

Niertransplantatie Anno 2014

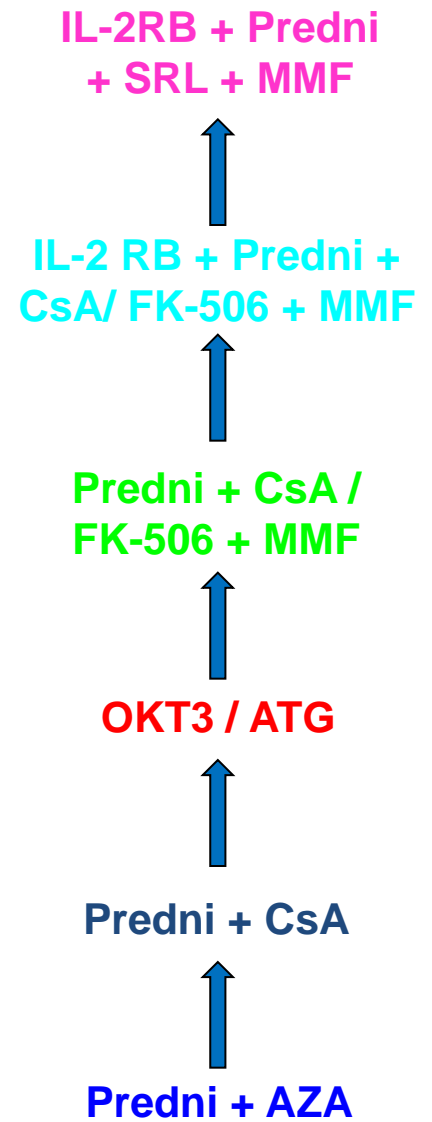
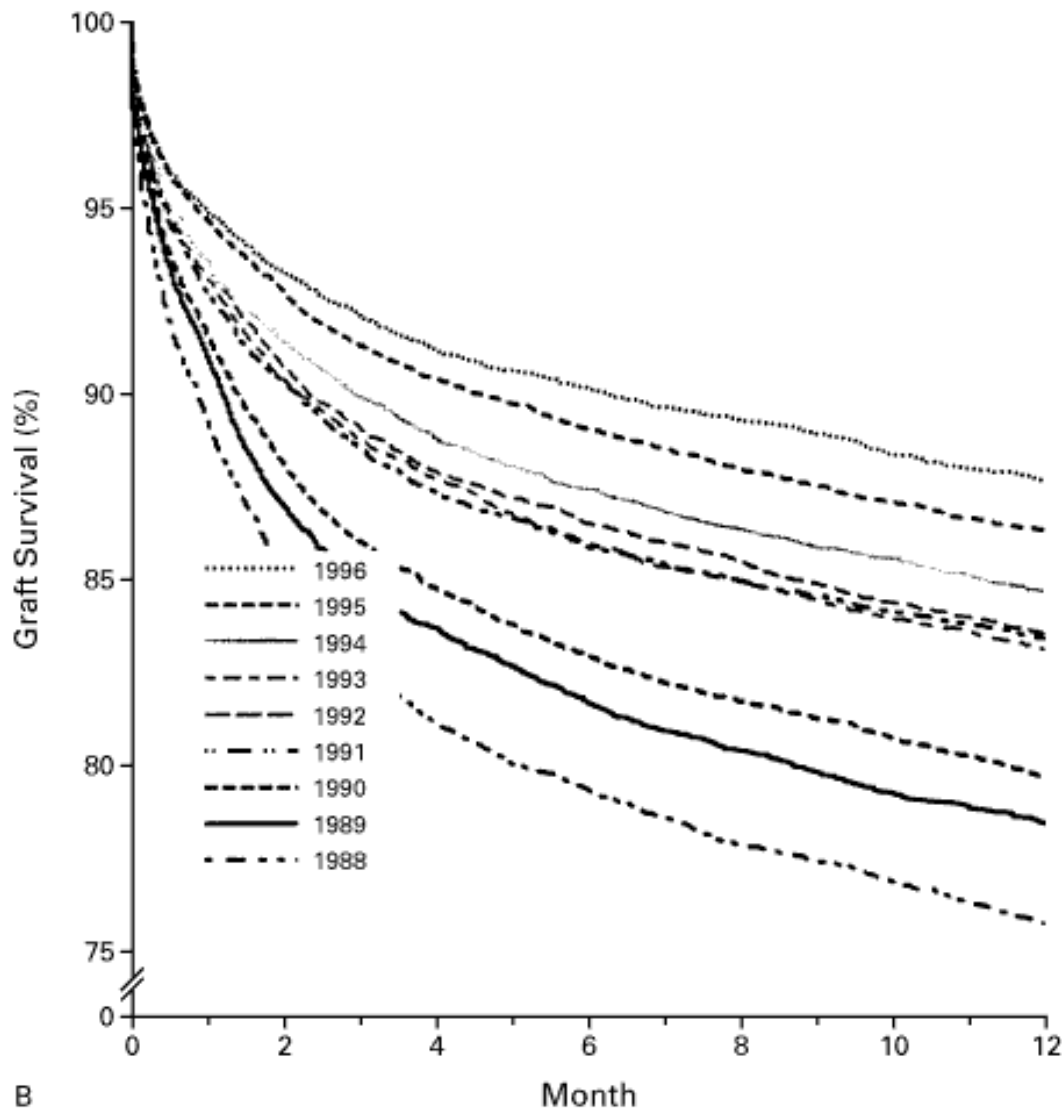
Een nieuw allocatie model

Prof. J-L. Bosmans

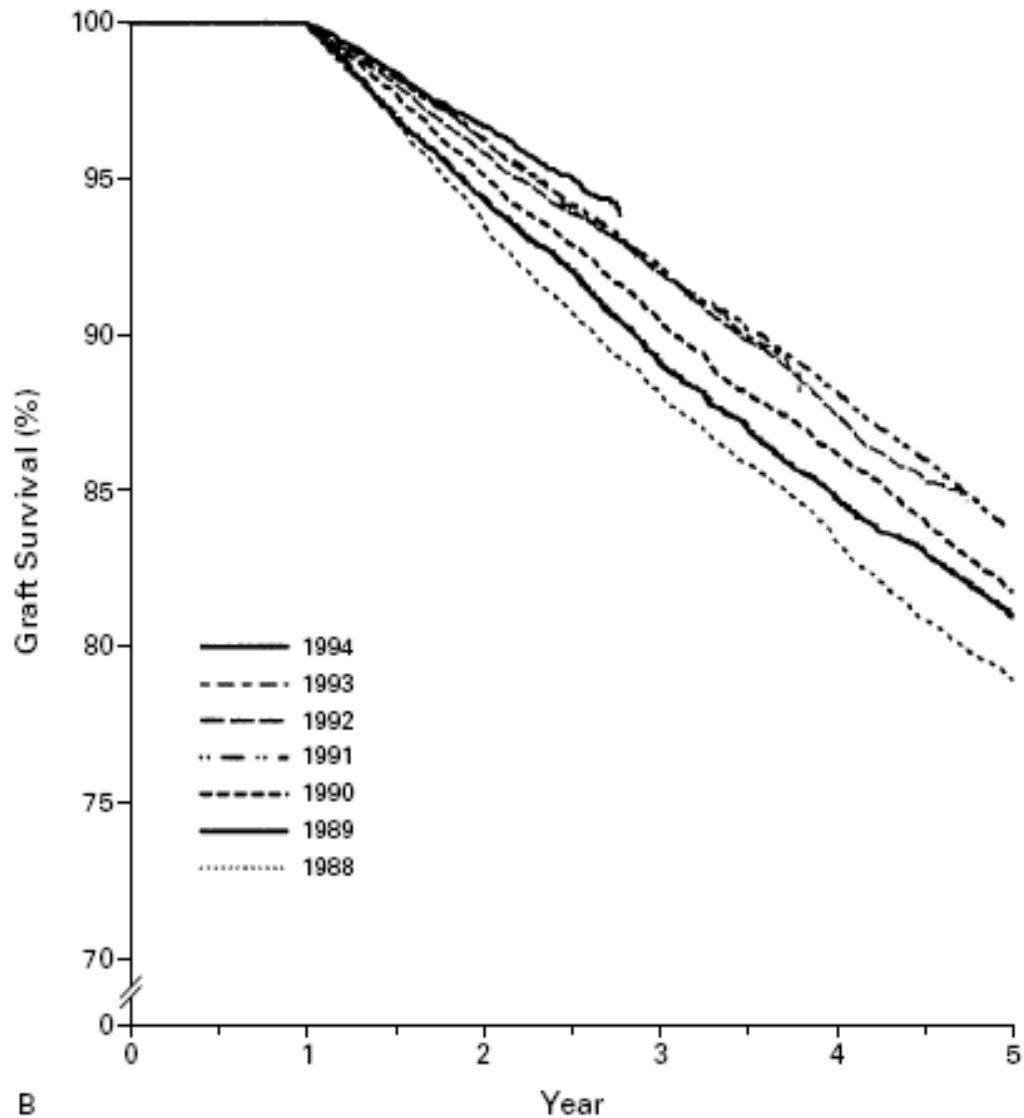
Universitair Ziekenhuis Antwerpen

Transplantatie: enkele mijlpalen

- 1954: Murray
 - 1^{ste} geslaagde niertransplantatie: Boston
- 1963: Starzl
 - 1^{ste} levertransplantatie: Pittsburg
- 1967: Barnard
 - 1^{ste} harttransplantatie: Zuid-Afrika



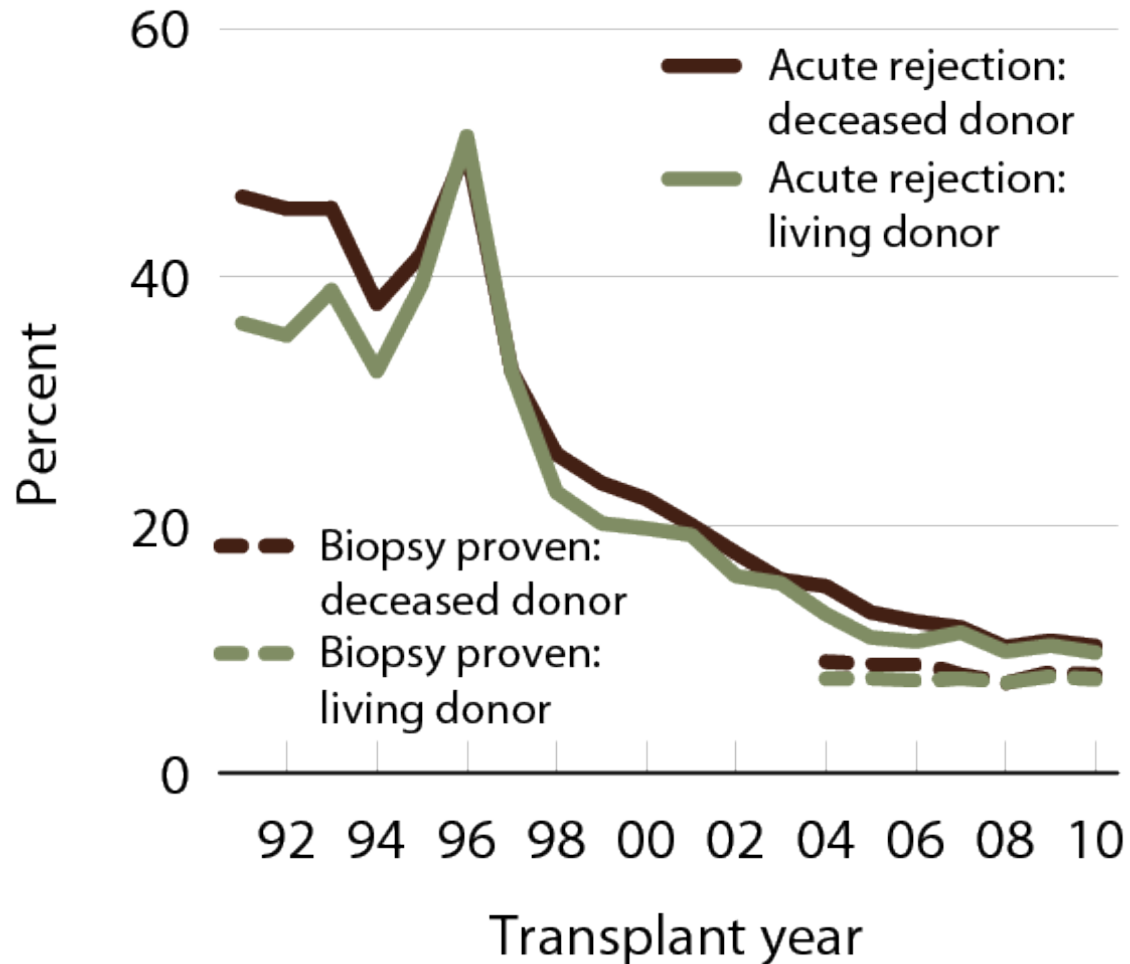
Hariharan S et al. New Engl J Med 2000; 342 : 605-12.



