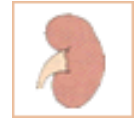




# **Eurotransplant Senior DR-compatible Program (ESDP)**

**Marieke van Rosmalen, MD  
Leiden, The Netherlands**

# Eurotransplant Senior DR-compatible Program (ESDP)



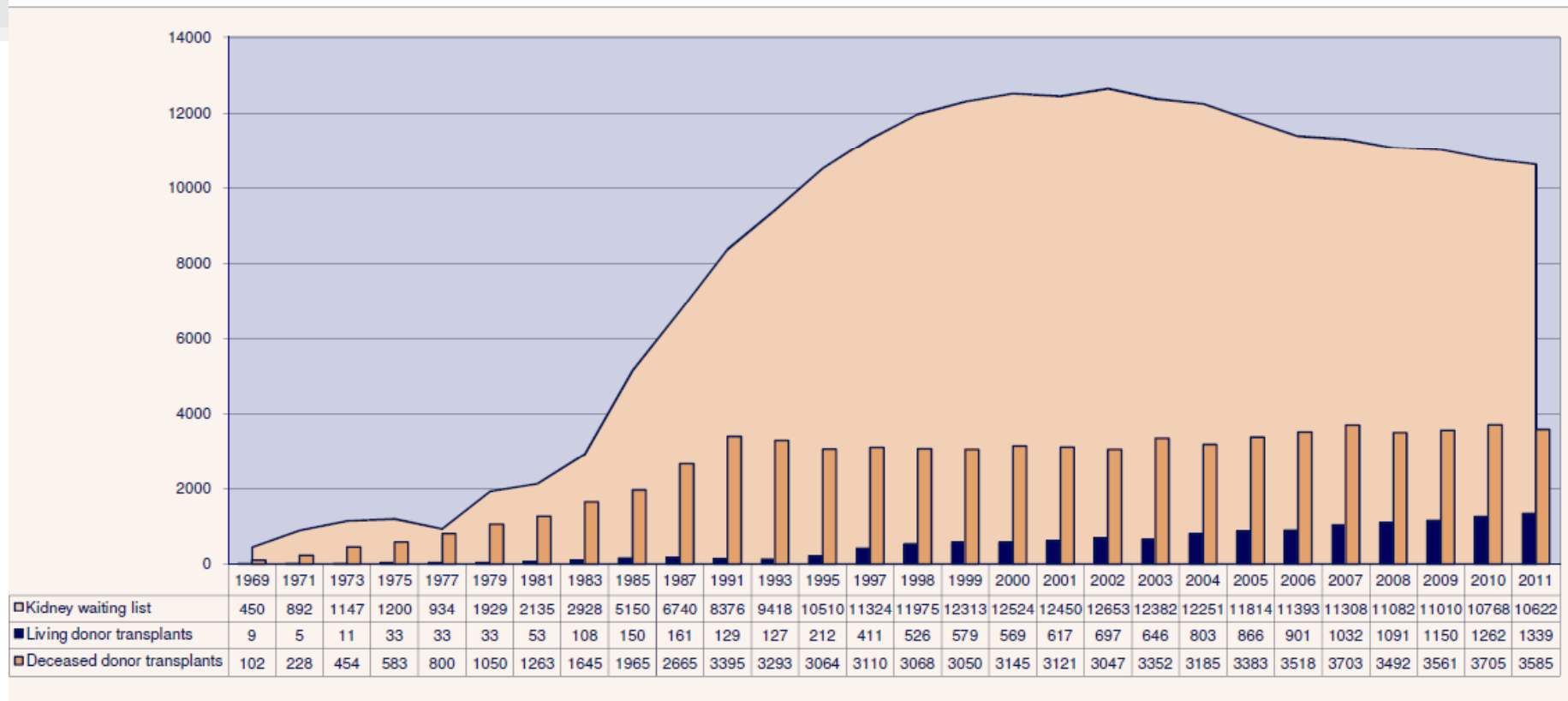
- Rationale
- Goals
- Donor characteristics
- Center inclusion
- Recipient inclusion & exclusion
- Final inclusion
- Current state: Pairs included
- Enhancing inclusion



