KIDNEY ADVISORY GROUP

LIVING DONOR KIDNEY TRANSPLANTATION: RECOMMENDATIONS TO RESTART/ EXPAND PROGRAMMES

PURPOSE

This paper sets out recommendations and options to support the restart/expansion of living donor kidney transplantation (LDKT) across the UK following a pause to the programme during the COVID-19 pandemic. LDKT is established as a life prolonging therapy and the optimal form of renal replacement therapy. The curtailment of activity will be severely detrimental to the long-term health of kidney patients, increase the dialysis burden and impact on the number of people waiting for a kidney transplant, of whom there were 4385 at the end of March 2020. The resumption and continuation of activity in a resilient manner remains a high priority.

The recommendations have been developed by the NHSBT Kidney Advisory Group (KAG) Fixed-Time Working Group (FTWG), (see Appendix 1) based upon the options presented to KAG on 17th June 2020. They have subsequently been endorsed by the KAG, NHSBT Organ and Tissue Donation and Transplantation (OTDT) Clinical Team and Commissioners from the 4 UK Countries.

EXECUTIVE SUMMARY

Living donor kidney transplantation (LDKT) was paused in mid-March due to the COVID -19 pandemic with no LDKT activity across the UK from 26th March to 27th May 2020. LDKT has been slow to re-establish across the UK, even in centres that remained open to deceased donation during the pandemic. Contributory factors are outlined within this paper.

To date, a minority of centres have restarted their LDKT programmes. On-going constraints have caused a backlog of living donors and recipients awaiting transplant and assessment, impacting locally and nationally. There is an urgent need to address this to restore an effective UK-wide LDKT programme.

At its meeting on 17th June, KAG reviewed an option appraisal to support centres to restart and/or to expand their LDKT programmes to:

a. address the backlog of activity due to transplants that were postponed at the outbreak of COVID-19, including those previously identified in the UK living kidney sharing scheme (UKLKSS) matching runs
b. make it feasible to proceed with the October 2020 UKLKSS matching run
c. ensure resilience in the event of a future outbreak or similar crisis

The option to ‘do nothing’ was discounted due to the urgency of the situation and the need to restore an effective UK-wide service without further delay.

A KAG FTWG was convened to discuss the remaining options in detail and to agree recommendations for approval by the wider KAG, NHSBT Clinical Team and UK Commissioners.

The recommendations from the KAG FTWG are based upon the following principles, including the requirement to:

- clear the backlog of outstanding donor-recipient pairs and identified transplants in the UKLKSS (adults and paediatrics) by **30th September 2020**
- maximise equity of access to LDKT across the UK
- develop a concise contingency plan to transfer activity to an adjacent/appropriate centre/s in the event of a local/regional outbreak (or similar crisis) to ensure future resilience in all centres
- consider end-to-end pathway (assessment/donor & recipient surgery/follow-up and monitoring) to maintain flow of donors and recipient to ensure the LDKT 'pipeline'

All regional kidney transplant centres are asked to submit a Restoration Action Plan to their respective commissioners [Regional Directors of Specialised Commissioning] NHS England (or equivalent in the devolved administrations), by **24th July 2020,** copied to the national commissioning teams and Chair of KAG.

This is to enable a regional review of LDKT provision and constraints, especially where centres may feel collaboration is required to achieve resilience in the medium term. Plans to include:

a. scheduling the immediate backlog of suitable, pending LDK transplants for willing donors and recipients (both adult & paediatric where relevant) by **30th September 2020.** Priority to be given to outstanding transplants identified in previous UKLKSS matching runs.
b. capacity planning for LDKT activity for remainder of financial year 2020/21
c. solutions to ensure business continuity and remain 'open' to LDKT in the event of a second wave of COVID-19 or similar crisis

Based upon experience from existing recovery models in some regions, centres can choose from the following options to complete their Restoration Action Plan. Any combination of these options can be used, provided that the plan fulfils the principles and requirements outlined above:

Option 1: Single centre approach- individual centres do everything possible to restart their own programme 'in-centre'; no requirement for donors, recipients or staff to travel.
Option 2: Collaborative NHS 'multi-centre' approach- a collective (2 or more centres) is formed to facilitate LDKT pathways and surgery; donors +/- recipients* travel to whichever site can accommodate; clinical teams may travel as required.
Option 3: Use of independent sector site to facilitate LDKT pathways and surgery; donors +/- recipients* travel; clinical teams may travel as required.

