Surgery at Royal Prince Alfred Hospital
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Since its inception in 1882, Royal Prince Alfred Hospital (RPA) has a pre-eminent position in the NSW and Australian health systems. It is known for providing high-quality, integrated clinical services, teaching and groundbreaking research.

Located in close proximity to the Sydney central business district and one of Australia’s most densely populated areas, its status as a provider of the broadest range of clinical services in NSW and its ability to deliver high-volume services with outstanding patient outcomes are defining attributes.

Part of Sydney Local Health District (the District), RPA provides some of Australia’s most complex surgical procedures. RPA was the first hospital to perform both renal transplantation in 1967 and successful liver transplantation in 1986 thanks to the work of Professor Ross Shiel. Over the years, RPA has been known for its pioneering surgeons including Associate Professor Geoffrey White, who introduced internationally recognised endovascular techniques into Australia, Professor Bill Gibson, who participated in the development of cochlear implants, melanoma surgeon Professor John Thompson who contributed to the development of the novel isolated limb perfusion technique, Associate Professor Paul Stalley, who has been a leader in the treatment of bone cancer involving the removal and re-implantation of bone, and Professor Michael Solomon, who has led the world in pelvic exenteration surgery. There have been many surgeons at RPA that have been involved in developing ground-breaking techniques across a wide range of surgical specialties. The hospital is also famously known by many Australians due to the iconic Channel 9 television series RPA, which featured many of the Hospital’s former and current specialist surgeons, including the late Professor Chris O’Brien AO.

RPA has a long-standing history of academic surgery and is unique in NSW for its strong commitment and broad-ranging contributions to surgical research and education and its inter-relationships with leading medical research institutes, the University of Sydney and other tertiary sector organisations. This has allowed busy surgical departments to enhance the surgical outcomes of patients in a “bedside to bench and back again” approach that has been sustained over many years.
The provision of surgical services at RPA today remains internationally and nationally respected with the surgeons and multi-disciplinary teams providing considerable leadership across NSW in the delivery of complex surgical services, which occurs within a strong research and education framework.

RPA delivers the highest volume of surgical care in NSW for the major surgical specialties with 55 surgical operations performed on an average day at the hospital.

RPA’s specialty surgical services are numerous with highlights including:

- Australian Liver Transplant Unit (ALTU)
- Highly complex maximally invasive surgery such as pelvic exenteration, peritonectomy, upper GI surgery, neurosurgery, head and neck surgery, complex orthopaedics and complex multi-disciplinary surgeries
- Kidney transplantation
- Sarcoma surgery
- Cardiothoracic structural heart and aortic surgery programs
- Robotic-assisted surgery
- Joint replacements

The surgical teams are also pioneering the use of custom 3D printing for implementation across a range of surgeries, in particular orthopaedics, ENT, head and neck and cardiothoracic surgery.

RPA is home to the Institute of Academic Surgery (IAS), which was established in 2014, and is the first hospital-based institute in Australia to focus solely on academic surgery. The IAS aims to enhance the current models of academic surgery at RPA and to be a leader in the education and training of graduate, fellowship and post-fellowship surgeons and associated surgical specialty disciplines at a national and international level.

In addition, the IAS manages the Surgical and Robotics Training Institute, which opened in 2017. It is the first of its kind in Australia training surgeons both nationally and internationally in robotic techniques for cardiovascular, urology, gynaecology and colorectal procedures.

This booklet provides a short summary of the 16 surgical departments at RPA and highlights their achievements, areas of expertise and current research and education.
Breast

The breast surgery department based at Chris O’Brien Lifehouse oversees the diagnosis and treatment of patients with breast cancer, including public patients supported by RPA. The three specialist surgeons collaborate closely with a range of specialists with their work underpinned by a comprehensive research program.

