



Journalist Workshop on organ donation & transplantation

Introduction to organ donation and transplantation

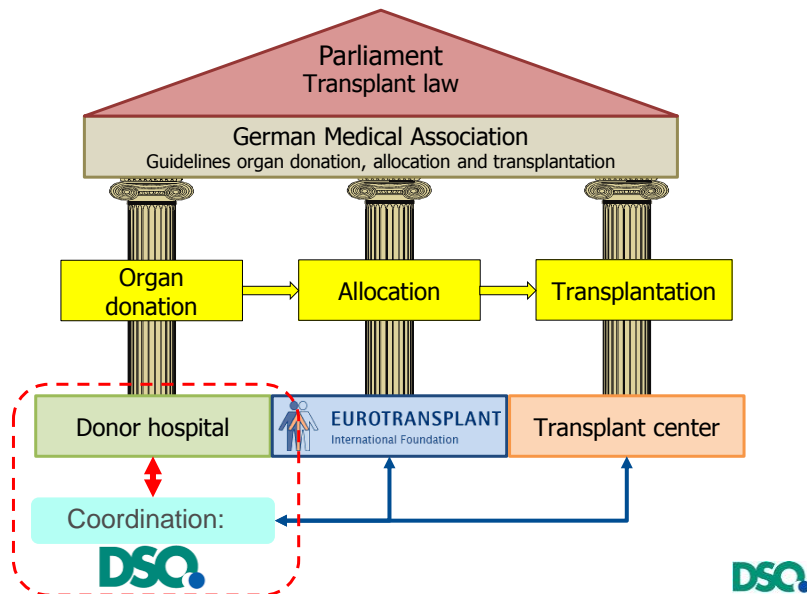
Axel Rahmel, Frankfurt/Main

Organized by the European Commission,
Directorate General for Health and Food Safety;
26 November 2014 – Brussels

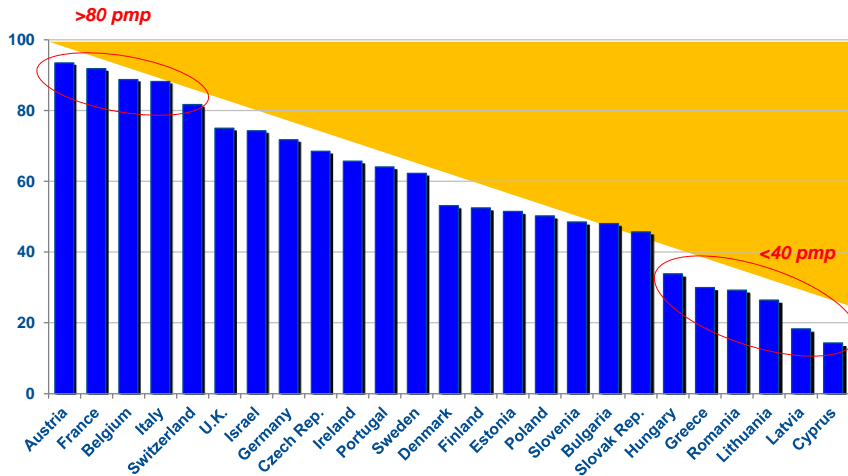


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Task distribution in organ transplantation The German example



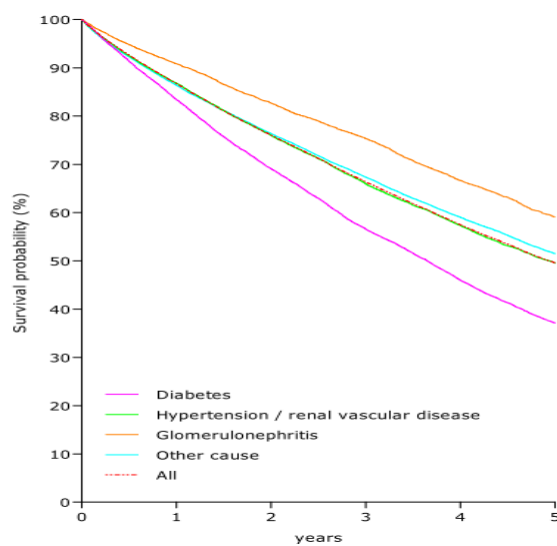
Patients newly registered on the waiting list for organ transplantation (per million population)



