

Metro
South
Health

QUEENSLAND
TISSUE BANK

PRODUCT CATALOGUE

Musculoskeletal
Allograft Tissue



Image: Queensland Tissue Bank, Coopers Plains, QLD



Queensland
Government

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Acknowledgement of Country

In Brisbane, Queensland Tissue Bank operates on the lands of the Turrbal and Jagera People.

Queensland Tissue Bank would like to acknowledge the traditional owners and custodians of the land, waterways and countries of Queensland. We acknowledge that we live and work on these lands and wish to pay our respects to Elders past, present and emerging and extend this respect to all Aboriginal and Torres Strait Islander peoples.

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A NOTE FROM OUR DIRECTOR

We are excited to share the extensive range of products that are available at Queensland Tissue Bank (QTB), as we emerge from the transformational process of integrating four tissue types into a single tissue bank to serve our community better.

QTB is now the **nation's largest and most diverse tissue bank**, operated by the Queensland Government through Metro South Hospital and Health Service. Each year, QTB transforms thousands of lives by facilitating life-saving and enhancing transplantations. Every year, more than 800 corneal and scleral grafts restore people's sight, more than 1500 bone and tendon grafts help improve the quality of life of orthopaedic patients and more than 600 skin grafts help those suffering from severe burns. With the addition of our cardiovascular service from April 2022, this impact is set to expand to adult and paediatric patients requiring cardiac surgeries.

Unlike some other Australian tissue banks or manufacturers, we operate on a **cost recovery (not-for-profit) model and manufacture allograft exclusively from Australian sourced donor tissue**. Through compassionate and quality tissue banking, we provide an opportunity for donors and donor families in Australia to save and transform the lives of others, even when they may be ineligible to donate organs. By donating tissues, **one donor can help up to 35 recipients**. Without the generosity of donor families, tissue transplantation would not be possible.

QTB manages the entire end-to-end process, including the recovery, manufacture, storage and distribution of human tissue allografts in Queensland and around the nation. Licenced by the Therapeutic Goods Administration, all of QTB's products are listed on the Australian Register of Therapeutic Goods. We pride ourselves on **ensuring that tissue is available for all life-saving and enhancing surgeries - no matter how frequent or rare**. Working closely with surgeons, we manufacture customised allografts to suit the needs of individual recipients.

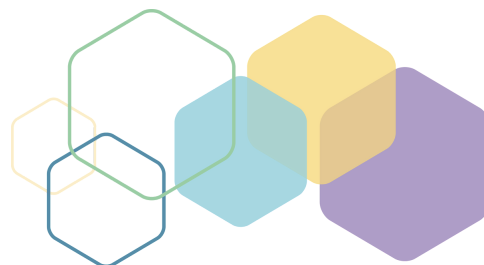
We are excited for what the future holds for QTB. We are committed to working with you to achieve the best recipient outcomes by providing high quality tissue allografts for transplantation. **Thank you for your continued support.**



Michael O'Neill

Director, Queensland Tissue Bank

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ABOUT US

Queensland Tissue Bank is the largest and most diverse tissue bank in the nation, responsible for the consent, recovery, production, storage and distribution of human tissues for transplantations around Australia. We operate as a not-for-profit organisation under Metro South Hospital and Health Service in Brisbane, alongside DonateLife Queensland as a state-wide service. With services across cardiovascular, ocular, musculoskeletal and dermatological, we offer 72 products listed on the Prostheses List – Part B and have the ability to customise allograft to ensure we meet the needs of surgeons and recipients.

STRATEGY 2020-24

OUR PURPOSE

Transforming people's lives through **quality, compassionate and innovative tissue banking**

OUR VISION

To become **Australia's premier tissue banking service**

OUR STRATEGIES

Be **stakeholder centric and market focused**

Have **agile quality management, processes and systems**

Perform **first class, sustainable research and product development**

Foster a **compassionate and highly trained workforce**

HISTORY OF QTB

1986 - Establishment of the Queensland Eye Bank (QEB) at the Princess Alexandra Hospital by Professor Lawrence Hirst.

1990 - Establishment of the Queensland Bone Bank (QBB) at the Princess Alexandra Hospital by Dr David A F Morgan.

