NHS Blood and Transplant

Providing an out of hours donor frozen section service for the 21st Century

What does the patient need? How to optimise availability of donor organs - the NHSBT perspective

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September 18

Clinical Governance

ROBOCOP
ROBOCOP
DIECAST

R
BATMAN

Improving Practice

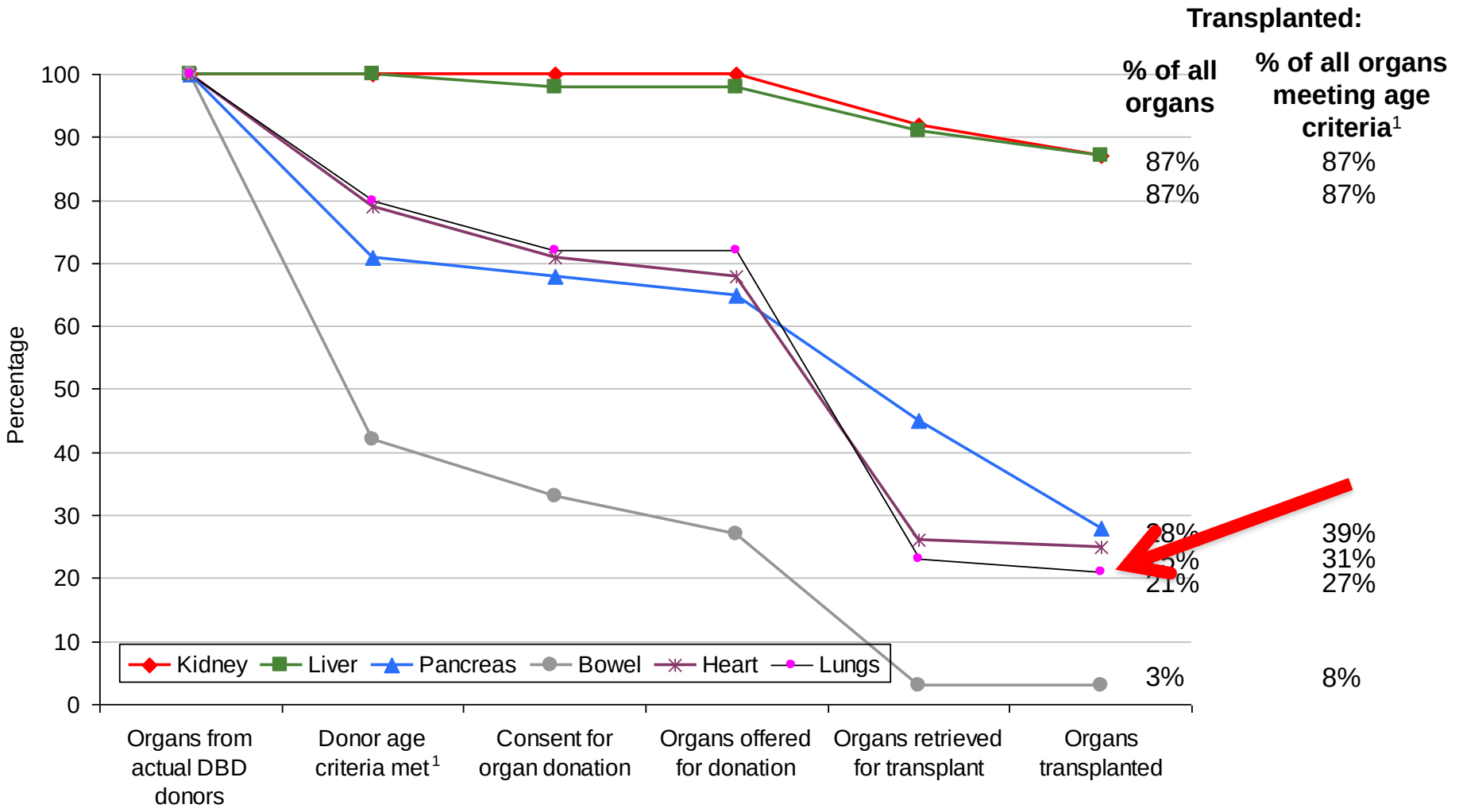
Lessons from Incidents

Donor Organ Decisions

Cost/Benefit for the Recipient

- No Organ is Perfect
  - Sequelae of Brain Death
- Element of Judgement for every donor
  - Evaluation of often soft data