Transplant Newsletter - Council of Europe/ONT 2007

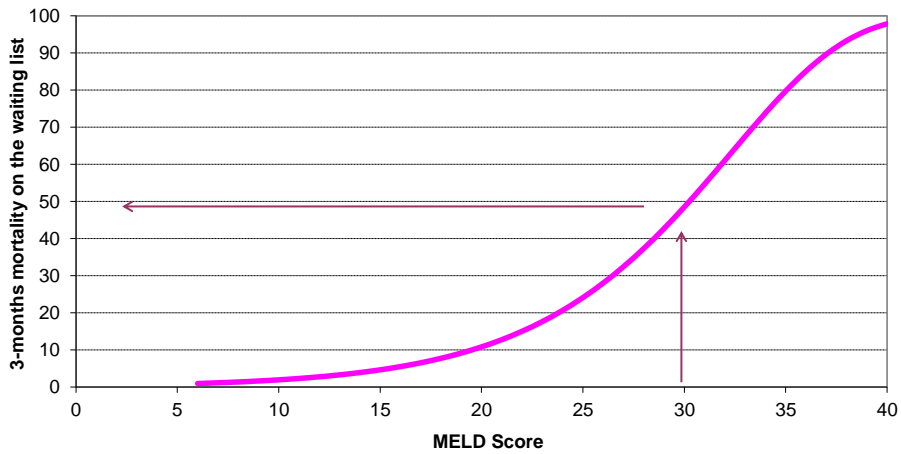


Prognosis of patients on hemodialysis ERA-EDTA-Registry – Annual report 2008

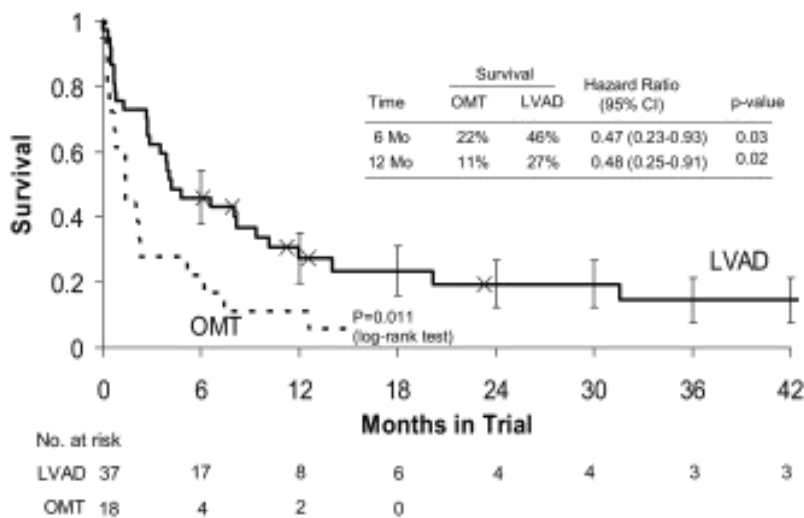


MELD score vs. waiting list mortality

Expected 3-months mortality and MELD score

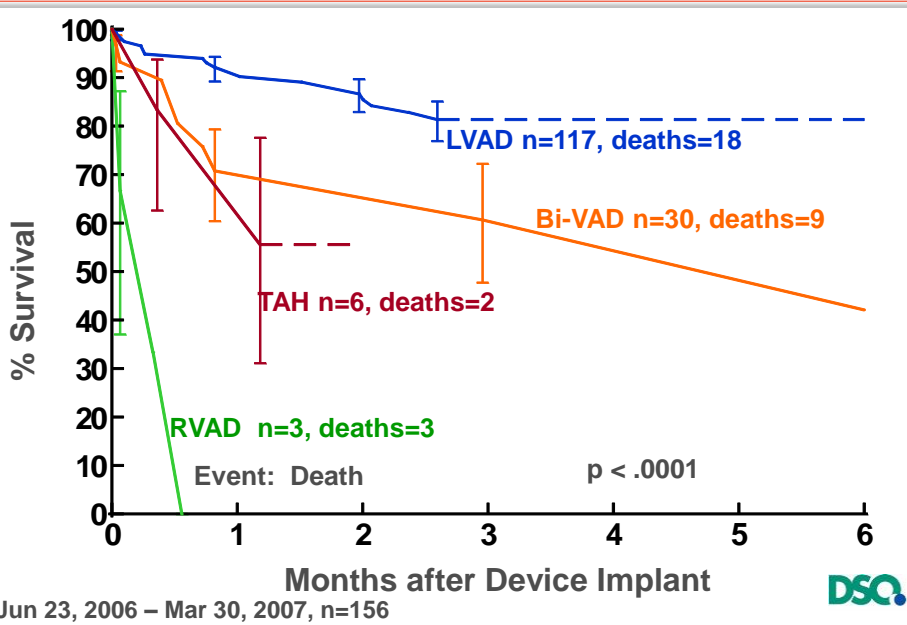


Assist device as destination therapy in inotrope-dependent heart failure (INTRIPID-Trial – Novacor-LVAD)

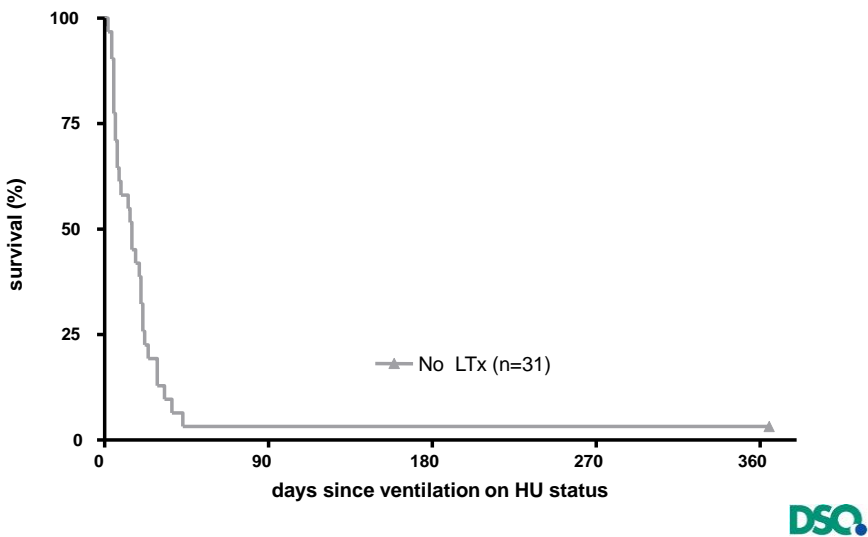


Rogers et al, JACC 2007; 50:741-7





Prognosis of mechanical ventilated patients awaiting lung transplantation - MHH, Germany, 2005 - 2008