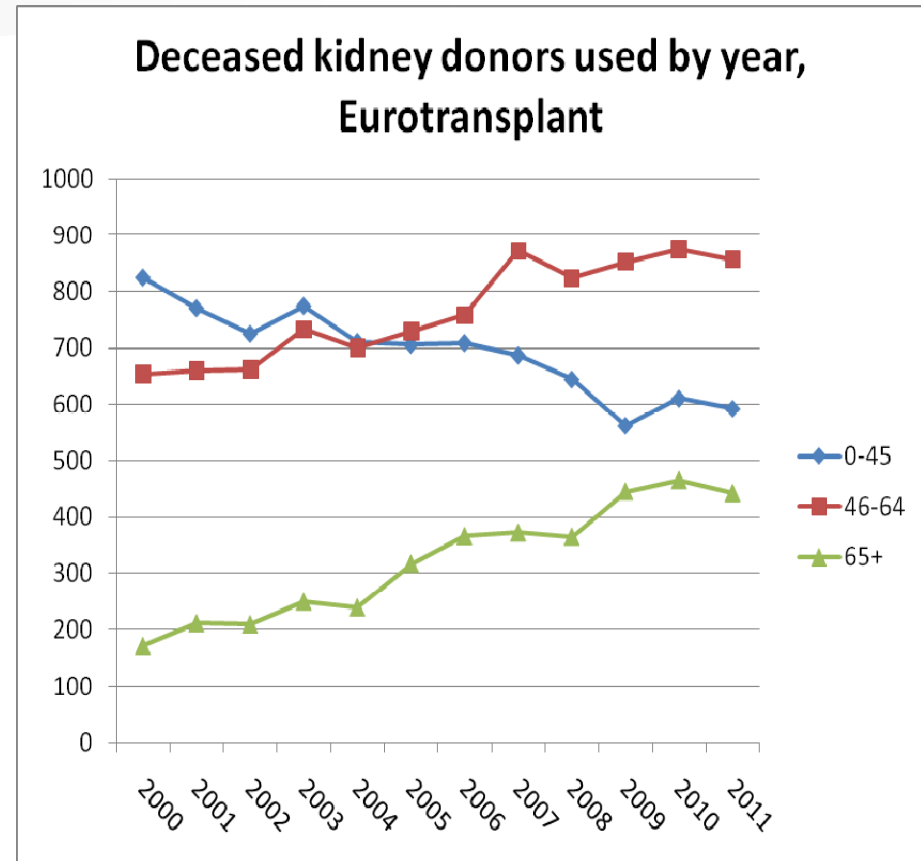
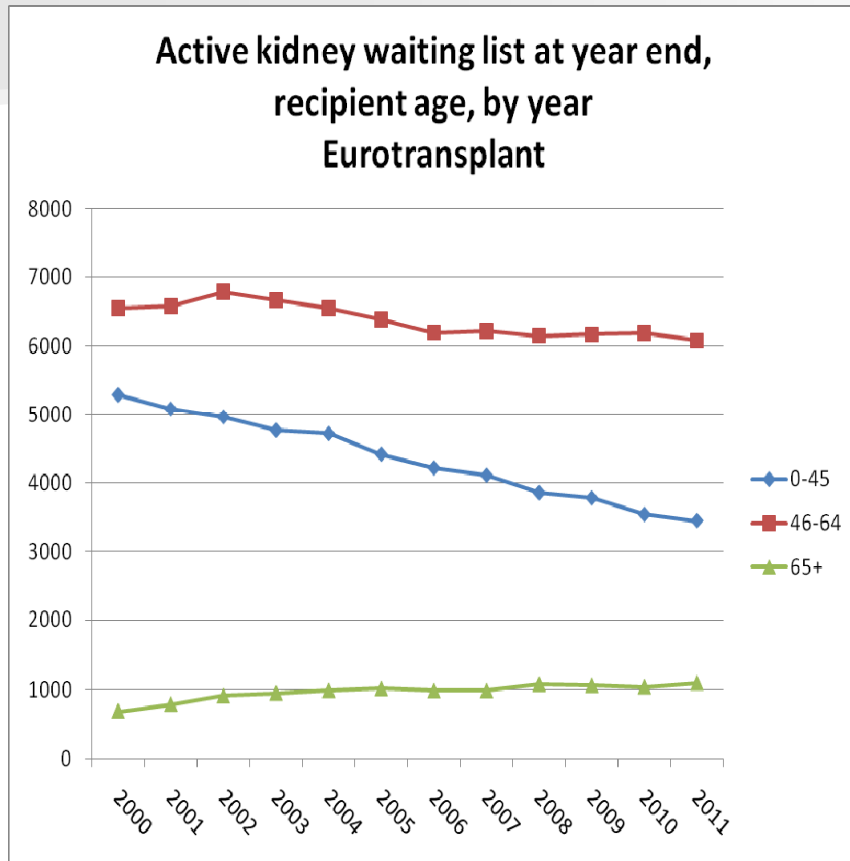
# Eurotransplant waiting list dynamics



