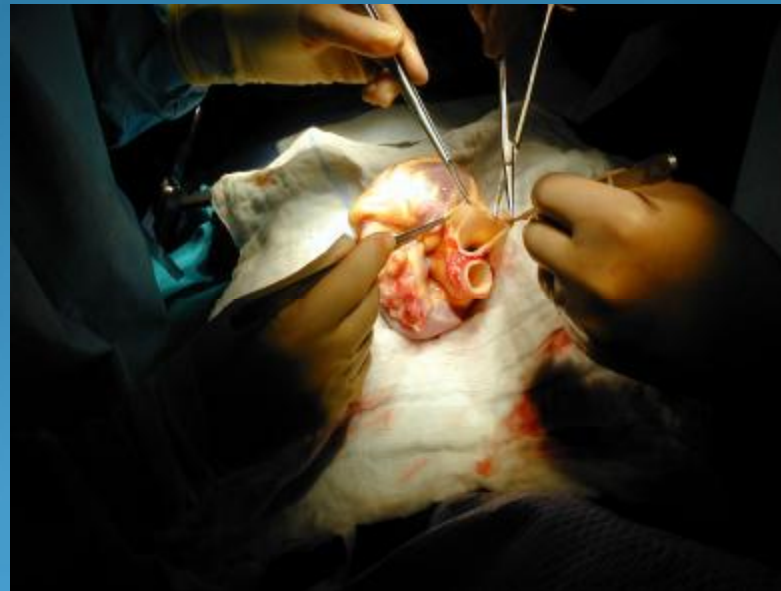




UNIVERSITY OF
CAMBRIDGE

Papworth Hospital **NHS**
NHS Foundation Trust

Adult DCD Heart Transplantation

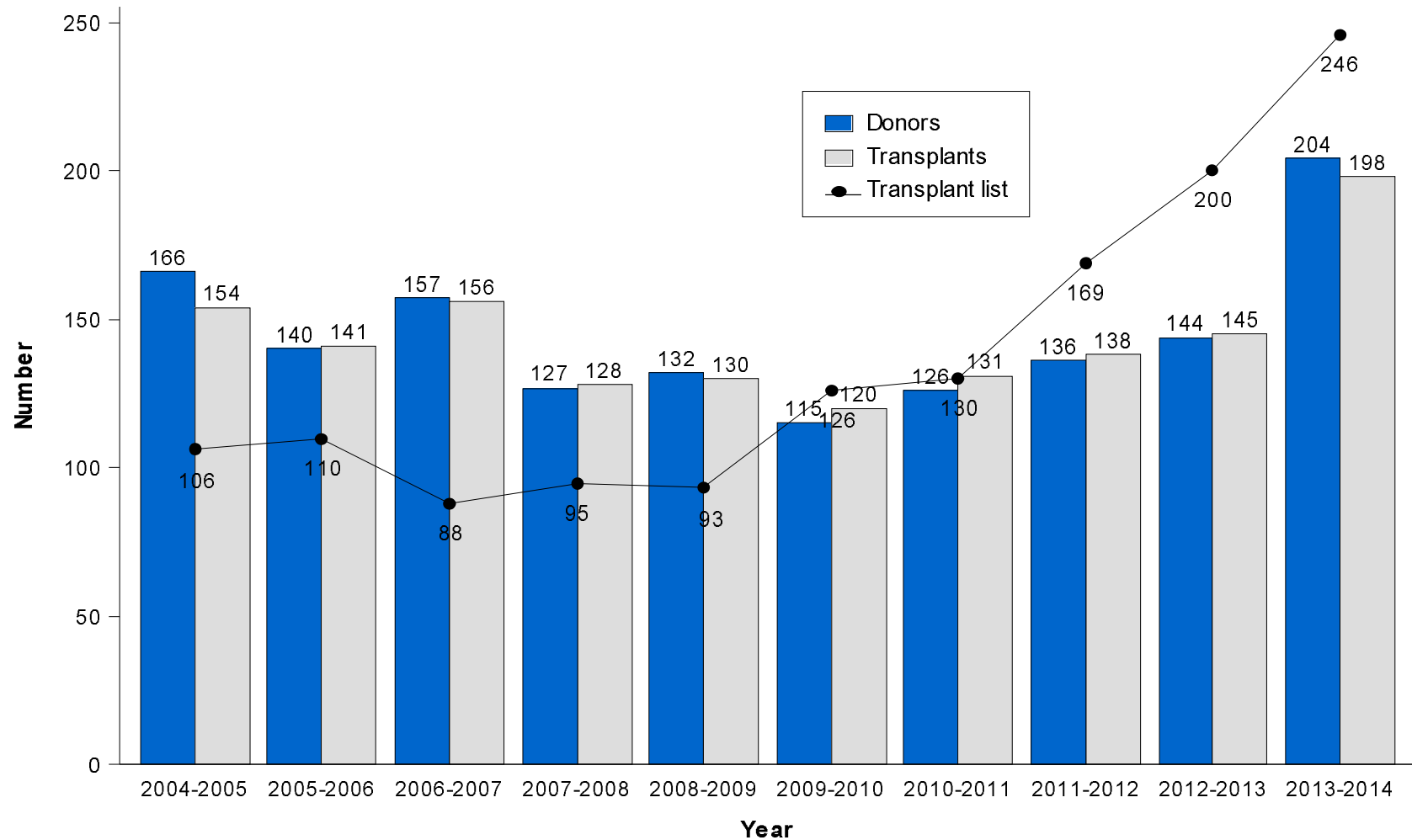


S Messer. S Large

Do we need it?

UK Heart Transplant Activity

Figure 7.1 Deceased donor heart programme in the UK, 1 April 2004 - 