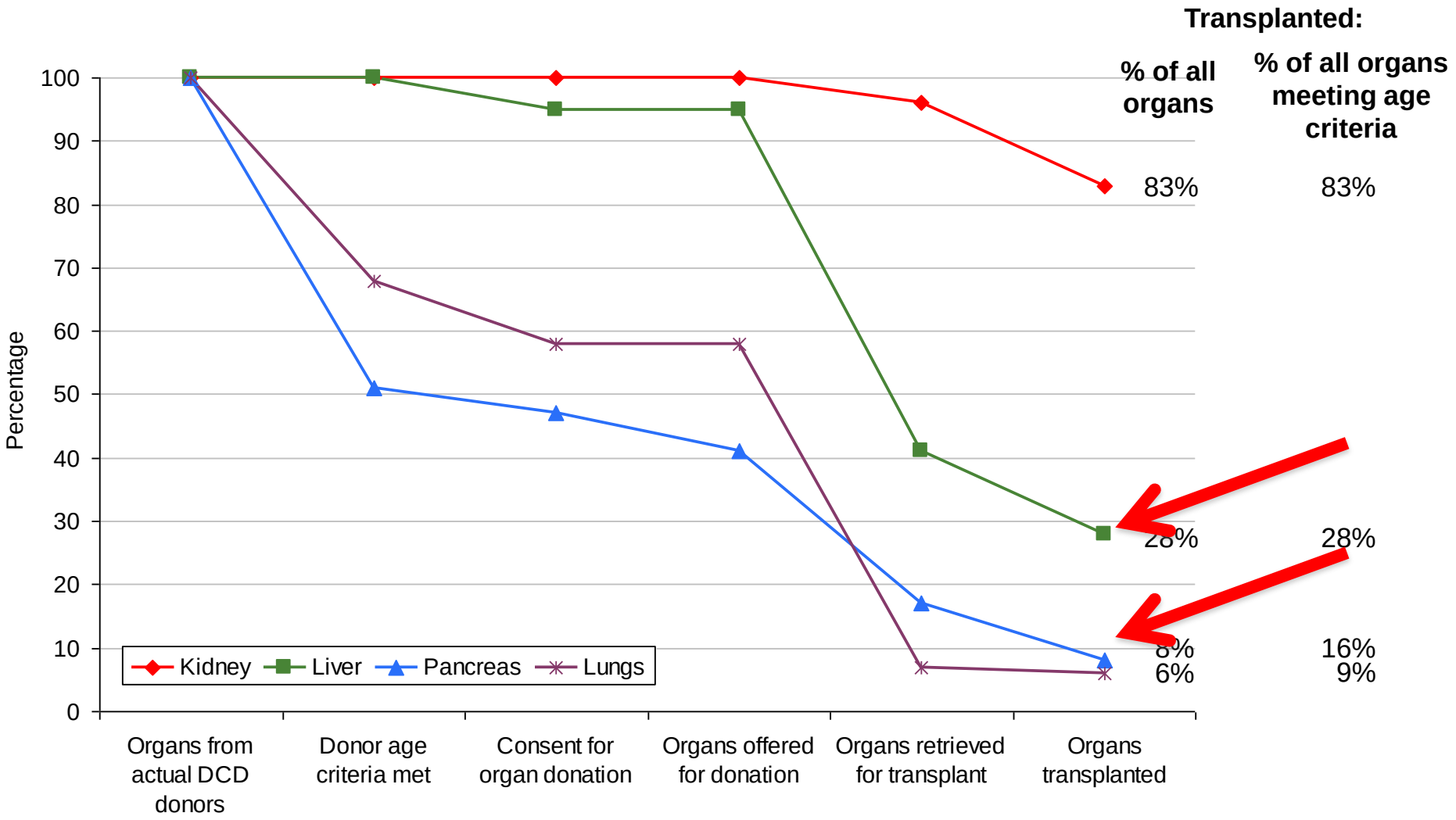
Donation and transplantation rates of organs from DBD organ donors in the UK, 1 April 2013 – 31 March 2014



[1] Hearts – in addition to age criteria, donors who died due to myocardial infarction are excluded
Bowels – in addition to age criteria, donors who weigh >80kg are excluded

Source: Transplant activity in the UK, 2013-2014, NHS Blood and Transplant

Donation and transplantation rates of organs from DCD organ donors in the UK, 1 April 2013 – 31 March 2014



Source: Transplant activity in the UK, 2013-2014, NHS Blood and Transplant

Donor Characterisation

- Organ Function
- Organ Anatomy
  - Size, Damage

- General Organ Safety
  - Microbiological

  - Histopathology

You are sooooo full of ****
I swear to you Ralph the ****** mouse was THIS big!!