5 Dynamics of the Eurotransplant kidney transplant waiting list and transplants between 1969 and 2011



# Recipients and donors according to age



# ESP 5-year analysis



	ESP n=1406	Any-to-Old n=1687
Recipient age	67.7	63.6
Donor age	<b>70.2</b>	45.1
HLA DR $\geq$ 1 MM	<b>92.9</b>	54.9
CIT	<b>11.9</b>	17.5
DGF	29.7	30.9
ARE	<b>29.1</b>	20.1
Induction IL-2RB/p-Ab (%)	<b>55.7</b>	34.6
GS at 5 yr	47	D $\geq$ 60y: 53 D<60y: <b>67</b>
PS at 5 yr	<b>60</b>	74

<i>Acute rejection (Cox model)</i>	ESP vs O/A	ESP vs A/O
<b>DGF</b>	<b>1.52</b>	<b>1.57</b>
<b>HLA class II (per mm)</b>	<b>1.22</b>	<b>1.27</b>



# “Old-for-old kidney allocation”

## Goals revised?



- Older recipients are more likely to die from infectious disease causes (30% within ESP)
- Kidneys from *old donors* are:
  - more vulnerable to delayed graft function
  - more likely to reject
  - more vulnerable to CNI-related nephrotoxicity
  - more likely to mount an inadequate repair response following injury



# Risk of early Acute Rejection

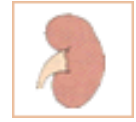
## No Induction therapy (multivariate)



	<i>RR (95%-CI)</i>	<i>p-value</i>
<b>Delayed Function</b>	1.24 (0.96-1.61)	0.10
<b>Recipient Age (&lt; 50 yr)</b>	<b>1.34</b> (1.05-1.72)	< 0.05
<b>Donor Age (≥ 50 yr)</b>	<b>1.53</b> (1.19-1.98)	< 0.005
<b>HLA-DR mismatch (≥ 1)</b>	<b>2.28</b> (1.78-2.92)	< 0.00005



# Eurotransplant Senior DR-compatible Program (ESDP)



- HLA-DR compatible kidney transplantation in recipients  $\geq 65$  years from donors  $\geq 65$  years leads to a lower incidence of (biopsy confirmed) acute rejections post-transplantation





# Goals



- Reduce Acute Rejection (treatment)
- Reduce Infectious morbidity/mortality
- Continue to keep Cold Ischemia Time (CIT) as short as possible
- HLA-DR matching:  
May further improve the important perspective that marginal donor kidney transplants result in substantial improvement in survival and QoL