31 March 2014, Number of donors, transplants and patients on the active transplant list at 31 March



NHSBT Annual Report on Cardiothoracic Transplantation 2013/2014. Available at http://www.odt.nhs.uk/pdf/organ_specific_report_cardiothoracic_2014.pdf

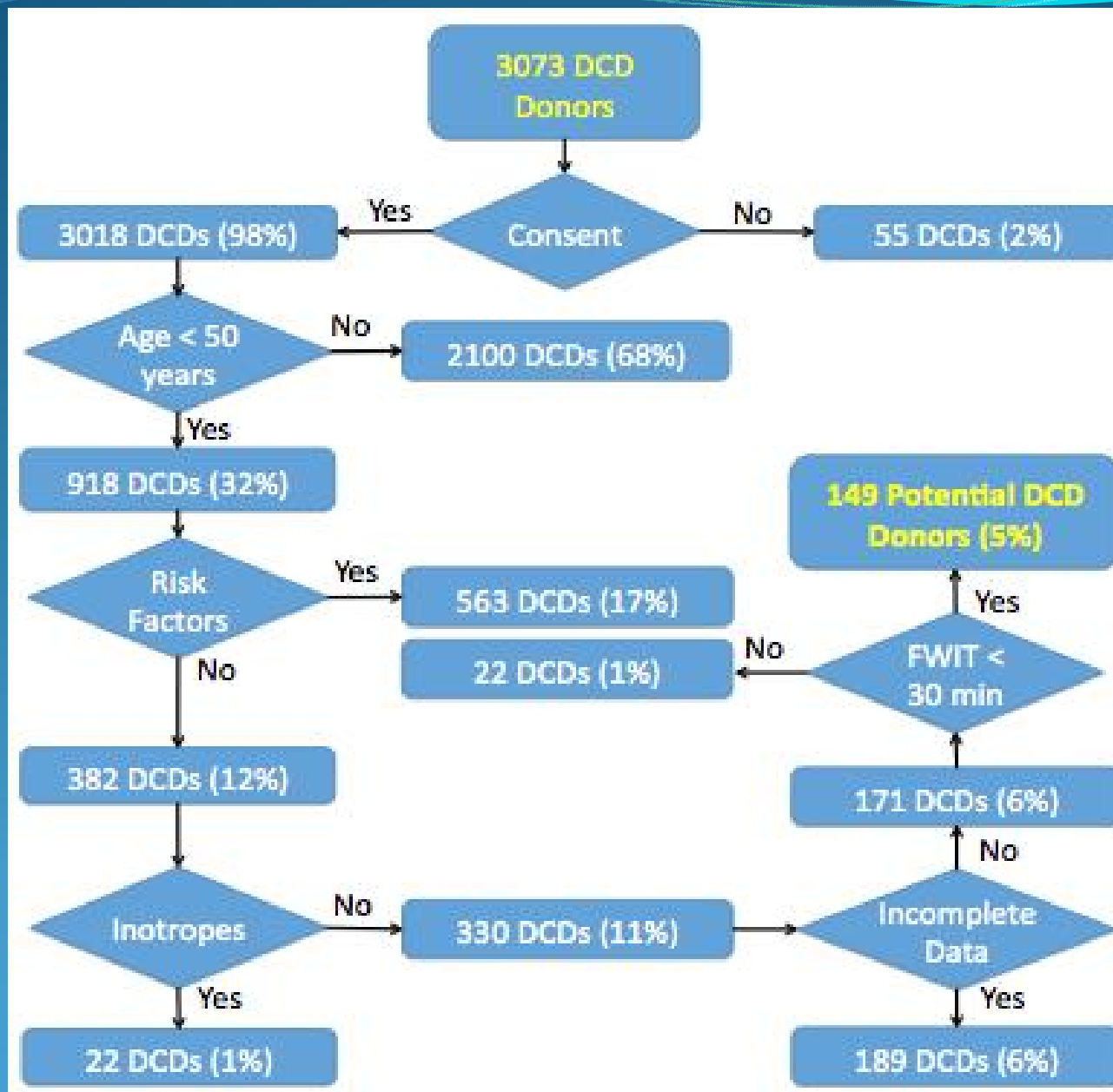
Do suitable DCD donors exist?