Areas of expertise
- Cancer screening with BreastScreen NSW
- Diagnosis and management of benign and malignant disease
- Use of new technology for breast reconstruction
- High-risk patients

Key areas of education
- Masters of Surgery (Breast Surgery), University of Sydney
- Graduate Medical Program, University of Sydney
- Dedicated training sessions for surgical trainees
- Course convenors and examiners to the Breast Surgeons of Australia and New Zealand (BreastSurgANZ)

Key areas of research
- 3D printed technology
- Robotic-assisted surgery
- Negative pressure wound therapy (PICO)
- SPY fluorescence angiography
- Alternative surgical techniques (perforator flap)
- Remote-controlled carbon dioxide tissue expanders
- Blood and hair phospholipids to predict breast cancer
- Accuracy of sentinel node localisation in multifocal cancers

Affiliated organisations
- BreastScreen NSW
- The University of Sydney
- The Kinghorn Cancer Centre
- Garvan Institute Breast Cancer Research Group

Achievements
- First robotic-assisted breast surgical case in Australia
- First to use SPY florescence in breast reconstruction
- Use of 3D printing for surgical planning and education of patients

Benign Gynaecology

The department of benign gynaecology is the largest public gynaecology unit in NSW and provides a broad scope of surgery including general gynaecology, minimally invasive surgery (robotic-assisted and laparoscopic), urogynaecology and fertility-related surgery. The department consists of more than 20 surgical specialists who collaborate closely with a multidisciplinary team, providing more than 5,000 surgical procedures and services to more than 3,500 ambulatory care patients annually.

Areas of expertise
- Endometriosis
- Urogynaecology
- Robotic-assisted surgery for hysterectomy and endometriosis
- Reproductive endocrinology and infertility

Key areas of education
- Masters in Sexual and Reproductive Health
- Gynaecology Anatomy Series
- Graduate Medical Program, University of Sydney
- Dedicated training sessions for surgical trainees

Key areas of research
- Uterus transplant
- Endometriosis
- Robotic-assisted surgery including patient reported outcomes
- Urogynaecology assessment
- Oncopotency
- Recurrent miscarriage

Affiliated organisations
- Sydney Institute for Women, Children and their Families
- The University of Sydney

Achievements
- Largest public gynaecology unit in NSW
- Leadership in supporting women with pelvic mesh
- Early Pregnancy Assessment Services (EPAS)
The cardiothoracic surgery department is the largest cardiothoracic unit in NSW. It provides a comprehensive range of minimally and maximally invasive cardiothoracic procedures underpinned by a strong academic program. The team of seven surgeons undertake more than 1200 surgical procedures annually and provide care to more than 2,000 ambulatory care patients.

Areas of expertise
• Complex aortic surgery
• Minimally invasive and robotic-assisted surgery
• Structural heart program
• Hypertrophic cardiomyopathy surgical program
• Coronary revascularisation
• ECMO retrieval services for patients with heart failure

Key areas of education
• ECMO Simulation courses
• CALS Simulation courses
• Graduate Medical Program, The University of Sydney
• Masters of Surgery: surgical anatomy, The University of Sydney
• Dedicated training sessions for surgical trainees

Key areas of research
• Aortic aneurysm development and surgical correction
• Robotic-assisted surgery
• Atrial fibrillation
• Carcinoma of the lung/surgical oncology
• Inflammatory response to bypass
• Myocardial preservation
• Cardiac Advanced Life Support (CALS) course
• Minimally invasive cardiac surgery
• Limitation of blood product usage in cardiac surgery
• Biomaterials and biocompatibility

Achievements
Largest cardiothoracic unit in NSW
Statewide service for lifesaving extracorporeal membrane oxygenation (ECMO) retrieval
Established the combined cardiac surgery and cardiology TAVI program to replace aortic valves without surgery
Established Australia’s first Cardiac Surgery Advanced Life-support (CALS) Course in conjunction with RPA Intensive Care Unit (ICU)
First robotic-assisted CABG case in Australia

Affiliated organisations
The Baird Institute
Charles Perkins Centre, The University of Sydney
**Colorectal**

The colorectal department at RPA is renowned across Australia and internationally for undertaking the most complex surgical procedures in their specialty and for achieving outstanding patient outcomes. The team of nine surgeons have expertise across both maximally and minimally invasive surgery and a strong passion for integrating research and education into all of their work.

