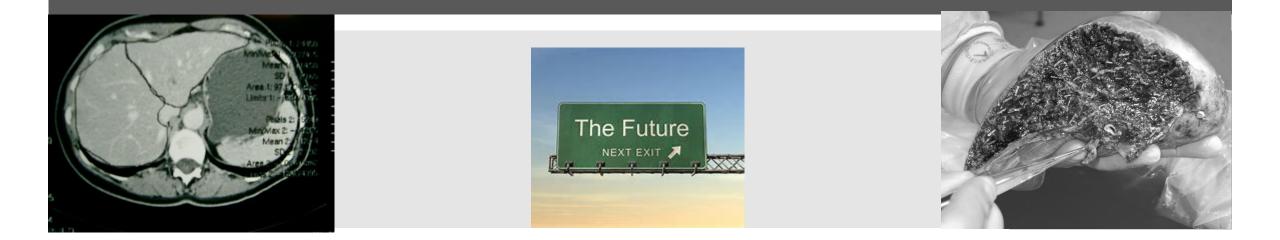
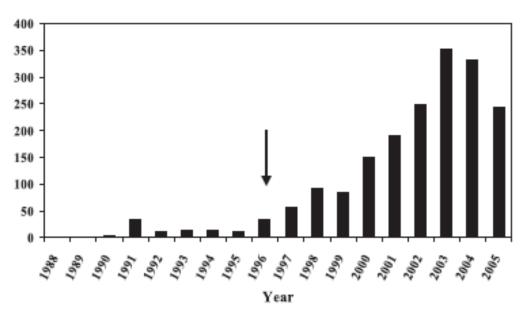
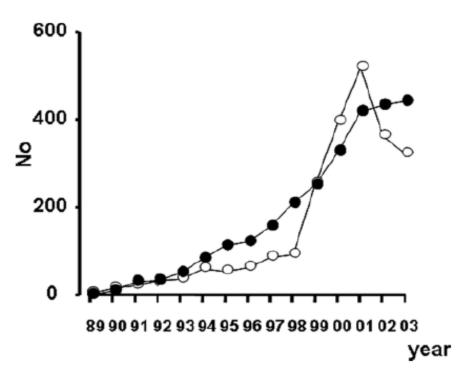
# Welcome

Professor D Manas Medical Director: OTDT





**FIGURE 1.** The number of publications on LDLT since 1988 was depicted in the graph. Arrow indicates the year when the first adult-to-adult right liver LDLT was performed.



**Fig. 2** Number of the changes of LDLT patients in Japan (closed circles) and the USA (open). LDLT, living donor liver transplantation.

### Living Donor Liver Transplantation



- Ethical principles and informed consent
- Independent donor advocate
- Database (ALL2ALL)
- Separate resource
- priority if recipient needs transplant
- Independent Donor Advocate:
- Primary focus well being of the donor
- Structure the process of informed consent
- Awareness of medical, psychosocial and financial implications
- Continuity and follow up
- Dedicated live donor coordinator
- Education
- 'thorough understanding of the elements of the decision'

#### • Ethical principles:

- Competent (possessing decision-making capacity)
- Willing to donate

.

- Free from coercion
- Medically and psychosocially suitable
- Fully informed of risks as a donor
- Fully informed of the risks, benefits and alternative treatment available to the recipient

#### Independent Donor Advocate:

- Primary focus well being of the donor
- Structure the process of informed consent
- Awareness of medical, psychosocial and financial implications
- Continuity and follow up
- Dedicated live donor coordinator
- Education
- 'thorough understanding of the elements of the decision'

# Regulation and oversight ACOT/NYS committee

## Did we have the will?

- **UK**: A survey of 2000 adults showed that nearly three quarters of the public supported living liver donation.
  - About half of respondents thought that a risk of death of 1 in 200 was acceptable for donation to a family member, and 14% thought this was acceptable for donation to a friend

**Neuberger** *J*, et al, Living liver donation: a survey of the attitudes of the public in Great Britain. *Transplantation*, 2003

**USA**: a survey of 100 LT surgeons

٠

• 72% believed that transplant programs <u>"have a duty"</u> to offer LDLT

Cotlar et al; Liver Transplantation 2003

Making living liver donation available in the NHS will have a small but important effect on the number of people able to receive a graft. It is time for a full public debate on the risks and benefits



#### Background.

<

Share

Living liver donation (LLD) is becoming an accepted way of increasing the donor pool for liver transplantation. The procedure is associated with major ethical difficulties because there is a significant risk of death to the healthy donor.