Donor Histopathology

- Organ assessment
- Unexpected Lesion

Donor Histopathology

- Organ assessment
  - Remuzzi
  - Steatosis
- Unexpected Lesion

Donor Histopathology

- Organ assessment
- **Unexpected Lesion**

Donor Histopathology

- Organ assessment
- **Unexpected Lesion**

How big is the Problem?

The National Histopathology Audit

- Define current incidence of ‘urgent*’ histopathological analysis requests.
- Define numbers of retrieved organs utilised following histology.
- Identify impact of an out-of-hours histopathology service on:
  - Donor/organ utilisation
  - Recipient safety

Urgent biopsies were defined as those biopsies were the report was <u>awaited</u> in order to proceed either for retrieval or for transplantation.

Methods

- Prospective data collection
- 1st October 2013 and 31st March 2014 (6mo)
- All NORS team retrievals
- All Transplant Centres.

Results

- 100% Data Return
- 654 Retrievals
- 2322 Organs Retrieved
  - Utilised: 2064 (88%)
  - Taken, Accepted and Not Utilised: 258 (12%)

Results - Incidence

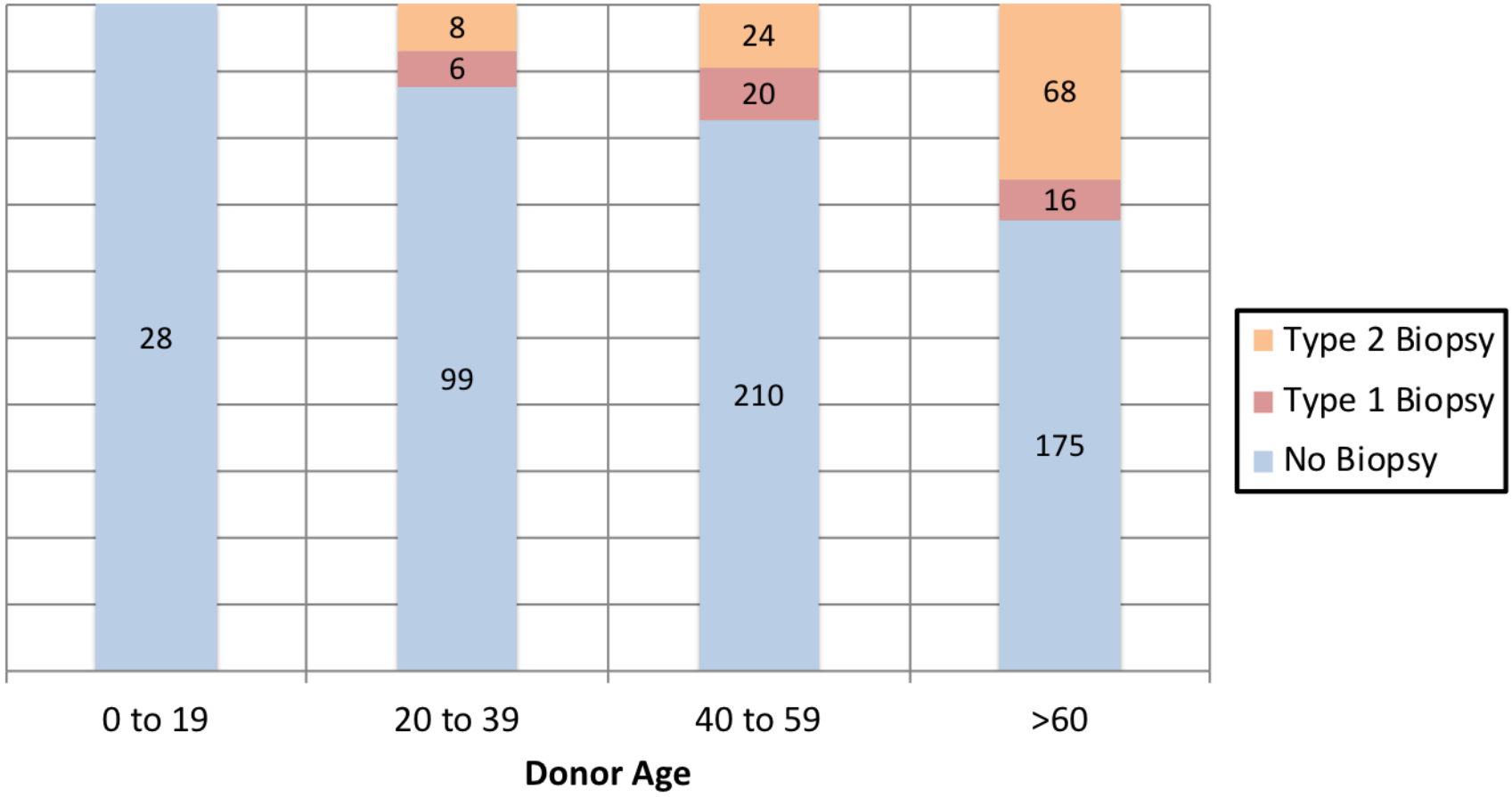
- 142 urgent biopsies in 654 retrievals (21.7%)
  - 42 Type 1 Biopsies (29.6%)
  - 100 Type 2 Biopsies (70.4%)