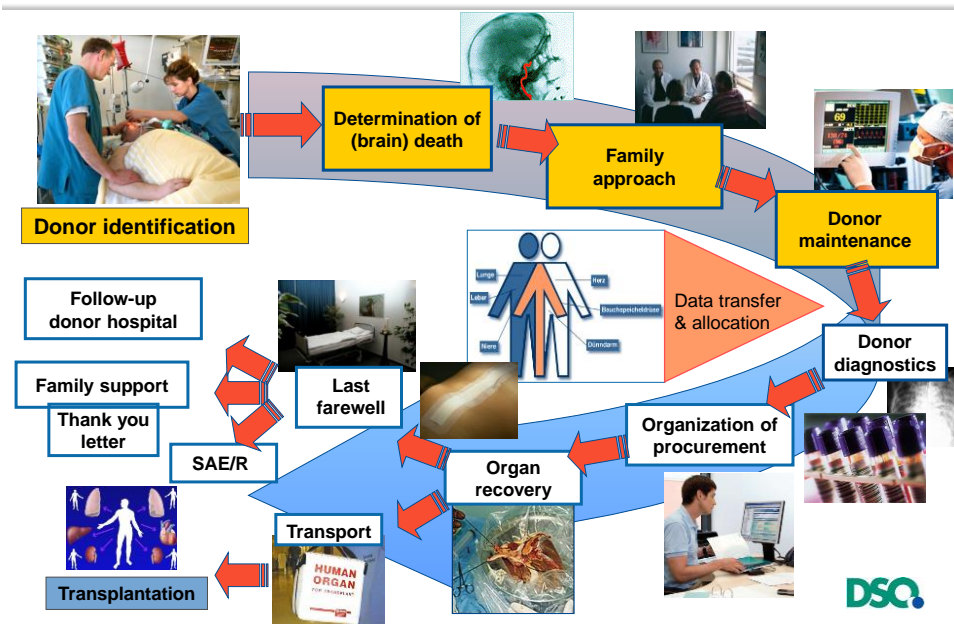




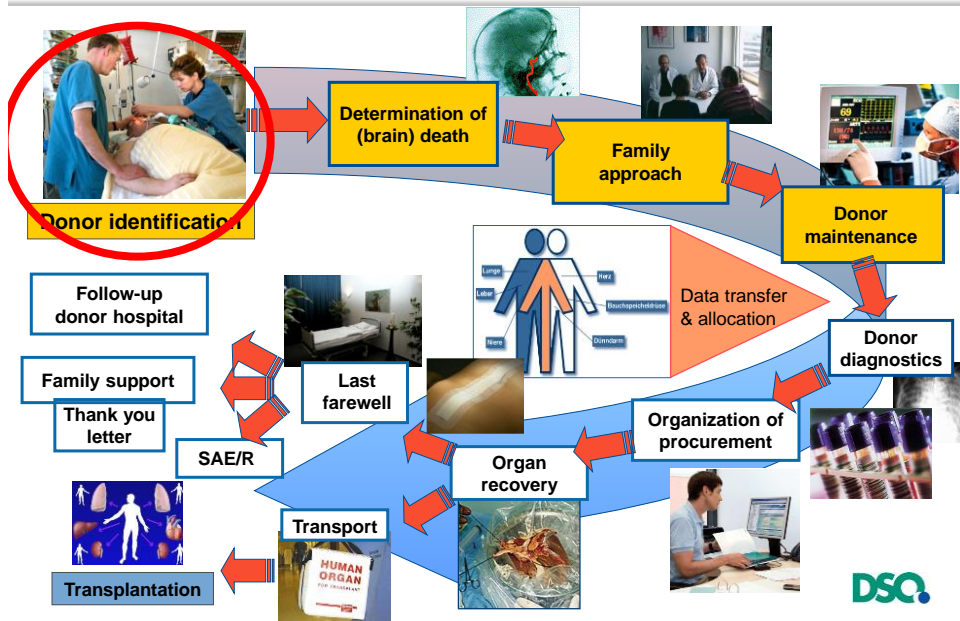
Organ donation

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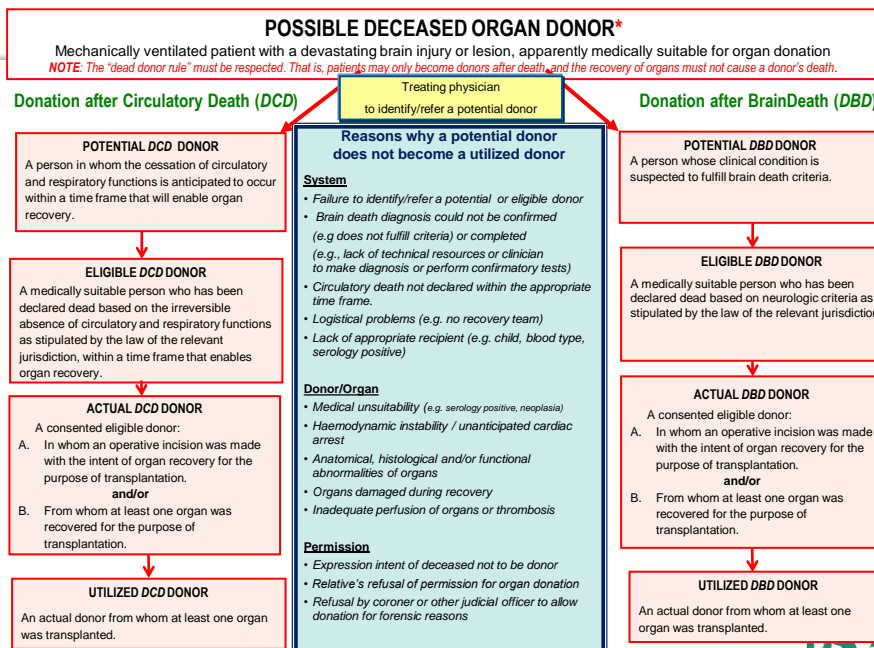
The organ donation process



The organ donation process

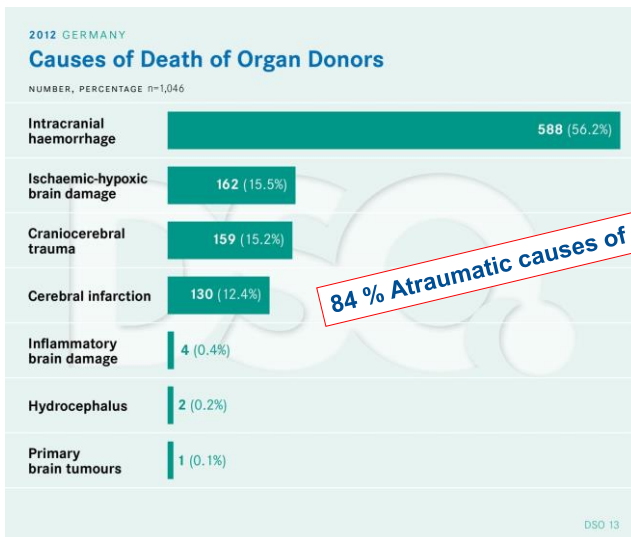


Critical pathways for organ donation from ventilated patients



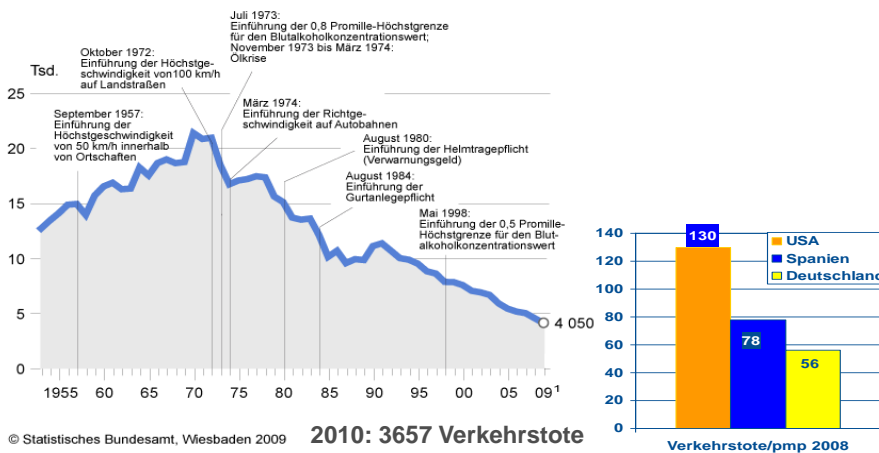
Organ donation may occur in medically defined circumstances other than patients with anticipated circulatory death or devastating brain injury.

Causes of Death of Organ Donors

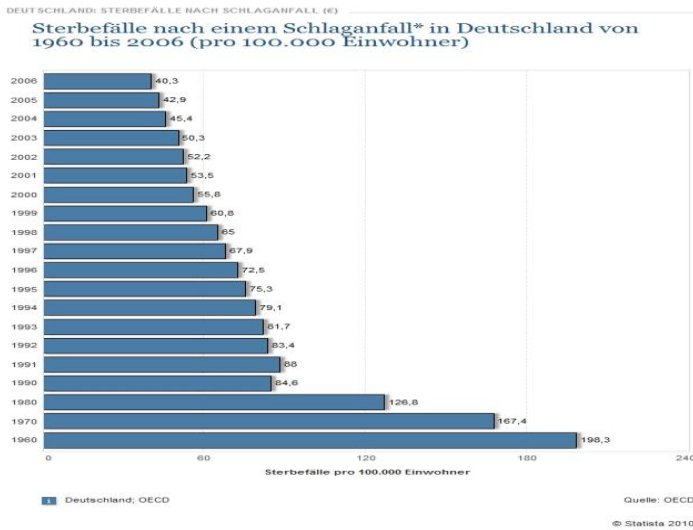


Killed in road traffic

Entwicklung der Zahl der im Straßenverkehr Getöteten 1953 bis 2009



Reduced mortality after stroke



EU Joint Action: Achieving Comprehensive Coordination in ORgan Donation throughout the European Union

Work Package 5 - Increasing the collaboration between donor transplant coordinators and intensive care professionals

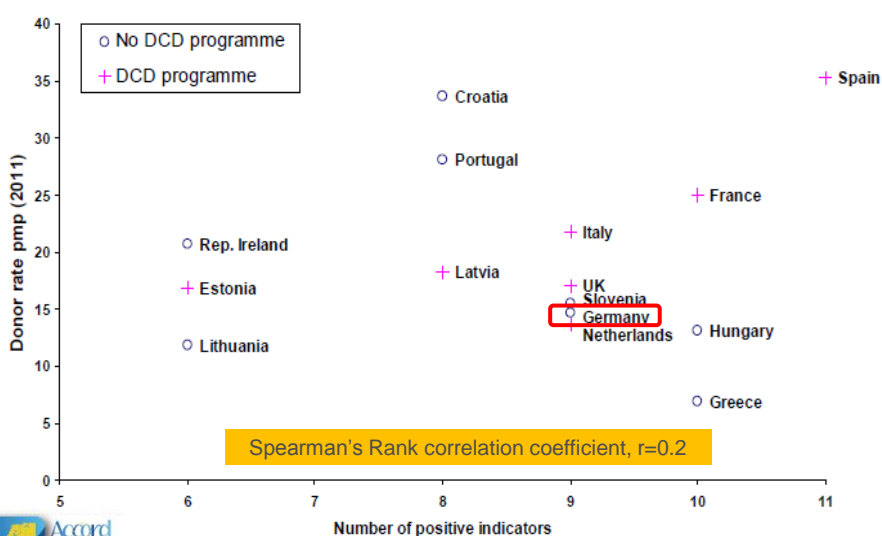


National indicators that could be relevant to a well-established deceased donation program– ACCORD 2014