***** *Donor-recipient pairs will usually travel together but one or the other may travel (e.g. paediatric LDKT; donor managed in a geographically remote centre close to their home)*

RECOMMENDATION

KAG, NHSBT Clinical Team and UK Commissioners have approved the recommendation for centres to provide a Restoration Action Plan using one or more of the proposed options.

1. BACKGROUND AND ACTIVITY

Living donor kidney transplantation (LDKT) was paused in mid-March due to the COVID -19 pandemic resulting in no LDKT activity across the UK from 26th March to 27th May 2020. LDKT has been slow to re-establish, even in centres that remained open to deceased donation during the pandemic. To date, 8 centres have restarted their LDKT programmes and 22 transplants have been performed. Table 1 shows the impact of the COVID-19 pandemic on LDKT activity across the UK. (See Appendix 2 for complete activity data from April 2018 to March 2020).

There is a backlog of activity due to transplants that were postponed at the outbreak of COVID-19, including directed donor-recipient pairs and up to 80 transplants identified in the October 2019 and February 2020 UK living kidney sharing scheme (UKLKSS) matching runs that have yet to be performed. These include 'end of chain' transplants to recipients on the waiting list.

The April and July matching runs were suspended during the pandemic and the October 2020 matching run remains under review. If the backlog of existing transplants cannot be performed within the next 3 months, it will not be feasible or appropriate to run the October matching run because this will add further transplants to the existing 'queue' of donors and recipients who are waiting to be scheduled.

Table 1: UK LDKT activity (reported and self-reported) since 1st January 2020 by month and transplant type

Month	**Direct LDKT**	**Paired/Pooled**	**Non-directed (altruistic) donors**	**Domino**	**Total activity**
January	72	29	11	0	112
February	68	2	1	2	73
March	23	1	2	0	26*
April	0	0	0	0	0
May	1	0	0	0	1
June	21	0	0	0	21

* 2/26 LDKT between 14th-31st March 2020 ** 1st- 30th June 2020

Although most centres plan to restart/expand LDKT by end of July, issues are emerging that may inhibit the ability of individual centres to resume activity. Factors impacting on restarting/expanding individual programmes, include:

a) **Regional variation** in prevalence of COVID-19 and hospital bed occupancy due to infected patients

b) **Increased risk to living donors** if a COVID free pathway cannot be put in place

c) **Trust support and access to theatre** due to competing priorities for elective surgery (i.e. cancer/cardiac surgery), which are often prioritised in individual Trusts above donor nephrectomy surgery. This includes ability to schedule confirmed lists several weeks in advance, which is preferable for all LDKT but essential to facilitate UKLKSS exchanges

d) **Workforce availability and capability across the multi-disciplinary team** due to staff redeployment, sickness and shielding for vulnerable team members

e) **Access to diagnostic testing and specialist services** to facilitate recipient and donor evaluation for LDKT across regional networks

f) **Willingness of recipients and donors to proceed with LDKT** in the current era. Anecdotal evidence suggests that recipients would wish to proceed given the opportunity and early results from a UK survey of living donors (completes 7th July) indicate overwhelming willingness to donate, trust in the clinical teams and healthcare system and support for resuming LDKT activity

2. OUTCOMES AND RECOMMENDATIONS

The KAG FTWG discussed the option appraisal presented at KAG on 17th June to support restarting/expansion of LDKT UK-wide.