**Areas of expertise**
- Pelvic exenteration
- Peritonectomy
- Primary colorectal and anal cancers
- Anorectal and biofeedback
- Stomal therapy
- Inflammatory bowel disease
- Pelvic floor disorders
- Colonoscopy

**Key areas of education**
- Pelvic side wall advanced training
- Introduction to robotic-assisted surgery within colorectal
- Contribution to CSSANZ post-fellowship training
- Notaras Academic Fellowship
- Supervision of PhD, Masters and Honours students in medicine, nursing and allied health
- Contribution to nurse-led training programs

**Key areas of research**
- Surgical outcomes
- Quality of life following pelvic exenteration and peritonectomy surgery
- Surgical techniques relating to pelvic exenteration and other surgical procedures
- Robotic-assisted rectal resections
- Surgical decision making
- Impact of pre-habilitation on pelvic exenteration and peritonectomy patients

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**Ear, Nose and Throat (ENT)**

The ear, nose and throat (ENT) department at RPA is a dynamic unit offering general ENT services to the local community as well as a comprehensive tertiary referral service for advanced rhinology (sinus and nose disorders). The department also offers services in key sub-specialty areas including skull based pathology, benign head and neck, and cochlear implant. The team of seven surgeons undertake more than 700 surgical procedures annually and provide care to more than 4,000 ambulatory care patients.

**Areas of expertise**
- Cochlear Implant
- Sinus and complex middle ear procedures
- Tonsillectomy and adenoidectomy

**Key areas of education**
- Use of Augmented Reality (AR) and Virtual Reality (VR) in education
- Providing world renowned two-year Temporal Bone course
- Fellowship in otology, endoscopic ear surgery and skull based surgery

**Key areas of research**
- 3D printing and 3D bio-printing
- Intra-operative cochlear response telemetry and hearing preservation
- Meniere’s disease

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**Achievements**

- Internationally-renowned pelvic exenteration program with largest patient series in the world
- Second site in NSW for peritonectomy surgery
- Novel Advanced GI Surgical Nursing Training Program
- Robotic-assisted surgery program
- NSW Biofeedback and Pelvic Floor Facility

**Affiliated organisations**
- Surgical Outcomes Research Centre (SOuRCe)
- The University of Sydney
- Chris O’Brien Lifehouse

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**Achievements**

- One of the first hospitals to provide hard-hearing patients with the life-changing cochlear implant technology
- First hospital based 3D bio-printer in collaboration with University of Wollongong and RPA Institute of Academic Surgery
- World-renowned Temporal Bone Laboratory

**Affiliated organisations**
- Chris O’Brien Lifehouse
- The University of Sydney
- University of Wollongong
The gynaecology department provides care for women with all types and stages of gynaecological cancers. Based at Chris O’Brien Lifehouse, the six surgeons provide treatment for ovarian, cervical, uterine and vaginal cases. The team also provides surgical support to other departments undertaking complex surgical cases including the colorectal department at RPA with pelvic exenteration and peritonectomy patients.

**Areas of expertise**
- Ovarian, cervical, uterine and vaginal cancers
- Colposcopy to scan for cervix abnormalities
- Women at high risk of gynaecological cancers
- Introduction of cytoreductive surgery and HIPEC services at RPA

**Key areas of education**
- Gynaecological Oncology Fellowship Training program
- Graduate Medical Program, University of Sydney
- Dedicated training sessions for surgical trainees
- Course convenors and examiners to the Australian Society of Gynaecologic Oncologists (ASGO)
- Robotic-assisted surgery proctoring and advanced training

**Key areas of research**
- Genomics for gynaecological cancer
- Surgical outcomes after major surgery
- Cervical cancer screening

**Achievements**
- Early pioneer of fast track surgery and enhanced recovery after surgery (ERAS)
- Robotic-assisted surgery program

**Affiliated organisations**
- The University of Sydney
The head and neck surgical service based at Chris O’Brien Lifehouse has a national and international reputation of excellence in providing care for public and private patients with complex head and neck cancers, as well as providing care for patients with benign health and neck disease at RPA. The eight specialist surgeons are leaders in their field and a highly academic department.

