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The OPTIMAL trial: do older adults with kidney transplants benefit from lower doses of anti-rejection tablets?

Submission date 26/09/2024	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol
Registration date 09/07/2025	**Overall study status** Ongoing	[_] Statistical analysis plan [_] Results
Last Edited 05/10/2026	**Condition category** Surgery	[_] Individual participant data [X] Record updated in last year

Plain English summary of protocol

Background and study aims
Every day in the UK, 10 people over 65 years develop kidney failure. More of these older adults are receiving kidney transplants. People with transplants need to take tablets to prevent their bodies from rejecting the transplant (immunosuppression).
The immune system becomes less effective in later life, meaning lower doses of immunosuppression tablets may be enough to stop transplant rejection. The amount of immunosuppression medication given to older transplant recipients is based on research in young people. Immunosuppression tablets affect older adults differently, causing more infections, cancers and side effects which prevent people from living well. Lower doses of immunosuppressives may prevent these problems.
However, less immunosuppression could mean someone is more likely to need treatment for rejection. Older adults could find the side effects of treatment for rejection more severe than younger adults. It may be that older recipients prefer to live with the side effects of standard immunosuppressive doses to avoid rejection.
We do not know what the right level of immunosuppression is for older transplant recipients. There are no national guidelines. Older people cared for at different UK kidney units receive different treatments. This study aims to investigate whether lower immunosuppression drug doses are better for older transplant recipients than standard doses.

Who can participate?
New kidney transplant recipients aged 65 years and older

What does the study involve?
The researchers will give half of the participants higher doses of mycophenolate mofetil (MMF) (1.5 g each day) and half lower doses (1 g each day).

What are the possible benefits and risks of participating?
This ‘test’ trial will determine whether it would be possible to do the same trial on a larger scale. If this ‘test’ trial shows a larger trial is possible, the researchers will do a larger UK-wide study afterwards. The study results will help make sure that older transplant recipients get the drug

treatment that enables them to live as long and as well as possible.
This is a very low-risk trial. It compares two different doses of mycophenolate mofetil (MMF), both of which are used in routine clinical practice. There is a national variation in the prescribing of MMF after kidney transplantation, with some centres prescribing MMF at 1.5 g/day or higher and some centres prescribing MMF at 1 g/day. We do not know which is associated with the best clinical outcomes and quality of life for patients. This trial is the first step to determine this. It is possible that the group allocated to the higher MMF dose may experience an increased risk of infection and more medication side effects than people on the lower dose: these are outcomes of interest that will be investigated in the trial. It is possible that the group allocated to the lower MMF dose may experience an increased risk of rejection than people on the higher dose: this outcome is being investigated in the trial. There is observational evidence to suggest that the lower dose is better tolerated, reduces the risk of infection, and carries no increased risk of rejection for older transplant recipients.
Research assessments and data collection will be undertaken at participants' routine clinical appointments to minimise the burden on participants. This study is a feasibility trial to determine the feasibility and acceptability of the trial before undertaking a full-scale trial. The parallel process evaluation qualitative interviews will mean data is collected on the acceptability of the treatments and the trial research visits.

Where is the study run from?
North Bristol NHS Trust (UK)

When is the study starting and how long is it expected to run for?
September 2024 to December 2026

Who is funding the study?
National Institute for Health and Care Research (NIHR) (UK)

Who is the main contact?
Dr Phillippa (Pippa) Bailey, pippa.bailey@bristol.ac.uk

Contact information

Type(s)
Scientific, Principal investigator

Contact name
Dr Phillippa (Pippa) Bailey

Contact details
Bristol Medical School
Population Health Sciences
Canynge Hall
39 Whatley Road
Bristol
United Kingdom
BS8 2PS
+44 (0)117 3314522
pippa.bailey@bristol.ac.uk

Additional identifiers

Integrated Research Application System (IRAS)
318534

Central Portfolio Management System (CPMS)
53563

Protocol serial number
5501

Study information

Scientific Title
The OPTIMAL feasibility trial: OPTimising IMmunosuppression for older Adult kidney transpLant recipients

Acronym
OPTIMAL

Study objectives
1. To assess the feasibility of an RCT of lower dose MMF (1 g/day) versus higher dose MMF (1.5 g /day), and its acceptability to transplant recipients aged ≥65 years. If this study shows that an RCT is feasible and acceptable, this will lead to a larger RCT to determine whether reduced immunosuppression drug doses result in better outcomes for older age transplant recipients.
2. To estimate important parameters needed to design a future definitive RCT comparing a lower dose versus a higher dose of MMF in older transplant recipients.

