☐ STEM ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

FEMORAL CEMENT **NO** ☐ **YES** ☐

See over for tibial or patella cement

CEMENT NAME: .....

(Use company label or complete details: if more than one mix is used, use only 1 label)

FEMORAL SPACERS

(Complete details by marking boxes)

NONE ☐

DISTAL FEMORAL Medial ☐ Lateral ☐

POSTERIOR CONDYLE Medial ☐ Lateral ☐

Please return form to **Locked Bag 2, Hutt St Post Office, ADELAIDE SA 5000**

Please complete Side 2

KNEE FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 2

TIBIAL COMPONENTS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

NONE ☐ ALL-IN-ONE ☐ BASE PLATE ☐ INSERT ☐ STEM ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

TIBIAL CEMENT NO ☐ YES ☐

CEMENT NAME: .....

(Use company label or complete details: if more than one mix is used, use only 1 label)

TIBIAL SPACERS

(Complete details by marking boxes)

NONE ☐	**BLOCKS**	Medial ☐	Lateral ☐
	WEDGES	Medial ☐	Lateral ☐
SCREWS	**NO** ☐	**YES** ☐	Number .....

PATELLA COMPONENT

(Mark relevant box, place company labels on coloured areas or complete details by hand)

NONE ☐ **YES** ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

PATELLA CEMENT NO ☐ YES ☐

CEMENT NAME: .....

(Use company label or complete details: if more than one mix is used, use only 1 label)

COMPUTER NAVIGATED NO ☐ YES ☐

System used: .....
.....

IMAGE DERIVED INSTRUMENTATION (IDI) NO ☐ YES ☐

(Affix label here)

ADDITIONAL COMMENTS (or Extra Labels)

ALL SECTIONS of this form MUST be COMPLETED

Thank you for completing this form - For further information contact (08) 8313 3592

Completed by ..... **Date** ...../...../.....

SHOULDER FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 1

Place **PATIENT DETAILS** label here

and/or

if any patient details are not available on the hospital label please complete below

Surname: ..... Female: ☐ Male: ☐

First Name: ..... Middle Initial: .....

Address: .....

..... Post Code: .....

Hospital Patient No: ..... DOB: ...../...../.....

Medicare No: ..... DVA No. .....
(If applicable)

Name of Hospital: ..... State: .....

Consultant Surgeon Code: .....

Weight (kg) ..... Height (cm) ..... ASA .....

PLEASE COMPLETE THIS SECTION IN FULL

(If bilateral use **TWO** forms)

OPERATION DATE ...../...../..... **L** ☐ **R** ☐

PRIMARY ☐

- Osteoarthritis ☐
- Post Traumatic Arthritis ☐
- Rotator Cuff Arthropathy ☐
- Rheumatoid Arthritis ☐
- Other Inflammatory Arthritis ☐
- Fracture *specify* ☐
- Osteonecrosis/Avascular Necrosis ☐
- Dislocation ☐
- Instability ☐
- Tumour *specify* ☐
- Other *specify* ☐

REVISION/RE-OPERATION ☐

(includes removal, exchange or addition of one or more components)

- Loosening ☐
- Lysis ☐
- Infection ☐
- Implant Breakage *specify* ☐
- Instability ☐
- Dislocation ☐
- Component Dissociation ☐
- Fracture *specify* ☐
- Other *specify* ☐

GLENOID MORPHOLOGY*

CT Scan Yes ☐ No ☐

A1 ☐ **B1** ☐ **C** ☐

A2 ☐ **B2** ☐

Tick one diagram box only

* Reprinted from The Journal of Arthroplasty, Vol 14(6), G Walch, R Badet, A Boulahia, & A Khoury, Morphologic study of the Glenoid in primary glenohumeral osteoarthritis, Figure 2: Different morphologic types of the glenoid in primary genohumeral osteoarthritis, pg. 757, (1999), with permission from Elsevier.