- Legal definition for brain death
- Legal definition for cardio-respiratory (circulatory) death
- Professional guidance/standards/codes of practice for the diagnosis of brain death
- Professional guidance/standards/codes of practice that support clinicians who are treating potential organ donors
- National independent ethical codes of practice or guidance that support organ
- Relevant guidance on the withdrawal or limitation of life sustaining treatment in critically ill patients
- National criteria to alert the Donor Transplant Coordinator to a potential organ donor
- Guidance or best practice documents for the process of obtaining consent for organ donation from families
- Formal training provided for healthcare professionals in the organ donation process
- National organization responsible for organ donation
- Regulatory body that has oversight of organ donation



Donor rate by number of positive national indicators for organ donation



End-of-Life Practices in European Intensive Care Units

The Ethicus Study

Charles L. Sprung, MD

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Peter Sjøkvist, MD

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Didier Ledoux, MD

Anne Lippert, MD

Paulo Maia, MD

Dermot Phelan, MD

Context While the adoption of practice guidelines is standardizing many aspects of patient care, ethical dilemmas are occurring because of forgoing life-sustaining therapies in intensive care and are dealt with in diverse ways between different countries and cultures.

Objectives To determine the frequency and types of actual end-of-life practices in European intensive care units (ICUs) and to analyze the similarities and differences.

Design and Setting A prospective, observational study of European ICUs.

Participants Consecutive patients who died or had any limitation of therapy.

Intervention Prospectively defined end-of-life practices in 37 ICUs in 17 European countries were studied from January 1, 1999, to June 30, 2000.

Main Outcome Measures Comparison and analysis of the frequencies and patterns of end-of-life care by geographic regions and different patients and professionals.



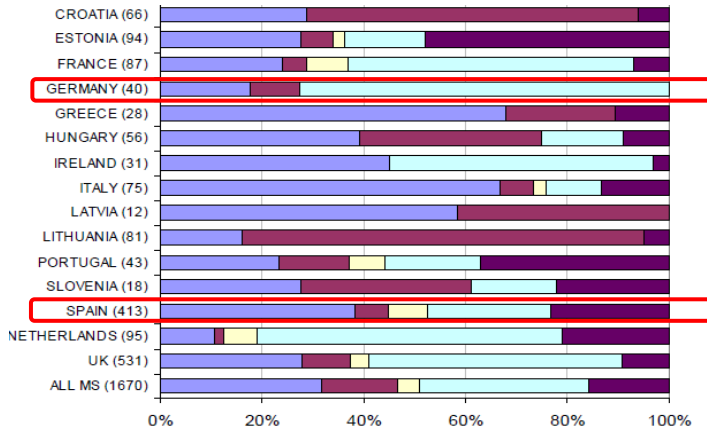
Ethicus study

	End of life Categories (% patients)				
	Unsuccessful CPR	Brain death	Treatment limitation	Treatment withdrawal	Active shortening of dying process
Northern Denmark, Finland, Ireland, Netherlands, Sweden, UK	10.2	3.2	38.2	47.4	0.9
Central Austria, Belgium, Czechia, Germany, Switzerland	17.9	7.6	34.1	33.8	6.5
Southern Greece, Israel, Italy, Portugal, Spain, Turkey	30.1	12.4	39.6	17.9	0.1
Range between countries	5 - 48	0 - 15	16 - 70	5 - 69	0 - 19

End-of-Life Practices in European Intensive Care Units
Sprung et al, 2003. JAMA 290: 790-797.



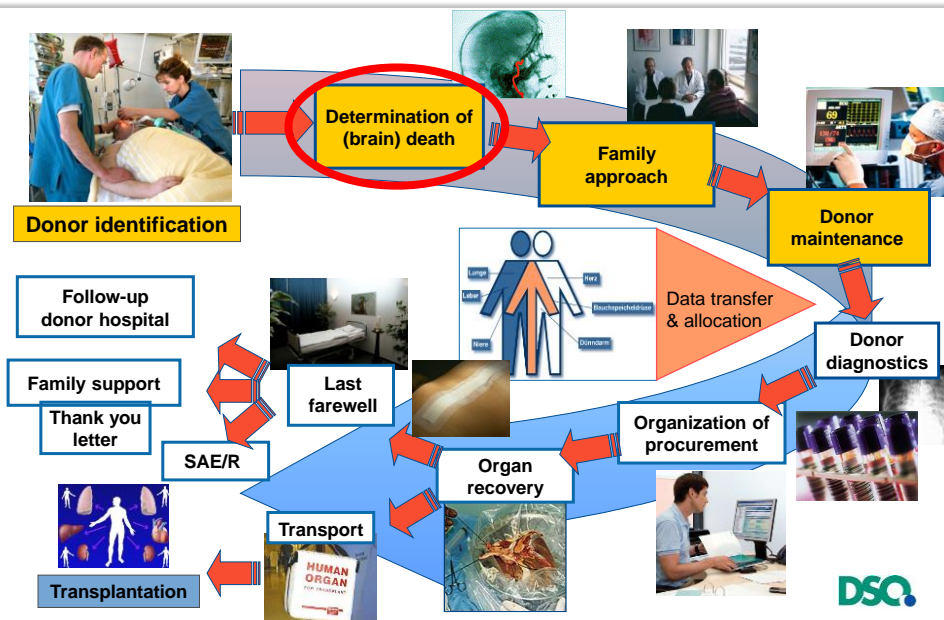
Care of the patient



- A: Full active treatment on CCU until the diagnosis of BD
- B: Full active treatment until unexpected cardiac arrest from which the patient could not be resuscitated
- C: Admitted to CCU to incorporate organ donation into end-of-life care
- D: Full active treatment on CCU until the decision of withdrawal or limiting life sustaining therapy was made, with an expected final cardiac arrest
- E: Not admitted, or admitted to CCU but subsequently discharged



The organ donation process



Declaration of death

“Brain death”

- Death declared on the basis of neurologic criteria
- Irreversible loss of all functions of the entire brain, including the brain stem



Brain death protocol

- According to the guidelines of the federal medical council
- 2 qualified doctors not involved in transplantation have to confirm independently brain death

Abschließende Diagnose:
 Aufgrund obiger Befunde, zusammen mit den Befunden der Protokollbögen Nr. _____, wird
 der Hirntod und somit der Tod des Patienten festgestellt am: _____ um _____ Uhr.
 Untersucher Arzt: _____
 Name _____ Unterschrift _____

Protokoll zur Feststellung des Hirntodes

Name _____ Vorname _____ geb. _____ Alter _____
 Klinik _____
 Untersuchungsdatum _____ Uhrzeit _____ Protokollbogen-Nr. _____

1. Voraussetzungen:

1.1 Diagnose
 Primäre Hirnschädigung _____ (supratentoriell _____ infratentoriell _____)
 Sekundäre Hirnschädigung _____
 Zeitpunkt des Unfall-/Krankheitsbeginns _____

1.2 Folgende Feststellungen und Befunde bitte beantworten mit Ja oder Nein
 Intoxikation _____ ausgeschlossen _____
 Relaxation _____ ausgeschlossen _____
 Primäre Hypothermie _____ ausgeschlossen _____
 Metabolisches oder endokrines Koma _____ ausgeschlossen _____
 Schock _____ ausgeschlossen _____
 Systolischer Blutdruck _____ gering _____