The study will determine the feasibility of undertaking a larger trial. The following criteria will be assessed:
1. Size of the eligible population
2. Recruitment, adherence (participant medication concordance and clinician adherence to the planned protocol regimen), and retention
3. Time between recruitment and receipt of treatment
4. Acceptability of the trial arms and methods to patients
5. Barriers and facilitators to participation and trial delivery

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 04/04/2025, Wales Research Ethics Committee 2 (Health and Care Research Wales, Castlebridge 5, 15-19 Cowbridge Road East, Cardiff, CF11 9AB, United Kingdom; +44 (0) 2922941119, +44 (0)2922 940959; Wales.REC2@wales.nhs.uk), ref: 24/WA/0343

Primary study design
Interventional

Study design
Open randomized controlled parallel-group trial

Study type(s)
Efficacy

Health condition(s) or problem(s) studied
Kidney transplantation

Interventions
For the first 3 months following kidney transplantation, participants will be randomised to:

Trial arm 1: Mycophenolate mofetil (MMF) 1 g/day OR
Trial arm 2: MMF 1.5 g/day

Participants in both arms will receive tacrolimus (target trough 5-8 µg/L) and prednisolone (local protocol).

Randomisation of eligible individuals with concealed allocation will be undertaken using internet-based software Sealed-Envelope using minimisation. Participants will be randomised 1:1 to each trial arm, stratified by site. Minimisation will be used to ensure balance in sex, transplant match grade (levels 1-4), and whether this is a participant's first or other transplant. The researchers will use minimisation with a probability weighting of 0.8 in order to reduce predictability.

Intervention Type
Drug

Phase
Phase IV

Drug/device/biological/vaccine name(s)
Mycophenolate mofetil (MMF)

Primary outcome(s)
1. Recruitment: % of those eligible and approached who consent to randomisation at invitation (assessed at invitation/baseline)
2. Adherence: % of participants concordant with allocated treatment and reason for non-concordance (assessed at 3 months)
3. Retention: % of participants who do not withdraw from trial follow-up assessments (assessed at 3 and 6 months)

Key secondary outcome(s)
1. Size of the eligible population (n) assessed at screening
2. Acceptability of intervention and trial methods assessed through qualitative interviews at multiple timepoints not pre-specified
3. Barriers and facilitators to intervention implementation in different settings measured by time to green light at each site and time to the recruitment of the first participant.
4. Participant and healthcare professional adherence to the intervention/trial and deviation from treatment allocation assessed through medical records of received medication at 3 months, and through qualitative interviews in parallel to trial delivery at multiple timepoints not pre-specified

Completion date

01/12/2026

Eligibility

Key inclusion criteria
Individuals aged ≥65 years at the time of deceased-donor kidney only transplantation

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Senior

Lower age limit
65 Years

Upper age limit
100 Years

Sex
All

Total final enrolment
51

Key exclusion criteria
1. Previous severe reaction to MMF
2. Simultaneous dual-organ transplantation (e.g., kidney and pancreas)
3. Individuals lacking the mental capacity to consent to participation
4. Immunologically incompatible transplantation
5. Use of a T-cell depleting induction agent
6. Steroid free, rapid steroid weaning or steroid sparing regimens

Date of first enrolment
30/04/2025

Date of final enrolment
01/06/2026

Locations

Countries of recruitment
United Kingdom

Study participating centre

Not provided at time of registration
-
-
England
-

Sponsor information

Organisation
North Bristol NHS Trust

ROR
https://ror.org/036x6gt55

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Data sharing statement to be made available at a later date