The Potential of Transplanting Hearts From Donation After Circulatory Determined Death (DCD) Donors Within the United Kingdom

Messer S, Lannon J, R Axell, Wong E, Hopkinson C,
Fielding S, Ali A, Tsui S, Large S

Do suitable DCD donors exist?



DCD Heart Transplant 1

NRP & Extra Corporeal Machine Perfusion

– Donor

- Male
- 172cm 80kgs A+ve
- Intra cerebral bleed

– Recipient

- Male
- 174 cm 92 kgs A+ve
- Ischaemic Heart Disease

Timings

DWIT 60 mins FWIT 15 mins NRP 52 mins

Swan Ganz

CI 3.2, CO 6.0, HR 85, CVP 10, PCWP 12, MAP 85

TOE

EF 65%, IVS 11m, PWT 12mm, No valvular abnormality

DCD Heart Transplant 1

- Second successful attempt to come off CPB
- Off CPB MAP 65mmHg, CI 3 L/min/m²
- IABP removed POD 1 CI 4 L/min/m²
- Inotropes off POD 2
- Extubated POD 3
- Ward POD 4
- Discharged
- No episodes of rejection, Ejection fraction 65%

DCD Heart Transplant 2

NRP & Extra Corporeal Machine Perfusion

– Donor

- Male
- 179cm 75kgs O+ve
- Intra cerebral bleed

– Recipient

- Male
- 188 cm 77 kgs A+ve
- HCM

Timings

DWIT 18 mins FWIT 12 mins NRP 52 mins

Swan Ganz

CI 2.8, CO 5.6, HR 122, CVP 6, PCWP 9, MAP 79

TOE

EF 66%, IVS 12m, TAPSE 25mm No valvular abnormality

Post OP

- Off CPB first attempt
- Extubated 4 hours back from OT
- Ward POD 5
- Discharged

DCD Heart Transplant 3

NRP and Cold Storage

– Donor

- Male
- 183cm 114kgs A+ve
- Intra cerebral bleed, VV
ECMO

– Recipient

- Male
- 176 cm 77 kgs A+ve
- HCM

Timings

DWIT 29 mins FWIT 18mins NRP 91 mins

Swan Ganz

CI 2.9 CO 6.9, HR 92, CVP 3, PCWP 11, MAP 70

TOE

EF 70%, TAPSE 25mm, IVS 11mm, No valvular
abnormality

Post OP

- Off CPB first attempt
- Extubated 6 hours back from OT
- CVVH ARF, Ward POD 3
- Discharged

DCD Heart Transplant 4

Direct Procurement and Perfusion

– Donor

- Male
- 191cm 90kgs O+ve
- Hypoxic Brain injury

– Recipient

- Male
- 184 cm 86 kgs A+ve
- HCM

Timings

DWIT 99 mins FWIT 26mins

Starting Lactate OCS 7.84

Ending Lactate 4 hrs later 6.9

Post OP

- Off CPB first attempt
- Ward POD 3
- Discharged

DCD Heart Transplant 5

NRP & Extra Corporeal Machine Perfusion

– Donor

- Male
- 196cm 90kgs O+ve
- Traumatic Brain Injury

– Recipient

- Male
- 174 cm 85 kgs O+ve
- Moderate COPD
- HCM

Timings

DWIT 17 mins FWIT 16 mins NRP 1 hr 59 mins

Swan Ganz

CI 4.1 CO 9.5, HR 135, CVP 9, PCWP 8, MAP 40

TOE

EF 70%, TAPSE 16mm, IVS 11mm, No valvular abnormality

Post OP

- Off CPB –Significant Inotrope Support, IABP
- Peripheral VA ECMO POD 1
- VA ECMO 7 days later
- Sepsis
- Ward

DCD Heart Transplant 6

NRP & Extra Corporeal Machine Perfusion

– Donor

- Male
- 170cm 80kgs A-ve
- SAH

– Recipient

- Female
- 161 cm 69 kgs A+ve
- DCM

Timings

DWIT 28 mins FWIT 24 mins NRP 28 mins

Swann Ganz Assessment

CO 6.9 L/min CI 3.6L/min/m² CVP 0 mmHg PCWP 11mmHg
MAP 97mmHg MPA 16 mmHg

TOE

EF 68% TAPSE 19mm PWT 14mm IVS 14mm

Post OP

- Off CPB First Attempt
- ITU POD 5
- Ward