**Areas of expertise**
- Oral Cancer and reconstruction of the mandible/maxilla using 3D printing technology
- Advanced cutaneous cancers of the head and neck
- Salivary gland cancer and thyroid cancer
- Facial Nerve Clinic and facial nerve reconstruction
- Transoral robotic resection (TORS) for tongue base and tonsillar cancer

**Key areas of education**
- Graduate Medical Program, University of Sydney
- Oral cancer education day
- Dedicated training sessions for surgical trainees
- PhD, Masters and Honours student supervision
- Sydney Head and Neck Cadaver Dissection Course

**Key areas of research**
- Using 3D printing for patient reconstruction and surgical planning
- Bionic eye closure device for facial paralysis (BLINC)
- Whole Genome Sequencing of metastatic cutaneous squamous cell carcinoma (cSCC)
- Whole Genome Sequencing of tongue cancer in young patients
- Targeted Sequencing for salivary duct carcinoma

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The department of melanoma and surgical oncology at RPA is a quaternary referral centre. It treats the largest number of melanoma cases in NSW each year, with melanoma being Australia’s third most common cancer. The team has six specialist surgeons who provide management of a range of complex skin tumours, with a particular emphasis on melanoma.

**Areas of expertise**
- Isolated limb infusion technique to deliver regional chemotherapy for melanoma
- Sentinel lymph node biopsy procedures
- Multidisciplinary management of stage III melanoma
- Complex skin tumour management including melanoma and Merkel cell carcinoma

**Key areas of education**
- Graduate Medical Program, University of Sydney
- Dedicated training sessions for surgical trainees
- PhD, Masters and Honours student supervision

**Key areas of research**
- Lymphatic mapping
- International staging system for melanoma
- Tumour mitotic rate as predictor of survival after melanoma
- Surgical management of melanoma
- Biospecimen banking

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**Affiliated organisations**
- Beyond Five
- The University of Sydney
- Sydney Head and Neck Cancer Institute

**Achievements**
- World-renowned department
- Highest volume of complex head and neck cancer resections in NSW
- Sydney Head and Neck Cancer Institute (SHNC) Database is the largest in NSW
- Largest head and neck cancer biobank in Australia

**Affiliated organisations**
- Melanoma Institute Australia (MIA)
- The University of Sydney
- Sydney Melanoma Diagnostic Centre

**Achievements**
- World-renowned for the development of isolated limb infusion
- Treatment of largest number of melanoma cases in NSW annually
- Largest melanoma patient database and primary tumour biospecimen bank world-wide

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Surgery at Royal Prince Alfred Hospital
Neurosurgery

The department of neurosurgery provides a comprehensive range of surgical treatment for patients with acute and chronic conditions affecting the neurological system. The team of six neurosurgeons undertake more than 1,000 operations and deliver care to more than 400 ambulatory care patients annually.

Areas of expertise
- Cerebrovascular surgery
- Stereotactic radiosurgery (SRS)
- Cranial procedures for brain tumours
- Endovascular procedures
- Epilepsy and functional neurosurgery
- Trauma surgery
- Neuro-interventional angiogram
- Spinal procedures including fusion

Key areas of education
- Graduate Medical Program, The University of Sydney
- Dedicated training sessions for surgical trainees

Key areas of research
- Stereotactic radiosurgery
- Brain and pituitary tumours
- Epilepsy surgery
- Trigeminal neuralgia

Achievements
- First intraoperative MRI in Australia
- Support of the RPA endovascular clot retrieval (ECR) service for acute ischaemic stroke in NSW
- Only neurosurgical service with dedicated interventional neuroradiology (INR) capacity in NSW

Affiliated organisations
- Brain and Mind Centre, The University of Sydney
- Brainstorm
The ophthalmology department is one of the largest ophthalmological teaching units in Australia and provides quaternary level care to patients with diseases of the eye and visual system. The team of nine specialist eye surgeons undertake more than 500 operations and deliver care to more than 4,000 ambulatory care patients annually, along with providing extensive consultations to other disciplines and patients at RPA.