#### James Neuberger and David Price, BMJ, 2003

Metrics

5 questions UK surgeons must ask themselves before they embark on LDLT

- Do we have the will to do it
- Do we feel there's a need
- Do we have the expertise
- Do we have the logistics in place
- Do we have support
  - Colleagues
  - Services
  - Community

#### A2ALL consortium

overall rate of acceptance for donor candidates was 40%

acceptance rate has dropped over time

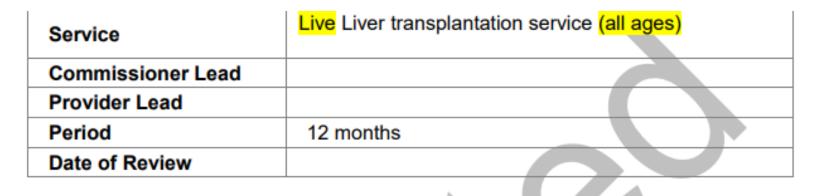
strongest predictors of donor acceptance: centre of evaluation, donor BMI, year of evaluation, recipient MELD score, days from listing to first donor evaluation, recipient age, donor-recipient relatedness, donor age.

### Outcomes of Donor Evaluation in Adult-to-Adult Living Donor Liver Transplantation

James F. Trotter,<sup>1</sup> Karen A. Wisniewski,<sup>2</sup> Norah A. Terrault,<sup>3</sup> James E. Everhart,<sup>4</sup> Milan Kinkhabwala,<sup>5</sup> Robert M. Weinrieb,<sup>6</sup> Jeffrey H. Fair,<sup>7</sup> Robert A. Fisher,<sup>8</sup> Alan J. Koffron,<sup>9</sup> Sammy Saab,<sup>10</sup> Robert M. Merion,<sup>2</sup> and the A2ALL Study Group

The purpose of donor evaluation for adult-to-adult living donor liver transplantation (LDLT) is to discover medical conditions that could increase the donor postoperative risk of complications and to determine whether the donor can yield a suitable graft for the recipient. We report the outcomes of LDLT donor candidates evaluated in a large multicenter study of LDLT. The records of all donor candidates and their respective recipients between 1998 and 2003 were reviewed as part of the Adult-to-Adult Living Donor Liver Transplantation Cohort Study (A2ALL). The outcomes of the evaluation were recorded along with demographic data on the donors and recipients. Of the 1011 donor candidates evaluated, 405 (40%) were accepted for donation. The donor characteristics associated with acceptance (P < 0.05) were younger age, lower body mass index, and biological or spousal relationship to the recipient. Recipient characteristics associated with donor acceptance were younger age, lower Model for End-stage Liver Disease score, and shorter time from listing to first donor evaluation. Other predictors of donor acceptance included earlier year of evaluation and transplant center. Conclusion: Both donor and recipient features appear to affect acceptance for LDLT. These findings may aid the donor evaluation process and allow an objective assessment of the likelihood of donor candidate acceptance. (HEPATOLOGY 2007;46:1476-1484.)





#### 1. Population Needs

#### 1.1 National/local context and evidence base

#### Description

A healthy adult may donate part of their liver to a patient in need of a liver transplant; the procedure is called a donor hepatectomy. This specification includes adult to adult donation but also the more common adult to child donation.

Individuals who would like to be considered as potential donors must be above the age of legal consent (18 years) and in excellent physical and emotional health.

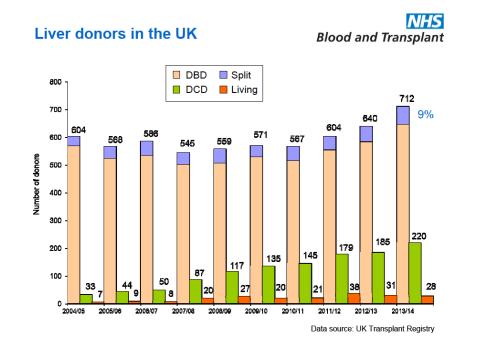
A donor must be blood group compatible with the recipient.