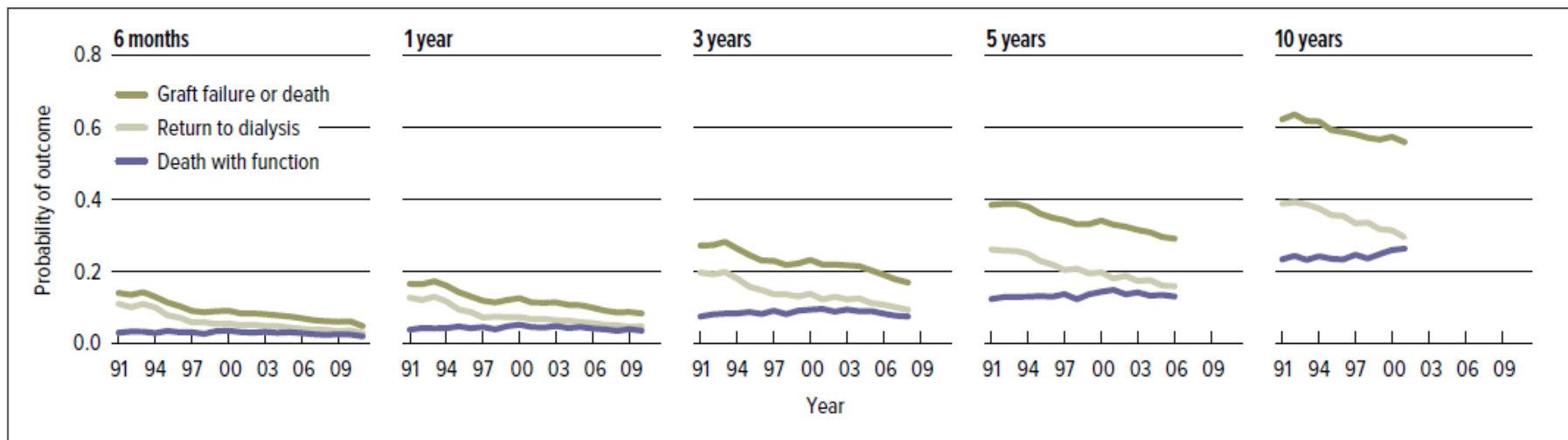
*Hariharan S et al. N Engl J Med 2000;
342:605-612*

Acute rejection tijdens het eerste jaar

United States Renal Data System 2013
Annual Data Report

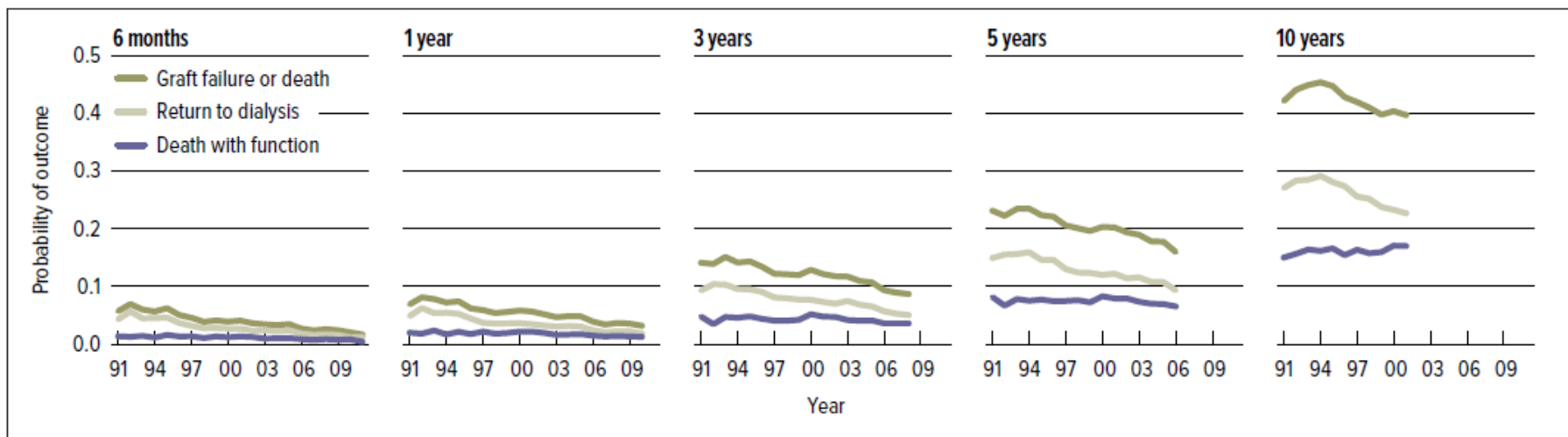


Patients age 18
& older **with a
functioning
graft at
discharge.**



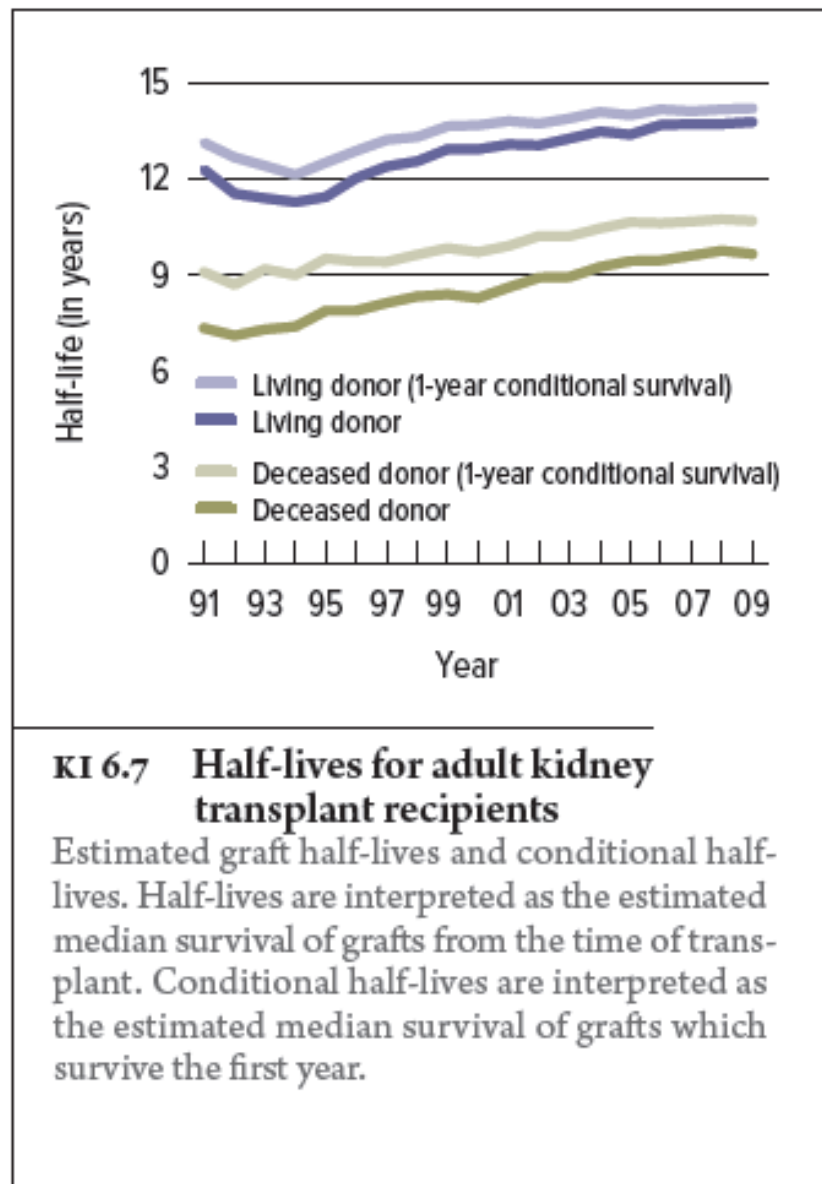
KI 6.3 Outcomes among adult kidney transplant recipients: deceased donor

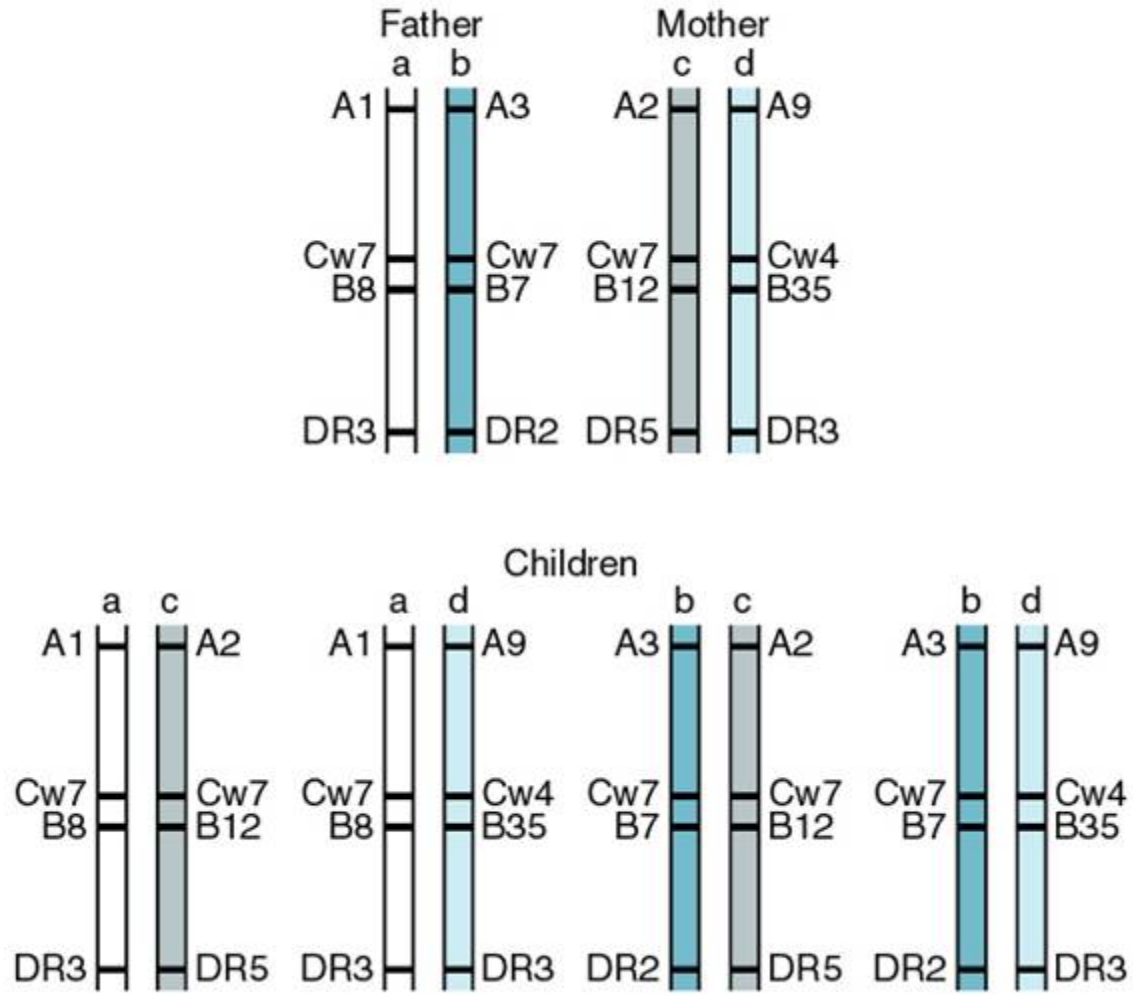
Data are reported as probability of each outcome. Probabilities are unadjusted, computed using Kaplan-Meier competing risk methods. Death with function defined as no graft failure prior to death; return to dialysis defined as graft failure preceding death.