**Areas of expertise**
- Thyroid eye disease
- Diabetic eye disease
- Inflammatory eye disease
- Intraocular cancer
- Tear duct surgery
- Glaucoma and complex cataracts

**Key areas of education**
- Graduate Medical Program, University of Sydney
- Dedicated training sessions for surgical trainees
- Dedicated training sessions for endocrinology trainees
- Course convenors and examiners to the Royal Australian and New Zealand College of Ophthalmologists (RANZCO)

**Key areas of research**
- Reconstruction techniques and outcomes
- Adult ocular adnexal rhabdomyosarcoma
- Neuro-ophthalmology of invasive fungal sinusitis

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The orthopaedic department at RPA is one of the busiest units in NSW and provides surgical care to more than 1,600 inpatients and 14,000 outpatients annually. Patients include those with injuries, conditions and diseases of their musculoskeletal system in the trauma, emergency and planned setting. The innovative team of nine surgeons continually demonstrate positive outcomes for their patients and achieve outstanding low infection rates.

**Areas of expertise**
- Bone and soft tissue sarcoma
- Sacral resection within pelvic exenteration
- Reconstruction and replacement of major joints
- Trauma surgery

**Key areas of education**
- Graduate Medical Program, University of Sydney
- Dedicated training sessions ‘Bone School’ for surgical trainees
- Training fellowships in orthopaedic oncology and joint replacement
- Course convenors and examiners to the Australian Orthopaedics Association (AOA)

**Key areas of research**
- Bone and soft tissue sarcoma including extracorporeal irradiation and re-implantation of bone
- Robotic-assisted knee arthroplasty including patient reported outcomes
- 3D titanium printed implants
- Limb preservation surgery

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**Achievements**

**Largest ophthalmological teaching unit in Australia**

**Affiliated organisations**

- Chris O’Brien Lifehouse
- Brain and Mind Centre, The University of Sydney
- Save Sight Institute, The University of Sydney

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**Achievements**

One of the largest joint replacement units in Australia

Leaders in sarcoma with 90 per cent of advanced sarcoma surgery in NSW undertaken at RPA

Extracorporeal irradiation and re-implantation of bone for primary bone sarcoma

Robotic-assisted surgery in knee arthroplasty

**Affiliated organisations**

- Institute of Rheumatology and Orthopaedics (IRO)
- Chris O’Brien Lifehouse
- Institute for Musculoskeletal Health
- The University of Sydney
The plastics and reconstructive department provides quaternary level surgical care to patients with a range of injuries, conditions and diseases, with the aim of restoring or improving body function. The team of six specialist surgeons undertake more than 1,700 operations and deliver care to more than 7,000 ambulatory care patients annually. The department also provides extensive surgical support to other departments performing complex tumour resections and other forms of surgery to facilitate wound healing and recovery.

Areas of expertise
- Breast reconstruction
- Head and neck cancer reconstruction
- Limb and trunk sarcoma/solid tumour reconstruction
- Chest wall and sternal reconstruction
- Hand surgery
- Trauma surgery
- Pelvic exenteration reconstructions

Key areas of education
- SET training program for RACS
- Microsurgery Training Program
- Graduate Medical Program, University of Sydney
- International medical student attachments
- Dedicated training sessions for surgical trainees

Key areas of research
- Complex facial reconstruction and transplantation
- Surgical oncology reconstruction
- Reconstructive microsurgery
- Lymphoedema correction
- Skin cancer management
- Quality of life in relation to reconstructive surgery

Achievements
Microsurgery Training Program
Among earliest major reconstructive surgical units providing frequent microsurgical reconstruction in NSW
First plastic surgery service in NSW in 1991 to commence providing immediate breast reconstruction on a regular and frequent basis for women undergoing mastectomy, in cooperation with the breast oncology surgeons
Introduction of new techniques of secondary sternal reconstruction following cardiac surgery
Introduction of techniques for intrathoracic free microvascular tissue transfers
Introduction of techniques for surgical management of post-pneumonectomy space infection
Complex reconstructions including pelvic exenteration and facial patients