2000 - Both the QEB and the QBB are regarded as the most successful tissue banking services in Australia.

2006 - QBSB relocated to a purpose-built facility at Coopers Plains.

2009 - QBB expanded to include skin tissue in response to the Bali Bombings, becoming Queensland Bone and Skin Bank (QBSB) under the guidance of Dr Michael Rudd.

2021 - QBSB and QEB integrate, becoming the Queensland Tissue Bank (QTB), and expand to include cardiovascular tissue under the guidance of Dr Prem Venugopal.

OUR TEAM

Our team of approximately 50 staff members **facilitate the donation, storage, manufacture and distribution of allograft tissue for all four tissue types**. We operate across three business units: Donation and Production, Quality and Compliance and Business Operations.

KEY CONTACTS



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Executive Director
Medical Services
Princess Alexandra
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Medical Director, Ocular

Dr David Morgan OAM
Medical Director,
Musculoskeletal

Dr Michael Rudd
Medical Director, Skin

Dr Prem Venugopal
Medical Director,
Cardiovascular

DONOR PROGRAMS

Donated tissue is **sourced from living and deceased donors in Australia, each medically assessed by QTB specialist staff**. Deceased donated tissue is recovered and processed by qualified QTB technicians using sterile technique. Living donor femoral heads are recovered by Orthopaedic Surgeons across Australia.

Queensland Tissue Bank's (QTB) Donation & Recovery team collate information gathered from initial assessment, Donor Medical Social Questionnaire with family, hospital admissions/treatment and GP interview/s. QTB Medical Directors assess donor history, relevant tissue related history and medically authorise for transplant. All donors are tested as serologically negative for HBV, HCV, HIV 1&2, HTLV I/II and Syphilis. Nucleic Acid Amplification Testing is also performed for HBV, HCV and HIV, or alternatively repeat routine screening at 180 days post-donation for living donors. Donor bone tissue is radiologically and histologically examined and microbiological samples are taken at recovery and processing.

DECEASED DONOR PROGRAM

Organ donors, coronial or non-coronial donors & offers to donate; within 24 hours of death.

~500 Donors Annually

LIVING DONOR PROGRAM

Donors undergoing hip replacement surgery; bone that would be otherwise discarded is donated.

~250 Donors Annually

HIGH-LEVEL DONOR CRITERIA

- Assess donor specific criteria - infectious disease risk, travel and social risk behaviour
- Assess tissue specific criteria – impact to target tissues and potential risk of disease transmission to recipient
- Exclude if cause of death is unknown and not established by post-mortem testing
- Exclude haematological malignancies, dysplastic naevus syndrome and metastatic melanoma
- Exclude some blood, tissue and organ recipients
- Exclude neurodegenerative diseases of unknown origin or suspected history of dementia
- Exclude confirmed or suspected history of slow virus or prion disease for donor or blood relatives
- Exclude degenerative or demyelinating disease of the central nervous system

Donor exclusion criteria is developed in line with requirements from the TGA's Therapeutic Goods Orders (TGOs) as well as in consultation with QTB Medical Directors and MSH Infection Management Service. **If you would like to more about tissue specific donation criteria please contact us.**



Queensland Tissue Bank operates in **collaboration with DonateLife Queensland and the Organ and Tissue Authority (OTA).**

OPERATION AND FACILITY

Queensland Tissue Bank (QTB) is dedicated to continuous quality improvement. All QTB personnel and processes conform with Australian Code of Good Manufacturing Practice (cGMP) standards and the bank is licenced by the Therapeutic Goods Administration. Alongside service leadership, Medical Directors, as established surgeons in their field, provide clinical oversight of donation and manufacturing.

Tissue manufacturing, the processing of donated human tissue into allograft is performed in controlled environments including specialist clean rooms under strict aseptic conditions. QTB's facility houses three custom-built processing rooms and two mobile clean rooms, featuring Ultra-Low Particulate Air (ULPA) filtration (99.99% of contaminants 0.12 µm) at 500 air changes/hour.