KI 6.4 Outcomes among adult kidney transplant recipients: living donor

Data are reported as probability of each outcome. Probabilities are unadjusted, computed using Kaplan-Meier competing risk methods. Death with function defined as no graft failure prior to death; return to dialysis defined as graft failure preceding death.

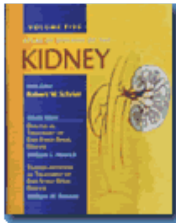




HLA SPECIFICITIES

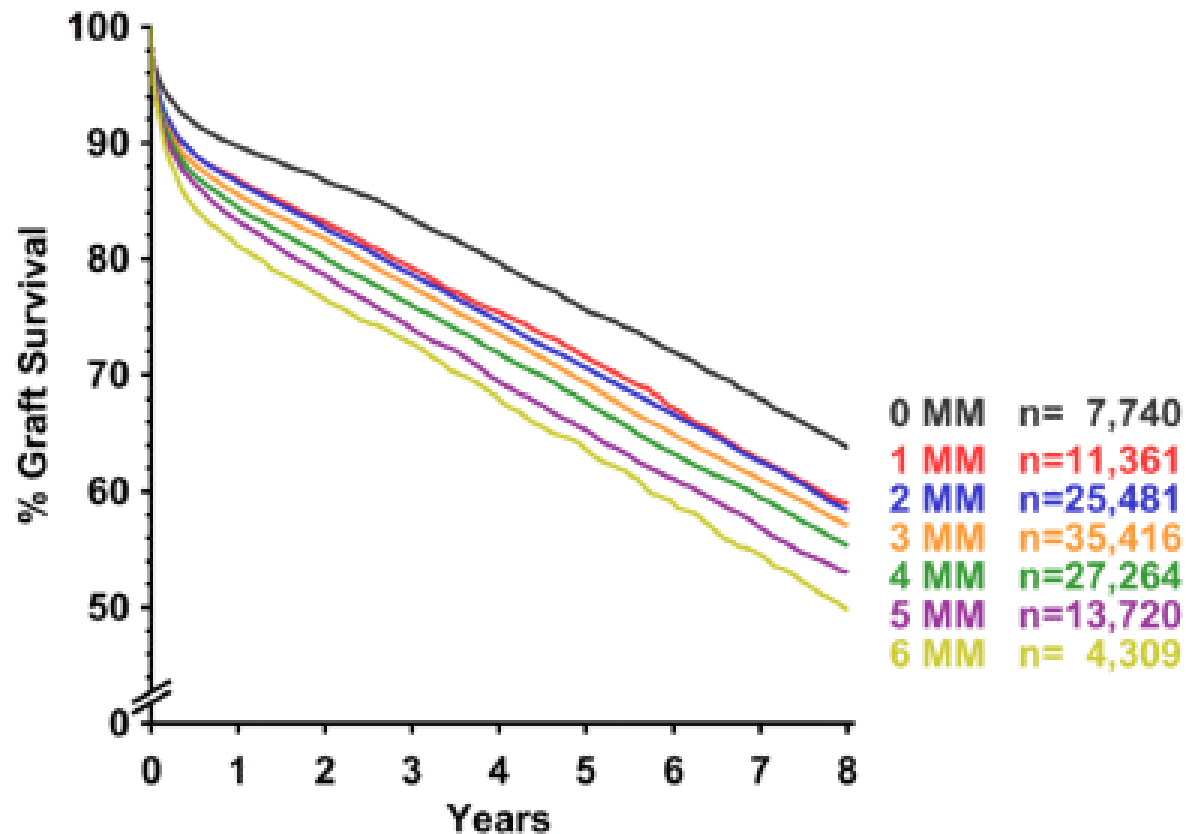
| A | B | B | C | DR | DQ | DP |
|---------|---------|---------|----------|---------|--------|------|
| A1 | B5 | B51(5) | Cw1 | DR1 | DQ1 | DPw1 |
| A2 | B7 | B5102 | Cw2 | DR103 | DQ2 | DPw2 |
| A203 | B703 | B5103 | Cw3 | DR2 | DQ3 | DPw3 |
| A210 | B8 | B52(5) | Cw4 | DR3 | DQ4 | DPw4 |
| A3 | B12 | B53 | Cw5 | DR4 | DQ5(1) | DPw5 |
| A9 | B13 | B54(22) | Cw6 | DR5 | DQ6(1) | DPw6 |
| A10 | B14 | B55(22) | Cw7 | DR6 | DQ7(3) | |
| A11 | B15 | B56(22) | Cw8 | DR7 | DQ8(3) | |
| A19 | B16 | B57(17) | Cw9(w3) | DR8 | DQ9(3) | |
| A23(9) | B17 | B58(17) | Cw10(w3) | DR9 | | |
| A24(9) | B18 | B59 | | DR10 | | |
| A2403 | B21 | B60(40) | | DR11(5) | | |
| A25(10) | B22 | B61(40) | | DR12(5) | | |
| A26(10) | B27 | B62(15) | | DR13(6) | | |
| A28 | B2708 | B63(15) | | DR14(6) | | |
| A29(19) | B35 | B64(14) | | DR1403 | | |
| A30(19) | B37 | B65(14) | | DR1404 | | |
| A31(19) | B38(16) | B67 | | DR15(2) | | |
| A32(19) | B39(16) | B70 | | DR16(2) | | |
| A33(19) | B3901 | B71(70) | | DR17(3) | | |
| A34(10) | B3902 | B72(70) | | DR18(3) | | |
| A36 | B40 | B73 | | DR51 | | |
| A43 | B4005 | B75(15) | | DR52 | | |
| A66(10) | B41 | B76(15) | | DR53 | | |
| A68(28) | B42 | B77(15) | | | | |
| A69(28) | B44(12) | B7801 | | | | |
| A74(19) | B45(12) | B81 | | | | |
| A80 | B46 | Bw4 | | | | |
| | B47 | Bw6 | | | | |
| | B48 | | | | | |
| | B49(21) | | | | | |
| | B50(21) | | | | | |

Antigens listed in parentheses are the broad antigens, antigens followed by broad antigens in parentheses are the antigen splits.