#### **Evidence base**

### Previous work done . .



# LDLT UK: 2013/14



Allocation zone/ transplant		Deceased donors <sup>1</sup>				Deceased donor transplants				Living donor transplants		Active transplant lis				
centre	DE	BD	DO	D	тот	AL	DE	BD	DC	CD	TOT	AL				
Adult																
Birmingham	153	(139)	50	(53)	203	(192)	138	(124)	44	(49)	182	(173)	7	(2)	110	
Cambridge	64	(87)	26	(24)	90	(111)	58	(72)	19	(13)	77	(85)	2	(0)	51	
Edinburgh	92	(79)	18	(15)	110	(94)	84	(79)	11	(9)	95	(88)	0	(0)	53	
King's College	152	(150)	55	(44)	207	(194)	138	(124)	36	(25)	174	(149)	5	(6)	139	(
Leeds	112	(79)	29	(27)	141	(106)	100	(73)	21	(22)	121	(95)	2	(1)	81	
Newcastle	41	(45)	17	(5)	58	(50)	42	(40)	6	(1)	48	(41)	0	(0)	19	
Royal Free	78	(45)	17	(13)	95	(58)	80	(61)	14	(13)	94	(74)	2	(2)	68	
TOTAL	692	(624)	212	(181)	904	(805)	640	(573)	151	(132)	791	(705)	18 <sup>2</sup>	(11) <sup>3</sup>	521	(4
Paediatric																
Birmingham	4	(6)	1	(2)	5	(8)	29	(28)	1	(1)	30	(29)	2	(2)	13	
Cambridge	2	(2)	0	(0)	2	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	
Edinburgh	1	(2)	0	(0)	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	
King's College	3	(3)	3	(1)	6	(4)	44	(35)	1	(3)	45	(38)	7	(14)	14	
Leeds	7	(1)	1	(1)	8	(2)	12	(12)	0	(O)	12	(12)	5	(6)	1	
Newcastle	0	(1)	2	(O)	2	(1)	0	(0)	0	(O)	0	(O)	0	ò	0	
Royal Free	3	(1)	1	(0)	4	(1)	2	(0)	0	(0)	2	(0)	0	(0)	0	
TOTAL	20	(16)	8	(4)	28	(20)	87	(75)	2	(4)	89	(79)	14 <sup>4</sup>	(22) <sup>5</sup>	28	
1 Includes donors	whose liver	rs were ret	trieved I	by other te	eams											
<sup>2</sup> Includes 10 and <sup>3</sup> Includes 4 and 5	4 living live	r lobe tran	splants	, and 4 an	nd 0 dom	ino transp	lants in	NHS Grou	ip 1 and	Group 2	recipient	s, respec	tively			

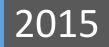
# BTS/BASL LDLT Guidelines





Living Donor Liver Transplantation

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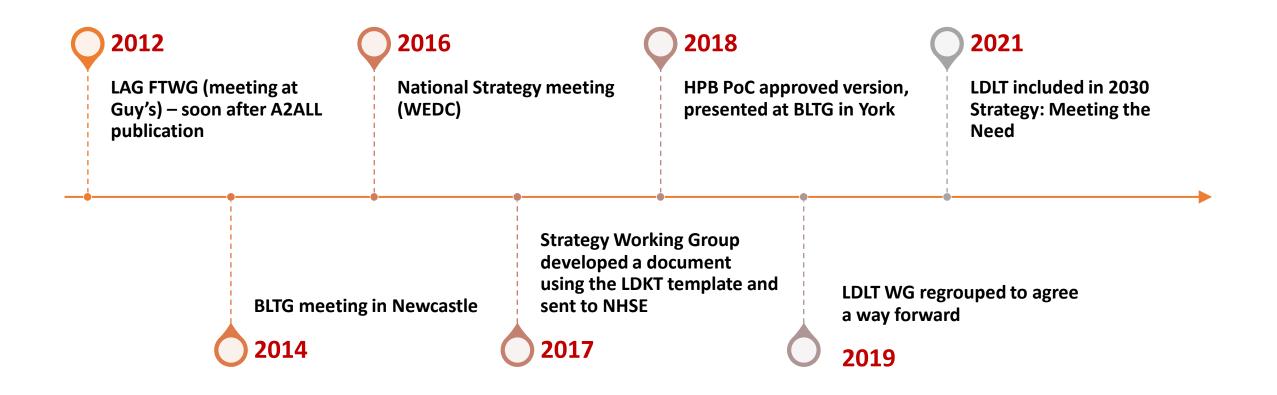