# ESP/ESDP Donor characteristics



ESP	ESDP
All donors $\geq 65$ yrs old	$\geq 65$ yrs old, HB only, both kidneys reported
	HLA-typing must be known (within 4 h after explantation)
Local/regional allocation	Local/regional/national allocation
One match for both KI Recipient oriented	Two match lists: First: Standard ESP match (only regional centers) Second: ESP matchlist of all centers in a country, filtered on 0-DR Offer of KI to first recipient on each of the lists
Right to choose R or L KI to highest ranked	Randomization of the right to choose R or L KI
	CHR and SLO donors not included



# Center Inclusion



- Official center participation
  - Contract
  - Initiation
  - Ethic committee informed/consent

- Patient consent

## Enclosure 1 Participation Form

Eurotransplant International Foundation  
Medical Administration & Allocation  
P.O. Box 2304  
2301 CH Leiden, The Netherlands  
Tel: +31 71 5795 700  
ESDP@eurotransplant.org  
Fax: 0031 71 5790 057



## PARTICIPATION FORM

To: ESDP coordinator at Eurotransplant  
Subject: Center participation declaration for ESDP-study  
Number of pages: 2

Dear colleague,

With this reply letter you, as head or delegate of the kidney program, can enroll your center into the ESDP-study.

In addition, you have to authorize someone at your center to be the ESDP-contact person for Eurotransplant. This person will be responsible for all ESDP matters at your center.

This implies:

- receiving automatic e-mail notifications on your patients' participation in the study
- responsible for correct entry of transplant registration data, patient's consent for participation in the study and follow-up

This contact person needs to have an ET Member site account in order to access ENIS and the ESDP follow-up application. With this form, you can authorize Eurotransplant to make a Member site account for the contact person filled in below:

1. If the contact person already has an ET Member site account and also would like to have access to the ESDP follow-up application, please fill in:

Name, first name: \_\_\_\_\_  
Department: \_\_\_\_\_  
Office phone number: \_\_\_\_\_  
Account name ENIS: \_\_\_\_\_

E-mail address: \_\_\_\_\_

2. If the contact person does not have an ET Member site account yet, please authorize Eurotransplant to create an account for this person in order to obtain access to ENIS and the ESDP follow-up application. Please fill in:

Name, first name: \_\_\_\_\_  
Department: \_\_\_\_\_  
Office Phone number: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

You can authorize more than one person to be responsible for ESDP Study. If this is the case, please e-mail to [ESDP@eurotransplant.org](mailto:ESDP@eurotransplant.org) all the above requested data including all persons you wish to receive e-mail notifications for and have access to follow-up application.

To be filled in by the head or delegate of the kidney program:

I, \_\_\_\_\_ (name), head or delegate of the kidney program of center \_\_\_\_\_ TP, give my consent for my centers participation in the ESDP-study.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**Please send this form back to Eurotransplant as soon as possible**

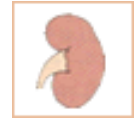
If you have any questions, please send an e-mail to: [ESDP@eurotransplant.org](mailto:ESDP@eurotransplant.org)

Contact persons for ESDP study issues are:

Ms. Marieke van Meel, BA: +31 71 5795 802

# Recipient inclusion and exclusion

## Medical



- Inclusion
  - Recipient age  $\geq 65$  years, on the waiting list with an active urgency (kidney only)
  - First kidney registration
  - No (historical) immunization (PRA  $\leq 5\%$ )
  - Negative crossmatches
  - Patient treated with immunosuppressive therapy (induction + MMF + Tac) according to center standards
- Exclusion
  - Unacceptable antigens
  - Systemic infections
  - HIV, HBsAg or HCV positivity
  - History of malignancy within 5 years
  - Poor compliance or limitation to take the IS agents



# Recipient inclusion Formal



- Center participation
- Patient consent to collect extended follow up data





# Match

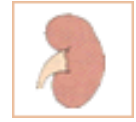
## **MATCH in 2 parts:**

- Offering of each kidney to first one on the two match lists
- Randomization: right to choose L or R kidney

<b>All recipient list HLA (DR mismatch)</b>	<b>0-DR filtered list HLA (0-DR mismatch)</b>
1. ET 2-DR	2. ET 0-DR
2. ET 0-DR	4. ET 0-DR
3. ET 1-DR	.
4. ET 0-DR	.
	.