Based on experience from existing recovery models in some regions, it was agreed that the options in Table 2 offered possible solutions to support centres to each provide a Restoration Action Plan by **24th July 2020** to

a. schedule the immediate backlog of suitable, pending transplants by **30th September 2020**
b. capacity plan for LDKT activity for remainder of financial year 2020/21
c. solutions to ensure business continuity and remain 'open' to LDKT in the event of a second phase of COVID-19 or similar crisis

Centres can choose from the range of options to complete their Restoration Action Plan. Any combination of these options can be used, provided that the plan fulfils the following principles and requirements, to:

- clear the backlog of outstanding donor-recipient pairs and identified transplants in the UKLKSS (adults and paediatrics) by **30th September 2020**
- maximise equity of access to LDKT across the UK
- develop a concise contingency plan to transfer activity to an adjacent/appropriate centre/s in the event of a local/regional outbreak (or similar crisis) to ensure future resilience in all centres
- consider end-to-end pathway (assessment/donor & recipient surgery/follow-up and monitoring) to maintain flow of donors and recipient to ensure the LDKT 'pipeline'

Table 2: Option appraisal to restart/expand LDKT programmes

Option	Pros	Cons
1. **Single centre approach-** individual centres do everything possible to restart their own programme 'in-centre'	No requirement for donors, recipients or staff to travel Likely to be preferred by donors, recipients, staff and Trust management No requirement to transfer data and clinical information from one centre to another Potentially more straightforward to keep activity in centre if it is feasible Encourages self-sufficiency in centre re COVID free LDKT pathways for future waves	Likely to be slower to start- Trusts may not see LDKT as a priority within block-funding arrangements for 2020/21 where funding has already been received Risk of break in business continuity- no resilience in the event of second wave of COVID/similar crisis Variable equity of access for patient population across UK to LDKT Risks successful Oct 2020 UKLKSS due to between centre variation
2. **NHS multi-centre collaborative approach** (2 or more centres)	Donors +/- recipients travel to whichever site can accommodate as required* clinical teams may travel as required Donors and recipients supportive of centres remaining open/access to LDKT (anecdotal and early LD survey data) Delivered within NHS establishments Collaborations/networks formed between more than one region adds safeguards to ensure business continuity in	NHS Trusts may not want to give up precious theatre time to out-of-area patients due to completing pressures of local elective surgery back-log. This may be influenced by financial reimbursement arrangements between Trusts within block-funding arrangements for 2020/21. A 'rapid recharge' arrangement between Trusts must be in place to ensure that financial reimbursement is timely and complete Complex to set-up in short-term whilst all centres have limited capacity and

	the event of regional second wave of COVID and long-term resilience Supports on-going capacity planning/business continuity for 'business as usual' LDKT activity locally and nationally in UKLKSS. Opportunity to produce common protocols including pathways that meet infection control requirements specified in national guidance Proven successful long-term model (COxNet) Flexible model: could start with 2 centres to overcome complexities of alignment (see cons) and increase to more centres in future	individual backlog to manage Geography/requirement for patients to travel may be seen as a barrier by some clinical teams (but less so by donors and recipients- see pros) Donor and recipient complexity (i.e. clinical, H&I, psycho-social considerations/hotel support) Need for aligned, agreed protocols for donor recipient management and critical data transfer (may also be a long-term 'pro') Governance/indemnity requirements if staff travel, alignment of teams, kit etc. Staff travel between NHS establishments unlikely to be a preferred option Donor-recipient preference to remain in their 'own centre' Donor and recipient safety considerations if arrangements are set up within short timeframes - may impact on (e.g.) transfer of clinical data; effective communication between teams; surgery performed by a team not previously known to donor/recipient

3. Use of independent sector site	Facilitates LDKT pathways and surgery donors +/- recipients* travel clinical teams may travel as required Proven effective short-term model to address immediate backlog within a region (London PLC) and establish pathways that meet infection control requirements specified in national guidance Premises typically geographically close to NHS centres- travel limited No legal barriers Potential to negotiate crisis management/business continuity model for future COVID wave or similar crisis with commissioner support Encourages collaboration between clinical teams for long-term benefit	May not be scalable outside London due to provision in independent sector elsewhere in the UK Interim/short-term solution whilst there is capacity in independent sector and commissioner support. Current contracts time-limited due to COVID surge Typically, everyone – donors, recipient teams (+/- support services) travel Alignment of all protocols and governance/indemnity arrangements (as above) embedded in service level agreements to ensure donor +/- recipient safety and continuity of care, 24/7

***** *Donor-recipient pairs will usually travel together but only one or the other may travel (e.g. paediatric LDKT; donor managed in a geographically remote centre close to their home)*

4. SUMMARY

This approach is recommended to offer centres the flexibility to develop a plan to resume LDKT in line with the principles set out in this paper, taking into account local

and regional considerations and the need to resolve the current UK-wide situation as a matter of urgency.

