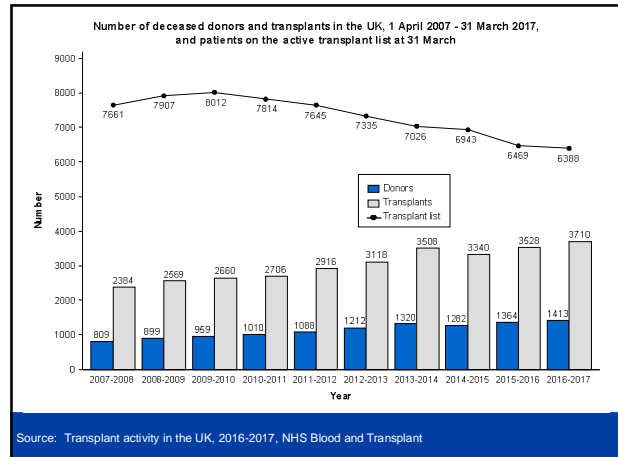


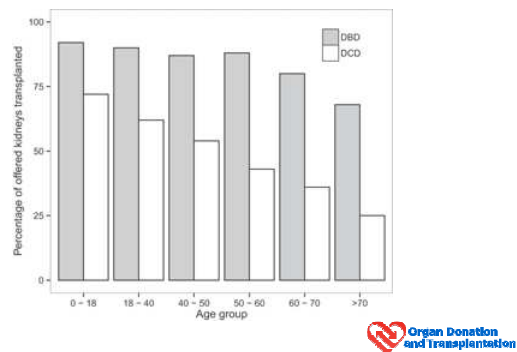
National Histopathology Service for Transplantation

The PITHIA Trial

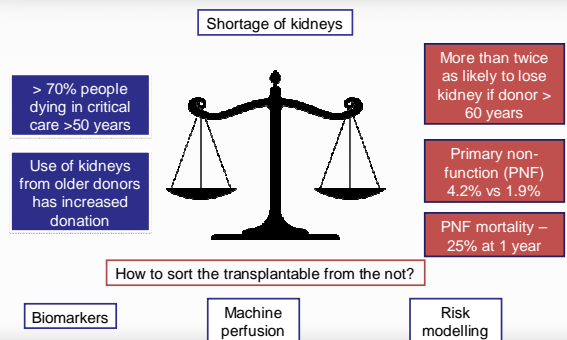
A stepped-wedge cluster randomised trial



Is the kidney donor pool underutilised?



The oracle in transplantation?



National Histopathology – the Consortium

- NHS-BT John Forsythe, Rutger Ploeg, Claire Williment
 - NHS-BT Trials Unit Dave Collett, Alison Deary
 - Clinical Lead for Organ Utilisation Chris Callaghan
 - NHS England
 - Histopathology – Desley Neil, Cambridge, Leeds, London
 - Health Economist Ed Wilson
 - Implementation Design Dr Karla Hemming
 - Lay person representation
 - Surgeons Roberto Cacciola, Gavin Pettigrew, Dom Summers
 - Transplant Nephrologists Nick Torpey
- Organ Donation and Transplantation, CHSR, UNIVERSITY OF BIRMINGHAM, BRITISH KIDNEY PATIENT ASSOCIATION

Cambridge Histopathology Service

- 24 hour availability of consultant renal pathologists (only centre)
- Routine pre-implantation biopsy on kidneys from donors >65
- Biopsy process takes 4-5 hours
- Graded according to the Remuzzi system

Histopathology assessment of chronic injury

- Age associated histological features of injury
- Correlation with outcome
- Grade or score the severity of baseline injury

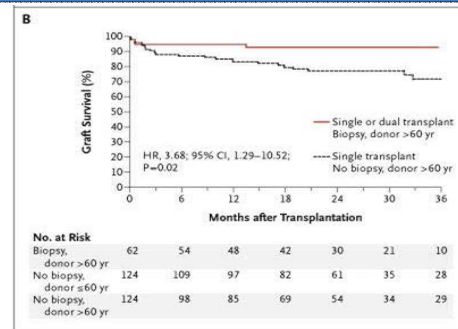
THE NEW ENGLAND JOURNAL OF MEDICINE

ORIGINAL ARTICLE

Long-Term Outcome of Renal Transplantation from Older Donors

Giuseppe Remuzzi, M.D., Paolo Cravedi, M.D., Annalisa Perna, Stat. Sci. D., Borislav D. Dimitrov, M.D., M.Sc., Maria Turtumso, Biol. Sci. D., Giuseppe Locatelli, M.D., Paolo Rigo, M.D., Nicola Baldo, M.D., Marco Bestini, M.D., Umberto Valentini, M.D., Mario Scalamogna, M.D., and Piero Ruggenenti, M.D., for the Dual Kidney Transplant Group*

The Remuzzi score



Remuzzi G et al. N Engl J Med 2006;354:343-352.

