

Τελικό στάδιο ΧΝΝ στη παιδική ηλικία: μετάβαση στη μεταμόσχευση πριν την ενηλικίωση

Στέλλα Σταμπουλή

Αναπληρώτρια Καθηγήτρια Παιδιατρικής-Παιδιατρικής Νεφρολογίας ΑΠΘ

Α΄ Παιδιατρική Κλινική, ΓΝΘ Ιπποκράτειο

Μέλος του Διοικητικού Συμβουλίου της Ευρωπαϊκής Παιδονεφρολογικής Εταιρείας (ESPN)



 **ΕΛΛΗΝΙΚΗ
ΕΤΑΙΡΕΙΑ
ΜΕΤΑΜΟΣΧΕΥΣΕΩΝ**

21^ο
Πανελλήνιο
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Μεταμοσχεύσεων

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Δεκεμβρίου 2021
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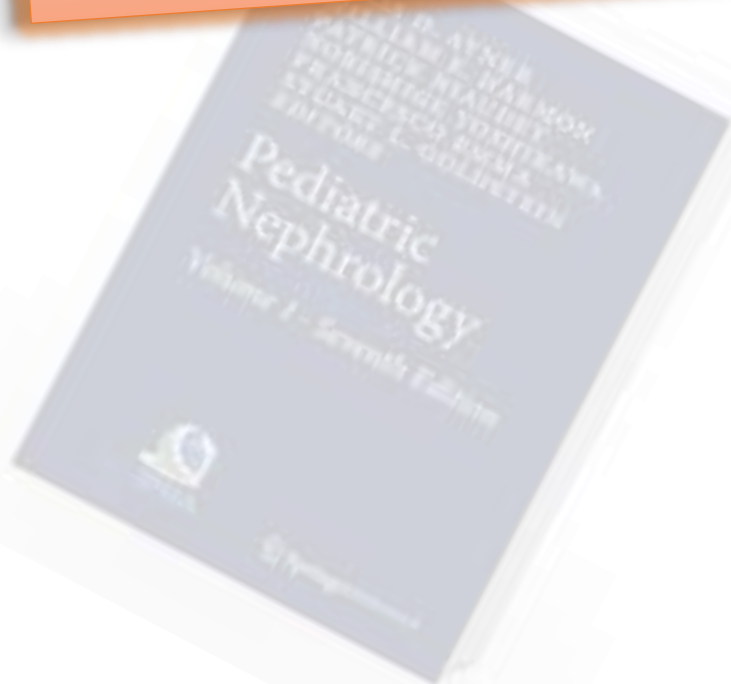