## Final inclusion



- One kidney allocated to a ESP recipient, one kidney allocated to a 0-DR mismatch recipient
- Standard allocation (rescue excluded)
- Recipients fulfill the Medical and formal criteria



# Transplant registration



Eurotransplant ENIS beta1 - Microsoft Internet Explorer provided by ET/BIS/NTS

Action Edit New Select Recipient Donor TXP Center Reports Match Window Help

Transplant Registration (Module: TXP\_78\_1)

Date of Transplant 08.09.2012 > \*Transplant Registration Center >

Time of Transplant 12:00 > \*Transplant At Center >

\*Recipient number > Name HUVUFLUYK, ECKHAR \*Follow-up Center >

\*Donor number > Donor registration center GNMOR >

Organ: Transplant number: Urgency at txp: Waiting since:

LKi \*ESDP patient consent

RKi

Pa

He

LLu

RLu

WLiv

LLS Liv

ERL Liv

LL Liv

RL Liv

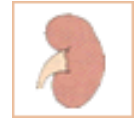
Inclusion mail is sent after both recipients are registered in ENIS with consent

Save





# Role Eurotransplant



Allocation  
Data collection



# Follow-up



- Follow-up screens
- Reminders, payments, extracts





## Follow-up application

- When a recipient is enrolled into the study, follow-up data have to be entered into the Eurotransplant web application
- Follow-up moments:
  - Two weeks after txp (Data from day 1 to 14)
  - 3 months after txp
  - 6 months after txp
  - Yearly for 5 years after txp





# Follow-up: work list



EUROTRANSPLANT



Work List

Day 1 - Day 14

3 Months

6 Months

1 Year

2 Years

3 Years

4 Years

5 Years

End

Extracts

Completeness

Payments

## Work List

ET Nr.  Txp Date Between  And

Name  Transplant Center

Txp nr  Follow-up Center

Donor  Date Due Between  And

Show ...

Previous 1-10 of 100 Next 10

ET Nr.	Name	First Name	Txp nr	Donor	Txp Date	Graft	Transplant Center	Follow-up Center	Follow-up Moment	Date Due	Completeness (in %)	Reimbursement
220554	JUMPRIMPK	ALFRED	190571	128574	09-09-2009	LKi	GBCTP	GBCTP	M6	09-03-2010	2	End Follow-up (when deceased)
275876	SUMHU	EDELTRAUD	190560	128574	09-09-2009	RKi	GBCTP	GBCTP	M6	09-03-2010	0	End Follow-up (when deceased)
164443	TEQLOKH	STEFAN	152121	103608	15-02-2005	RKi	AWGTP	AWGTP	Y5	15-02-2010	0	End Follow-up (when deceased)
050287	BULNOKHY	HEINZ	152120	103608	15-02-2005	LKi	AWGTP	AWGTP	Y5	15-02-2010	0	End Follow-up (when deceased)
269543	VLAUMUL	MARVIN	191316	129097	11-10-2009	LKi	GHBTp	GHBTp	M3	11-01-2010	0	End Follow-up (when deceased)
259921	UXTULK	FELIX	191317	129097	11-10-2009	RKi	GHBTp	GHBTp	M3	11-01-2010	2	End Follow-up (when deceased)
277898	PINDBUL	THOMAS	188494	127283	09-06-2009	RKi	AWGTP	AWGTP	M6	09-12-2009	0	End Follow-up (when deceased)
220554	JUMPRIMPK	ALFRED	190571	128574	09-09-2009	LKi	GBCTP	GBCTP	M3	09-12-2009	0	End Follow-up (when deceased)
277143	UXTUL	MICHAEL	188495	127283	09-06-2009	LKi	AWGTP	AWGTP	M6	09-12-2009	0	End Follow-up (when deceased)
275876	SUMHU	EDELTRAUD	190560	128574	09-09-2009	RKi	GBCTP	GBCTP	M3	09-12-2009	0	End Follow-up (when deceased)