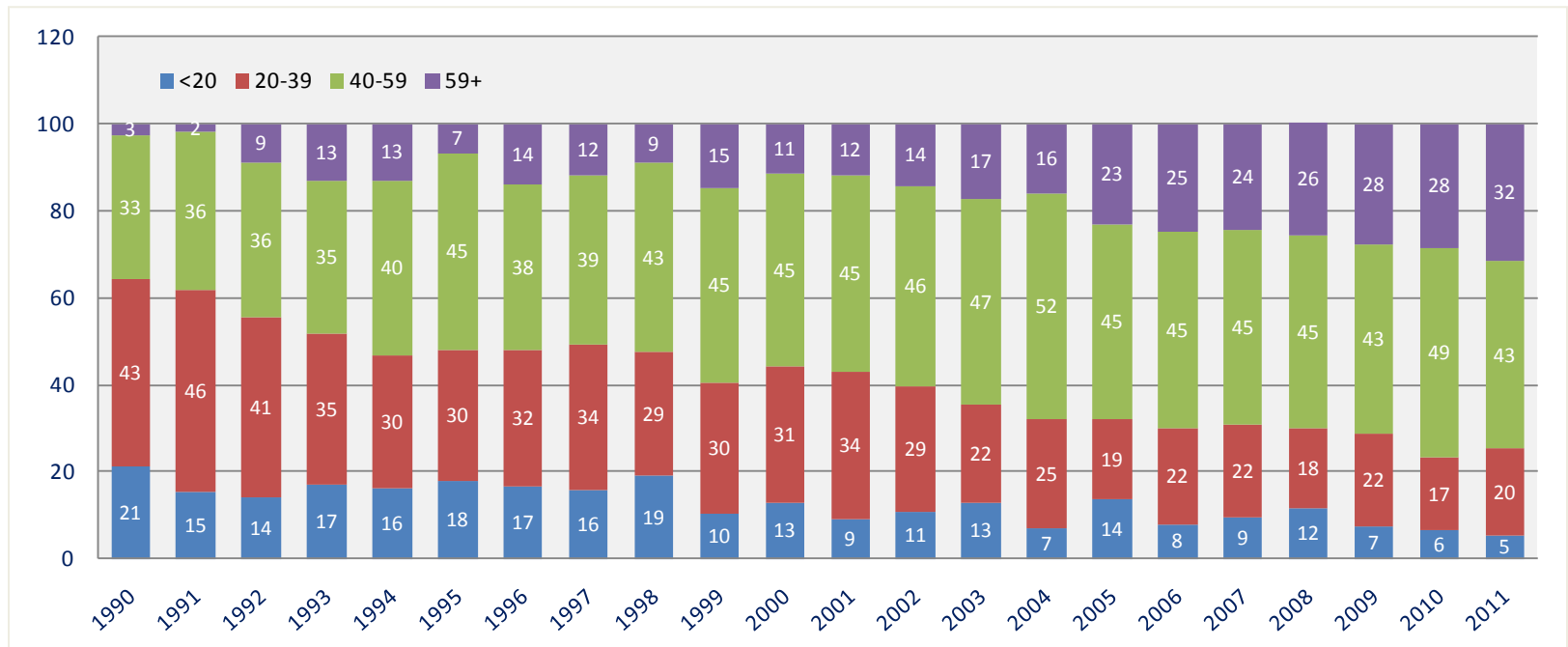


HLA-A+B+DR Mismatches

First Cadaver Kidney Transplants 1985-2005



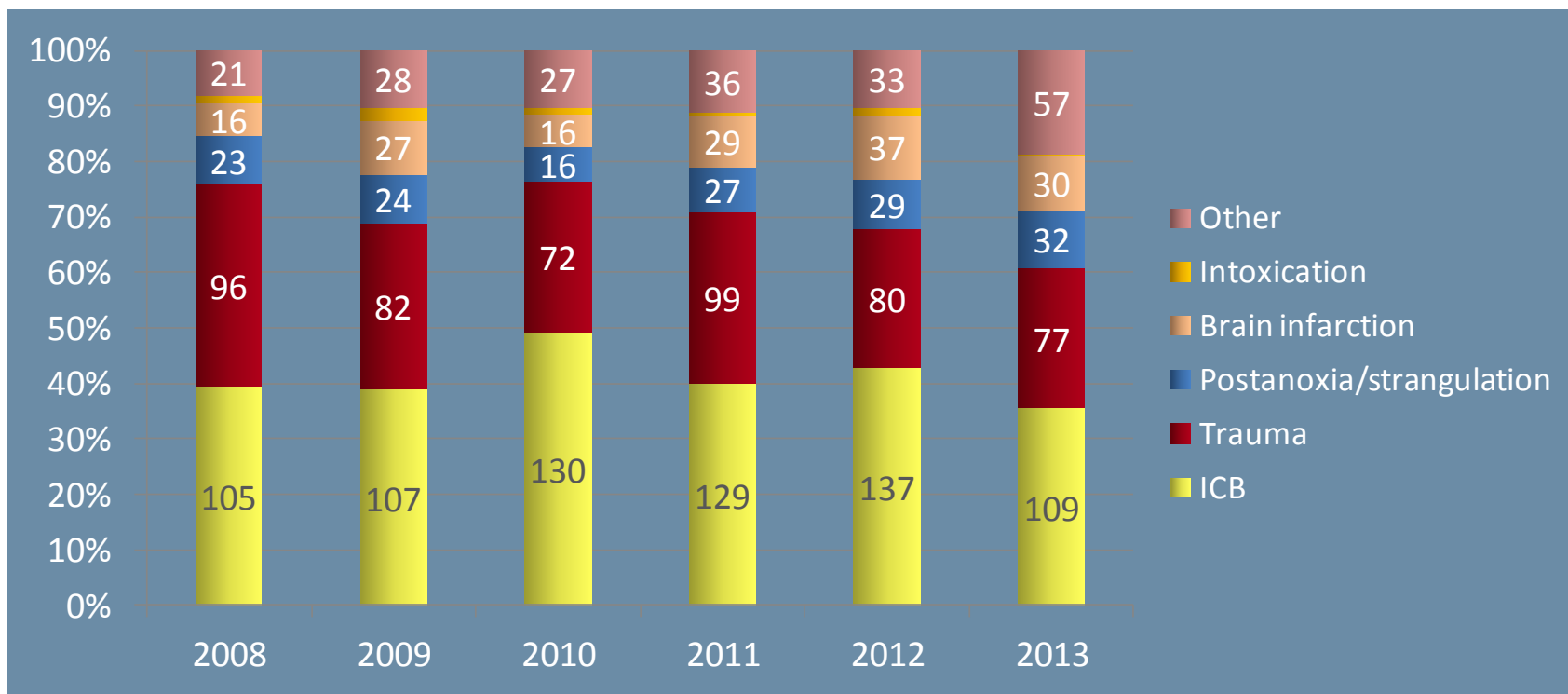
Leeftijdsdistributie van de donoren

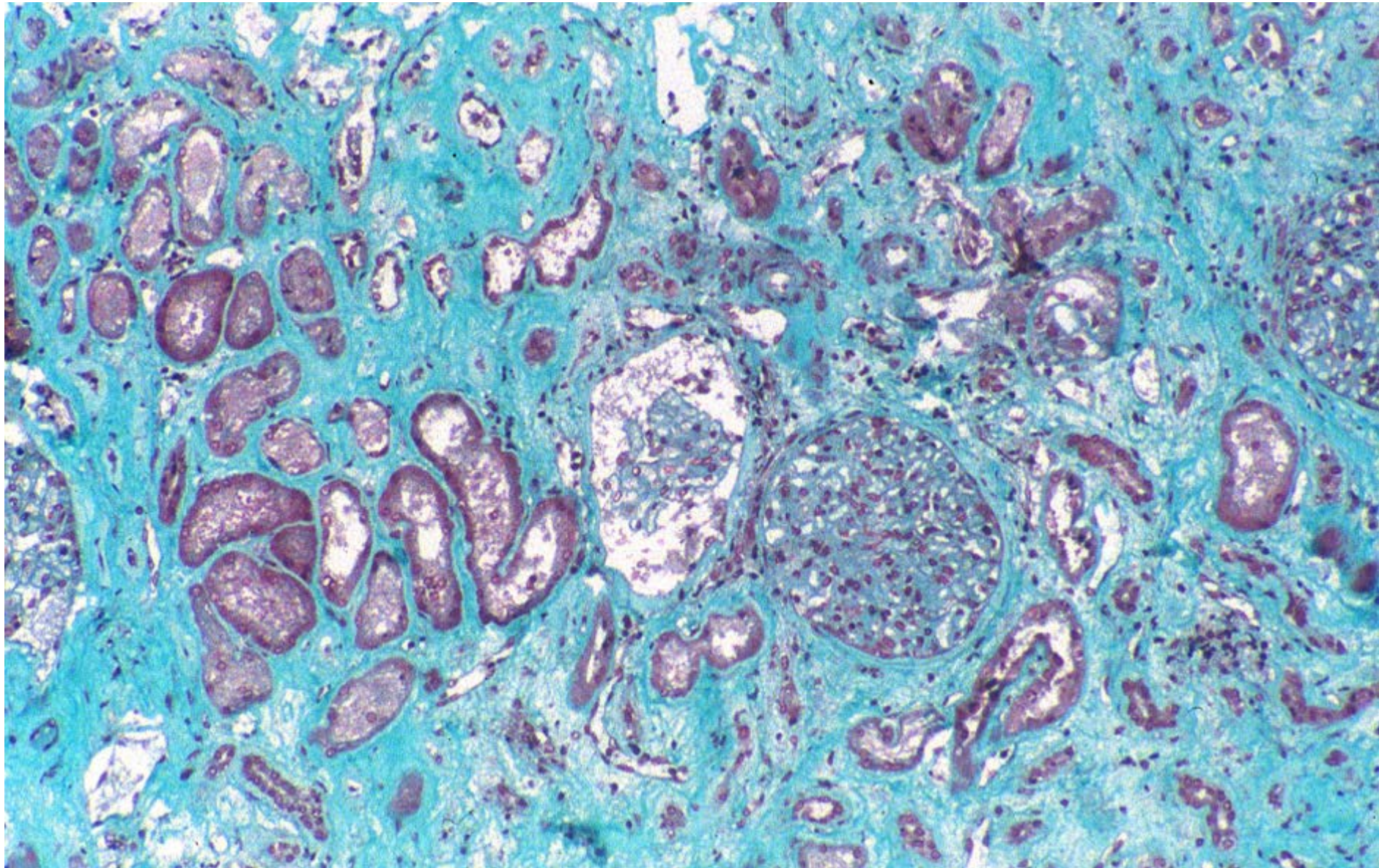


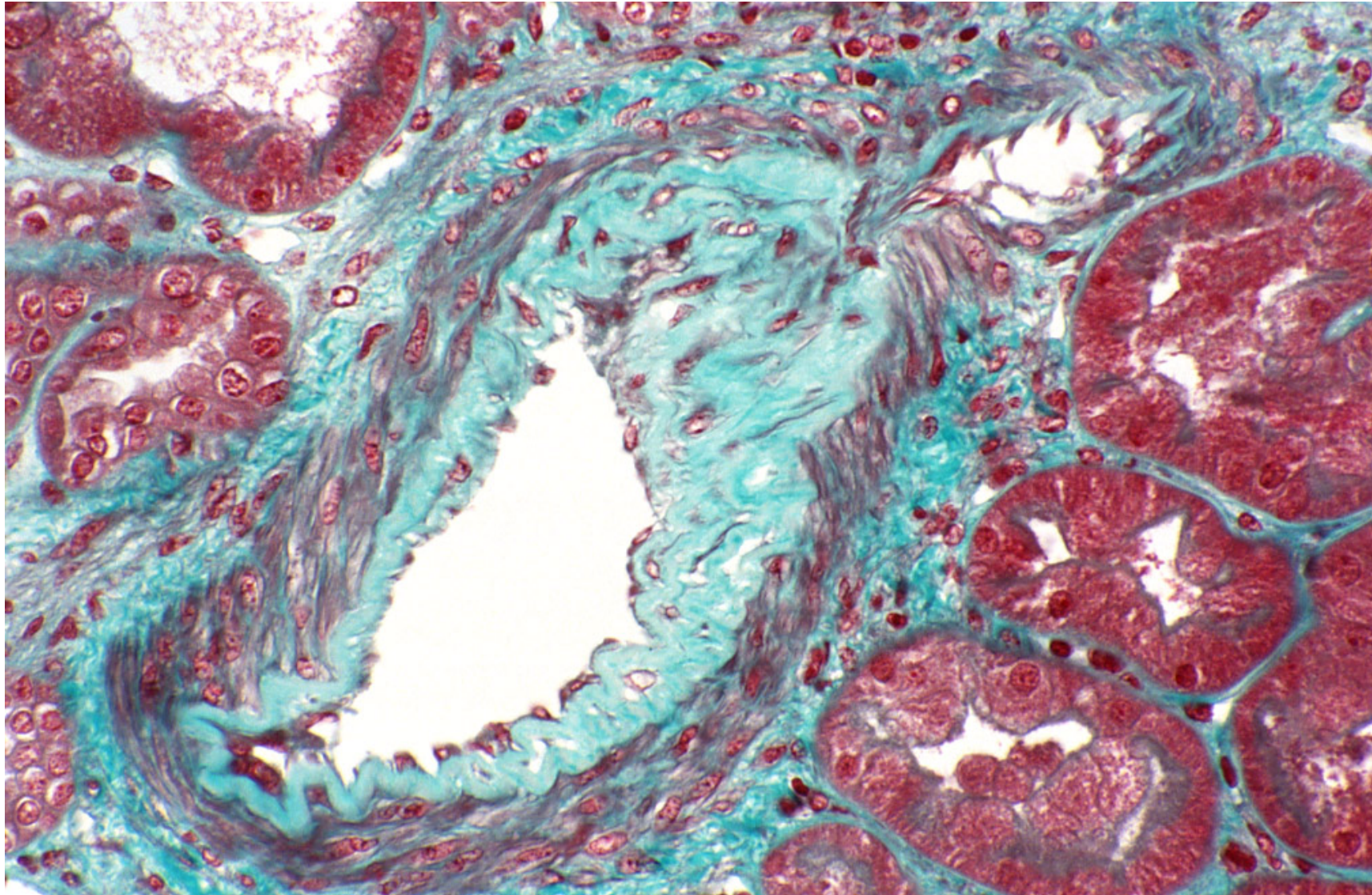
2011

- gemiddelde leeftijd effectieve donors: 50 jaar
- jongste donor: 4 maand
- oudste donor: 83 jaar