Δεν υπάρχει σύγκρουση συμφερόντων

Στόχοι ομιλίας

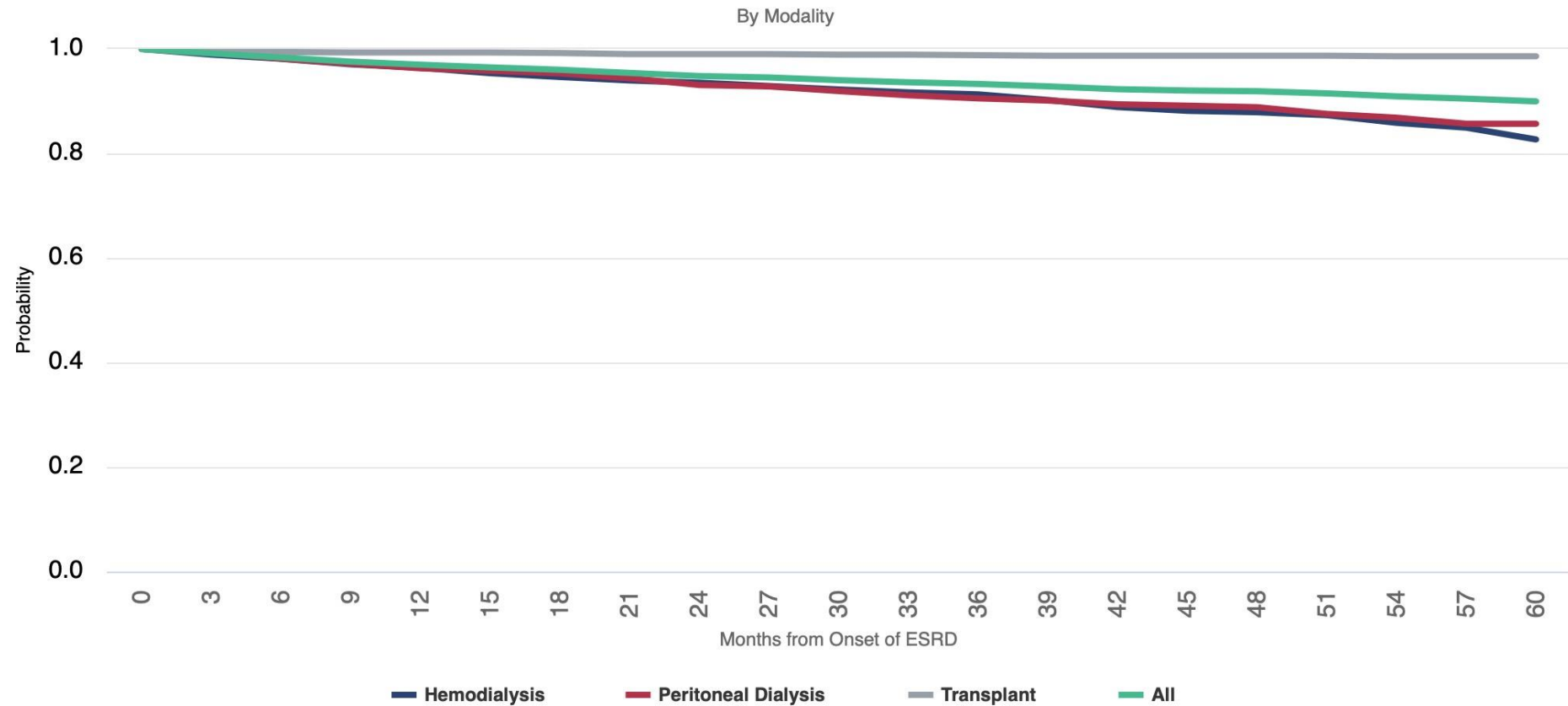
- Ο ρόλος της μεταμόσχευσης νεφρού στην παιδική ηλικία για την επιβίωση, την υγεία και την ποιότητα ζωής των ασθενών
- Η παραμονή στην κάθαρση ως παράγοντας κινδύνου για φτωχή έκβαση μετά τη μεταμόσχευση
- Στοχεύοντας στην ιδανική μεταμόσχευση-προβληματισμοί

Η μεταμόσχευση νεφρού είναι η θεραπεία εκλογής για τη νεφρική ανεπάρκεια τελικού σταδίου σε παιδιατρικούς ασθενείς



Επιβίωση παιδιατρικών ασθενών με ΤΣΧΧΝ

Figure 7.12 Adjusted 5-year survival among children with incident ESRD, by age and treatment modality, 2009-2013



Data Source: 2020 United States Renal Data System Annual Data Report

Σύγκριση κόστους μεθόδων εξωνεφρικής κάθαρσης

Figure 9.9 Unadjusted per person per year Medicare fee-for-service expenditures for beneficiaries with ESRD by treatment modality, 2009-2018



Data Source: 2020 United States Renal Data System Annual Data Report

Racial Disparities in Access to and Outcomes of Kidney Transplantation in Children, Adolescents, and Young Adults: Results From the ESPN/ERA-EDTA (European Society of Pediatric Nephrology/European Renal Association–European Dialysis and Transplant Association) Registry

Lidwien A. Tjaden, MD,^{1,2} Mariëes Noordzij, PhD,¹ Karlijn J. van Stralen, PhD,¹ Claudia E. Kuehni, MD,³ Ann Raes, MD, PhD,⁴ Elisabeth A.M. Cornelissen, MD, PhD,⁵ Catherine O'Brien, MD, PhD,⁶ Fotios Papachristou, MD, PhD,⁷ Franz Schaefer, MD, PhD,⁸ Jaap W. Groothof, MD, PhD,⁹ and Kitty J. Jager, MD, PhD,¹ on behalf of the ESPN/ERA-EDTA Registry Study Group*

Background: Racial disparities in kidney transplantation in children have been found in the United States, but have not been studied before in Europe.