- 51% out-of-hours (1900 to 0700 and weekends)

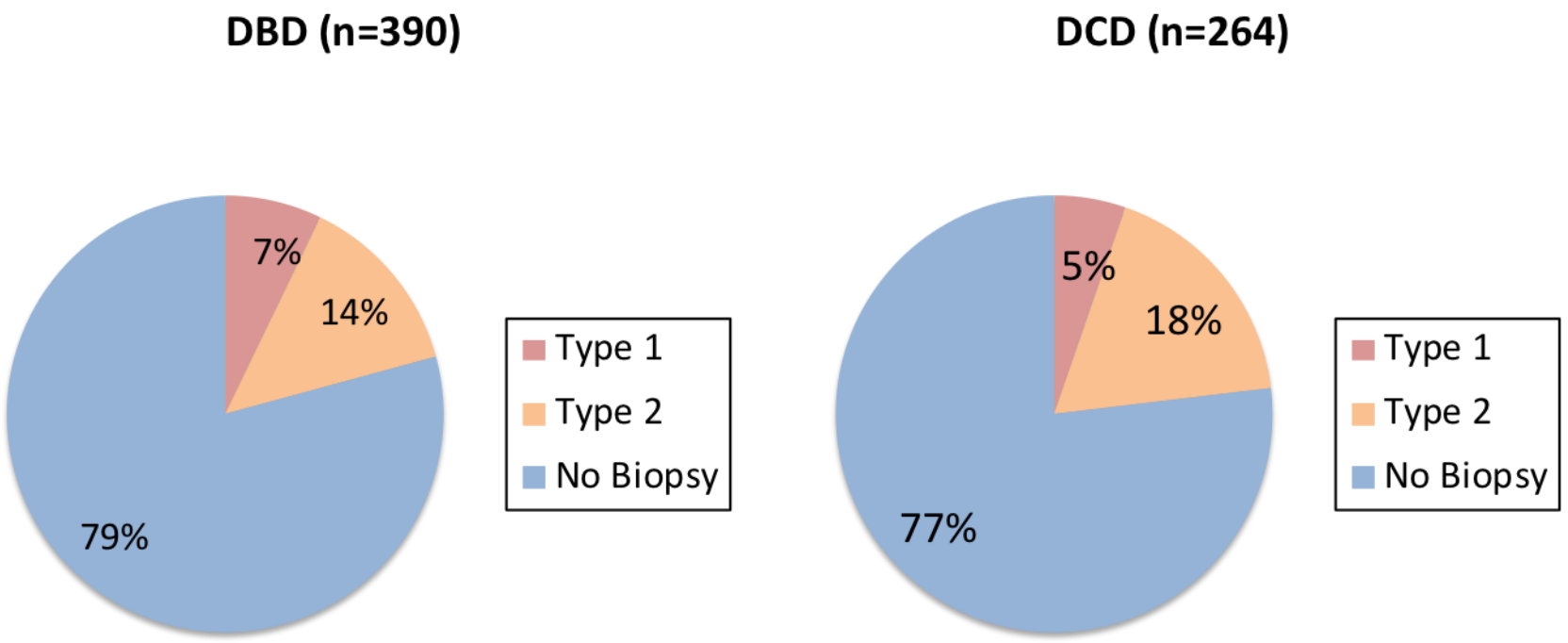
Results - Incidence

- 95% biopsies sent to pathology services at NORS centres
- The organs biopsied at Transplant Centres were mostly Livers and Kidneys
- There was only one biopsy taken at CT Transplant Centre
- No biopsies from Pancreases