5. RECOMMENDATION

KAG, NHSBT Clinical Team and UK Commissioners recommend that centres provide a Restoration Action Plan using one or more of the proposed options.

Rommel Ravanan- Chair of KAG
Lisa Burnapp- Clinical Lead – Living Donation
July 2020

Appendix 1: Membership of the FTWG

Rommel Ravanan	Chair of KAG/Co-Chair FTWG
Lisa Burnapp	Co-Chair FTWG
Richard Baker	Clinical Governance Lead, NHSBT Consultant nephrologist, Leeds
Atul Bagul	Consultant Surgeon, Leicester
Stephen Bond	Lead Clinical Nurse Specialist for Transplant, Cambridge
Clare Snelgrove	Advanced Nurse Practitioner, Oxford
Frank Dor	Consultant Surgeon, WLRTC
Roy Debabrata	Consultant Surgeon, Coventry
Ian Wren	NHS E, Specialised Commissioning
Sarah Watson	NHS E, Specialised Commissioning
Karen Quinn	Assistant Director, NHSBT Commissioning

Appendix 2: Activity Data for Living Donor Kidney Transplantation by centre, by year
Source: 2018/19 *NHSBT LDKT Centre Specific Report*
https://www.odt.nhs.uk/statistics-and-reports/organ-specific-reports/
2019/20 *data from Department of Statistics and Clinical Studies (awaiting centre validation and subject to change prior to publication)*

Table 2.1 Adult living donor kidney transplants in the UK, 1 April 2018 - 31 March 2019

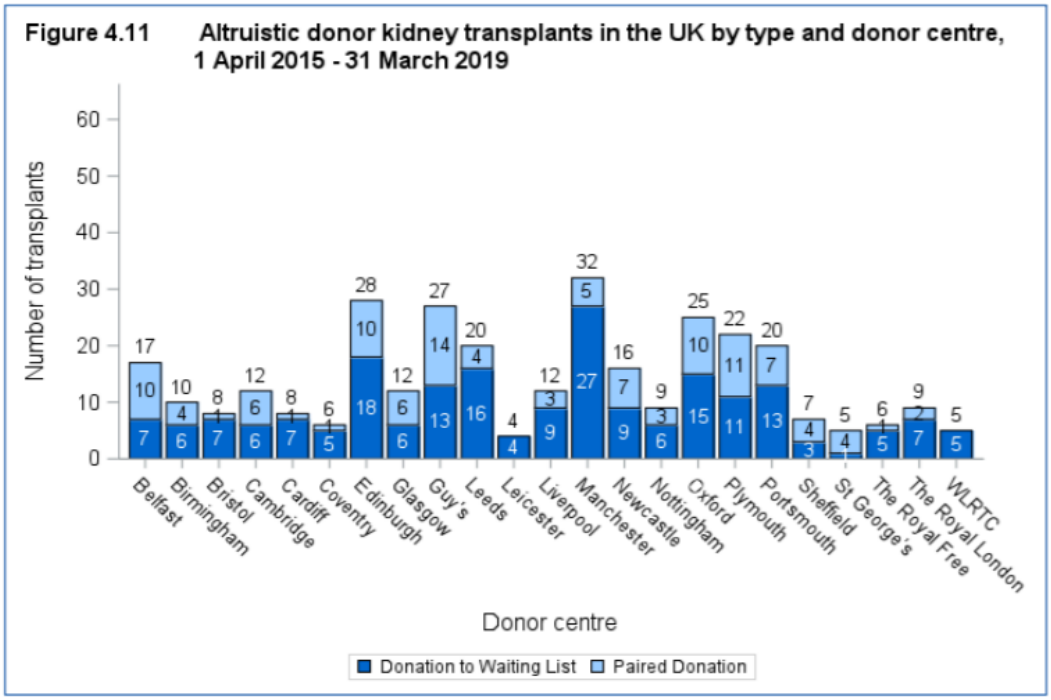
Transplant Centre	Donor type					
	Related donor	Unrelated donor (directed)	HLA incompatible donor	ABO incompatible donor	Paired exchange donor	Altruistic donor (non-directed)
Belfast	26	14	0	5	11	2
Birmingham	19	7	0	2	5	4
Bristol	18	5	0	0	5	3
Cambridge	11	7	0	4	3	2
Cardiff	13	13	1	3	3	2
Coventry	12	4	1	0	8	2
Edinburgh	28	12	0	5	10	5
Glasgow	15	4	0	0	8	9
Guy's	31	18	0	3	8	6
Leeds	29	20	0	0	10	2
Leicester	13	11	0	0	3	1
Liverpool	22	7	2	2	5	3
Manchester	32	15	0	1	5	2
Newcastle	26	20	2	2	3	2
Nottingham	2	3	0	1	1	0
Oxford	34	10	1	1	12	6
Plymouth	11	7	0	0	6	0
Portsmouth	15	4	0	0	8	1
Sheffield	2	11	0	1	3	2
St George's	24	7	0	0	9	1
The Royal Free	23	11	0	0	7	1
The Royal London	23	11	0	3	8	3
WLRTC	24	11	0	1	5	3