QTB's storage capabilities cover a large dedicated fleet of ultra low temperature freezers for musculoskeletal and skin tissue, liquid nitrogen freezers for cardiovascular tissue, and incubators for ocular tissue, that are monitored 24/7. Additionally, allograft are low dose irradiated at 11kGy or provided non-irradiated on request. Tissue is distributed to both private and public hospitals in Australia, New Zealand and New Caledonia.

KEY FACTS

Licensed by the Therapeutic Goods Administration (TGA)

- Australian Code of Good Manufacturing Practice for human blood and blood components, human tissues and human cellular therapy products – 2013 (cGMP), for **Class II Biologicals**.

All QTB products are listed on the **Prostheses List (Part B – Human Tissue products)** and the **Australian Register of Therapeutic Goods (ARTG)** governed by the TGA, and attract a full rebate for privately insured patients.

QTB operates entirely on a **cost-recovery basis (“own-source revenue”)**, in accordance with the Transplantation and Anatomy Act (TAA) 1979 (QLD), Section 42A.

RESEARCH AND PRODUCT DEVELOPMENT

Through collaboration with surgeons, QTB is able to **deliver customised products** across all four tissue types and is in the process of delivering **multiple projects designed to further enhance allograft use.**

PRODUCT CUSTOMISATION

Through collaboration with surgeons, customisation is possible across all of our products to suit surgical and patient need. This includes:

- Custom shape/cut traditional or cancellous bone products,
- maintenance of cartilage at joints, and
- tendons with bone block attached/removed or cut to a specific shape.

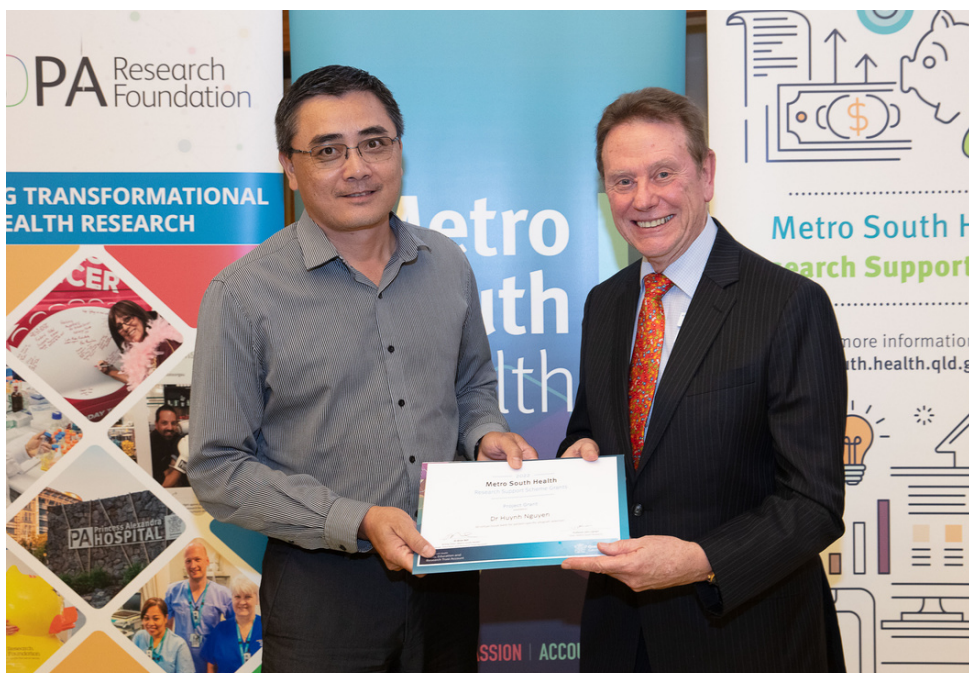
We are also able to discuss the retrieval of other tissues, and your needs across characteristics such as size, age, or damage tolerance.

CURRENT PROJECTS

- **3D surface scanning for allograft library (including meniscus)** for surgeons' use. *This project was also a winner (Novice Researcher) of the MSH SERTA Research Grants,*
- **3D milling – virtual design of missing bone fragments/defects** via CAD/CAM, and
- **3D printed cutting guides** for virtual surgical plan.

Our Research & Product Development Officer Dr Huynh Nguyen was recently awarded Project Grant (MSH SERTA Research Grants) valued at \$100,000.