ROTATOR CUFF

- GRADE 0 ☐ Normal Tendon
- GRADE I ☐ Tendinopathy / Partial Thickness
- GRADE 11A ☐ Full Thickness (<1CM)
- GRADE IIB ☐ Full Thickness (>1CM)
- GRADE III ☐ Large (>2 tendons / decentred head)

Rotator Cuff Repair Undertaken

☐ **Yes** ☐ **No**

GLENOID COMPONENTS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Please return form to: **Locked Bag 2, Hutt St Post Office, ADELAIDE SA 5000**

Please complete Side 2

SHOULDER FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 2

CEMENT

(Use company label or complete details: if more than one mix is used, use only 1 label)

Humeral **NO** ☐ **YES** ☐

Cement Name .....

Glenoid **NO** ☐ **YES** ☐

Cement Name .....

HUMERAL COMPONENTS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

ADDITIONAL COMPONENTS

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

RE-OPERATION

This is an additional operation on a joint that has previously received a prosthesis. A re-operation however, is not a revision. (i.e) IT DOES NOT involve removal, exchange or addition of one or more components. It is usually an isolated soft tissue and/or bony procedure.

Re-operation performed .....

Reason for re-operation .....

Comments (If required) .....

TECHNOLOGY ASSISTED *tick all that apply*

Computer Navigated ..... **NO** ☐ **YES** ☐
System used: .....

Image Derived Instrumentation (IDI)..... **NO** ☐ **YES** ☐
System used: .....

Robotic Assisted ..... **NO** ☐ **YES** ☐
System used: .....

Other ..... **NO** ☐ **YES** ☐
System used: .....

Affix label here if available:

ADDITIONAL COMMENTS (or Extra Labels)

ALL SECTIONS of this form MUST be COMPLETED

Thank you for completing this form - For further information contact (08) 8128 4280

Completed by ..... **Date** ...../...../.....

MULTI-JOINT FORM
(Elbow, Wrist, Ankle)

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 1

Place **PATIENT DETAILS** label here
and/or
if any patient details are not available on the hospital label please complete below

Surname: ..... Female: ☐ Male: ☐

First Name: ..... Middle Initial: .....

Address: .....

..... Post Code: .....

Hospital Patient No: ..... DOB: ...../...../.....

Medicare No: ..... DVA No. ..... (If applicable)

Name of Hospital: ..... State: .....

Consultant Surgeon Code: .....

Weight (kg) ..... Height (cm) ..... ASA .....

PLEASE COMPLETE THIS SECTION IN FULL
(IF BILATERAL USE **TWO** FORMS)

OPERATION DATE ...../...../..... **L** ☐ **R** ☐

ELBOW ☐ **WRIST** ☐ **ANKLE** ☐

PRIMARY ☐

- Osteoarthritis ☐
- Post Traumatic Arthritis ☐
- Rheumatoid Arthritis ☐
- Other Inflammatory Arthritis ☐
- Fracture *specify* ☐
- Osteonecrosis/Avascular Necrosis ☐
- Dislocation ☐
- Instability ☐
- Tumour *specify* ☐
- Other *specify* ☐

REVISION/RE-OPERATION ☐

(includes removal, exchange or addition of one or more components)

- Loosening ☐
- Lysis ☐
- Infection ☐
- Implant Breakage *specify* ☐
- Instability ☐
- Dislocation ☐
- Component Dissociation ☐
- Fracture *specify* ☐
- Other *specify* ☐

PROXIMAL COMPONENTS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

NONE ☐ ELBOW/Humeral ☐

WRIST/Radial/Ulnar ☐ ANKLE/Tibial ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Please return form to **Locked Bag 2, Hutt St Post Office, ADELAIDE SA 5000**

Please complete Side 2

MULTI-JOINT FORM
(Elbow, Wrist, Ankle)

