

LDLT project overview,  
aims and objectives  
- Operational model in  
practice: Royal Free  
proctored case

- Lisa Burnapp
- Joerg-Matthias Pollok



The Voice of Transplantation in the UK



## **UK Living Donor Liver Transplantation (LDLT) Network**

### **Inaugural Meeting**

**Tuesday 21<sup>st</sup> May 2024**

**09:30 – 16:45**

# Donor – Recipient Pair

- MM (Mother) (53)
- CM (Son) 26
  - Around Covid transfer to RFL waiting list from another centre
  - With already long waiting time
  - 07/2020 listed in transferring centre
  - 09/2021 transferred to RFL
  - 10/2022 listed as variant
  - 10/2022 living donor work up started
  - 02/2023 transplanted with living donor

# LDLT at Royal Free

- Up until Covid RFL had an active low volume adult LDLT programme
  - LDLT experienced senior transplant surgeon left the trust
  - Covid paused LDLT activities
- Surgical expertise
- On top of the surgical colleagues involved with the RFL low volume programme 2 surgeons with an extensive LDLT experience from high volume programmes had joined the trust
- Drive to re-start LDLT

# Steps undertaken

- Following internal discussions on how to re-start the LDLT programme
- approach NHSBT
- approach surgical team in Leeds for support/proctorship
- Leading to a structured process of developing a national proctorship model through NHSBT
- NHSBT sponsored LDLT national engagement meeting in London at RFL 10<sup>th</sup> February 2023