However?

- Increase in cold ischaemic times?
- Complications of biopsy?
- Does it perhaps lead to excess kidney discard?
- Remains controversial in the US

The Devil is in the Detail

How to accurately assess the impact of a national histopathology service?

- Just how many extra kidney transplants are performed?
- What is their outcome?
- **Pre-Implantation Trial of Histopathology In renal Allografts - the Pithia trial**



The Oracle at Delphi

- The Pythia
- Priestess of the temple of Apollo
- 8th Century BC – around 390 AD
- King Croesus of Lydia 5th Century BC
- 'If Croesus goes to war, he will destroy a great empire'



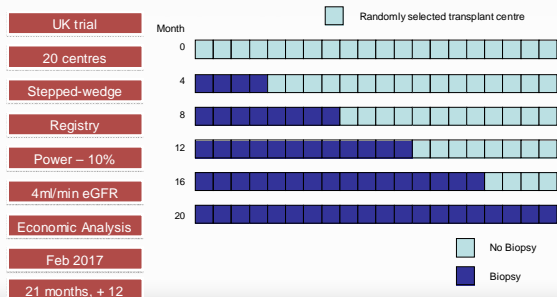
<http://www.pithia.org.uk/>

The PITHIA trial

- Pre-Implantation Trial of Histopathology In renal transplant Allografts – PITHIA
- Trial will demonstrate the value of pre-implantation histopathology in increasing number and quality of transplants
- Modest increase in acceptance rates of 10% equates to additional 150 transplants a year
- Stepped-wedge cluster design is novel – valuable tool to assess service implementation
- The first randomised registry trial in transplantation – relatively low cost trial design

The PITHIA trial

Does having access to a biopsy result increase the number and quality of kidneys for transplantation?



Funding Stream

NHS
National Institute for
Health Research

Research for Patient Benefit



funding to prioritise the
NHS patient and service user

- £350,000
- Main contract now signed
- 'The Panel requested reassurance that the transplant clinicians would agree to participate in the proposed research.'

act
Addenbrooke's
Charitable Trust

National Histopathology Service - Logistics?



Scanner Technology

Pannoramic DESK



sysmex

Pannoramic DESK is the affordable scanner solution for the small pathology laboratory. Every brightfield scanning function is available in the same quality as with Pannoramic SCAN or Pannoramic MIDI.

Features

Loadability
The Pannoramic DESK can digitize 1 slide at once in brightfield. The sample on the slide is detected and scanned automatically in constant high quality.

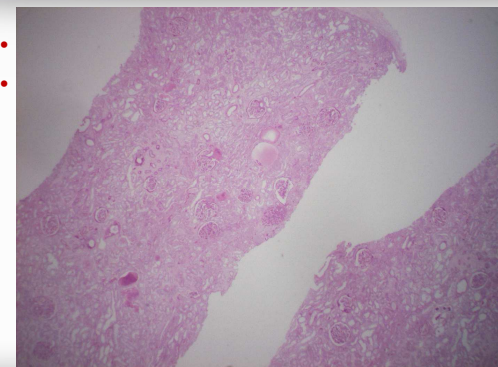
Size
The Pannoramic DESK fits just about anywhere.



Practical Aspects

- Once a centre is enrolled – request biopsy as clinically indicated
- No mandatory component
- Biopsy taken at retrieval, processed and digitalized locally
- Result available in 4-5 hours – discussion with on-call pathologist

Biopsy Technique



Next Steps


- Purchasing and installing scanners.
- Ethical approval underway – IRAS submission to Cambridge Central.
- Need R&D approval from all participating centres before we can randomize.
- Emma Laing (NHSBT CTU) will contact each centre.
- Centre visits (clinicians and patients) prior to that centre going 'live'.

fpot.com

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- fpot.com

The PITHIA trial

PIHSA	PIHSA - Italia Ltd	Support Technology	Pharmacology	Leptin analogues	Health economics	Statistical design
John Parryling	Dave Gokul	Gavin Pettigrew	Desley Nicol	Richard James	Edward Wilson	Karla Monning
Roberto Garciaia	Alison Reary	Dominic Summers				
Chris Callaghan		Nick Torrey				
Claire Willmott						
Rutger Hooij						
Azrahan Fair						



foot.com