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 2

DISTAL COMPONENTS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

NONE ☐ ELBOW/Ulnar/Radial ☐
WRIST/Carpal ☐ ANKLE/Talar ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

CEMENT

PROXIMAL **NO** ☐ **YES** ☐
ELBOW/Humeral WRIST/Radial/Ulnar ANKLE/Tibial

DISTAL **NO** ☐ **YES** ☐
ELBOW/Ulnar WRIST/Carpal ANKLE/Talar

CEMENT NAME .....
(Use company label or complete details: if more than one mix is used, use only 1 label)

ADDITIONAL COMPONENTS

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

RE-OPERATION

This is an additional operation on a joint that has previously received a prosthesis. A re-operation however, is not a revision. (i.e) IT DOES NOT involve removal, exchange or addition of one or more components. It is usually an isolated soft tissue and/or bony procedure.

Re-operation performed .....

Reason for re-operation .....

Comments (If required)

TECHNOLOGY ASSISTED *tick all that apply*

Computer Navigated ..... **NO** ☐ **YES** ☐
System used: .....
Image Derived Instrumentation (IDI)..... **NO** ☐ **YES** ☐
System used: .....
Robotic Assisted ..... **NO** ☐ **YES** ☐
System used: .....
Other ..... **NO** ☐ **YES** ☐
System used: .....

Affix label here if available:

ADDITIONAL COMMENTS (or Extra Labels)

ALL SECTIONS of this form MUST be COMPLETED

Thank you for completing this form - For further information contact (08) 8128 4280

Completed by ..... **Date** ...../...../.....

SPINAL DISC

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 1

Place **PATIENT DETAILS** label here
and/or
if any patient details are not available on the hospital label please complete below

Surname: ..... Female: ☐ Male: ☐
First Name: ..... Middle Initial: .....
Address: .....
..... Post Code: .....
Hospital Patient No: ..... DOB: ...../...../.....
Medicare No: ..... DVA No. ..... (If applicable)

Name of Hospital: ..... State: .....
Consultant Surgeon Code: .....

Weight (kg) ..... **Height** (cm) ..... **ASA** .....

PLEASE COMPLETE THIS SECTION IN FULL
(COMPLETE A SEPARATE FORM FOR EACH LEVEL)

OPERATION DATE ...../...../..... **LEVEL** .....

PRIMARY ☐
(Tick more than one box if applicable)

DIAGNOSIS
Disc Disease
With radiculopathy ..... ☐
Without radiculopathy ..... ☐
Spondylolisthesis ... . ☐
Adjacent segment syndrome ..... ☐
Post laminectomy or discectomy ..... ☐
Adjacent to concurrent fusion ..... ☐
Pain of unknown cause ..... ☐
Other: *specify* ..... ☐

REVISION or REMOVAL ☐
Revision includes: removal, exchange or addition of one or more components
(Tick more than one box if applicable)

DIAGNOSIS
Loosening ..... ☐
Lysis ..... ☐
Dislocation ..... ☐
Infection ..... ☐
Implant Breakage: *specify below* ..... ☐
Fracture: *specify below* ..... ☐
Neurological: *specify below* ..... ☐
Other: *specify below* ..... ☐
.....

COMPONENTS
(Mark relevant box/es, place company labels on coloured areas or complete details by hand)

ENDPLATES ☐ **INSERT** ☐ **ONE-PIECE** ☐

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Please return form to **Locked Bag 2, Hutt St Post Office, ADELAIDE SA 5000**

Please complete Side 2

SPINAL DISC

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 2

COMPONENTS

(Mark relevant box/es, place company labels on coloured areas or complete details by hand)

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Prosthesis Name .....
Cat/Ref No. .....
Lot No. .....