**Living Donor Liver Transplantation (LDLT)**

**Wider Engagement Event**

**Friday 10<sup>th</sup> February 2023**

**UCL Institute of Immunity & Transplantation  
Pears Building, Rowland Hill Street, London, NW3 2PP**

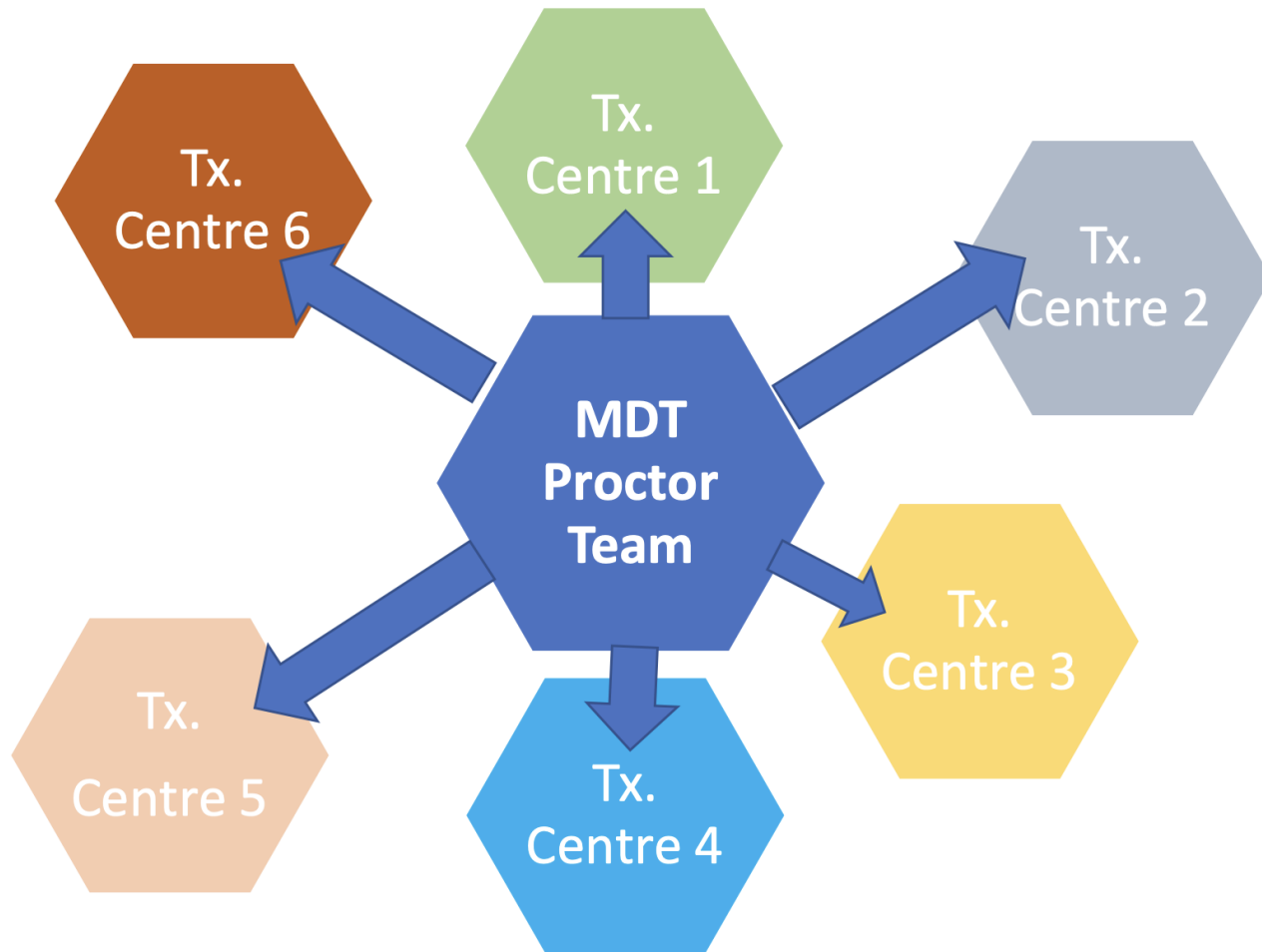
**PROGRAMME**

| TIME               | SESSION/TOPICS  | SPEAKERS                                   |
|--------------------|---|--|
| <b>09:30-10:00</b> | <b>ARRIVAL TEA AND COFFEE<br/>(Outside seminar room)</b>        |  |
|                    | <b>Overview: LDLT in Context</b>                                | <b>Chair: Lisa Burnapp</b>                 |
| 10:00-10:15        | Welcome and purpose of meeting                                  | Derek Manas                                |
| 10:15-10:30        | Setting the scene and solutions                                 | Doug Thorburn                              |
| 10:30-10:45        | Strategic context and Organ Utilisation Group                   | Derek Manas                                |
| 10:45-11:00        | Audience Q&A  |  |
|                    | <b>LDLT Project: Background and Recommendations</b>             | <b>Chair: Doug Thorburn</b>                |
| 11:00-11:15        | International and UK LDLT data                                  | Raj Prasad                                 |
| 11:15-11:35        | LDLT Project Board and workstream recommendations               | Lisa Burnapp                               |
| 11:35-12:30        | Breakout session: Discussion about recommendations              | All  |
| <b>12:30-13:00</b> | <b>LUNCH<br/>(Outside seminar room)</b>                         |  |
|                    | <b>Discussion to Endorse Recommendations</b>                    | <b>Chair: Derek Manas</b>                  |
| 13:00-14:15        | Feedback from breakout session                                  | All  |
| <b>14:15-14:30</b> | <b>REFRESHMENT BREAK<br/>(Outside seminar room)</b>             |  |
|                    | <b>Academic Session: What is the risk appetite?</b>             | <b>Chairs: Raj Prasad<br/>Nigel Heaton</b> |
| 14:30-16:00        | Smaller size; left lobe grafts in adults                        | Nigel Heaton,<br>King's College, London    |
|                    | Complex donor anatomy: what's acceptable?                       | Vivek Upasani, Leeds                       |
|                    | Moving towards minimally invasive techniques in living donation | Steve White, Newcastle                     |
|                    | Enhanced Recovery After LDLT Surgery                            | Nick Schofield,<br>Royal Free, London      |
|                    | Speaker and Audience Q&A  |  |
| 16:00-16:30        | Next Steps (12-month plan)<br>Meeting Close                     | Derek Manas<br>Lisa Burnapp                |