2. Klinische Symptome des Ausfalls der Hirnfunktion

2.1 Koma _____
 2.2 Pupillen weit / mittelweit _____
 Lichtreflex beidseits _____ fehlt _____
 2.3 Okulo-zephaler Reflex (Puppekopf-Phänomen) beidseits fehlt _____
 2.4 Kernokulärreflex beidseits _____ fehlt _____
 2.5 Trigeminus-Schmerz-Reaktion beidseits _____ fehlt _____
 2.6 Pharynxreflex / Trachealreflex _____ fehlt _____
 2.7 Apnoe-Test bei an p_{CO₂} _____ gering _____ erfüllt _____

3. Irreversibilitätsnachweis durch 3.1 oder 3.2

3.1 Beobachtungszeit:
 Zum Zeitpunkt der hier protokollierten Untersuchungen bestehen die oben genannten Symptome seit _____ Std.
 Weitere Beobachtung ist erforderlich _____ ja _____ nein _____
 mind. 12 / 24 / 72 Stunden

3.2 Ergänzende Untersuchungen

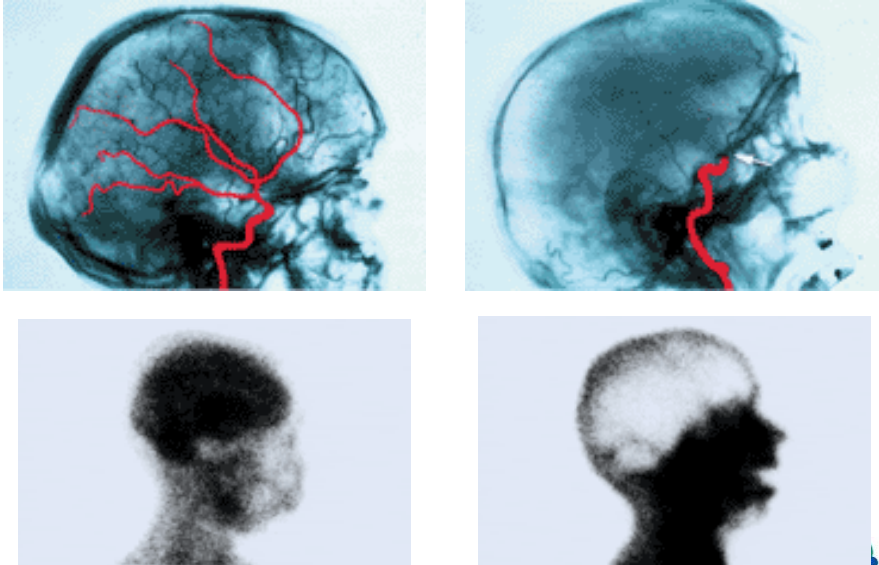
3.2.1 Isoplethrisches (Null-Linien-) EEG
 30 Min. abgeleitet _____ ist _____ nicht _____
 3.2.2 Cerebriale Angiographie
 3.2.3 Perfusionsszintigraphie
 3.2.4 Zerebrale Angiographie

festgestellt durch _____
 Untersucher Arzt _____

Bei den Befunden der Protokollbögen Nr. _____ wird
 Hirntod festgestellt am _____ um _____ Uhr
 Untersucher Arzt _____ Unterschrift _____



Brain death – No cerebral perfusion



Declaration of death

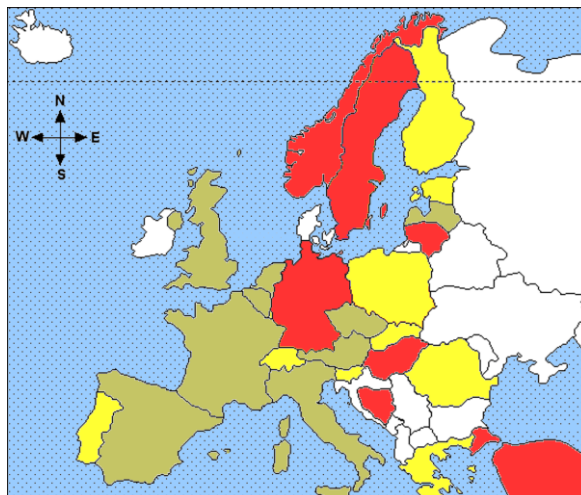
“Brain death”

- Death declared on the basis of neurologic criteria
- Irreversible loss of all functions of the entire brain, including the brain stem

“Circulatory death”

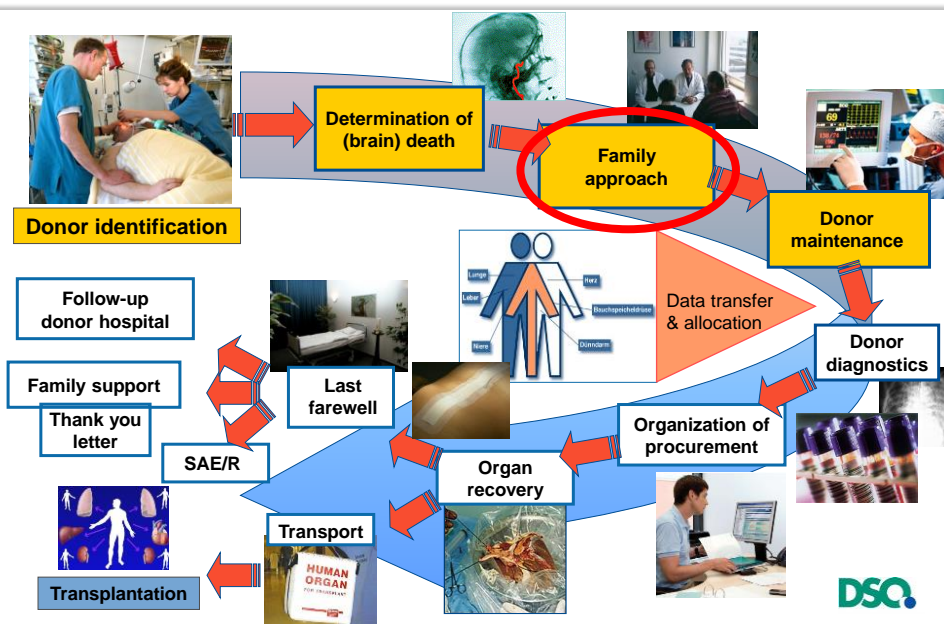
- Death declared on the basis of cardiopulmonary criteria
- Permanent cessation of circulatory and respiratory function

Donation after cardiac/circulatory death (non heartbeating donation) in Europe



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The organ donation process



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Approaching the family

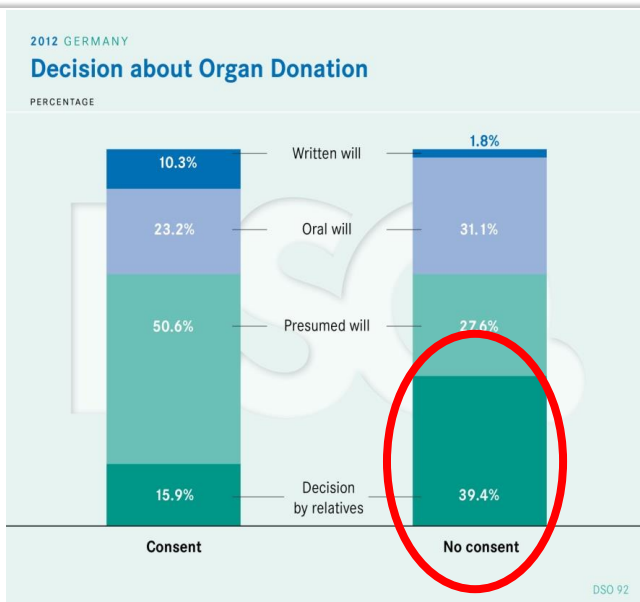
At a sensitive and appropriate time, a member of the medical team together with the transplant coordinator meets with the family.