FIXATION METHODS

SCREWS: NO ☐ YES ☐

CEMENT: NO ☐ YES ☐

CEMENT NAME:

(Use company label or complete details: if more than one mix is used, use only 1 label)

ADDITIONAL COMMENTS (or Extra Labels)

ALL SECTION of this form MUST be COMPLETED

Thank you for completing this form - For further information contact (08) 8313 3592

Completed by ..... **Date** ...../...../.....

AKOR KNEE OSTEOTOMY FORM

Australian Orthopaedic Association National Joint Replacement Registry

SIDE 1

Place **PATIENT DETAILS** label here
and/or
if any patient details are not available on the hospital label please complete below

Surname: ..... Female: ☐ Male: ☐

First Name: ..... Middle Initial: .....

Address: .....

..... Post Code: .....

Hospital Patient No: ..... DOB: ...../...../.....

Medicare No: ..... DVA No. ..... (If applicable)

Name of Hospital: ..... State: ..... Consultant Surgeon Code: .....

Weight (kg) ..... Height (cm) ..... ASA .....

PLEASE COMPLETE THIS SECTION IN FULL (IF BILATERAL USE TWO FORMS)

OPERATION DATE ...../...../..... L ☐ R ☐

PRIMARY KNEE OSTEOTOMY ☐

DIAGNOSIS (tick all that apply)

- Osteoarthritis Medial ..... ☐
- Osteoarthritis Lateral ..... ☐
- Instability..... ☐
- Deformity – Acquired, *specify*..... ☐
  .....
- Deformity – Congenital, *specify*..... ☐
  .....
- Other, *specify*..... ☐

TYPE OF PRIMARY OSTEOTOMY (tick all that apply)

- Opening..... ☐ Femoral..... ☐
- Closing..... ☐ Tibial..... ☐
- Varus Producing..... ☐
- Valgus Producing..... ☐
- Other, *specify*..... ☐

RE-OPERATION ☐

DIAGNOSIS (tick all that apply)

- Problems with fixation..... ☐
- Loss of correction..... ☐
- Correction was too small..... ☐
- Correction was too large..... ☐
- Device failure..... ☐
- Delayed healing/non union..... ☐
- Infection..... ☐
- Other, *specify*..... ☐

TYPE OF RE-OPERATION (tick all that apply)

- Re-osteotomy..... ☐
- Removal of fixation ..... ☐
- Revision of fixation..... ☐

OPERATIVE KNEE

Form of Fixation (tick all that apply)

Plate..... ☐ Staple..... ☐ External..... ☐

Other, *specify* ..... ☐

Bone Graft (tick all that apply)

- None..... ☐
- Autograft..... ☐
- Allograft..... ☐
- Synthetic..... ☐

Coincidental Surgery (tick all that apply)

- None..... ☐
- ACL Reconstruction..... ☐
- Chondral Surgery..... ☐
- Other..... ☐

Approach to Correction Calculation (tick all that apply)

- None..... ☐
- Pre-op Alignment X-Ray..... ☐
- Other..... ☐
- Navigation..... ☐
- Fluoroscopy and guide..... ☐
- Custom Patient Specific..... ☐

Navigation System Used.....

Preoperative ACL Status

- Intact..... ☐
- Absent..... ☐
- Previously reconstructed..... ☐

Preoperative PCL Status

- Intact..... ☐
- Absent..... ☐
- Previously reconstructed..... ☐

Previous Knee Surgery No ☐ Yes ☐ (If yes, *specify*) .....
.....

Mechanical Axis Hip Knee Ankle Angle

Preoperative Mech Axis HKA Angle .....° Varus .....° Valgus

Planned Postoperative Mech Axis HKA Angle .....° Varus .....° Valgus

Preoperative Fixed Flexion Deformity .....°

Preoperative X-Ray Grading of OA (see opposite page for description)

Ahlbäck 0..... ☐ Ahlbäck 1..... ☐ Ahlbäck 2..... ☐

Ahlbäck 3..... ☐ Ahlbäck 4..... ☐ Ahlbäck 5..... ☐

Please return form to **Locked Bag 2, Hutt St Post Office, ADELAIDE SA 5000**

Please complete Side 2

AKOR

KNEE OSTEOTOMY FORM

Australian Orthopaedic Association
National Joint Replacement Registry

SIDE 2

COMPONENT STICKERS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

Company .....
Device Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Device Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Device Name .....
Cat/Ref No. .....
Lot No. .....