# Further steps

- Following internal discussions on how to re-start the LDLT programme
- approach NHSBT
- approach surgical team in Leeds for proctorship
- Leading to a structured process of developing a national proctorship model through NHSBT
- NHSBT sponsored LDLT national engagement meeting in London at RFL 10<sup>th</sup> February 2023
- Engagement in developing LDLT Toolkit through Workstream 1 on the basis of the Leeds-RFL proctorship process

# Plan B- Proctoring Scheme



# INF1729/1 – Adult-to-Adult Living Donor Liver Transplant (LDLT): Local & Proctor Team Responsibilities



Blood and Transplant  
Effective date:29/04/2024

This document describes the roles and responsibilities that sit with the delivery of adult-to-adult living donor liver transplantation (LDLT) within the new UK programme based on a proctor model. All the practice recommendations here are aligned with existing guidance from the British Association for the Study of the Liver (BASL)/British Transplantation Society (BTS)/British Liver Transplant Group (BLTG) in BASL on adult liver transplantation (LT) and in particular LDLT.

Relevant groups referred to:

1. Local LT multi-disciplinary team (MDT)
2. Local LDLT MDT
3. Local Trust clinical governance
4. Local Executive
5. Proctor LDLT MDT
6. Local orthotopic liver transplant (OLT) MDT

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| <b>STEP - 1: Approval within the Local centre</b>   |  |
| Approved local recipient protocol according to BTS/BASL UK LDLT Guidelines<br><a href="https://bts.org.uk/guidelines-standards/">https://bts.org.uk/guidelines-standards/</a>                   | Local LT MDT, Local LDLT MDT, Local Trust Clinical Governance    |
| Approval & Development of Local LDLT donor protocol according to BTS/BASL LT Guidance   | Local LT MDT & Proctor LDLT MDT, Local Trust Clinical Governance |
| Ensure local Medical Director governance approval secured for LDLT with proctor team via New Interventional Procedures process including sign off of:<br>Disaster Plan & Communication strategy | Local LT & LDLT MDT & Local Trust Executive                      |
| <b>STEP 0: Listing of potential recipient and identification of suitability for LDLT</b>  |  |
| Work up according to local assessment protocol & BTS/BASL LT Guidance   | Local LT MDT   |
| Meets approved listing criteria for OLT   | Local LT MDT   |
| Approval of LT MDT at listing centre  | Local LT MDT   |
| Verification of suitability for LDLT  | Local LDLT MDT & Proctor LDLT MDT                                |
| <b>STEP 1: Potential LD Screening (as per BTS/BASL UK LDLT Guidelines)</b>  |  |



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| Living Liver Donor Transplant Coordinator Assessment   | Local LDLT MDT                               |
| Health Check Questionnaire + GP check  | Local LDLT MDT                               |
| Donor Consent for LD Assessment  | Local LDLT MDT                               |
| <b>STEP 2: Potential LD Screening Bloods</b>   |  |
| FBC, LFT, Coagulation profile, Renal profile, U&E  | Local LDLT MDT                               |
| Pregnancy test   | Local LDLT MDT                               |
| Serology Hepatitis B, C, HIV, HTLV   | Local LDLT MDT                               |
| Group & Save   | Local LDLT MDT                               |
| Consider Fibroscan and CAP for screening of steatosis – if clinically indicated                                    | Local LDLT MDT & Proctor LDLT MDT            |
| Chest X-Ray  | Local LDLT MDT                               |
| <b>Decision Point – Progress to Further LD Evaluation</b>  | <b>Local LDLT MDT</b>                        |
| <b>STEP 3: Potential LD Further Blood testing</b>  |  |
| Chemistry, Lipid profile, Tissue Typing  | Local LDLT MDT                               |
| Immunoglobulin: IgA IgG IgM, ANA, ASM, AMA, (ANCA, ACE, Lupus Anti-coagulant)                                      | Local LDLT MDT                               |
| Thyroid function tests: TSH, fT3, fT4  | Local LDLT MDT                               |
| Iron Study: Transferrin, Ferritin, a-1-Antitrypsin, Caeruloplasmin   | Local LDLT MDT                               |
| Coagulation factors V, VII and VIII, Protein S, Protein C, APCR APCRAPCRAPCR<br>Additional virology: CMV, EBV, HSV | Local LDLT MDT                               |
| Depending on the recipient diagnosis- we would recommend genetic screening if deemed necessary                     | Local LDLT MDT                               |
| Pulmonary function test or HRCT  | Local LDLT MDT                               |
| 1° Hepatitis B vaccination (if applicable, as per centre policy)   | Local LDLT MDT                               |
| <b>Decision Point: Terminate or proceed LD assessment</b>  | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |

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| <b>STEP 4a: Potential LD Psychosocial Screening</b>   |  |
| Donor and Recipient psychosocial assessment   | Local LDLT MDT                               |
| Social worker assessment  | Local LDLT MDT                               |
| <b>STEP 4b: Decision Point – Progress to Further LD Evaluation</b>  |  |
| Notification to NHSBT   | Proctor LDLT MDT                             |
| <b>STEP 5: Potential LD Imaging</b>   |  |
| <b>CT Liver with Contrast (Multiphase living donor protocol)</b><br>(Liver US prior to CT optional)<br>Description of vascular anatomy<br>Liver volumetry         | Local LDLT MDT                               |
| <b>MRCP</b><br><b>Description of bile duct anatomy:</b>   | Local LDLT MDT                               |
| <b>Steatosis assessment</b><br>MR assessment is gold standard (PDFF or spectroscopy)<br>CT LAI if MR unavailable<br>Estimated steatosis:                          | Local LDLT MDT                               |
| 2° Hepatitis B vaccination (if applicable, as per centre policy)  | Local LDLT MDT                               |
| Local review of imaging   | Local LDLT MDT                               |
| Joint MDT review of imaging and volumetry assessment  | Local LDLT MDT & Proctor LDLT MDT            |
| <b>Decision point: Outcome</b><br><b>1. Terminate LD assessment</b><br><b>2. Proceed +/- recording decision on additional evaluation</b><br><b>- Liver biopsy</b> | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |
| <b>STEP 6: Potential LD Medical Consultations</b>   |  |
| Assessment by Donor Advocate Hepatologist   | Local LDLT MDT                               |

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| Medical history, physical examination  |  |
| Assessment by Donor Transplant Surgeon   | Local LDLT MDT                               |
| Assessment by Donor Consultant Anaesthetist  | Local LDLT MDT                               |
| <b>Decision Point: Terminate or proceed LD assessment</b>                                | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |
| <b>STEP 7: Potential LD Enhanced assessment</b>  |  |
| Exercise Tolerance Test  | Local LDLT MDT                               |
| Echocardiography   | Local LDLT MDT                               |
| Living Liver Donor Coordinator review  | Local LDLT MDT                               |
| Informed consent for liver biopsy, if required   | Local LDLT MDT                               |
| Presented to the multidisciplinary team meeting  | Local LDLT MDT & Proctor LDLT MDT            |
| <b>Decision Point: Terminate or proceed LD assessment</b>                                | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |
| <b>STEP 8: Potential LD Invasive assessment</b>  |  |
| Imaging guided Liver biopsy (if indicated) with Hepatologist consultation                | Local LDLT MDT                               |
| Selected consultations – Cardiology, Pulmonology (if indicated)                          | Local LDLT MDT                               |
| Gynaecology consultation (in Females, if applicable<br>Pap smear, ultrasound of breasts  | Local LDLT MDT                               |
| 3° Hepatitis B vaccination (if applicable, as per centre policy)                         | Local LDLT MDT                               |
| <b>Decision Point: Terminate or proceed LD assessment</b>                                | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |
| <b>STEP 9: Review and Approval by Donor Advocate Team</b>                                |  |
| Donor Advocate Physician assessment  | Local LDLT MDT                               |
| <b>STEP 10: Local and Proctor Centre MDT Reviews</b>                                     |  |
| <b>Presented to the local OLT MDT meeting: Final decision on graft selection</b>         | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |
| <b>Presented to the Proctor Centres MDT: Confirmation of decision on graft selection</b> | <b>Local LDLT MDT &amp; Proctor LDLT MDT</b> |
| <b>Step 11: Independent assessor and HTA approval</b>                                    |  |