Dr Nguyen's project is titled **3D Virtual Tissue Bank (vQTB) for Patient-Specific Allograft Selection** and involves applying 3D imaging technology to origin bone to assist in allograft pre-manufacture tissue matching and selection as well as the development of 3D printed allograft cutting guides to facilitate custom (patient specific) allograft manufacture.



Dr Huynh Nguyen, and Dr Brian Bell, Executive Director Medical Services, Princess Alexandra Hospital.

ALLOGRAFT

The advantages of using human tissue allograft include **reducing post-operative complications associated with donor site morbidity and reduced cost**. Queensland Tissue Bank (QTB) provides allograft across a number of clinical indications, and four donated tissue types:

Ocular allograft

Ocular tissue includes both corneal and scleral allograft for patients with sight-limiting diseases such as corneal dystrophy, keratoconus and degenerative myopia.

Cardiovascular allograft

Allograft (valves, patches and vessels) for paediatric and adult patients for surgical reconstruction of abnormal or missing vessels and for patients whose heart valves have ceased working, often due to degeneration of disease, such as rheumatic heart disease.

Musculoskeletal allograft

Bone tissue is the second most commonly used tissue in the world, after blood. Allograft supplied includes, milled, demineralised and engineered bone as well as traditional bone and soft tissue (tendons, meniscus). For use in spinal, joint revision, sports injuries and reconstructive surgeries.

Dermatological allograft

Skin tissue is used for those with severe burns and for wound management. QTB maintains a stock of skin tissue, in preparedness for future disasters, as well as regular supply for burns units across the state.



MUSCULOKSELETAL ALLOGRAFT TISSUE

This catalogue includes allograft information for musculoskeletal products only. Please contact us for information on other tissue types.

MILLED BONE



Coarse
(8-10mm)



Fine
(5-8mm)



Extra fine
(3-5mm)

Vial sizes currently available:
4g, 8g & 18g

Donor source tissue	Tibial and femoral epiphyses
Manufacture process	Cartilage and soft tissue removed Cancellous bone milled to required grade Washed with hydrogen peroxide and thoroughly cleansed with saline
Quality control	Serological testing of donor Medical / social risk assessment of donor Histological examination of bone tissue, joint capsules, lymph node Radiological review of source bone tissue Microbial culture at recovery and processing
Irradiation	Minimum dose 11kGy
Storage	Frozen below -40°C until expiry
Clinical uses	Revision orthopaedic procedures Filling osseous cavities Spinal fusion

Code	
QBB45	11-20g Milled Cancellous Bone (Various Grades), Frozen
QBB77	2-10g Milled Cancellous Bone (Various Grades), Frozen

DEMINERALISED BONE MATRIX



Donor source tissue	Tibial and femoral diaphysis
Manufacture process	Cartilage and soft tissue removed Bone milled to 250µm to 850µm Washed with Hydrochloric acid and Phosphate buffer solution (PBS) Freeze dried
Quality control	Serological testing of donor Medical / social risk assessment of donor Histological examination of bone tissue, joint capsules, lymph node Radiological review of source bone tissue Microbial culture at recovery and processing
Irradiation	Minimum dose 11kGy
Storage	Room temperature until expiry
Clinical uses	Revision orthopaedic procedures Delayed or non-union of fractures Filling osseous cavities Spinal fusion
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Code	
QBB75	Demineralised Bone Matrix 0.5-2cc, Freeze Dried
QBB74	Demineralised Bone Matrix 3-5cc, Freeze Dried

CANCELLOUS BONE BLOCK



Spinal cage insert (ALIF, ACDF)

Customisation Available
Precision cut to any shape

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Donor source tissue

Tibial and femoral epiphyses

Manufacture process

Cartilage and soft tissue removed
 Cut to shape with specially designed precision equipment
 Washed with hydrogen peroxide and thoroughly cleansed with saline

Quality control

Serological testing of donor
 Medical / social risk assessment of donor
 Histological examination of bone tissue, joint capsules, lymph node
 Radiological review of source bone tissue
 Microbial culture at recovery and processing (deceased)
 Microbial culture at processing (living)