Company .....
Device Name .....
Cat/Ref No. .....
Lot No. .....

ADDITIONAL COMMENTS (or Extra Labels)

ALL SECTIONS of this form MUST be COMPLETED

BONE GRAFT/BONE SUBSTITUTE STICKERS

(Mark relevant box, place company labels on coloured areas or complete details by hand)

Additional stickers may be placed over the diagram and Ahlbäck classifications if required

Company .....
Device Name .....
Cat/Ref No. .....
Lot No. .....

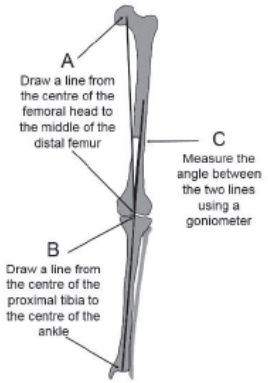
The **Ahlbäck classification system** estimates the severity of osteoarthritis of the involved compartment on erect AP and Rosenberg views. Use the narrowest measurement to grade the severity. Comparison to opposite knee can be made if it is normal.

- **Grade 0:** Joint space measurement is > 3mm in involved compartment, or > 50% of other compartment space
- **Grade 1:** Joint space measurement is < 3mm in involved compartment, but greater than 0mm
- **Grade 2:** Joint space is obliterated (i.e. there is no joint space remaining)
- **Grade 3:** Joint space is obliterated and minor bone attrition has occurred (0 - 5 mm)
- **Grade 4:** Joint space is obliterated and moderate bone attrition has occurred (5 - 10 mm)
- **Grade 5:** Joint space is obliterated and severe bone attrition has occurred (> 10 mm)

Modified from Ahlbäck 1968

How to Measure Hip-Knee-Ankle (HKA) angle on Alignment Views

A. Draw a line from the centre of the femoral head to the middle of the distal femur
B. Draw a line from the centre of the proximal tibia to the centre of the ankle
C. Measure the angle between the two lines using a goniometer



Thank you for completing this form - For further information contact (08) 8128 4280

Completed by ..... **Date** ...../...../.....

AOANJRR Australian Orthopaedic Association National Joint Replacement Registry

General Information

Joint replacement surgery is a common procedure in Australia that has considerable success in alleviating pain and disability in individuals suffering major joint disorders. Over 100,000 **hip** and **knee** joint replacement procedures, over 5,000 **shoulder** replacement procedures and approximately 1,300 other joint replacements such as **shoulder**, **elbow**, **wrist ankle** and **spinal** disc replacement are undertaken each year. Not all joint replacement surgery is successful. There are many factors that may affect outcome. These include the type of joint replacement, surgical technique as well as the age and diagnosis of the patient undergoing surgery. In order to optimise the success of joint replacement surgery the Australian Orthopaedic Association, government and health industries recognised the importance of developing a national joint replacement registry to monitor the outcomes of joint replacement within Australia to identify the most appropriate methods of joint replacements for given situations.

Data Collection
We are asking surgeons and/or theatre staff to complete a form at the time of surgery for each joint replacement. Double-sided forms have been designed, one for **hip** replacement (primary and revision) and one for **knee** replacement (primary and revision), a multi-joint form to be used for **shoulder**, **elbow**, **wrist** and **ankle** (primary and revision) and a **spinal** disc form (primary and revision) The forms have clear instructions and are easy to complete. They are to be completed largely by the addition of hospital and prostheses adhesive labels and require the date of operation to be completed as well as ticking a number of relevant boxes.