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|---|---|
| Approval of Independent Assessor and Human Tissue Authority               | Local LDLT MDT  |
| <b>Step 12: Final Steps</b>   |   |
| <b>Presented to the multidisciplinary team meeting for final approval</b> | <b>Local LT &amp; LDLT MDT &amp; Proctor LDLT MDT</b> |
| Operation Date Set  | Local LDLT MDT & Proctor LDLT MDT                     |
| Notification to NHSBT   | Proctor LDLT MDT                                      |
| Consent to be obtained by Local Donor Transplant Surgeon                  | Local LDLT MDT  |
| <b>Step 13: Day of Surgery</b>  |   |
| LDLT undertaken   | Local LDLT MDT & Proctor LDLT MDT                     |
| Notification of NHSBT   | Proctor LDLT MDT                                      |
| <b>Step 14: In patient stay</b>   |   |
| Clinical reviews  | Local LDLT MDT in liaison with Proctor LDLT MDT       |
| Notification of NHSBT   | Proctor LDLT MDT                                      |
| Submission of paperwork to LDLT registry and HTA A and B forms            | Local LDLT MDT  |

## FINAL CHECKLIST FOR ADULT-TO-ADULT LDLT (A-A LDLT) TO BE SIGNED OFF BY MEDICAL DIRECTOR OTDT AND/OR DEPUTY

| Requirement   | Rationale  | Provided By Whom                  |
|---|--|-----------------------------------|
| 1. UK Professional Registration (GMC/NMC etc.) for all members of proctor team (PT)   | To confirm credentials of each member of the proctor team (PT)   | Proctor LDLT MDT                  |
| 2. Proctor team sign off by OTDT- NHSBT Medical Director  | Provide assurance that PT has the appropriate credentials  | OTDT Medical Director             |
| 3. Evidence of Trust approval and local governance arrangements to support A-A LDLT in centre using a PT  | Confirm local Trust approval and governance arrangements in place  | Local hospital LDLT MDT           |
| 4. Evidence that an approved clinical protocol for donor assessment, surgery, management, recovery and follow-up has been followed, according to UK best practice guidelines (including Human Tissue Authority (HTA) approval to proceed)   | Ensure standardisation and adherence to evidence-based best practice for donor management  | Local LDLT MDT & Proctor LDLT MDT |
| 5. Evidence that an approved clinical protocol for recipient assessment, surgery, management, recovery and follow-up has been followed, according to UK best practice guidelines (to include consideration of offers from deceased donors prior to scheduled transplant proceeding) | Ensure standardisation and adherence to evidence-based best practice for recipient management  | Local LDLT MDT & Proctor LDLT MDT |
| 6. Evidence that PT has signed off the clinical assessments for both donor and recipient and have approved donor and recipient procedures to 'go' (e.g., 'go/no go' MDT with PT and local team)   | Meet agreed governance arrangements for UK A-A LDLT programme, provide assurance to wider clinical community and encourage confidence in operational model   | Local LDLT MDT & Proctor LDLT MDT |
| 7. Evidence of a 'disaster plan' in the event of a poor outcome for donor, recipient or transplant  | Limit damage for individual donors and recipients and negative impact on further development of UK A-A LDLT programme  | Local LDLT MDT & Proctor LDLT MDT |
| 8. Approved communication plan between all parties involved i.e., donor, recipient, PT, local transplant centre and NHSBT, irrespective of outcome  | Ensure that communications within the wider transplant community, in the media and on social media are accurate, effective and avoid unintended consequences | Local LDLT MDT & Proctor LDLT MDT |
| 9. Contracts in place for proctor team to undertake clinical activity in the local hospital   | To allow visiting clinicians from within the proctor team to work at the local hospital  | Local LDLT MDT                    |