Previous 1-10 of 100 Next 10

[Work List](#) | [Day 1 - Day 14](#) | [3 Months](#) | [6 Months](#) | [1 Year](#) | [2 Years](#) | [3 Years](#) | [4 Years](#) | [5 Years](#) | [End](#) | [Extracts](#) | [Completeness](#) | [Payments](#) | [Print](#) | [Logout](#)





# List of all completed follow-ups



EUROTRANSPLANT



Print Logout

Work List | Day 1 - Day 14 | 3 Months | 6 Months | 1 Year | 2 Years | 3 Years | 4 Years | 5 Years | End | Extracts | Completeness | Payments

## Work List

ET Nr.  Txp Date Between  And

Name  Transplant Center

Txp nr  Follow-up Center

Donor  Date Due Between  And

Show ...

ET Nr.	Name	First Name	Txp nr	Donor	Txp Date	Graft	Transplant Center	Follow-up Center	Follow-up Moment	Date Due	Completeness (in %)	Reimbursement
<a href="#">050287</a>	BULNOKHY HEINZ	HEINZ	152120	103608	15-02-2005	LKi	AWGTP	AWGTP	Y5	15-02-2010	100	<input type="button" value="End Follow-up (when deceased)"/>
<a href="#">050287</a>	BULNOKHY HEINZ	HEINZ	152120	103608	15-02-2005	LKi	AWGTP	AWGTP	Y4	15-02-2009	100	<input type="button" value="End Follow-up (when deceased)"/>
<a href="#">050287</a>	BULNOKHY HEINZ	HEINZ	152120	103608	15-02-2005	LKi	AWGTP	AWGTP	Y1	15-02-2006	100	<input type="button" value="End Follow-up (when deceased)"/>

[Work List](#) | [Day 1 - Day 14](#) | [3 Months](#) | [6 Months](#) | [1 Year](#) | [2 Years](#) | [3 Years](#) | [4 Years](#) | [5 Years](#) | [End](#) | [Extracts](#) | [Completeness](#) | [Payments](#) | [Print](#) | [Logout](#)



# Day 1 until day 14 follow-up



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Work List Day 1 - Day 14 3 Months 6 Months 1 Year 2 Years 3 Years 4 Years 5 Years End Extracts Completeness Payments

Day 1 - Day 14 | Acute Rejections | Adverse Events

Edit Day 1 - Day 14 Follow-up Recipient BULNOKHY

Acute Rejections Adverse Events Save

Id

REtrn 050287 Prim.diagnosis XGlomerulonephritis - histologically not examined  
 Name BULNOKHY AB0 A  
 Center AWGTP Urgency at Transplant T - Transplantable (allo-PRA% 0 - 5)  
 Date of Birth 02-07-1952 Transplant Date 15-02-2005  
 Sex M

### Follow-up

* Total Anastomosis Time (min.)	<input type="text" value="1"/>	* Has Graft Been Removed?	<input type="text" value="No"/>
* Cold Ischemia Period Hours	<input type="text" value="1"/>	Removal Date	<input type="text"/>
* Minutes	<input type="text" value="1"/>	Date of Death	<input type="text"/>
Graft Fail Date	<input type="text"/>	Death Cause (ENIS)	<input type="text"/>
Cause of Graft Failure (ENIS)	<input type="text"/>	Death Cause (not ENIS)	<input type="text"/>
Prim. Cause of Graft Failure	<input type="text"/>		