Study Design: Cohort study.
Setting & Participants: Data were derived from the ESPN/ERA-EDTA Registry, an international pediatric renal registry collecting data from 36 European countries. This analysis included 1,134 young patients (aged ≤19 years) from 8 medium- to high-income countries who initiated renal replacement therapy (RRT) in 2006 to 2012.

Factor: Racial background.
Outcomes & Measurements: Differences between racial groups in access to kidney transplantation, transplant survival, and overall survival on RRT were examined using Cox regression analysis while adjusting for age at RRT initiation, sex, and country of residence.

Results: 868 (76.5%) patients were white; 59 (5.2%), black; 116 (10.2%), Asian; and 91 (8.0%), from other racial groups. After a median follow-up of 2.8 (range, 0.1-3.0) years, we found that black (HR, 0.49; 95% CI, 0.34-0.72) and Asian (HR, 0.54; 95% CI, 0.41-0.71) patients were less likely to receive a kidney transplant than white patients. These disparities persisted after adjustment for primary renal disease. Transplant survival rates were similar across racial groups. Asian patients had higher overall mortality risk on RRT compared with white patients (HR, 2.50; 95% CI, 1.14-5.49). Adjustment for primary kidney disease reduced the effect of Asian background, suggesting that part of the association may be explained by differences in the underlying kidney disease between racial groups.

Limitations: No data for socioeconomic status, blood group, and HLA profile.
Conclusions: We believe this is the first study examining racial differences in access to and outcomes of kidney transplantation in a large European population. We found important differences with less favorable outcomes for black and Asian patients. Further research is required to address the barriers to optimal treatment among racial minority groups.

Am J Kidney Dis. 67(2):293-301. © 2016 by the National Kidney Foundation, Inc.
INDEX WORDS: Children; adolescents; pediatric; health policy; renal replacement therapy (RRT); kidney transplantation; renal disease; racial disparities; health disparity; ethnic minority; immigrant; Europe.



The impact of socioeconomic status and geographic remoteness on access to pre-emptive kidney transplantation and transplant outcomes among children

Anna Francis¹ · Madeleine Didsbury¹ · Wai H. Lim² · Siah Kim¹ · Sarah White¹ · Jonathan C. Craig¹ · Germaine Wong¹

Received: 8 August 2015 / Revised: 6 November 2015 / Accepted: 10 November 2015 / Published online: 21 December 2015
© IPNA 2015

Abstract
Background Low socioeconomic status (SES) and geographic disparity have been associated with worse outcomes and poorer access to pre-emptive transplantation in children with end-stage kidney disease (ESKD). We investigated the impact of known about their impact on outcomes of our study.



Pediatric Nephrology
<https://doi.org/10.1007/s00467-021-05070-3>

REVIEW

Paediatric kidney transplantation in under-resourced regions—a panoramic view

Arpana Iyengar¹ · M. I. McCulloch²

Received: 19 April 2020 / Revised: 21 July 2020 / Accepted: 24 March 2021
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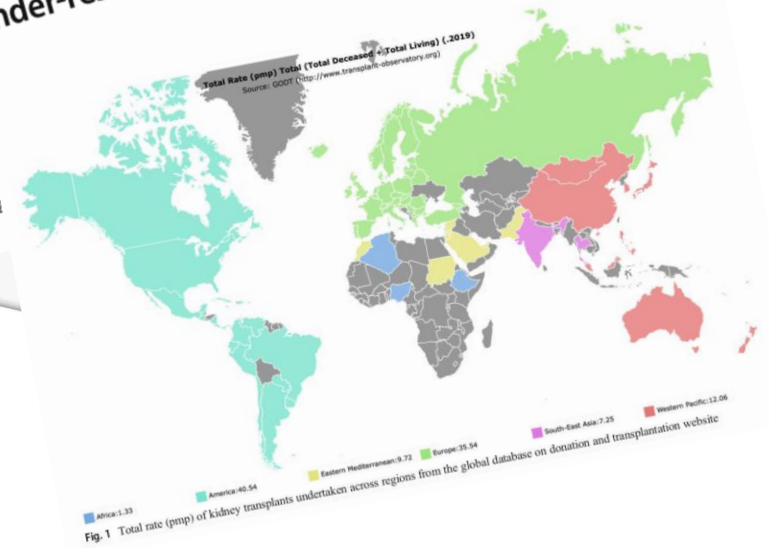