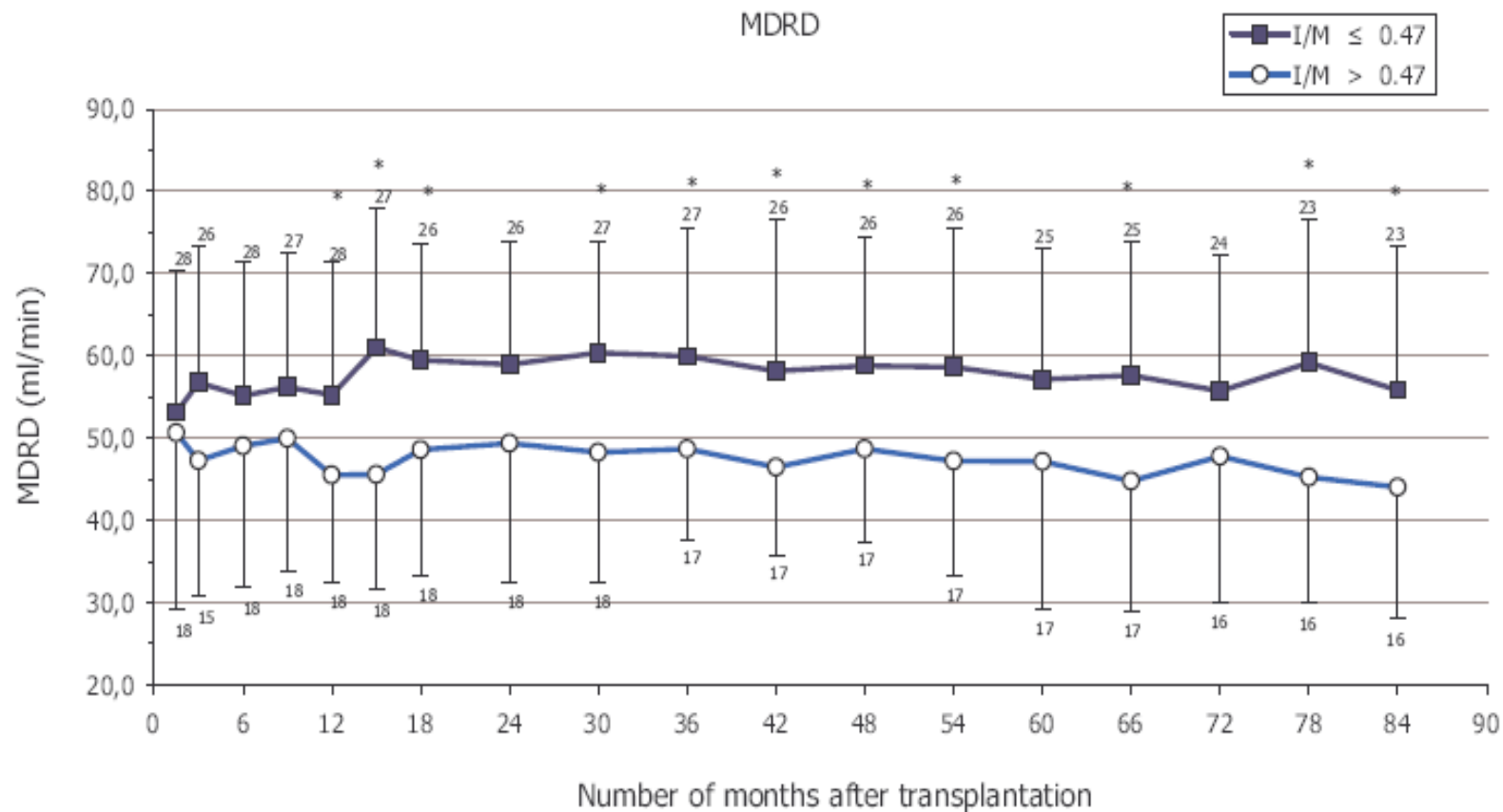
Doodsoorzaak donoren





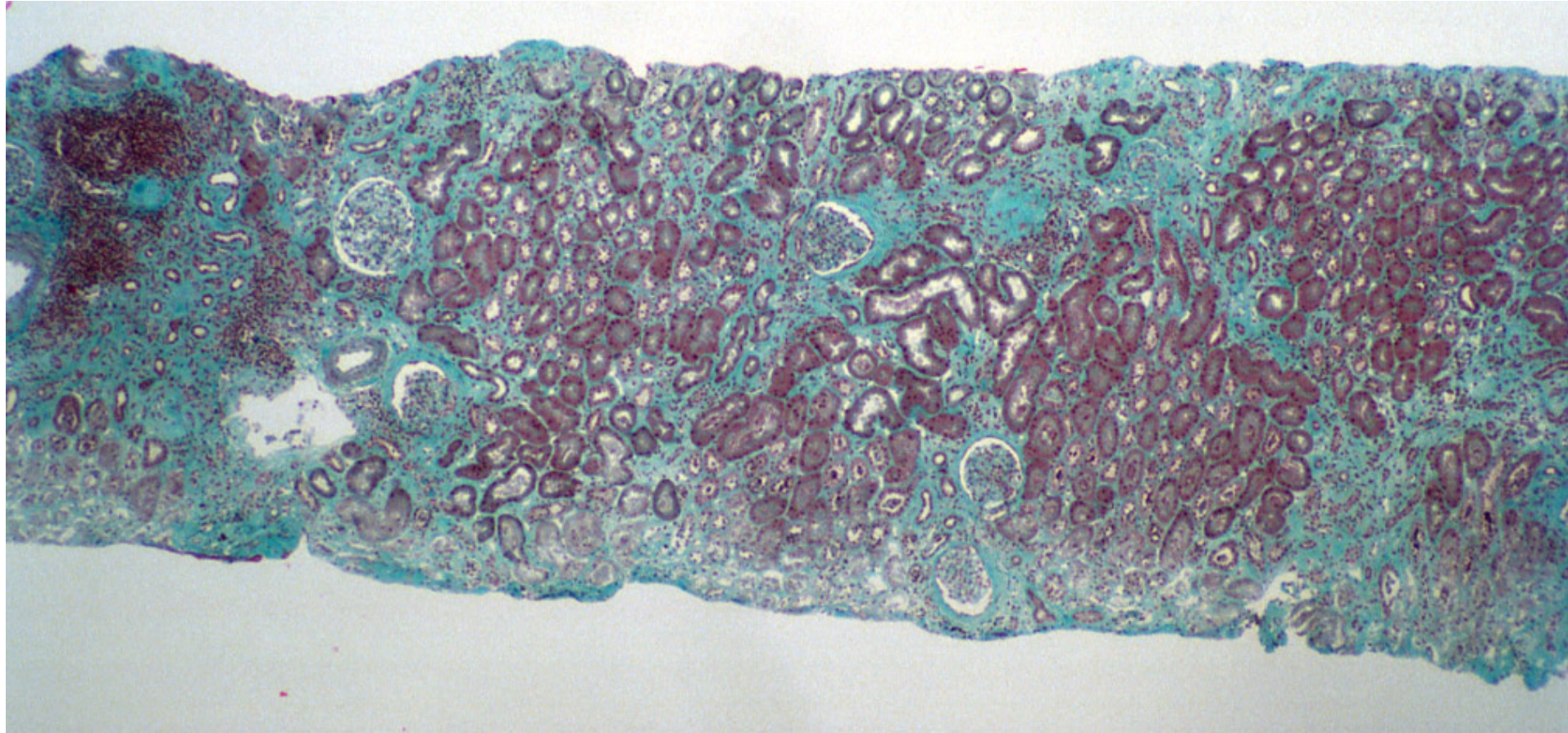


Fibrous intimal thickening and graft function

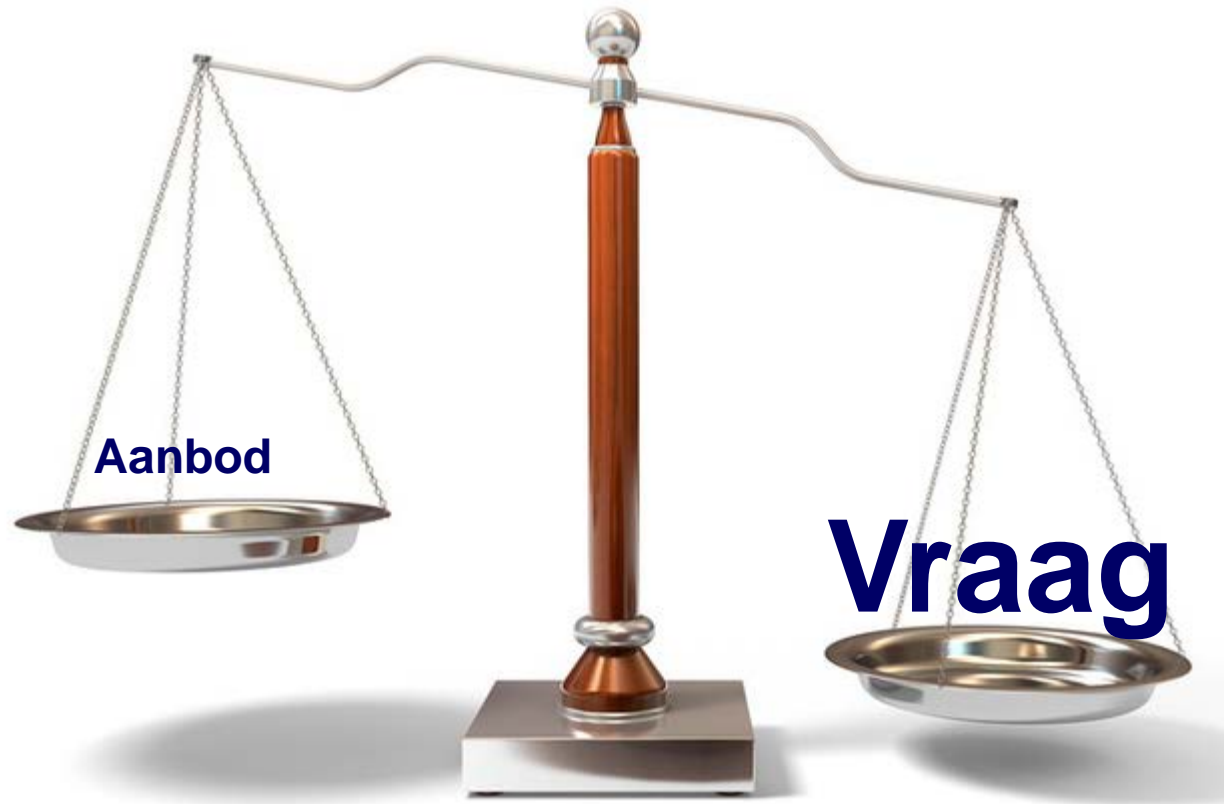


*Woestenburg AM et al. Transplantation 2009;
87: 72-78*

CsA en gestreepte fibrose



Tekort aan Organen



Eurotransplant



Doelstellingen

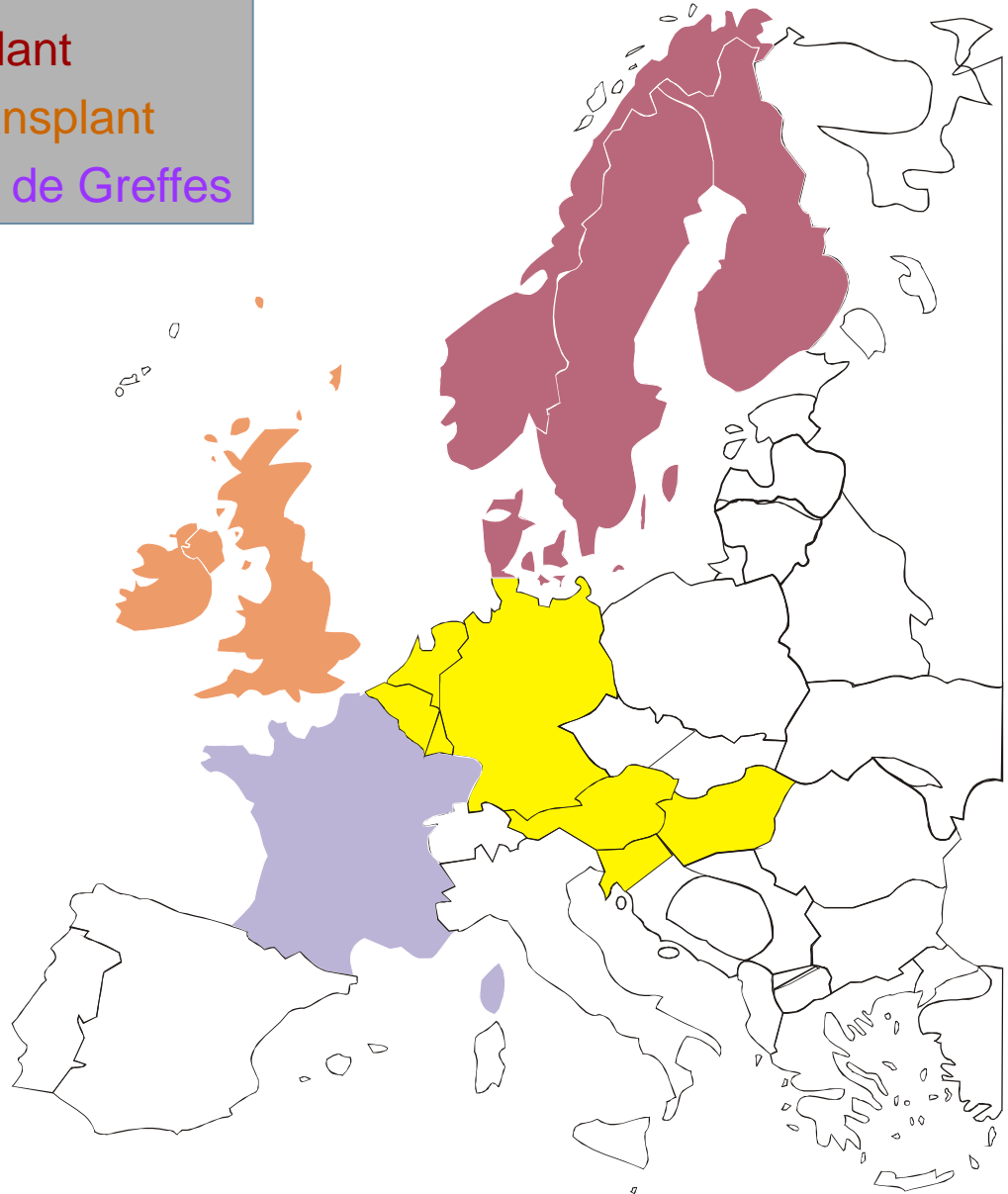
- optimaal gebruik donoraanbod
- selectie passende ontvanger
- verbetering transplantatieresultaten
- voorlichting en opleiding