### Serum Creatinine and Creatinine Clearance Day 1 - 14

* Serum creatinine unit	<input type="text"/>	* Serum creatinine day 10	<input type="text"/>	* Serum urea day 5	<input type="text"/>
* Serum creatinine day 1	<input type="text"/>	* Serum creatinine day 11	<input type="text"/>	* Serum urea day 6	<input type="text"/>
* Serum creatinine day 2	<input type="text"/>	* Serum creatinine day 12	<input type="text"/>	* Serum urea day 7	<input type="text"/>
* Serum creatinine day 3	<input type="text"/>	* Serum creatinine day 13	<input type="text"/>	* Serum urea day 8	<input type="text"/>
* Serum creatinine day 4	<input type="text"/>	* Serum creatinine day 14	<input type="text"/>	* Serum urea day 9	<input type="text"/>
* Serum creatinine day 5	<input type="text"/>	* Creatinine clearance day 14	<input type="text"/>	* Serum urea day 10	<input type="text"/>
* Serum creatinine day 6	<input type="text"/>	* Serum urea unit	<input type="text"/>	* Serum urea day 11	<input type="text"/>
* Serum creatinine day 7	<input type="text"/>	* Serum urea day 1	<input type="text"/>	* Serum urea day 12	<input type="text"/>
* Creatinine clearance day 7	<input type="text"/>	* Serum urea day 2	<input type="text"/>	* Serum urea day 13	<input type="text"/>
* Serum creatinine day 8	<input type="text"/>	* Serum urea day 3	<input type="text"/>	* Serum urea day 14	<input type="text"/>
* Serum creatinine day 9	<input type="text"/>	* Serum urea day 4	<input type="text"/>		



# Acute rejections



EUROTRANSPLANT

Work List | Day 1 - Day 14 | 3 Months | 6 Months | 1 Year | 2 Years | 3 Years | 4 Years | 5 Years | End | Extracts | Completeness | Payments

Day 1 - Day 14 | Acute Rejections | Adverse Events

## Enter New Acute Rejections

Save

Day 1 - Day 14 Follow-up Recipient **BULNOKHY**

\* Date Acute Rejection

\* Was a Biopsy Performed?

Date

\* Was the Acute Rejection treated with Steroids?

Date

\* Was the Acute Rejection treated with ATG?

Date

Save

[Work List](#) | [Day 1 - Day 14](#) | [3 Months](#) | [6 Months](#) | [1 Year](#) | [2 Years](#) | [3 Years](#) | [4 Years](#) | [5 Years](#) | [End](#) | [Extracts](#) | [Completeness](#) | [Payments](#) | [Print](#) | [Logout](#)





## Follow-up application

- Complete data entry (per follow-up moment) necessary in order to receive payment
- Every month, an automatic reminder with a link to the list of missing data in the web application is sent to the center by e-mail
- An overview of all study patients of a center can be accessed any time by the center including information on follow-up completeness
- All entered data (of the own center) can be extracted and downloaded by a txp center







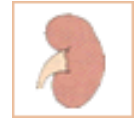
# Payment per recipient

Pay moments are after the first 6 follow-up months and then every year until year 5.

Time point nr.	Follow-up moment	Amount	Payment moment
1	0-14 days after txp	400 euro	
2	3 months	150 euro	
3	6 months	150 euro	Sum paid: 700 euro
4	1 year	150 euro	Sum paid: 150 euro
5	2 years	100 euro	Sum paid: 100 euro
6	3 years	100 euro	Sum paid: 100 euro
7	4 years	100 euro	Sum paid: 100 euro
8	5 years	100 euro	Sum paid: 100 euro
			<b><i>In total: 1250 euro</i></b>



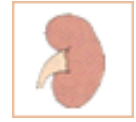
## Centers indicated to participate



- The Netherlands: 8
- Belgium: 6
- Austria: 5
- Germany: 30
- Total: 49



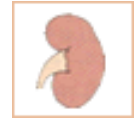
## Current state: Pairs included



- 2 Austrian pairs
- 1 Dutch pair
- 1 Belgian pair
- 1 German pair



# Reasons exclusion



- Missing center contracts
- No recipient consents
- Exclusion criteria recipient (Immunized, ReTx, no 0-DR mismatch recipient on the match list)



# Enhancing inclusion



- The more contracts are finalized the higher the chance of inclusion
- Pre transplant recipient consent  
Inform the recipient about the study pre transplant and already ask for consent (just data collection!!)





Questions?

[registry@eurotransplant.org](mailto:registry@eurotransplant.org)