Affiliated organisations
- Chris O’Brien Lifehouse
- The University of Sydney
- Australian Society of Plastic Surgeons

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- Chest wall and sternal reconstruction
- Hand surgery
- Trauma surgery
- Pelvic exenteration reconstructions

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- SET training program for RACS
- Microsurgery Training Program
- Graduate Medical Program, University of Sydney
- International medical student attachments
- Dedicated training sessions for surgical trainees

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Complex reconstructions including pelvic exenteration and facial patients

Affiliated organisations
- Chris O’Brien Lifehouse
- The University of Sydney
- Australian Society of Plastic Surgeons
The world-renowned transplantation surgery at RPA includes liver and renal transplantation with the team of specialist surgeons achieving outstanding patient outcomes by working in close collaboration with an exceptional multidisciplinary team. The RPA team participate in the national organ retrieval roster and lead the development of national and international guidelines for donor allocation, organ retrieval, recipient listing and post-operative care.

Key areas of research
- Kidney and liver transplantation
- Living donor kidney and liver transplantation
- Organ procurement
- Haemodialysis and peritoneal dialysis
- Multi-organ transplantation

Key areas of education
- Patient education
- Deceased donor organ retrieval surgery: medical officers, nurses and coordinators
- Microsurgery training
- PhD and Masters student supervision
- Training sessions for SET trainees
- Graduate Medical Program, University of Sydney

Affiliated organisations
- RPA Transplant Institute
- Australia and New Zealand Liver Transplant Registry
- Transplantation Society of Australia and New Zealand
- Transplant Advisory Council
- NSW Organ and Tissue Donor Service
- Australian Organ and Tissue Authority
- Transplant Surgery Department Westmead Hospital
- St Vincent’s Hospital Cardiothoracic transplant unit
- Charles Perkins Centre, University of Sydney
- Centenary Institute
- Sydney Children’s Hospital, Westmead

Achievements
- A worldwide leader in patient outcomes following kidney transplant and liver transplant
- The Australian Liver Transplant Unit (ALTU) at RPA is a Statewide service for NSW and ACT, and is one of the busiest units in Australia
- One of the largest kidney transplantation services in Australia
- Performed its 3000th kidney transplant in 2019
- Established the NSW Deceased Donor Organ Procurement Service
- World first triple transplant (Liver, Pancreas, Kidney) in 2006
- Established the ‘Split liver transplant program’ in 2002
- First successful adult and paediatric liver transplants in NSW performed in 1986
- First kidney transplant in Australia performed in 1967

Areas of expertise
- Kidney and liver transplantation
- Living donor kidney and liver transplantation
- Organ procurement
- Haemodialysis and peritoneal dialysis
- Multi-organ transplantation

Areas of education
- Patient education
- Deceased donor organ retrieval surgery: medical officers, nurses and coordinators
- Microsurgery training
- PhD and Masters student supervision
- Training sessions for SET trainees
- Graduate Medical Program, University of Sydney

Key areas of research
- Complex fistulas
- Prevention of delayed graft function in renal transplantation
- Avoidance of wound infections in kidney transplantation
- Usage of robotic-assisted surgery for kidney transplantation
- Establishment of a clinical urology transplant program

Upper Gastrointestinal

The upper gastrointestinal (GI) department at RPA provides complex upper gastrointestinal and hepatobiliary surgery to patients across NSW including specialised cancer care for liver and bile duct, pancreatic, gastric and oesophageal cancers, abdominal sarcomas and complex fistula management. The team of six surgeons are extremely busy caring for more than 2,000 patients in hospital and providing ambulatory care to more than 800 patients annually.