## Questions posed by NHS England in 2015

- Optimum number of ALDLT centres required in England – should the number of centres be restricted and if so, how many
- Clinical reasons for restricting ALDLT to centres providing Paediatric LT
- Agreeing national Standards
- Prediction of annual need

NHS England		Blood al	NHS nd Transplant
HPB CRG		) Society	
Title: Living Donor Liver Transplantation			
Author: Sarah Watson		Adult Living Donor Liver Tran Strategy Working Pa	
Date: 21 <sup>st</sup> May 2018		Thursday 13 <sup>th</sup> April 2	017
Purpose of paper:		Meeting Room 4b, West End E 26, Margaret Street, Lond	
To seek advice from the CRG on the draft strategy document as requested by	LDLT national strategy review	11:00-16:00	
the IM PoC	19 <sup>th</sup> March 2019: 12pm	Agenda	
To note agreed areas for action	Venue: NHSBT offices Tooting, 75 Crammer Terrace, London, SW17 0RB,		
Identify other work needed	meeting room 1 TC: 0808 1005145 / passcode: 60893149#	1. Welcome and Introductions	LB
Key issues and recommendations:	AGENDA:	2. Background and purpose of meeting	LB
The meeting is asked to consider the contents of this report and note:	Welcome	2. Seens of the odult I DI T strategy	All
<ul> <li>The NHS adult-to-adult living donor programme has not fulfilled its original</li> </ul>	Aim of the meeting:	3. Scope of the adult LDLT strategy	All
planning assumption that by now ALDL would account for 10% of transplants.	<ul> <li>Is there still a need for LDLT</li> <li>Is there still a need for a national strategy</li> </ul>	<ul> <li>Purpose- why do we want to do adult I</li> <li>Aims and objectives- what to do we want to do we w</li></ul>	
The reasons for this are complex and a working party has set out a strategy	<ul> <li>Are the current guidelines on indications for LDLT applicable</li> </ul>	<ul> <li>Activity- how many do we want to do?</li> </ul>	
and a comprehensive set of recommendations to improve the rate of ALDL.	<ul> <li>What should we change in light of NMP and the 'opt-out' legislation</li> </ul>	4. Outcomes	All
<ul> <li>Agree any further action that might be taken in support of the strategy</li> </ul>	What would expanding the indications look like		
<ul> <li>Consider the potential resource implications of any action</li> </ul>	<ul> <li>How many centres should be designated</li> </ul>	<ul><li>How will we do it?</li><li>How will we measure success?</li></ul>	[BRAND: BTS, BLTG, NHSBT]
Communications	<ul> <li>What would be an appropriate a patient pathway</li> </ul>	<ul> <li>Work plan</li> </ul>	
Feedback will be given to the IM PoC	Review of the current national strategy	5. Appendices	ADULT LIVING DONOR LIVER TRANSPLANTATION 2023 A UK STRATEGY
Actions required by Members:	Lisa Burnapp		DECEMBER 2017
Discussion of the draft strategy	How could the current strategy be modified to fit in with advances in	6. Work plan and close of meeting	EXECUTIVE SUMMARY
Agree any further action that might be taken	MP, NRP and 'opt-out'		Living donation plays a vital role in saving and improving lives. It makes a unique
	Chris Watson (Lisa Burnapp)		contribution to the organ donor pool, offering more patients with end stage liver disease (ESLD) the possibility of a successful transplant thist adding to the overall supply of available organs for all those who are waiting. Living donor transplantation (LDT)
	Identifying the ideal patient groups that would be best served by		contributes 35% of overall transplant activity in the UK, of which 97% of living donors donate a kidney and 3% a lobe of their liver'.
	LDLT		Since 2010, significant progress has been made in living donor kidney transplantation
	Varuna Aluvihare		(LDKT) by implementing strategies to develop the safety and sustainability of the UK-wide programme through the collective effort of the wider transplant community - healthcare professionals, health departments, commissioners, other authorities, NHS Blood and
	Developing 'new' indications Ahmed Elsharkaway		Transplant and patient associations <sup>2</sup> . To date, there has been no equivalent strategy for living donor liver transplantation (LDLT).
	Safety and training - national oversight group, appropriate centres		Although the numbers remain modest, LDLT for paediatric recipients is a well-accepted option for children with ESLD and is performed in the three paediatric liver transplant centres in the UK. In comparison, the adult-ca-adult LDT (A-A LDLT) procedure is still gaining
	Krish Menon		acceptance.
	<b>Patient pathways</b> Julie Jeffery		This is the first document to set out a strategy to establish a UK programme for A-A LDLT. The aim is to match best practice in adult living donor liver transplantation in the UK to countries with comparable philosophy and infrastructure, acknowledging that there is a decline in the practice of A-A LDLT in the Western world due to concerns about donor safety
			Therefore, the objectives of this strategy are to maximise patient benefit by:
	Patient information		<ol> <li>Increasing transplant opportunities for selected patients and improving equity of access</li> </ol>
	Moira Perrin		to transplantation 2. Ensuring state of the art donor care
	Engaging with LAG and NHS England and Next steps		Improving timeliness of transplantation     Increasing the number of good quality organs available for transplant