Results – biopsy incidence by age



Results – biopsy incidence by donor type



56% Biopsies were performed on DBD organs
44% Biopsies were performed on DCD organs

Results – Type 1 Biopsy

- 42/654 Biopsies for suspected malignancy (6.4%)
- 3/654 Malignancies identified (0.45%)
- 3/42 Biopsies confirmed malignancy (7%)
- There were **119 organs** safely transplanted thanks to negative Bx report

Results – Type 2 Biopsy

- 100 Type 2 Biopsies
  - 22 liver
  - 78 kidney

- Unsuitable organ quality in 5% (4 kidneys;1 liver)

- 21 Livers and 74 Kidneys utilised following Type 2 Biopsy

Conclusions from National Audit

- Significant unmet need
- Organ Quality main issue
- Significant role in diagnosing malignancy

Governance Reporting

Issues with:

- Non-availability of Service
- Poor Communication
- Erroneous Interpretation
- Conflicting Expectations

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FORM FRM5867/1

Effective: DRAFT

National Histopathology Request Form

To (Address sample to be sent):	**From (Donor Hospital details):**
Name of National Organ Retrieval (NORS) Surgeon:	**Specialist Nurse – Organ Donation (SNOD) name:**
NORS Surgeon contact number:	**SN-OD On Call pager number:**
NORS Surgeon signature:	**SNOD signature:**

Patient Information	**ODT Number**		**Date of Birth**					
	Forename		**NHS/CHI Number**					
	Surname		**Sex**	**M**		**F**		

Sample Information	**Date sample taken:**		**Time sample taken:**		**Size of lesion:**	
	Site/organ of donor lesion: (If more than one sample please specify which is which and size/site of each)					
	Other information: (Where required including transport medium if not saline soaked gauze)					

Clinical Information	**Relevant past medical history**	
	Intraoperative findings	

Organs Accepted and Centre						
	Heart		**Left kidney**		**Pancreas**	
	Lungs		**Right kidney**		**Small bowel**	
	Liver		**Other** (provide detail)			

Results – Who to inform:

1. Contact the SNOD (details above), who can provide details of implanting surgeons if needed to discuss difficult/equivocal cases. Inform SNOD of findings verbally
2. Preliminary Report: Send a copy/summary of the report **immediately** via secure email to: odthub.operations@nhsbt.nhs.uk for onward dissemination to all relevant centres/individuals. Please include pathologists name and contact number in case surgeon needs to discuss case. **Email must include 3 identifiers from above**

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National Histopathology Request Form

3. Final Report: Send via secure email to odthub.operations@nhsbt.nhs.uk **Email must include 3 identifiers from above** (Hub Operations phone number: 0117 9757580 if any difficulties)

Provision of Service

- Previously was often on voluntary, unpaid basis
- Often provided by Generalist Histopathologists

- Advice, in addition to examining tissues might be invaluable

What does the transplant service need? NHSBT Perspective

- Training of retrieval surgeons to recognize abnormalities

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- Training of retrieval surgeons to recognize abnormalities
- Easy Availability of Advice
  - Surgical
  - Pathological

What does the transplant service need? NHSBT Perspective

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What does the transplant service need? NHSBT Perspective

- Training of retrieval surgeons to recognize abnormalities
- Easy Availability of Advice
- Good Communication
- Robust processing of sample
  - Laboratory Network
  - Digital Transmission of images
  - On call availability of Expertise

Expectations

Pathology opinion is a part of the overall data on which surgeon makes decision

A final, definitive diagnosis is not always necessary at 4 am

Advice on significance of finding, as well as absolute result, is a key component

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It should be emphasised that the implanting surgeon will take full and final responsibility for the decision on whether to use the organ or not. The surgeon needs the best possible advice from a pathologist, but will fully appreciate that under often challenging conditions a definitive diagnosis may be impossible to give."