After offering condolences, the conversation begins with whether their loved one has made the decision to donate.



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Next of kin



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Written wish to donate

Organspendeausweis nach § 2 des Transplantationsgesetzes		Erklärung zur Organ- und Gewebespende
 		
Name, Vorname	Geburtsdatum	Für den Fall, dass nach meinem Tod eine Spende von Organen/Geweben zur Transplantation in Frage kommt, erkläre ich: <input type="radio"/> JA, ich gestatte, dass nach der ärztlichen Feststellung meines Todes meinem Körper Organe und Gewebe entnommen werden. oder <input type="radio"/> JA, ich gestatte dies, mit Ausnahme folgender Organe/Gewebe: _____ oder <input type="radio"/> JA, ich gestatte dies, jedoch nur für folgende Organe/Gewebe: _____ oder <input type="radio"/> NEIN, ich widerspreche einer Entnahme von Organen oder Geweben. oder <input type="radio"/> Über JA oder NEIN soll dann folgende Person entscheiden : _____
Straße	PLZ, Wohnort	
Name, Vorname	Telefon	
Straße	PLZ, Wohnort	
Antwort auf Ihre persönlichen Fragen erhalten Sie beim Infotelefon Organspende unter der gebührenfreien Rufnummer 0800 / 90 40 400 .		Platz für Anmerkungen/Besondere Hinweise DATUM _____ UNTERSCHRIFT _____

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Organ donation and transplantation

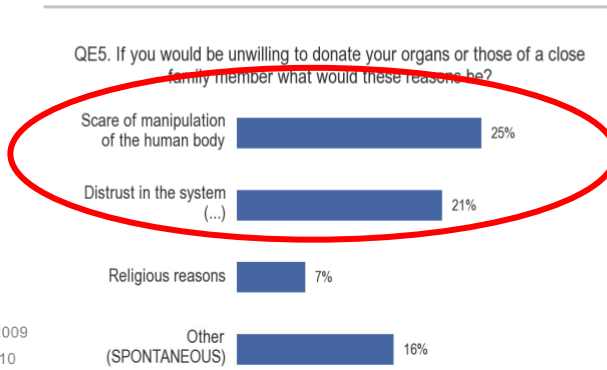
Fieldwork: October 2009

Publication: June 2010

DSQ.

5. REASONS FOR NOT DONATING ORGANS

- Distrust of the system and fear of manipulation of the human body are the dominant reasons for not donating one's own organs or those of a deceased close family member -



Fieldwork: October 2009
Publication: June 2010

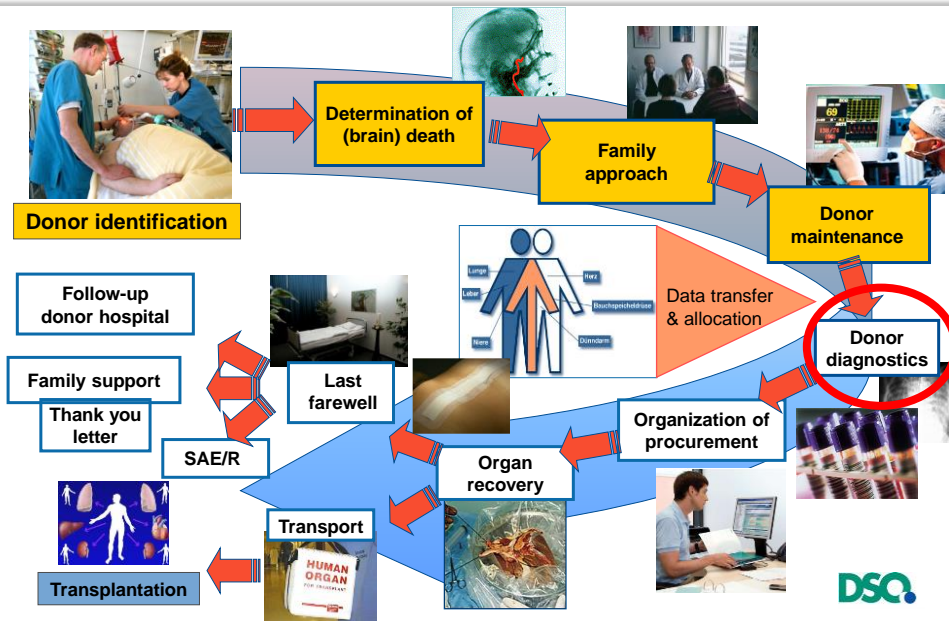


QE5 If you would be unwilling to donate your organs or those of a close family member what would these reasons be?
EU27 + Top ten countries for each item

Scare of manipulation of the human body		Distrust in the system (this could include the transplantation system, consent system or in general the society system)		Religious reasons		Don't know	
EU27	25%	EU27	21%	EU27	7%	EU27	31%
CZ	45%	EL	45%	RO	17%	MT	76%
PL	36%	CZ	33%	AT	15%	IE	64%
LV	35%	SK	31%	SK	11%	FI	53%
SK	33%	IT	30%	IT	10%	EE	52%
CY	33%	PT	28%	EL	10%	RO	48%
AT	32%	DE	26%	PT	9%	BG	48%
EL	31%	LV	26%	CY	9%	DK	37%
IT	29%	BG	26%	LT	9%	UK	37%
BE	29%	AT	24%	HU	8%	PT	37%
LT	27%	HU	24%	EE	7%	SE	36%