Irradiation

Minimum dose 11kGy

Storage

Frozen below -40°C until expiry

Clinical uses

Filling osseous cavities
 Spinal fusion

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Code

QBB76

Cancellous Bone Block (Various Sizes, Custom), Frozen

FEMORAL HEAD



Available: Structural grade, milling grade or non-irradiated

Donor source tissue	Femoral head
Manufacture process	Cartilage and soft tissue removed Washed with hydrogen peroxide and thoroughly cleansed with saline
Quality control	Serological testing of donor Medical / social risk assessment of donor Histological examination of bone tissue, joint capsules, lymph node Radiological review of source bone tissue Microbial culture at recovery and processing (deceased donor) Microbial culture at processing (living donor)
Irradiation	Minimum dose 11kGy Non-irradiated
Storage	Frozen below -40°C until expiry
Clinical uses	Revision orthopaedic procedures Filling osseous cavities Spinal fusion

Code
QBB27 Femoral Head - Whole (Various Sizes), Frozen

SOFT TISSUE ALLOGRAFT



Customisation Available
*Bone block
 attached/removed*

Available: Achilles, Patella, Meniscus , Tibialis anterior, Tibialis posterior, Extensor hallucis longus, Semitendinosus, Gracilis

Donor source tissue	Various
Manufacture process	Muscle and fatty tissue removed Washed with sterile saline
Quality control	Serological testing of donor Medical / social risk assessment of donor Microbial culture at recovery and processing
Irradiation	Minimum dose 11kGy Non-irradiated
Storage	Frozen below -40°C until expiry
Clinical uses	Joint reconstruction Meniscal and ligament tears

Code	
QBB01	Achilles with/without bone block
QBB48	Patella with bone block
QBB05	Meniscus
QBB69	Various small (EHL, Gracilis, Semitendinosus, Peroneus Longus)
QBB58	Tibialis Anterior/Posterior

TRADITIONAL BONE ALLOGRAFT

Customisation Available
Size/cut, cartilage attached/removed



Available: Fibula, Humerus, Ulna, Radius, Hemipelvis, Iliac crest, Tricortical wedge, Acetabulum, proximal /distal tibia/femur

Donor source tissue	Various
Manufacture process	Cartilage and soft tissue removed Washed with hydrogen peroxide and thoroughly cleansed with saline Serological testing of donor
Quality control	Medical / social risk assessment of donor Histological examination of bone tissue, joint capsules, lymph node Radiological review of source bone tissue Microbial culture at recovery and processing
Irradiation	Minimum dose 11kGy / Non-irradiated
Storage	Frozen below -40°C until expiry
Clinical uses	Revision orthopaedic procedures Delayed or non-union of fractures

Code		Code	
QBB32	Fibula	QBB37	Hemipelvis
QBB43	Humerus	QBB34	Iliac crest
QBB16	Ulna	QBB35	Tricortical wedge
QBB15	Radius	QBB33	Acetabulum

ORDERING ALLOGRAFT

Contact us for a digital/physical copy of our current order form; however, your facility will also have a copy.

- Allocations are performed by our Donation Team.
- QTB will provide allograft specifications, including measurements taken at processing, photographs of the allograft/s, and any comments for noting.

Refer enquiries to:

Phone: (07) 3121 2626

Fax: (07) 3121 2633

Email: qldtissuebank@health.qld.gov.au

After-hours: on call staff available 24/7 to support urgent tissue orders

Are you interested in maintaining stock at your facility?

We are able to offer **consignment and stock order arrangements for facilities.**

Please contact us today to discuss.

OTHER RESOURCES

CONTACT US FOR:

- Queensland Tissue Bank site tours,
- collaboration on research or product development initiatives,
- tissue donation and manufacturing education or industry sessions for Health Professionals, and
- resources for recipients on tissue donation and what it means to receive allograft.



Call us today or complete our contact form via the QR code

Metro
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Health

QUEENSLAND
TISSUE BANK

THANK YOU

*Queensland Tissue Bank continues to honour
the generosity of our donors and their families*



Address

Block 7, 39 Kessels Road, Coopers Plains, QLD 4108



Phone Number

(07) 3121 2626



Email Address

qldtissuebank@health.qld.gov.au



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