## Previous work done . .



#### Recipients who benefit from LDLT

- Patients currently disadvantaged by the minimal listing criteria as well as the NLOS TBS allocation system where access to deceased donor organs at lower UKELD scores is not easily possible
- · Recipients who fall into the variant category
- Small females with cholestatic disease

#### Professional 'buy-in'

• Concerns were also raised about 'buy-in' from within the medical profession

• It was agreed that education was a key element and a 'mind shift' amongst referring physicians was required to sustain a national program

#### Expertise

· It was also agreed that 'expertise' to perform the procedure was an important issue

 Although volume as a surrogate marker for outcome was not that robust in DDLT, the A2ALL (USA) study did attach a figure of 20 per year as an aspirational number to avoid life threatening donor complications – and this would have to be kept in mind

 Over the last 5 years no center in the UK has achieved this – even within the 2 centres performing the largest number of NHS patients

• Leeds have performed > 100 LDLT with no mortality and acceptable morbidity

#### Appropriateness of restricting ALDLT to pediatric centres

 It was agreed that that equity of access and patient choice should be considered

- · Patients would travel if 'safety' and 'expertize' were the priority.
  - this could be put to the lay member and discussed in a professional environment

#### Experience

• Within the A2ALL consortium, one of the first observations about A-A LDLT was the significant learning curve:

• improved graft survival was found after the first 20 cases at each centre.

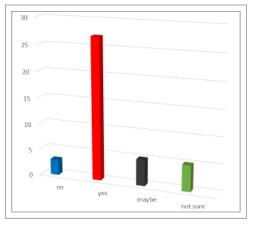
• Friese et al, have also recently described a decrease in the incidence of recipient and donor complications after a period of experience.

Similar findings have been reported in large single-centre reports: patient and graft survival has improved significantly after the initial centre experience.

Porrett et al, 2013; Freise CE et al, 2008; Lo CM et al, 2004; Shah SA et al, 2007, Abecasis, 2018, Ho, 2019

#### UK Strategy?

- Do you think a UK wide national strategy would be beneficial?
- No
- Yes
- Maybe
- Not sure



#### Projected numbers

• In attempting to answer the question of projected numbers, it was pointed out that although there has been a slow but steady increase year on year, the number of procedures would always be moderately low especially with the significant increase in the number of deceased donors currently available.