Eurotransplant

Scandia Transplant

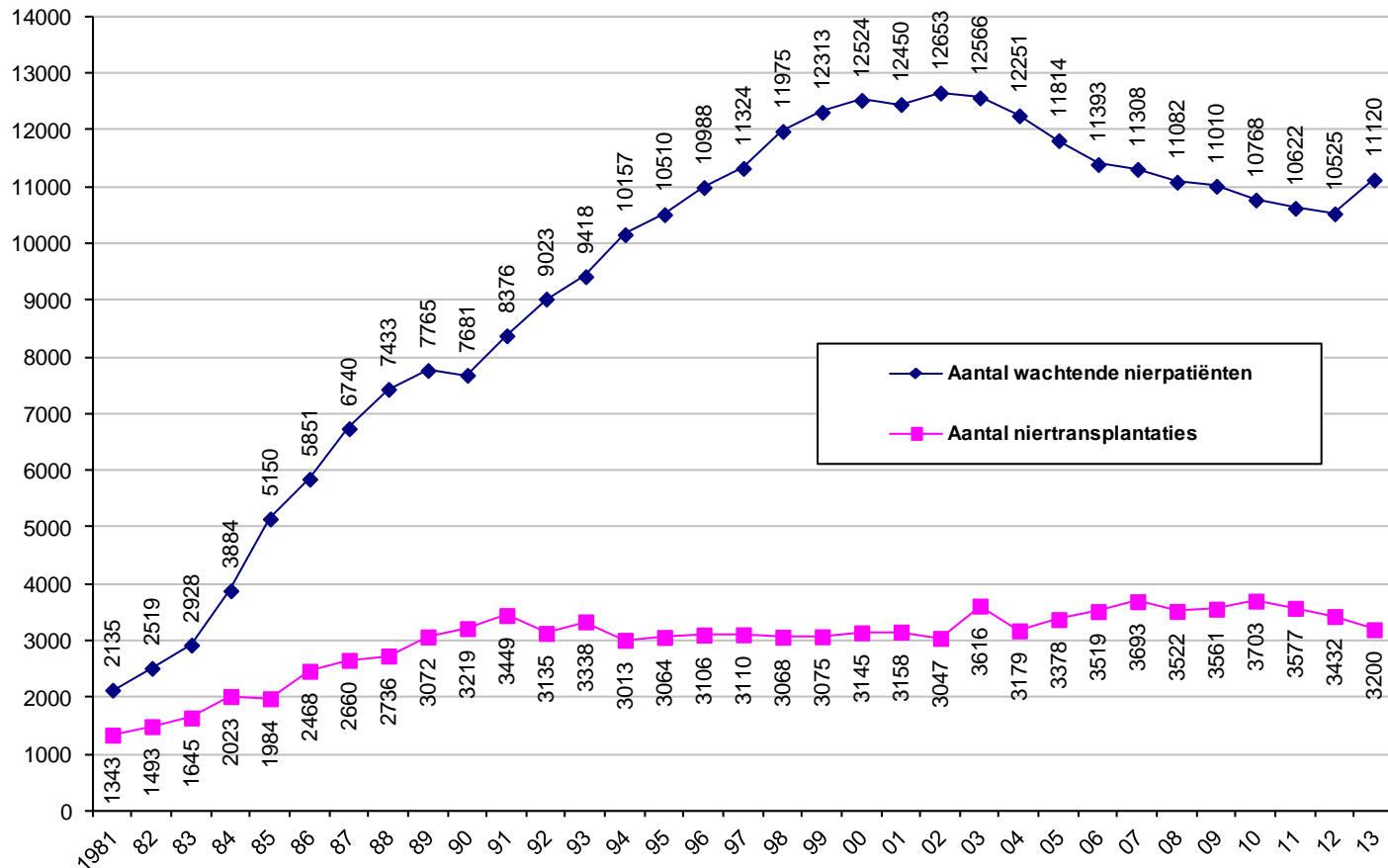
United Kingdom Transplant

Etablissement Français de Greffes

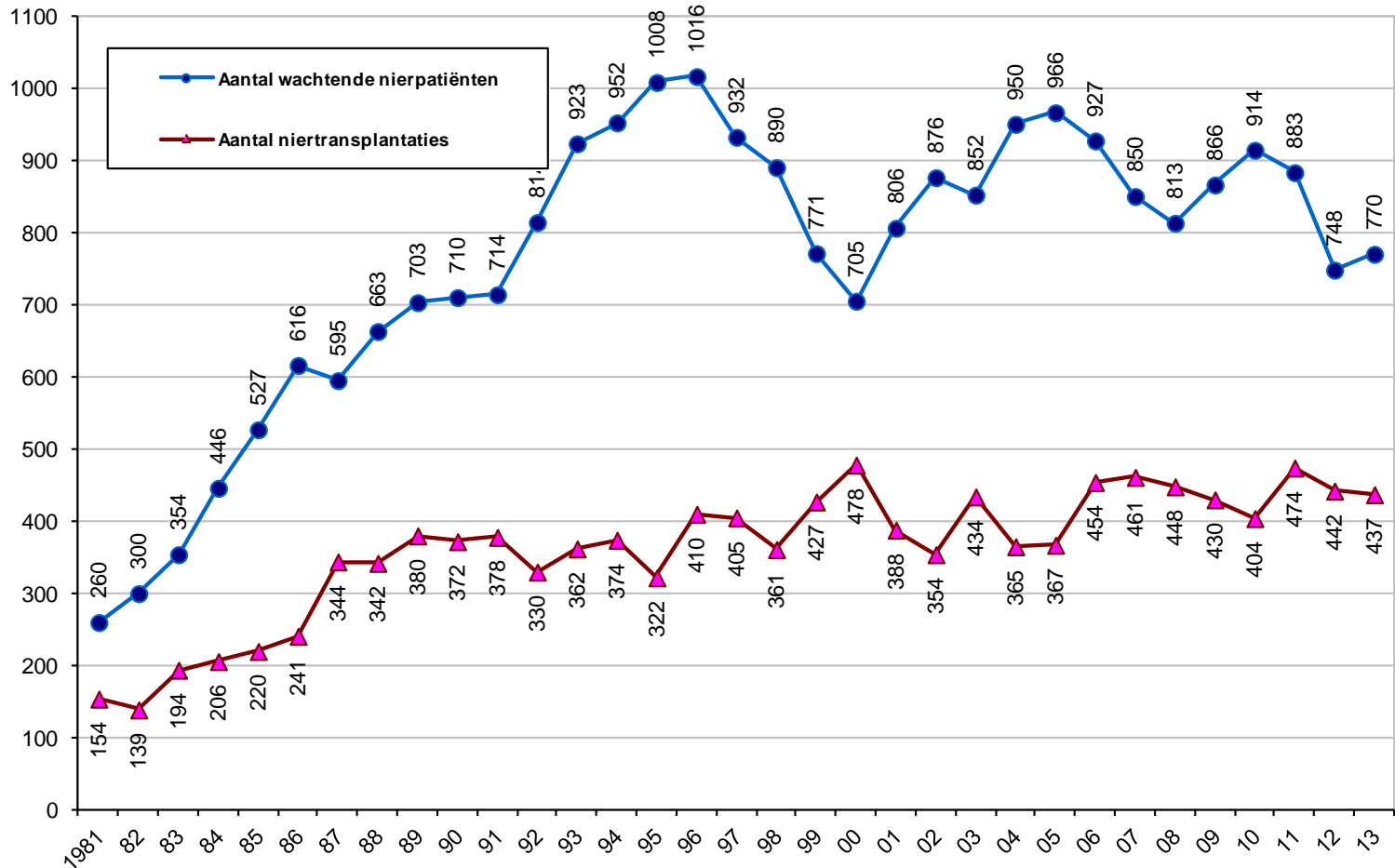


Eurotransplant

- niertransplantaties en wachtlijst -

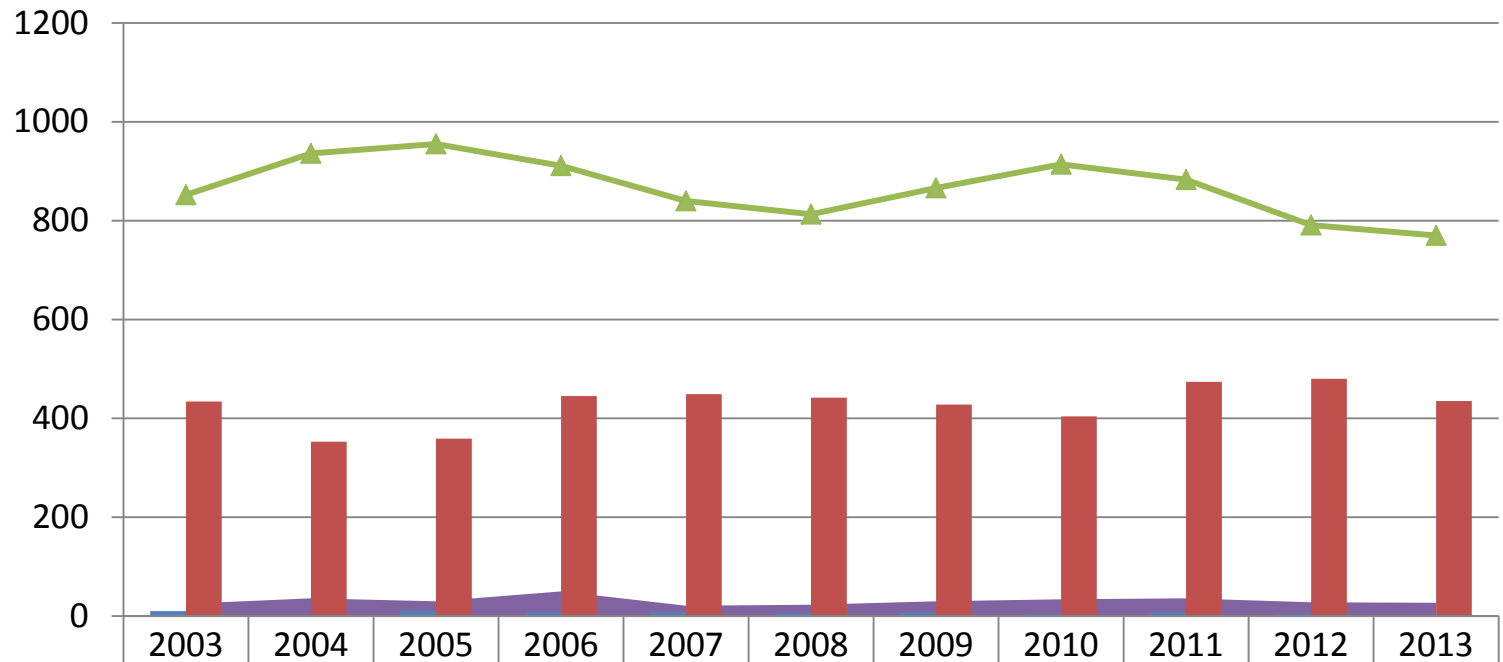


België: niertransplantatie en wachtlijst



Bron: Eurotransplant International Foundation – Annual reports

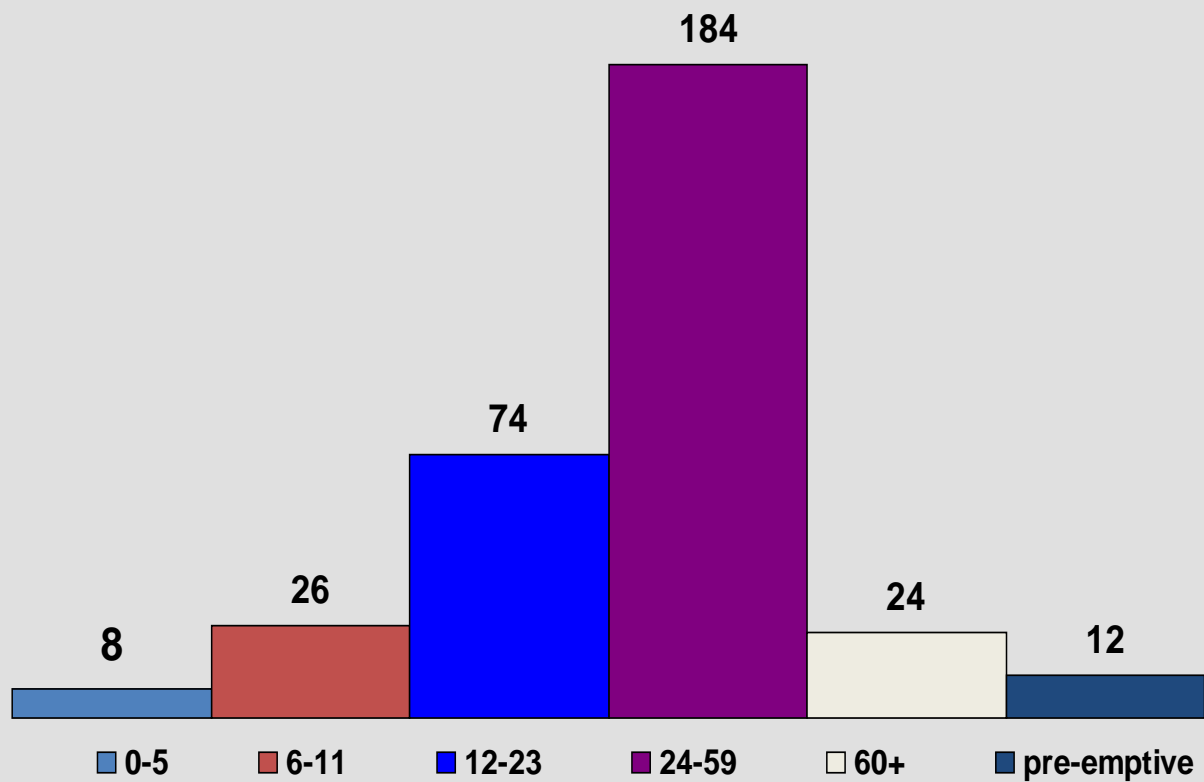
Kidney 2013



| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|
| Mortality (number) | 25 | 36 | 30 | 50 | 21 | 23 | 30 | 34 | 36 | 28 | 27 |
| Kidney en bloc | 10 | 2 | 11 | 7 | 8 | 6 | 7 | 4 | 7 | 4 | 0 |
| Kidney Tx | 434 | 353 | 359 | 445 | 449 | 442 | 428 | 404 | 474 | 480 | 435 |
| Waitinglist | 852 | 936 | 955 | 911 | 840 | 813 | 866 | 914 | 883 | 791 | 770 |