Areas of expertise
- Liver, bile duct, pancreatic, stomach and oesophageal cancers
- Liver resections and transplants
- Complex fistulas

Key areas of education
- Graduate Medical Program, University of Sydney
- General Surgeons Australia (GSA) – Short and Long Course
- Higher Degree Supervision
- Education with the Australi and New Zealand Hepatic, Pancreatic and Biliary Association
- Education with the Australia and New Zealand Gastric and Oesophageal Surgery Association

Key areas of research
- Complex liver resection techniques
- Bioprosthetic vascular replacement
- Treatment for HCC prior to liver transplantation
- Portal haemodynamics for liver resection and transplantation
- Surgical management of cholangiocarcinoma
- Pancreatic neuroendocrine tumours
- Gene therapy for metastatic pancreas cancer
- Decision making in surgery
- Robotic-assisted surgery for hepatobiliary and oesophagogastric cancer
- Introduction of partial nephrectomy and HIFEC for patients with metastatic gastric cancer
- Prehabilitation for patients to optimise health and minimise risk prior to major surgery

Affiliated organisations
- SOuRCe
- Chris O’Brien Lifehouse
- The University of Sydney

Achievements
- Largest experience in complex vascular reconstruction and liver resections in Australia
Urology

Areas of expertise
- Robotic-assisted surgery
- Prostatectomy
- Pelvic exenteration and peritonectomy surgery
- Live donor nephrectomy for kidney transplant
- Urethral reconstruction
- Retroperitoneal Node Dissection
- Percutaneous surgery and open surgery, for complex kidney stones
- Re-operative urological surgery
- Locally advanced renal cancer, with vena caval tumour thrombus
- Salvage cystectomy, after failed radiation/chemo therapy
- Reconstructive urology

Key areas of education
- Fellowship in Robotics Research
- Higher Degree Supervision
- Training sessions for surgical trainees
- Graduate Medical Program, University of Sydney

Key areas of research
- Urological surgical techniques
- Cellular function of prostate cancer
- Outcome of robotic-assisted surgery of partial nephrectomy and radical prostatectomy
- Robotic node dissection

Achievements
- Leading department in live donor kidney transplantations in collaboration with transplantation team
- Leading department in open node dissection for testicular cancer
- Integral part of the pelvic exenteration and peritonectomy service at RPA
- Research based robotic-assisted surgery program

Vascular

Areas of expertise
- Endoluminal aortic stent grafting
- Angioplasty and stenting
- Minimally invasive vascular interventions
- Vascular oncological service (for pelvic exenterations, sarcoma and urology units)
- Congenital aortic disease
- Carotid stenting
- Peripheral arterial disease
- Abdominal and thoracic aortic aneurysms
- Complex peripheral vascular limb salvage
- Dialysis access for renal replacement therapies

Key areas of education
- Graduate Medical Program, University of Sydney
- Training sessions for surgical trainees
- Education with the Australia and New Zealand Society of Vascular Surgeons

Key areas of research
- Endovascular surgical techniques
- Management of aneurysms
- Dialysis access and fistula flow dynamics
- Robotic-assisted surgery

Affiliated organisations
- The University of Sydney
- Chris O’Brien Lifehouse

Achievements
- Pioneering endovascular grafts with first undertaken in Australia
- First thoracic dissecting aneurysm treated in the world
- First classified endoleak
- Dedicated ultrasound laboratory
- Hybrid interventional operating theatre for combined endovascular and open surgical procedures

Affiliated organisations
- The University of Sydney
- The Baird Institute
- Chris O’Brien Lifehouse
The future of surgery at RPA is bright with the hospital set to continue to be a national and international leader in the field.

The surgical teams will continue to integrate clinical, research and educational components into their work, and to lead the development and implementation of surgical innovation.

The new and innovative models of care on the horizon for surgery at RPA include:

• Expanding the use of robotic-assisted surgery and the types of technology available
• Developing surgical robotics in combination with artificial intelligence for selected surgeries
• 3D printed customised prosthetics and implantable devices
• Research into 3D bioprinting, which has the possibility of creating replacement human cartilage, skin, organs and bones
• Expanding organ transplantation within uterine and facial programs
Surgery at Royal Prince Alfred Hospital

Artist: Simon Fieldhouse