Fig. 1 Total rate (pmp) of kidney transplants undertaken across regions from the global database on donation and transplantation website

Πλεονέκτημα στην πρόσβαση στη μεταμόσχευση για παιδιατρικούς ασθενείς σε χώρες με υψηλό εισόδημα στην Ευρώπη

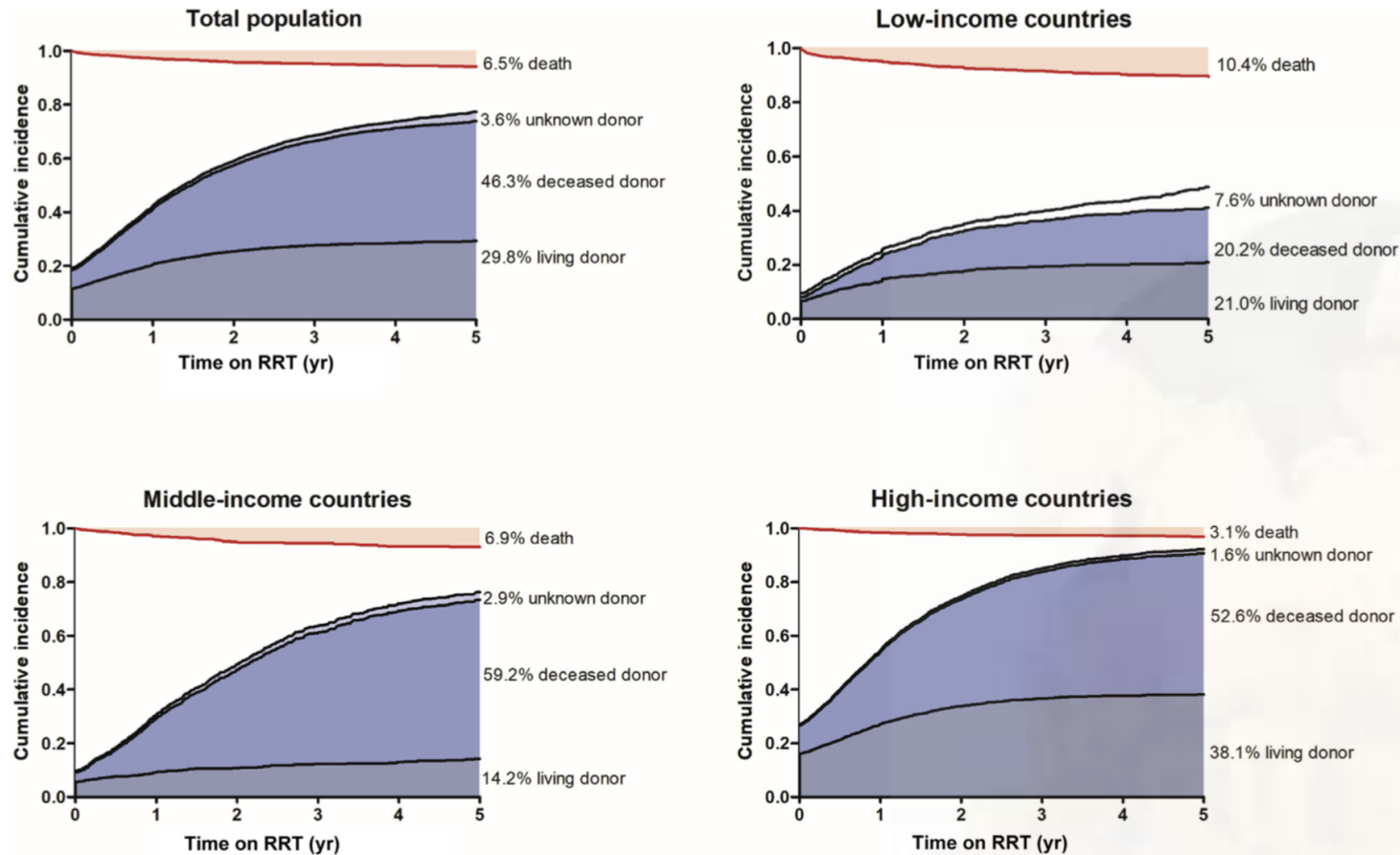