April 2018 to March 2019

Table 2.2 Paediatric living donor kidney transplants in the UK, 1 April 2018 - 31 March 2019

Transplant Centre	Donor type					
	Related donor	Unrelated donor (directed)	HLA incompatible donor	ABO incompatible donor	Paired exchange donor	Altruistic donor (non-directed)
Adult centre's**	0	0	0	0	1	0
Belfast	4	0	0	0	0	0
Birmingham	8	0	0	0	0	0
Bristol	4	0	0	0	1	0
GOSH*	11	1	0	0	1	0
Glasgow	10	0	0	0	0	0
Guy's	8	0	0	0	0	1
Leeds	6	0	0	0	0	0
Manchester	18	0	0	1	0	0
Newcastle	2	0	0	0	0	1
Nottingham	0	0	0	0	1	0

Figure 4.11 shows non-directed (altruistic) donation activity by centre in addition to the LDKT activity shown in figures 2.1 and 2.2 (kidney donated into the UK pool and transplanted in another centre direct to waiting list recipient via UKLKSS)



April 2019 to March 2020 (subject to validation)

Total number of living donor kidney transplants in the UK by month, 1 April 2019 - 31 March 2020*

Month	Number
April	85
May	81
June	97
July	89
August	73
September	91
October	107
November	73
December	75
January	112
February	71
March	26
Total	**980**

*Excludes domino transplants

Table 2.1 Adult living donor kidney transplants in the UK, 1 April 2019 - 31 March 2020

Transplant Centre	Donor type					
	Related donor	Unrelated donor (directed)	HLA incompatible donor	ABO incompatible donor	Paired exchange donor	Altruistic donor (non-directed)
Belfast	26	7	0	7	16	5
Birmingham	20	8	0	1	4	4
Bristol	13	6	0	1	4	2
Cambridge	21	8	1	3	3	4
Cardiff	11	10	0	1	4	4
Coventry	10	0	1	0	5	4
Edinburgh	22	14	0	3	5	3
Glasgow	18	9	0	0	12	7
Guy's	29	15	1	1	12	13
Leeds	19	14	0	0	9	4
Leicester	19	9	0	7	8	2
Liverpool	14	6	1	3	0	2
Manchester	36	21	0	0	7	6
Newcastle	23	15	1	0	10	3
Nottingham	8	2	0	0	4	3
Oxford	20	9	1	0	12	10
Plymouth	5	4	0	0	3	1
Portsmouth	14	7	0	0	3	0
Sheffield	5	3	0	1	5	1
St George's	16	12	0	0	12	6
The Royal Free	18	8	0	0	7	1
The Royal London	15	8	0	3	5	6
WLRTC	30	7	0	0	15	3