Hospital Coordinator
The AOANJRR requires a hospital staff member to coordinate the completion, checking and return of the forms to the AOANJRR. This role also includes providing liaison with database managers to coordinate monthly validation files. It also includes distributing patient information sheets to appropriate areas within the hospital. This information will be provided to patients by medical/nursing staff at the time they gain consent for surgery. The patient information sheet provides information on the AOANJRR as well as contact names and phone numbers for those patients wishing to make enquiries or to remove their name from the AOANJRR. The patient information sheets are to be given out to all public and private patients undergoing joint replacement surgery.

The AOANJRR recognises the important of the hospital coordinators role and we greatly appreciate your continued dedication and support. Each hospital coordinator is acknowledged in the annual report.

Reports
The AOANJRR produces an annual report. Demographic information on the practice of joint replacement surgery is detailed. Analysis is performed on a wide variety of factors that potentially influence outcomes of joint replacement. These include particular patient characteristics, preoperative diagnosis and prosthetic type. The AOANJRR is able to identify survival rates for different prostheses as well as examining specific features relevant to many prostheses. No patient, surgeon or hospital will be identified in the reports.

For further enquiries about the AOANJRR please contact us by email admin@aoanjrr.org.au or by phone (08) 8128 4280.

AOANJRR Australian Orthopaedic Association National Joint Replacement Registry

Hospital Co-Ordinator Information

To monitor the outcomes of joint replacement in Australia it is necessary to collect data on all patients undergoing **hip**, **knee**, **shoulder**, **wrist**, **elbow**, **ankle** or **spinal** disc joint replacement at your hospital. The procedures include:

Primary Hip	unipolar e.g. Austin Moore, Thompson and bipolar or total hip
Revision Hip	removal, exchange or addition of one or more components
Primary Knee	unicompartmental or total knee
Revision Knee	removal, exchange or addition of one or more components
Primary Shoulder	removal, exchange or addition of one or more components
Revision Shoulder	removal, exchange or addition of one or more components
Primary Elbow	
Revision Elbow	
Primary Wrist	
Revision Wrist	removal, exchange or addition of one or more component)
Primary Ankle	
Revision Ankle	removal, exchange or addition of one or more components
Primary Spinal Disc	
Revision Spinal Disc	removal, exchange or addition of one or more components

In your role as hospital coordinator you are asked to:

1. Encourage participation from all theatre staff to complete the forms.

2. Check that all forms are completed accurately. At times forms will need to be returned to you for completion or correction. The most common reason for return is a box is not checked or ticked and is therefore incomplete.

3. Collect the forms to send to the AOANJRR as close as practicable to the 1st working day of the month (for the previous month).

4. Attach a cover sheet to the forms recording the hospital, state, the date forms were sent, who sent them and the number of forms in the envelope. If no joint replacement operations were undertaken in the month, we still require a cover sheet stating number of forms *nil*.

5. Return the forms in the provided return address, reply paid envelopes. If you have run out of these and are waiting for more to be sent you can post them to us at:
   AOANJRR
   c\- Locked Bag 2
   Hutt St Post Office
   ADELAIDE SA 5000

6. Maintain a hospital logbook recording the date forms were sent, who sent them, and the number of forms submitted in the envelope. This is your record in case of a discrepancy. We also recommend that the forms are copied and then stored at your hospital for approximately three months. This enables you to reproduce forms easily should any get 'lost' between the hospital and AOANJRR.
7. Update and provide education to staff on the progress of the AOANJRR.

8. Liaise with the hospital database managers and AOANJRR manager.

9. Maintain a sufficient supply of forms; we provide these at no cost. If you run out &/or are waiting for a delivery, then you can access some print friendly ones on our website https://aoanjrr.sahmri.com/data-collection

10. Ensure that the appropriate areas e.g. pre-admission clinic within the hospital are supplied with Patient Information Sheets. Patient Information Sheets are to be given out to all public and private patients undergoing joint replacement surgery. Should a patient have objections to having their data collected please encourage the patient to contact the AOANJRR on 1800 068 419. The Patient Information Sheet is provided in the 12 most common languages spoken in Australia and is available on the AOANJRR website at https://aoanjrr.sahmri.com/all-languages.