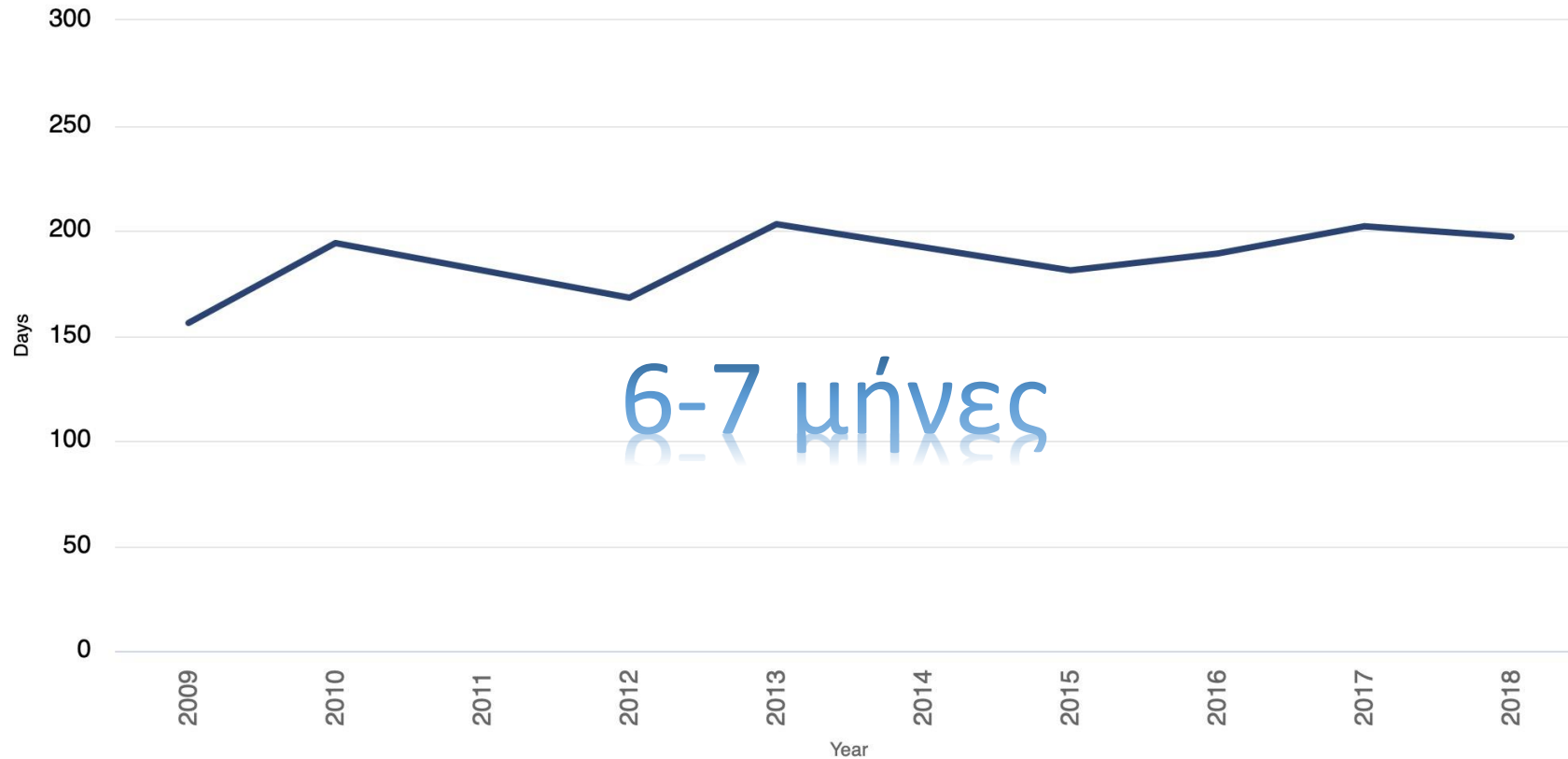


Figure 1 | Cumulative incidence of receiving a kidney transplant according to donor type and adjusted for the competing event (death) in the first 5 years after initiating renal replacement therapy (RRT) stratified by income group.