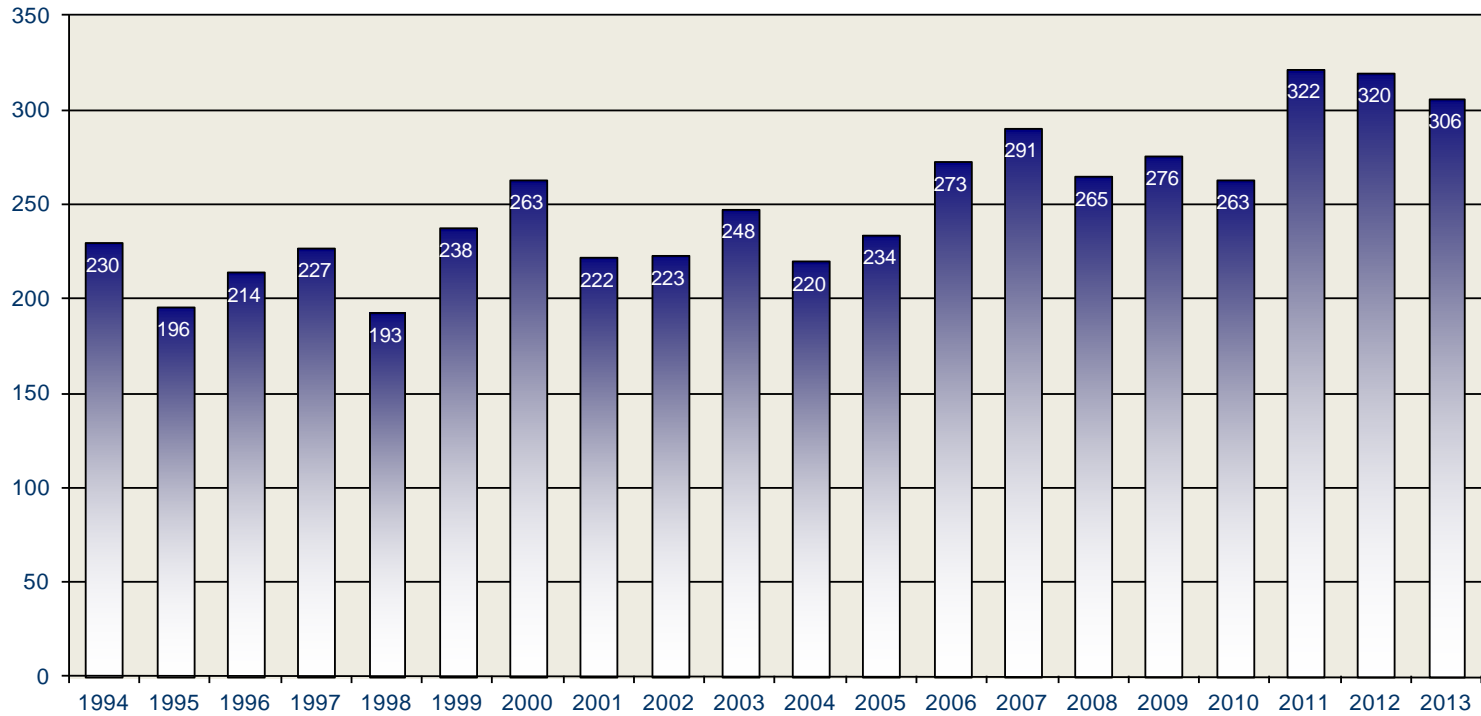


Wachttijd

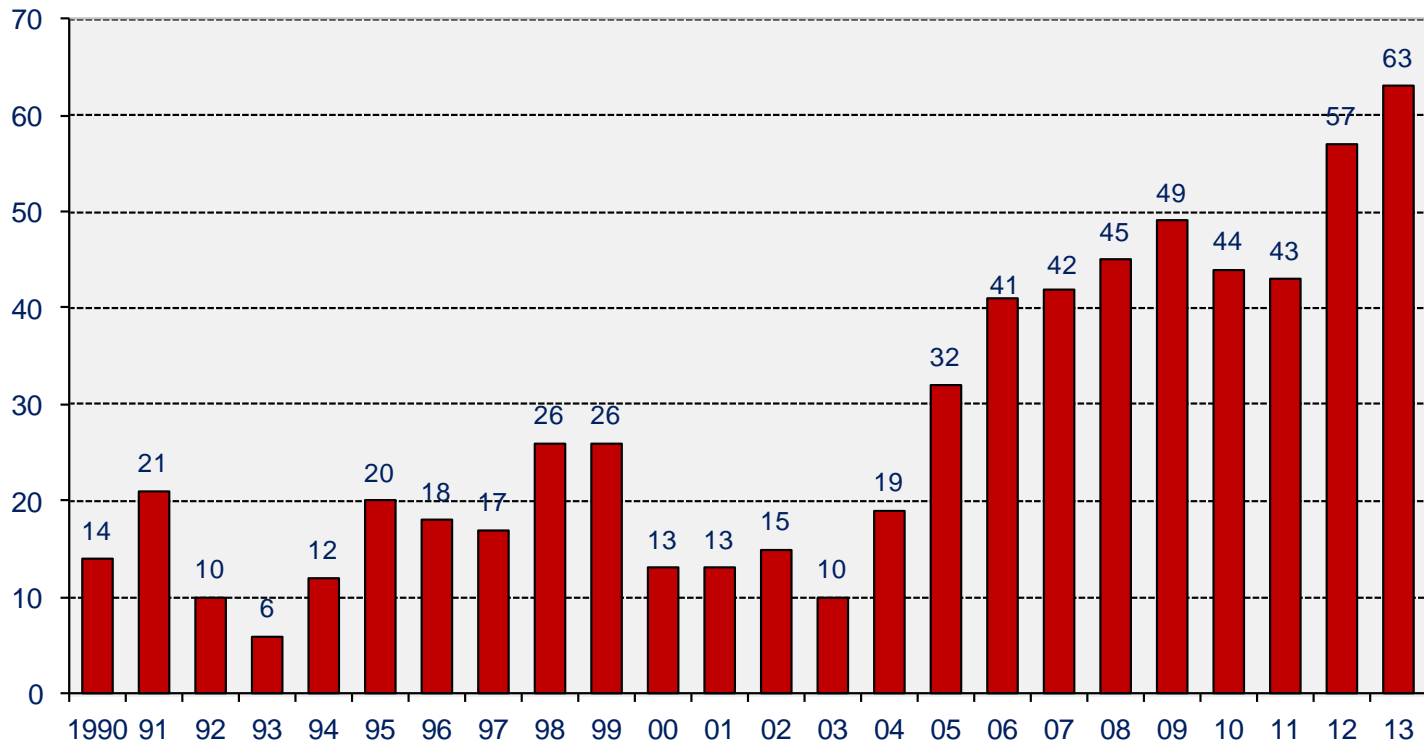


Eurotransplant annual report 2005

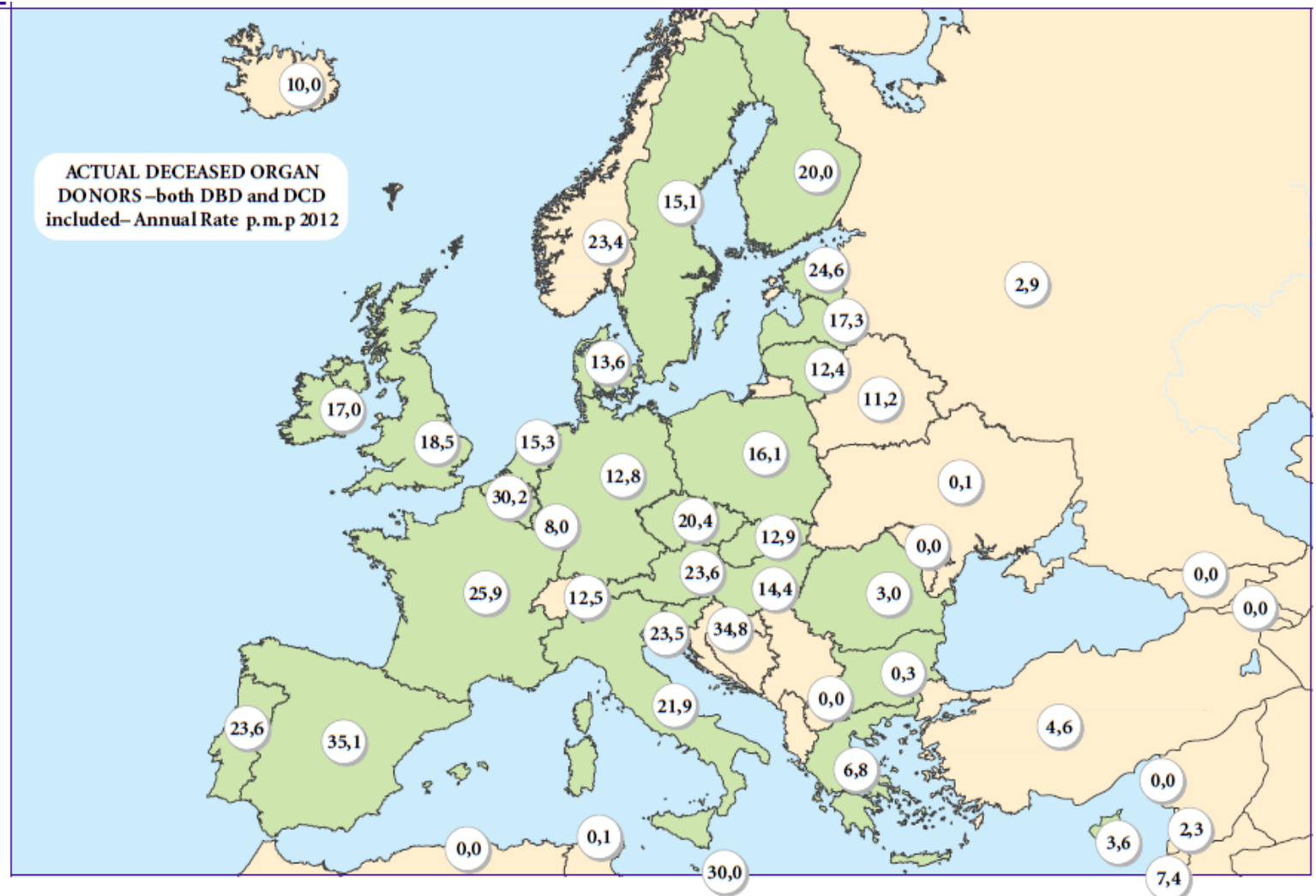
Aantal donoren in België



Levende donor: nieren



Aantal donoren in de Europese landen pmi in 2012

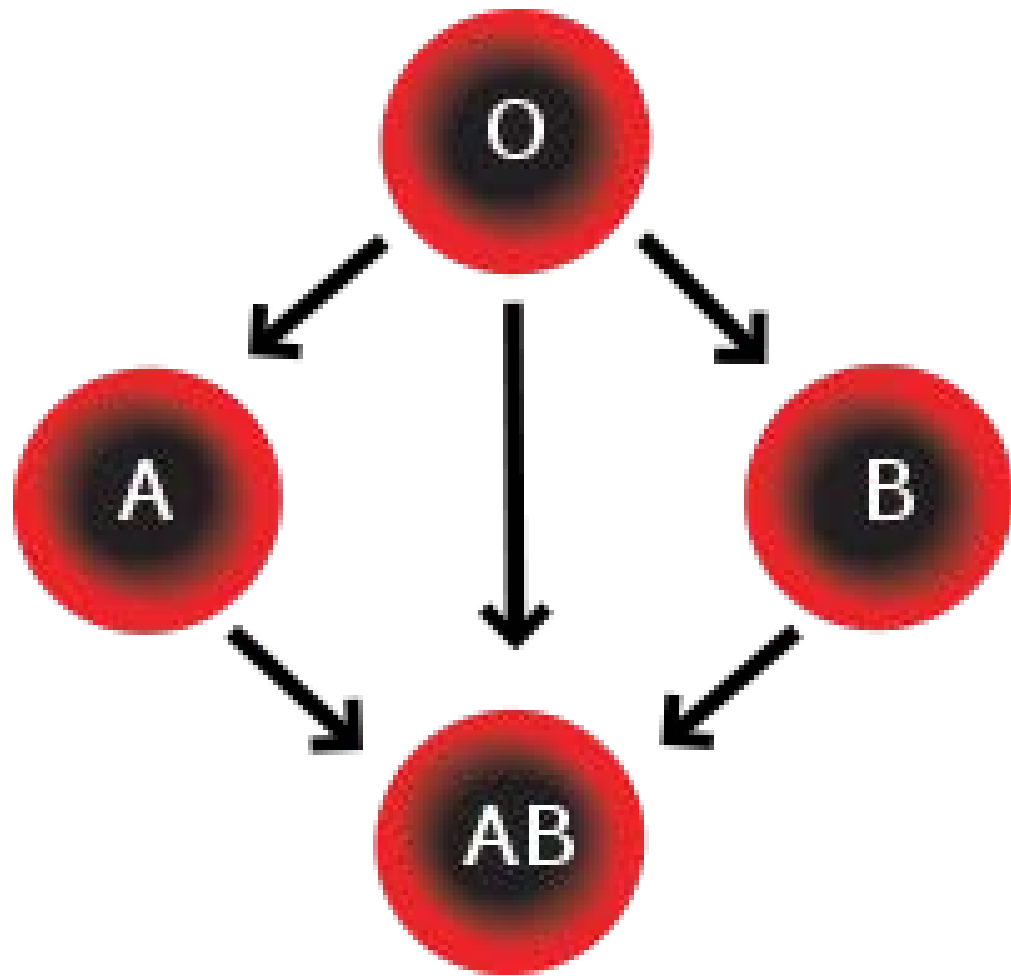


Bron: Council of Europe, 2013

New kidney allocation system

General principles of the new allocation

- **ABO-identical allocation**
- DR matching
- Kidneys are classified within “Donor categories”
- Allocation to suitable regional / national recipients first in the specific tier. Thereafter supra national before other countries
- Mandatory payback system



New kidney allocation system

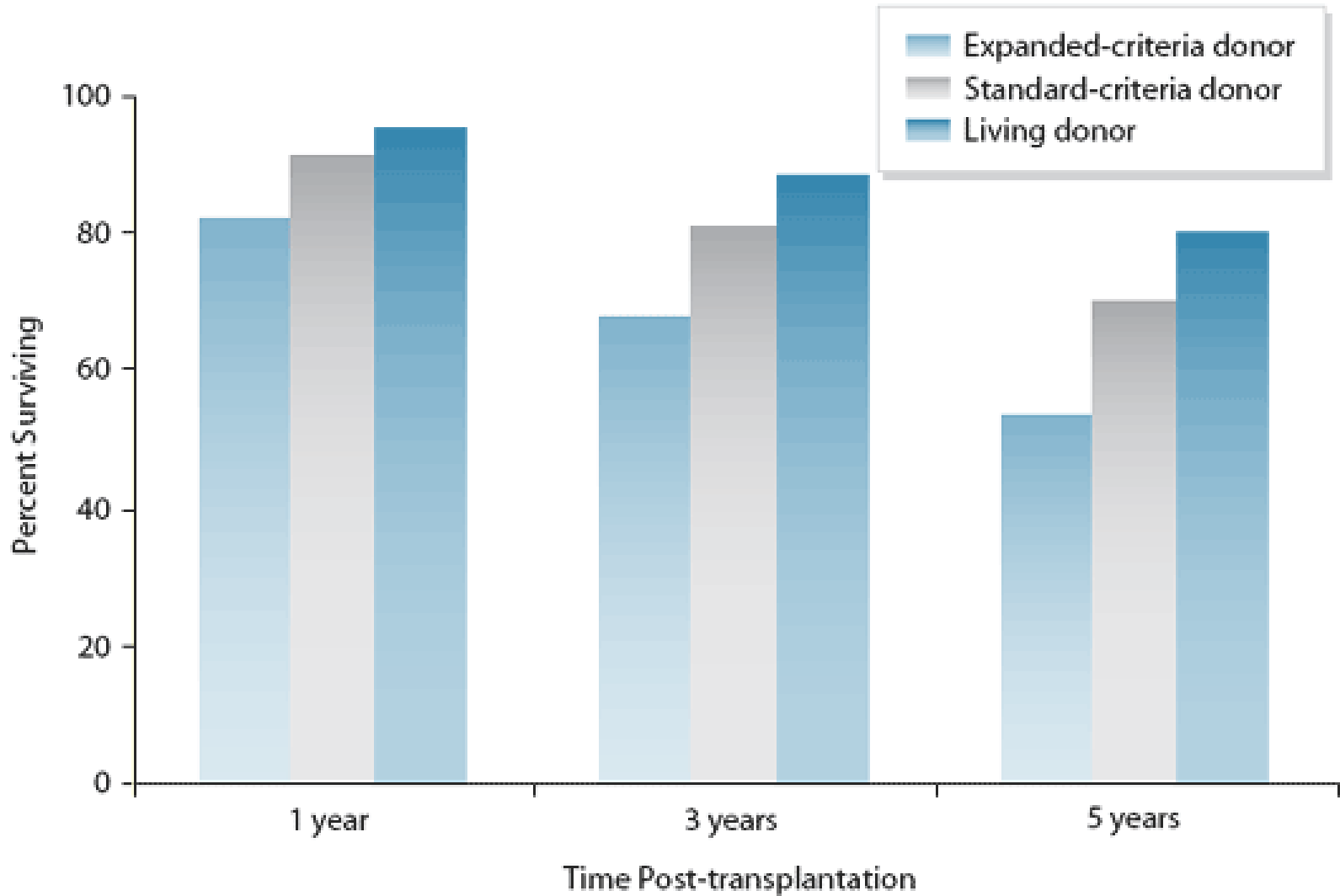
Overview recommendations

- Approved text recommendations
 - Blood group rules
 - Donor categories
 - Allocation tiers
 - Special priority recipients (Tier 3)
 - HLA – DR+ and HLA – DR (Tier 4 and 5)
 - (Relative) waiting time
 - Geographical scheme
 - Balancing
- Questions / discussions

Recommendation 04.11

Donor categories

- Donor age, kidney function and co-morbidities
 1. category 1: donor age <16 years
 2. category 2: donor age 16 – 49 years
 3. category 3: donor age 50 – 64 years
 4. category 4: donor age ≥65 years
 5. category 5: special donor category for poor quality organs
- Donors from the categories 2 and 3 who at least meet one of the following criteria will be categorized into the next higher category:
 - creatinine prior to donation is >1,5 mg/dl or
 - cause of death is cerebrovascular **and/or** the donor has a history of hypertension or
 - the donor suffers from diabetes mellitus



2006 Annual Report of the United Network for Organ Sharing (UNOS)

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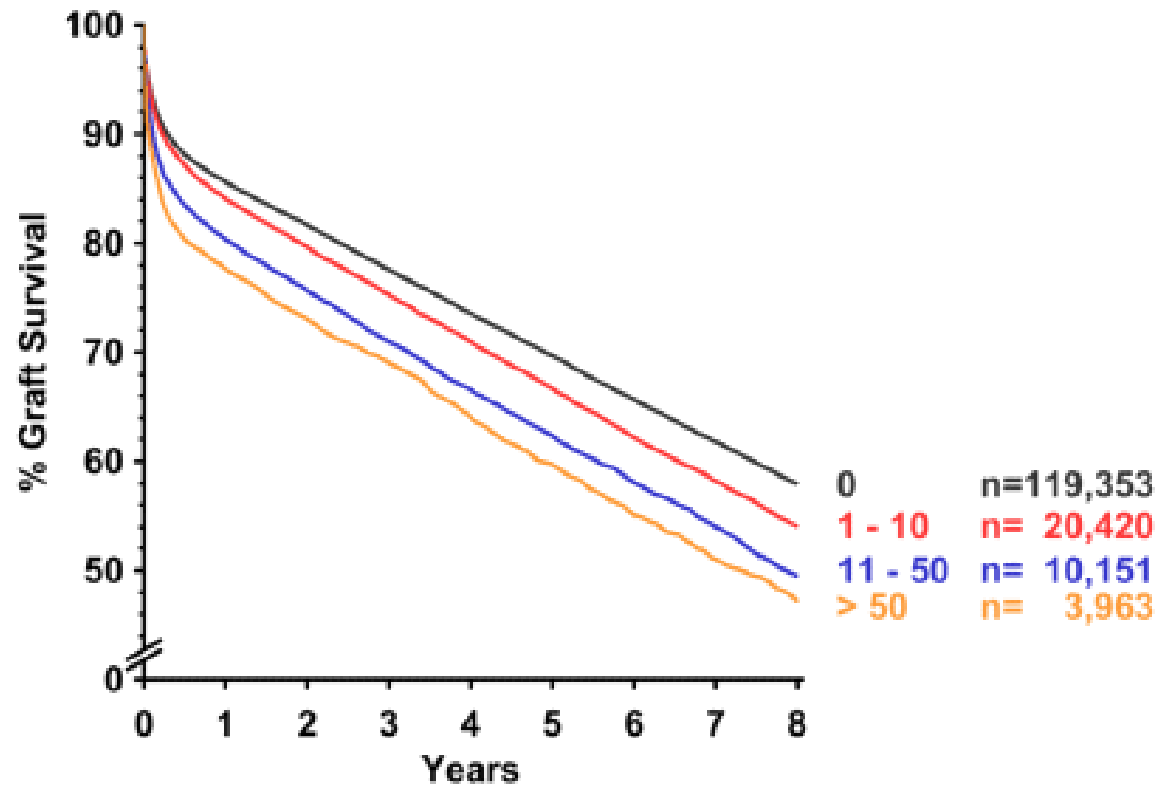