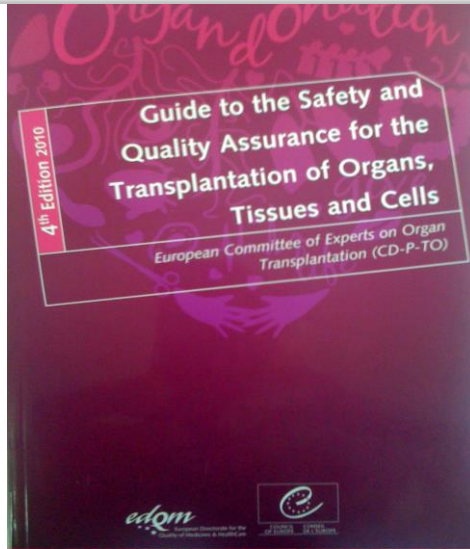
The organ donation process



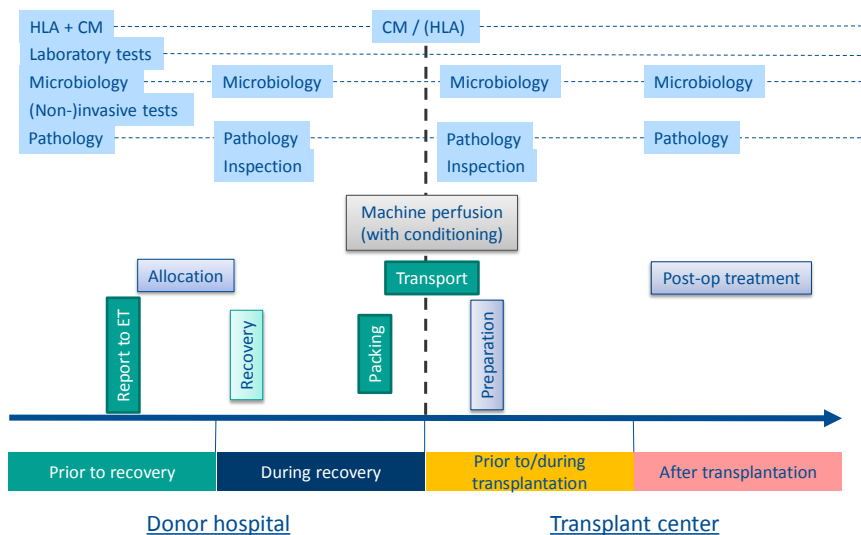
DSQ isys Standardized medical history

<p>2 Bestanden bei Ihrem Angehörigen Vorerkrankungen/Vorgeschichten? <input type="checkbox"/> Ja <input type="checkbox"/> Nein <input type="checkbox"/> unbekannt</p> <p>Wenn ja, welche:</p> <ul style="list-style-type: none"> - Diabetes <input checked="" type="checkbox"/> Ja <input type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Bluthochdruck <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Koronare Herzkrankheit <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Infektionskrankung <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Hepatitis / Gelbsucht <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Tuberkulose <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Geschlechtskrankungen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Andere Infektionskrankungen wie z.B. Malaria <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Erkrankungen des Nervensystems / neurologische oder psychische Erkrankungen <input type="checkbox"/> Ja <input type="checkbox"/> Nein <input checked="" type="checkbox"/> unbekannt - Autoimmunerkrankungen <input checked="" type="checkbox"/> Ja <input type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Blutkrankheiten / Blutgerinnungsstörungen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Erkrankungen, deren Ursache unbekannt ist <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Vomeroperationen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Wenn ja, welche? <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>A</td><td>B</td></tr> <tr><td>C</td><td>D</td></tr> <tr><td>E</td><td>F</td></tr> </table> <input type="text"/> - Lokalisation der Narben <table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td>A</td><td>B</td></tr> <tr><td>C</td><td>D</td></tr> <tr><td>E</td><td>F</td></tr> </table> <input type="text"/> 	A	B	C	D	E	F	A	B	C	D	E	F	<p>3 Wurde bei Ihrem Angehörigen jemals ein bösartiges Tumorkleid festgestellt? <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt</p> <p>Wenn ja, welches:</p> <ul style="list-style-type: none"> - Mamma oder Brusttumor <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Melanom oder Hauttumor <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Darmtumor <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Prostatakarzinom <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - gynäkologischer Tumor <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - anderer Tumor <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt <p>5 Liest Ihr Angehöriger Ihres Wissens nach in den letzten Monaten an:</p> <ul style="list-style-type: none"> - Fieber/ unklaren Fieberschüben <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Nachtschweiß <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Kopfschmerzen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Herzkrankungen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Gewichtsabnahme <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Diarrhoe <input type="checkbox"/> Ja <input type="checkbox"/> Nein <input checked="" type="checkbox"/> unbekannt - Lymphknotenschwellungen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt - Dysmenorrhoe / Blutungen <input type="checkbox"/> Ja <input checked="" type="checkbox"/> Nein <input type="checkbox"/> unbekannt
A	B												
C	D												
E	F												
A	B												
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E	F												

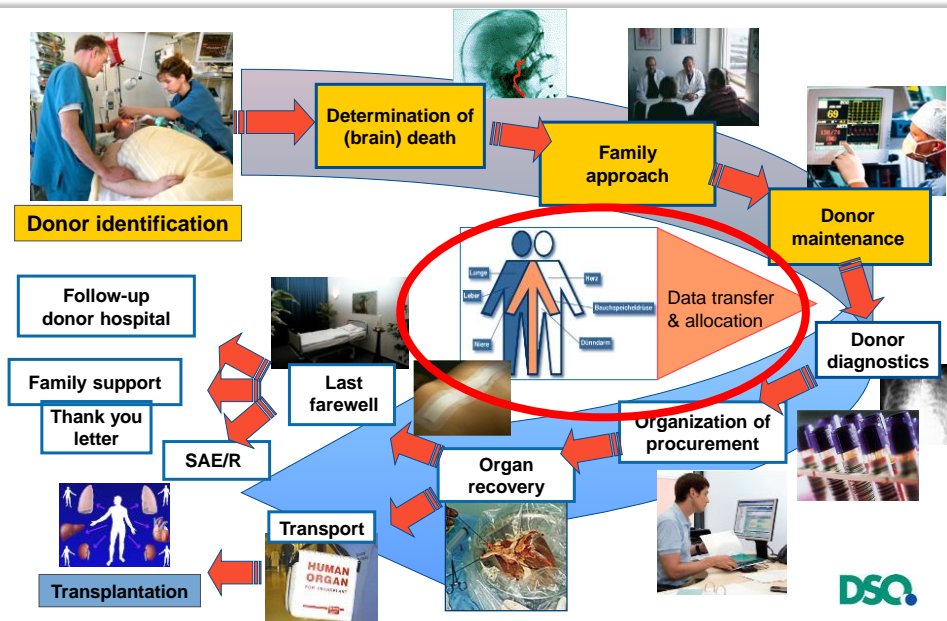




Donor and organ characterization



The organ donation process



Requirements for an organ allocation system

ET office

- **Objectivity**

- Allocation is independent of subjective factors (procurement and allocation organization, transplant center)

- **Reliability**

- With same donor information and same waiting list information an identical matchlist is generated