11. If you have any queries please contact us on (08) 8128 4280 or by email admin@aoanjrr.org.au.

NATIONAL JOINT REPLACEMENT REGISTRY

PATIENT INFORMATION

INTRODUCTION - *about the Registry*

You are about to have an operation on one of your joints. More than 100,000 people have a joint replacement or knee osteotomy operation each year in Australia. Most of these operations are very successful. However, a number of people who have a joint operation may at some time require another operation on that joint. This may occur due to a variety of reasons. For instance, if you have had a joint replacement the most common cause is that the joint replacement has worn out. How quickly this occurs depends on which of the many different types of artificial joints have been used. For those patients having a knee osteotomy the aim is to delay or prevent the need for having a joint replacement. In order to improve the success of these operations, the Australian Orthopaedic Association set up the National Joint Replacement Registry in 1999. The purpose is to monitor and report on the results of these operations. This information helps everyone working in the health system to ensure patients get the best treatment possible both now and in the future. Another important Registry role is that it assists hospitals and doctors to locate people in the uncommon event a problem with any medical device used is identified.

To do this it is important for the Registry to record a small amount of information on as many people having these operations as possible. It is also important to record if any subsequent operations have occurred. By analysing this information, it is possible to identify which of the medical devices are working best and the best type of operation for each patient. We are asking you to participate in the Registry, by allowing us to document information relevant to your operation.

Your Involvement - *the information we need*

The information we require includes your name, date of birth, address, Medicare number, hospital identity number, the name of the hospital and the reason you are having a joint replacement or knee osteotomy. This information is necessary to accurately link you to the medical device inserted as well as linking any following joint surgery you may have, to your previous records. We will also record the day of the operation, which joint was operated on and the type of medical device used. No other personal information is recorded. Government Departments also provide information so that the Registry can check the accuracy of the data and update records to reflect if someone has died.

Information - *how we will keep your information confidential*

Your personal information is confidential and safety measures are in place to protect this information. Your personal information is protected by an Act of Parliament. This means you cannot be identified in any reports produced by the Registry. On occasion, your data may be linked to other government health datasets to further enhance the Registry's ability to improve patient outcomes. Your de-identified data may be used for other research projects and may be shared with national and international collaborators.

How we will collect the information

Although we are asking to record your operation details in the Registry you are not required to do anything. Your surgeon and/or theatre staff will complete the form that contains your personal details at the time of your operation and send it to us. The information will be entered into the secure Registry database which is stored in the South Australian Health & Medical Research Institute, Adelaide, South Australia.

Risks and Benefits - *to you*

There are no risks to you by having your details in the Registry. The Registry produces general reports on a variety of factors that influence the success of joint operations. The results of joint operations have greatly improved because of this information.

What to do if you don't want to be in the Registry

We understand that not everyone is comfortable about having his or her personal details documented in a registry. If you feel this way and do not want your details recorded, please contact the Manager on 1800 068 419 *(freecall)* as well as making your decision known to hospital staff. A decision on whether or not you wish to be involved in the Registry does not affect your treatment in any way. If you have any

questions, concerns or require further information on the National Joint Replacement Registry please do not hesitate to contact Ms Cindy Turner.

Declaration of Quality Assurance Activity under section 124X of the *Health Insurance Act 1973* – QAA 3/2017

I, BRENDAN MURPHY, delegate of the Minister for Health, make this declaration under section 124X of the *Health Insurance Act 1973*.

Dated: 17 July 2017

Professor Brendan Murphy
Chief Medical Officer
Department of Health