FY	16/17	17/18*	18/19	19/20	20/21	21/22	22/23
LD (n)	21	21	30	35	40	50	60
pmp**	0.3	0.3	0.45	0.5	0.6	0.7	0.9

assuming steady state until introduction of strategy in April 2018 \*\* assuming pmp increases over 5 years. Calculations consistent with NHSBT calculations

#### Obvious advantages of LDLT over DDLT

- · The ability to provide transplantation before the recipient becomes too ill
- A knowledge of donor history
- · Avoidance of the physiologic derangement induced by brain death in the donor
- Reduced cold ischemic time.

## LDLT UK numbers 2010 - 2022

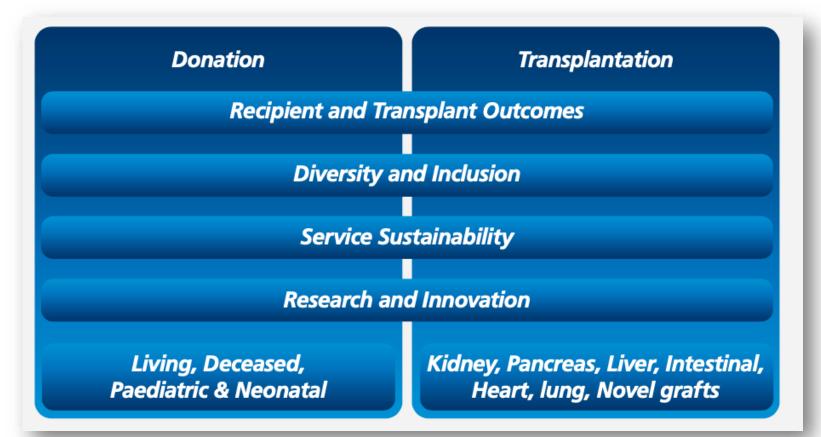
	RAGE_GRP					
fin_yr	0	1	Total			
2010/2011	13	8	21			
2011/2012	25	13	38			
2012/2013	22	9	31			
2013/2014	14	14	28			
2014/2015	20	18	38			
2015/2016	19	17	36			
2016/2017	20	11	31			
2017/2018	20	9	29			
2018/2019	15	6	21			
2019/2020	12	6	18			
2020/2021	18	4	22			
2021/2022	12	10	22			
Total	210	125	335			

Total	including	GP2
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	RAGE_GRP				
fin_yr	0	1	Total		
2010/2011	12	3	15		
2011/2012	18	7	25		
2012/2013	13	4	17		
2013/2014	14	10	24		
2014/2015	17	9	26		
2015/2016	16	12	28		
2016/2017	16	6	22		
2017/2018	16	4	20		
2018/2019	12	1	13		
2019/2020	11	3	14		
2020/2021	13	1	14		
2021/2022	11	4	15		
Total	169	64	233		

Total excluding GP2

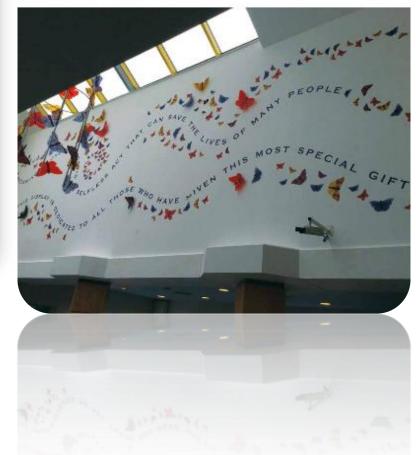
### Our new Strategy



A world leading organ donation and transplantation system

### Organ Donation and Transplantation 2030: Meeting the Need

A ten-year vision for organ donation and transplantation in the United Kingdom



### Objectives

#### Maximise patient benefit by:

- 1. Increasing transplant opportunities for selected patients and improving equity of access to transplantation
- 2. Ensuring state of the art donor care
- 3. Improving timeliness of transplantation
- 4. Increasing the number of good quality organs available for transplant