# Living donor liver transplantation

In the financial year to 31 March 2023, living donor liver transplantation accounted for 3.6% of living transplantation activity in the UK. The remaining percentage activity was due to living donor kidney transplantation. All 7 liver transplant centres have emerging living donation programmes but the majority of transplants are currently performed in three centres; St James's University Hospital, Leeds, Queen Elizabeth Hospital, Birmingham and King's College Hospital, London.

Living donor liver transplants are performed in both adult and paediatric recipients but have been historically more common in paediatric recipients where the left lateral lobe is transplanted. The right lobe is transplanted in adult-adult transplants. The same criteria for registration onto the transplant list are applied to living liver recipients as for deceased donor organ recipients.

For information and guidance about the legislative framework and how it applies to living donor liver transplantation access the [Human Tissue Authority website](#).

Participating centres have developed local protocols based upon UK best practice guidelines, which can be found on the [British Transplantation Society website](#). Individual transplant centres can be contacted through the [Organ Donation website](#).

## Living Donor Liver Transplantation Project (LDLT) - Commenced April 2022

The Living Donor Liver Transplantation (LDLT) project is aligned with the 'UK Organ Donation and Transplantation Strategy 2030: Meeting the Need' and aims to deliver a UK-wide programme that improves access to LDLT as one of a range of transplant options for adults and children with end-stage liver disease.

You can access the [Terms of Reference \(ToR\) \(PDF 198KB\) here](#).

### LDLT Project

LDLT Wider Engagement Event - 10th February 2023:

- [LDLT Wider Engagement Event 10th February 2023 - Programme \(PDF 143KB\)](#)
- [Welcome and purpose of meeting - Derek Manas \(PDF 2.19MB\)](#)
- [Setting the scene and solutions - Doug Thorburn \(PDF 791KB\)](#)
- [Strategic context and OUG - Derek Manas \(PDF 1.78MB\)](#)
- [International and UK LDLT data - Raj Prasad \(PDF 1.49MB\)](#)
- [LDLT Project Board and workstream recommendations - Lisa Burnapp \(PDF 498KB\)](#)
- [Smaller size: left lobe grafts in adults - Nigel Heaton \(PDF 2.46MB\)](#)
- [Complex donor anatomy: what's acceptable? - Vivek Upasani \(PDF 2.07MB\)](#)
- [Moving towards minimally invasive techniques in living donation - Steve White \(PDF 4.01MB\)](#)
- [Enhanced Recovery After LDLT Surgery - Nick Schofield \(PDF 3.77MB\)](#)

### Living Donor Liver Transplantation (LDLT) Proctor Team

This multi-disciplinary Proctor Team has been established under the auspices of the LDLT Project to facilitate the expansion of adult-to-adult living donor liver transplantation across the UK. This is a time-limited initiative, endorsed by the clinical community and patient representatives. It is funded by commissioners, to improve access to LDLT for suitable recipients and their living donors.

#### In this section

[Living donor kidney transplantation](#)

[UK Living Kidney Sharing Scheme](#)

[UK Living Kidney Donation Network](#)

[UK Living Donor Liver Transplantation Network](#)

[Living donor liver transplantation](#)

[Critical incident reporting](#)

[Tools and resources](#)

#### External links

[Human Tissue Authority](#)

[Organ Donation NHS - About Living Donation](#)

[British Transplantation Society Standards and Guidelines](#)

#### Useful links

[Tell us about an incident](#)

https://www.odt.nhs.uk/living-donation/living-donor-liver-transplantation/