



Kidney Health Australia established a major research grant known as **The Bootle Award Medical Research Grant**, arising from an initial bequest of over \$2 million dollars from the estate of Miss Elizabeth Bootle, dedicated to research in nephrology and urology.

The Medical and Scientific Advisory Committee of Kidney Health Australia recommended that the Bootle Bequest be used primarily for developing and securing the academic career of Australian scientists or medical graduates in the area of nephrology. Funding was awarded on the proviso that recipient institutions match funds awarded. The first research project began in 2003, and the final project funded began in 2006.

This generous bequest injected more than \$5 million dollars into kidney research to benefit Australians and populations worldwide at risk from kidney disease.

*If you are interested in setting up a similar bequest, read more at [Bequests and Wills](#) and our [Medical Research Funding Program](#).*

---

### **Fourth Bootle Award**

#### **A/Professor Merlin Thomas of the Baker Heart Research Institute**

*\$1 million dollars over 5 years, matched by Baker Heart Research Institute - total \$2 million dollars*

The final Bootle Award was made recently to A/Prof Merlin Thomas of the Baker Heart Research Institute, for clinical trials to explore a novel link between sugar and the complications it causes, including the kidney. To use an analogy, high blood sugar is like adding petrol to fire. High blood sugar fuels the creation of destructive modified protein.

This important research looks at ways to contain the fire no matter what is added to it, thus negating the effect of high sugar levels. A/Prof Thomas is developing a test that GPs will be able to use for people with diabetes to see how much of the modified protein is in their system. Doctors will then be able to easily and quickly ascertain the level or risk of kidney damage in their patients and could also use this test on patients who are at risk of contracting diabetes to ensure that their organs do not start to deteriorate as a result of the disease.

A/Prof Thomas said "The growing epidemic of diabetes already affects over one million Australians and twice that number again are at risk of developing diabetes in the next five to ten years. For millions of people with diabetes who struggle to try to control their sugars every day, an understanding of this pathway will provide an important advance to their care."

Many Australians live with diabetes, the lead cause of kidney failure. Despite the clear and present danger of diabetes, the role of high sugars in causing kidney failure blindness and heart disease is poorly understood. Diabetes has been identified as triggering 30% of kidney disease. The results of this research will provide the foundation for early detection and prevention of kidney disease from which one in three Australians is at risk. The overall cost of kidney disease in the community is substantial - the seventh most common cause of death in Australia. The contribution of kidney failure to mortality in Australia has been seriously underestimated with a conservative estimate indicating that kidney failure causes or contributes to at least 9.5% of all deaths in Australia.

---

### **Third Bootle Award**

#### **Australasian Kidney Trials Network (AKTN) 2005 - 2007**

*Seed funds of \$150,000 over three years, ANZSN contributed some funds*

This Queensland consortium of kidney disease researchers presented a joint application with Elaine Beller of the Queensland Clinical Trials Centre and the [Australasian Kidney Trials Network](#) was formed to become the provider of a clinical trials network in nephrology. A/Prof Carmel Hawley heads this impressive team, including Principal Investigators Professor Wendy Hoy, Professor David Johnson, A/ Prof David Nicol, Dr Steven McTaggart and Dr Zhiqiang Wang who will continue to develop a network of clinicians, assist with data management and with the design of clinical trials in nephrology.

## **Second Bootle Award**

### **Australia at Risk Kidney Study (2004 - 2006)**

*\$300,000 (matched by Royal Prince Alfred Hospital) - total \$600,000*

*Project team headed by Professor Steve Chadban (Royal Prince Alfred Hospital) and Professor Robert Atkins (Monash Medical Centre)*

Kidney Health Australia's Medical and Scientific Advisory Committee chose the kidney component of an Australia wide re-study five years on, of the first 11,248 adult Australians chosen at random for inclusion in the original [AusDiab Survey](#) - the first truly nationwide study of this type in the world. The updated statistics assess the 'natural' history of abnormalities found then and assess the rate of any new abnormalities developing in the last five years. The original survey was judged to be a major contribution to our knowledge about the incidence of diabetes, hypertension and kidney disease in the Australian community. Who is most at risk of kidney damage

This new extension - [The Australia at Risk Kidney Study](#) provides epidemiological results of global significance to the kidney world by establishing:

- The natural progression of kidney damage in the general community
- How to detect kidney disease early and slow or prevent progression to kidney failure
- Funded as a special project and considered as essential to support the evidence basis for our preventive work.

The original statistics from the AusDiab Survey showed that Australia, like the rest of the world, is in the grip of an epidemic of diabetes.

- one in three Australians have an increased risk of developing chronic kidney disease
- one in seven already have evidence of kidney damage
- smoking, diabetes and high blood pressure are the main contributors.
- AusDiab Study proved a lifetime-accumulated amount of smoking was associated with kidney damage, particularly among those with no high blood pressure and no diabetes. Men are particularly at risk from the effects of smoking on reduced kidney function.

Briganti EM, Branley P, Chadban SJ, Shaw JE, McNeil JJ, Welborn TA & Atkins RC 2002. 'Smoking is associated with renal impairment and proteinuria in the normal population: the AusDiab Kidney Study', *American Journal of Kidney Disease*, vol. 40, no. 4, pp. 704-712

---

## **First Bootle Award**

### **Kidney Regeneration (2003 - 2007)**

*\$1 million over five years, with matching funds from the parent institutions*

*Award focused on **Dr Sharon Ricardo**, of Professor John Bertram's team at Monash University in collaboration with Professor Melissa Little at the University of Queensland*

The [Kidney Regeneration Program](#) is designed to explore the potential for stem cell based repair of damaged kidney tissue and of the capacity for stem cells to generate new kidney tissue. A team of investigators from Monash University, University of Queensland and the Royal Melbourne Institute of Technology brings together the expertise necessary to successfully identify, define, isolate and expand renal stem cells to explore the benefits of injecting stem cells into damaged kidneys.

The research work "*Towards renal regeneration: Isolation, characterisation, and functional analysis of renal stem cells*" hopes that their findings may lead to the possibility of injecting stem cells into damaged areas of the kidney, enabling a self-repair process.

The recent explosion of data demonstrating the potential of adult stem cells suggests there is the possibility of inducing renal or non-renal adult stem cells to either regrow a kidney or repopulate a resident kidney, adding nephrons to its existing parenchyma. Equally, the inherent capacity of the kidney to repair itself following ischaemia or toxicity may indicate a resident stem cell population that, if adequately harnessed, may be able to accelerate and maximise repair.

The long-term goal of this research is to induce renal or non-renal stem cells to either regrow a kidney or repopulate a resident kidney. Results will also provide valuable insight into the role of adult stem cells from a myeloid origin, as transplant material for replacement of smooth muscle based organs such as blood vessels, bladder and ureter.

This work if proven successful and it could be a most significant and exciting advance in kidney therapy and ultimately lead to a decline in the number of people needing dialysis and transplantation.