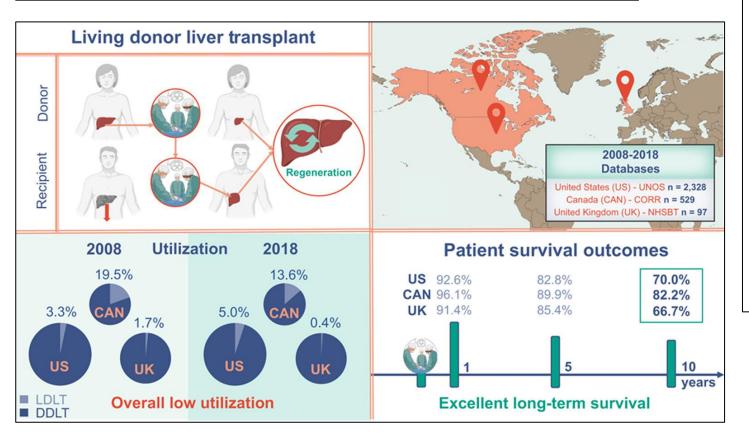


BLTG, 2018

> J Hepatol. 2022 Aug 17;S0168-8278(22)03001-X. doi: 10.1016/j.jhep.2022.07.035. Online ahead of print.

### Low utilization of adult-to-adult LDLT in Western countries despite excellent outcomes: international multicenter analysis of the US, UK, and Canada

Tommy Ivanics <sup>1</sup>, David Wallace <sup>2</sup>, Marco P A W Claasen <sup>3</sup>, Madhukar S Patel <sup>4</sup>, Rushin Brahmbhatt <sup>5</sup>, Chaya Shwaartz <sup>5</sup>, Andreas Prachalias <sup>6</sup>, Parthi Srinivasan <sup>6</sup>, Wayel Jassem <sup>6</sup>, Nigel Heaton <sup>6</sup>, Mark S Cattral <sup>7</sup>, Nazia Selzner <sup>7</sup>, Anand Ghanekar <sup>7</sup>, Gabriela Morgenshtern <sup>8</sup>, Neil Mehta <sup>9</sup>, Allan B Massie <sup>10</sup>, Jan H P van der Meulen <sup>11</sup>, Dorry L Segev <sup>10</sup>, Gonzalo Sapisochin <sup>12</sup>



- This multicentre international comparative analysis of living donor liver transplantation in the United States, the United Kingdom, and Canada demonstrates that despite low use of the procedure, the long-term outcomes are excellent.
- In addition, the mortality risk is not statistically significantly different between the evaluated countries.
- However, the incidence and risk of retransplantation differs between the countries, being the highest in the United Kingdom and lowest in the United States.

### Today is about thinking in a (new) different way

Don't think inside the box Don't even think outside the box In fact, today, think as if there is no box

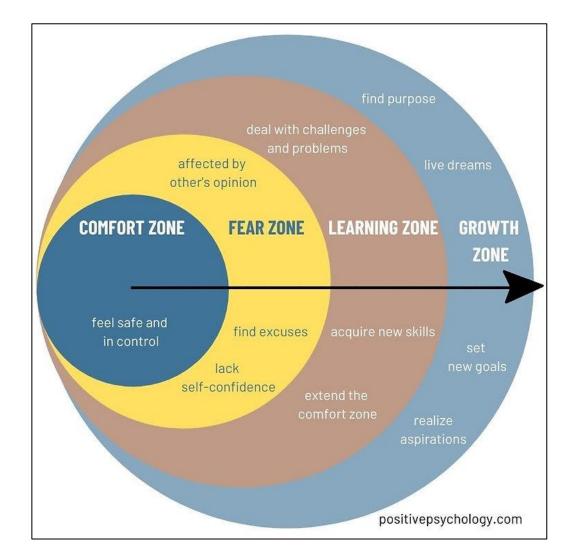
Warren buffet





While staying in your comfort zone can result in consistent, steady performance, stepping out of your comfort zone into a new and challenging task can create the conditions for optimal performance.







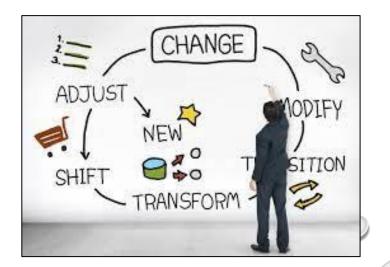


#### Important cogs in the machine

#### Open your minds



#### Embrace change



## Finally . . .