- **Transparency and accountability**

- Every step in the allocation process is documented and can be explained

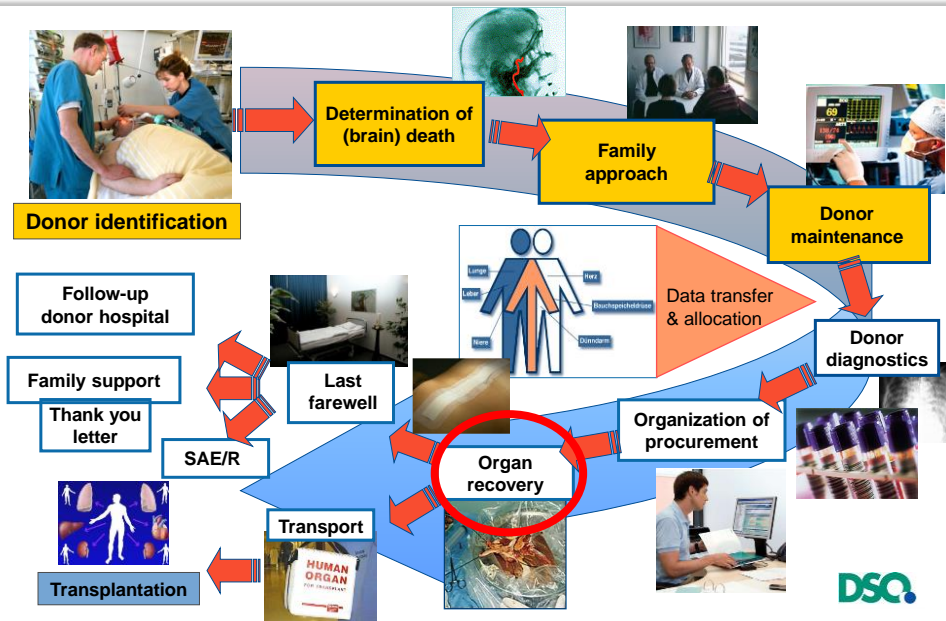
ET AC

- **Validity of allocation criteria**

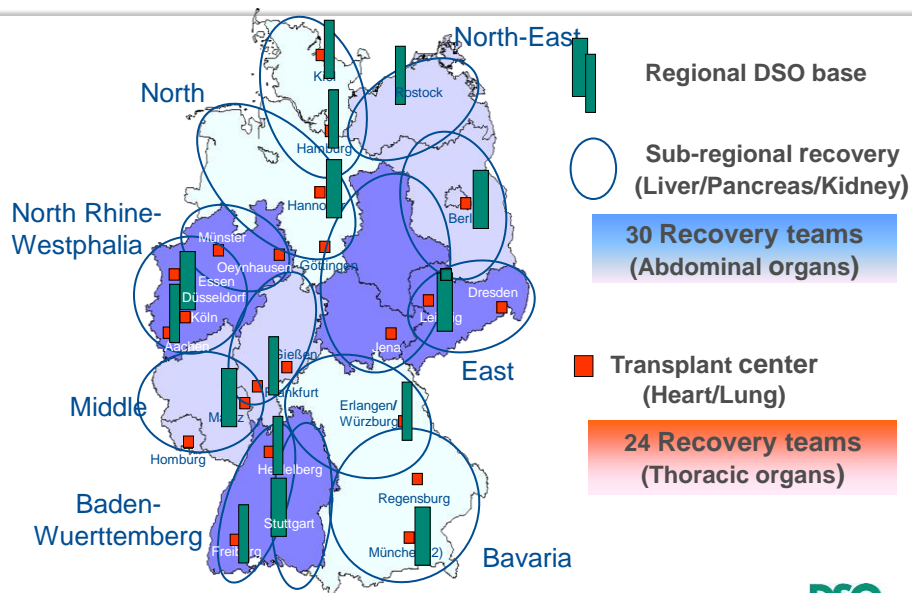
- Ethically acceptable, medically based



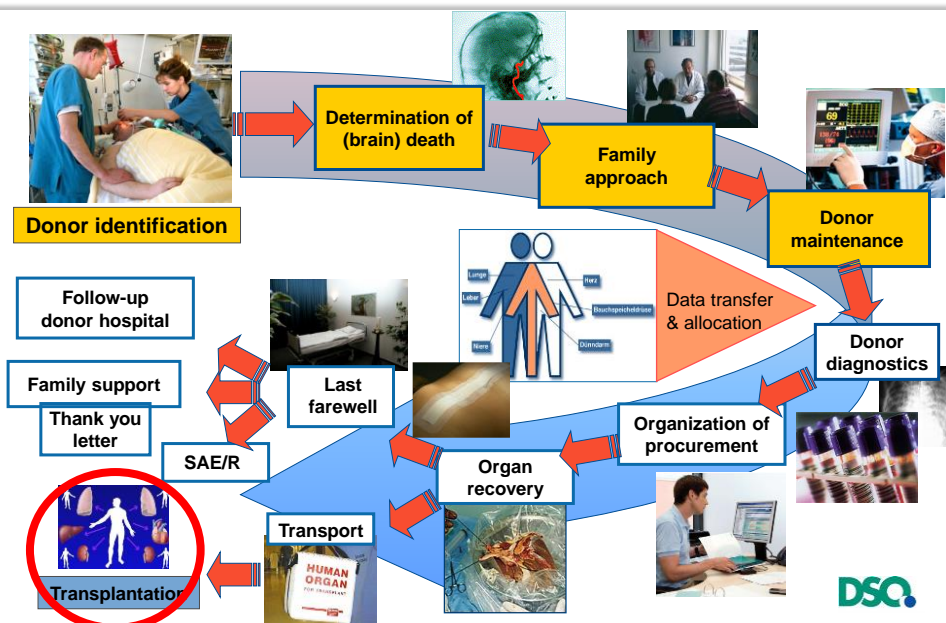
The organ donation process



Organization of organ recovery



The organ donation process



Core Tasks of an organ procurement organization

Responsibilities towards the donor (an his family)

- Respect and follow the wish of the donor



In case of an organ donor:

- Realize the wish to help patients in need beyond his own death
- Careful handling of this ultimate gift
- Respect the dignity of the donor at all times
- Support the family during donation and beyond



Core Tasks of an organ procurement organization

Responsibilities towards the recipient

Careful organ and donor characterization to

- Make selection of the best recipient possible
- Allow decision about acceptance of donor organ possible (by recipient / transplant center)

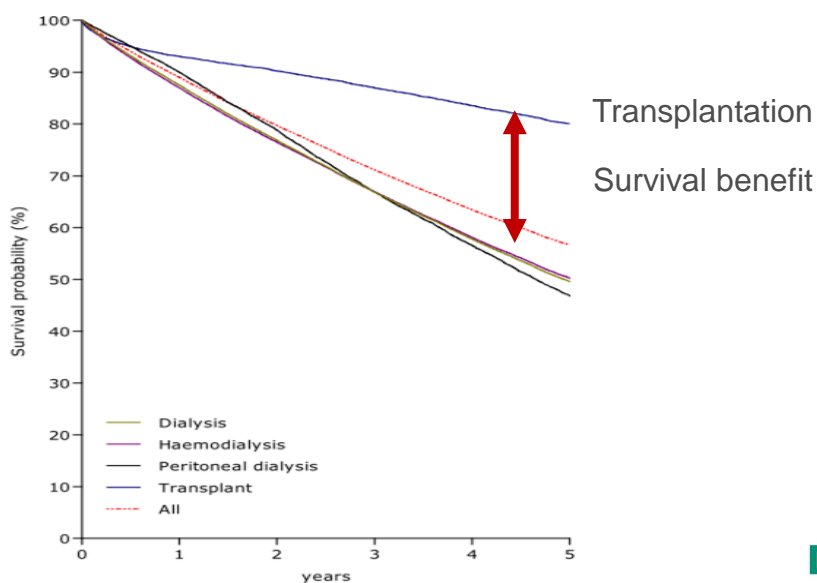
Preserve (improve) organ quality

- Careful treatment of donor and donor organs
- Care of the donor in intensive care after determination of death
- Procurement, preservation, packing and transport of the organ(s)

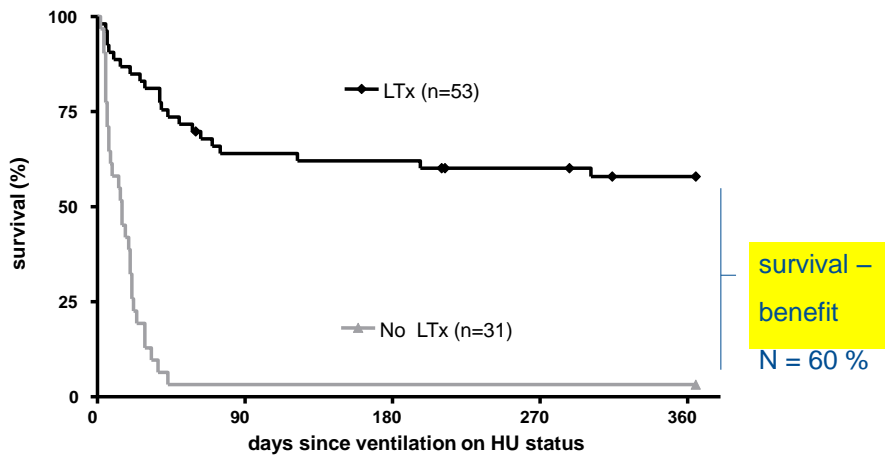


Survival benefit after kidney transplantation

ERA-EDTA-Registry – Annual report 2008



Survival benefit after lung transplantation in mechanically ventilated patients - MHH, Germany 2005-2008



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Thank you for your attention

Organ donation
A common task

www.dso.de