Recommendation

Allocation tiers

Ranking of allocation

- Donor categories are allocated according to the following principle with two exceptions (A, B)
 - Tier 1; AM program (is currently developed by TTAC);
 - Tier 2; Full-house recipients;
 - Tier 3; Special priority recipients
 - Tier 4; HLA-DR+;
 - Tier 5; HLA-DR;
 - Tier 6; 1 DR mismatch;

Latest Cytotoxic Antibodies (%) First Cadaver Kidney Transplants 1985-2005



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Recommendations

Special priority

Tier 3, special priority recipients

- In the proposed allocation scheme a separate tier, directly after the 0 HLA mismatched recipients, is foreseen for recipients with special priority;
 - HU recipients;
 - Recipients who in the past donated one of their own kidneys (not applicable for German recipients).
 - Recipients eligible for kidney after non renal organ transplant bonus.

New kidney allocation system

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Recommendations

HLA – DR+ , HLA - DR

Tier 4 and 5, ranking of allocation

- *All kidney grafts should preferably be allocated with a full match for HLA-DR.*
- HLA-DR+ allocation:
recipients who are likely to receive a consecutive graft should be allocated a graft which is additionally matched for at least 2 loci on HLA-A and/or HLA-B. Recipients aged up to 55 years at time of the offer will be eligible for both HLA DR+ **and** HLA DR
- HLA –DR allocation:
Recipients aged 56-64 years are prioritized in case of downgraded category 3 donors (i.e. donors of category 4 aged 50-64 years)

Recommendations

HLA – DR+ , HLA - DR

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Eurotransplant



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Summary

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