Table 2.2 Paediatric living donor kidney transplants in the UK, 1 April 2019 - 31 March 2020

Transplant Centre	Donor type					
	Related donor	Unrelated donor (directed)	HLA incompatible donor	ABO incompatible donor	Paired exchange donor	Altruistic donor (non-directed)
Adult centres**	1	0	0	0	0	0
Belfast	4	0	0	0	0	0
Birmingham	5	0	0	0	0	0
Bristol	3	0	0	0	0	0
GOSH*	8	1	0	1	2	0
Glasgow	2	0	0	0	0	0
Guy's	11	2	0	0	1	0
Leeds	5	1	0	0	1	0
Manchester	12	0	0	1	0	1
Newcastle	1	1	0	0	0	0
Nottingham	3	0	0	0	3	0

Appendix 3: Commissioning contacts across all four UK countries

REGIONAL COMMISSIONING CONTACTS FOR NHS ENGLAND

Regional Director of Spec Comm	Andrew Bibby	North West	andrewbibby@nhs.net
Acting Regional Director of Spec Comm	Matthew Groom	North East and Yorkshire & Humber	matthew.groom@nhs.net
Regional Director of Spec Comm	Roz Lindridge	Midlands	r.lindridge@nhs.net
Regional Director of Spec Comm	Ruth Ashmore	East of England	ruthashmore@nhs.net
Regional Director of Spec Comm	Steve Sylvester	South West	steve.sylvester@nhs.net
Regional Director of Spec Comm	Caroline Reid	South East	caroline.reid3@nhs.net
Regional Director of Spec Comm	Jo Murfitt	London	joanne.murfitt@nhs.net

Role	Name	Region	Email
Regional Medical Director of Commissioning	Dr Michael Gregory	North West	drmg@nhs.net
Regional Medical Director of Commissioning	Dr Nick White	Midlands	n.white8@nhs.net
Regional Medical Director of Commissioning	Dr Simon Barton	London	simon.barton2@nhs.net
Regional Medical Director of Commissioning	Dr Christopher Tibbs	South East	chris.tibbs@nhs.net
Regional Medical Director of Commissioning	Dr Peter Wilson	South West	peter.wilson23@nhs.net
Regional Medical Director of Commissioning	Dr Geraldine Linehan	East of England	geraldine.linehan@nhs.net
Regional Medical Director of Commissioning	Dr David Black	North East and Yorkshire & Humber	david.black4@nhs.net

DEVOLVED ADMINISTRATIONS: POLICY CONTACTS			
Wales	Caroline Lewis	Senior Policy Officer, Primary Care and Health Services Policy Division, Welsh Government	Caroline.Lewis@gov.wales
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	Rachel Tatler	Policy Manager - Organ Donation and Transplantation, Scottish Government	rachel.tatler@gov.scot
	Sam Baker	Head of Organ Donation and Blood Policy, Scottish Government	Sam.Baker@gov.scot
NI	Joan Hardy	Secondary Care Policy and Legislation, Department of Health	Joan.Hardy@health-ni.gov.uk

DEVOLVED ADMINISTRATIONS: COMMISSIONING CONTACTS			
Wales	Stuart Davies	Director of Finance, WHSSC	Stuart.Davies5@wales.nhs.uk
	Susan Spence	Renal Network Manager, Welsh Health Specialised Services Committee, Cwm Taf Local Health Board	Susan.Spence@wales.nhs.uk
Scotland	Roseanne McDonald	Programme Associate Director	roseanne.mcdonald1@nhs.net
	Dr. Craig Wheelans	Interim Medical Director for Procurement, Commissioning and Facilities, National Services Scotland	craig.wheelans@nhs.net
	Peter Croan	Programme Associate Director, National Specialist and Screening Services Directorate, National Services Scotland	Peter.Croan@nhs.net
NI	Teresa Magirr	Assistant Director of Commissioning, Specialist Commissioning, Health and Social Care Board	teresa.magirr@hscni.net
	Dr Catherine Coyle	Consultant in Public Health Medicine, Public Health Agency (lead for nephrology and transplantation)	Catherine.Coyle@hscni.net