Compared with high-income countries, kidney transplantation was **76% less likely to be performed in low-income** and **58% less likely in middle-income countries**

Χρόνος αναμονής στην εξωνεφρικής κάθαρση παιδιατρικών ασθενών με ΤΣΧΝΝ

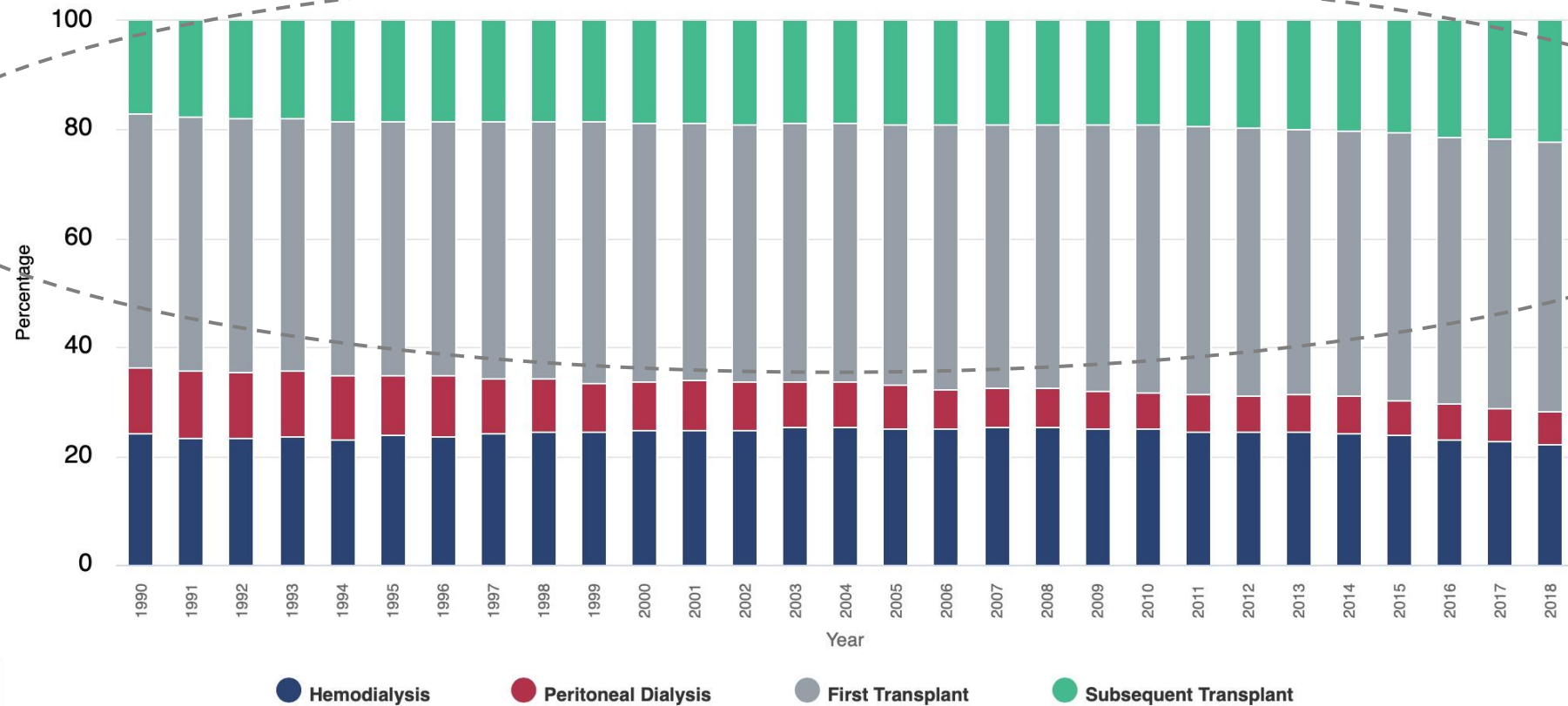
Figure 7.17c Median waitlist time for a kidney-alone transplant among children with ESRD, 2009-2018



Data Source: 2020 United States Renal Data System Annual Data Report

Είδος εξωνεφρικής κάθαρσης σε **ενήλικες** που διαγνώστηκαν με ΤΣΧΝΝ στην παιδική ηλικία

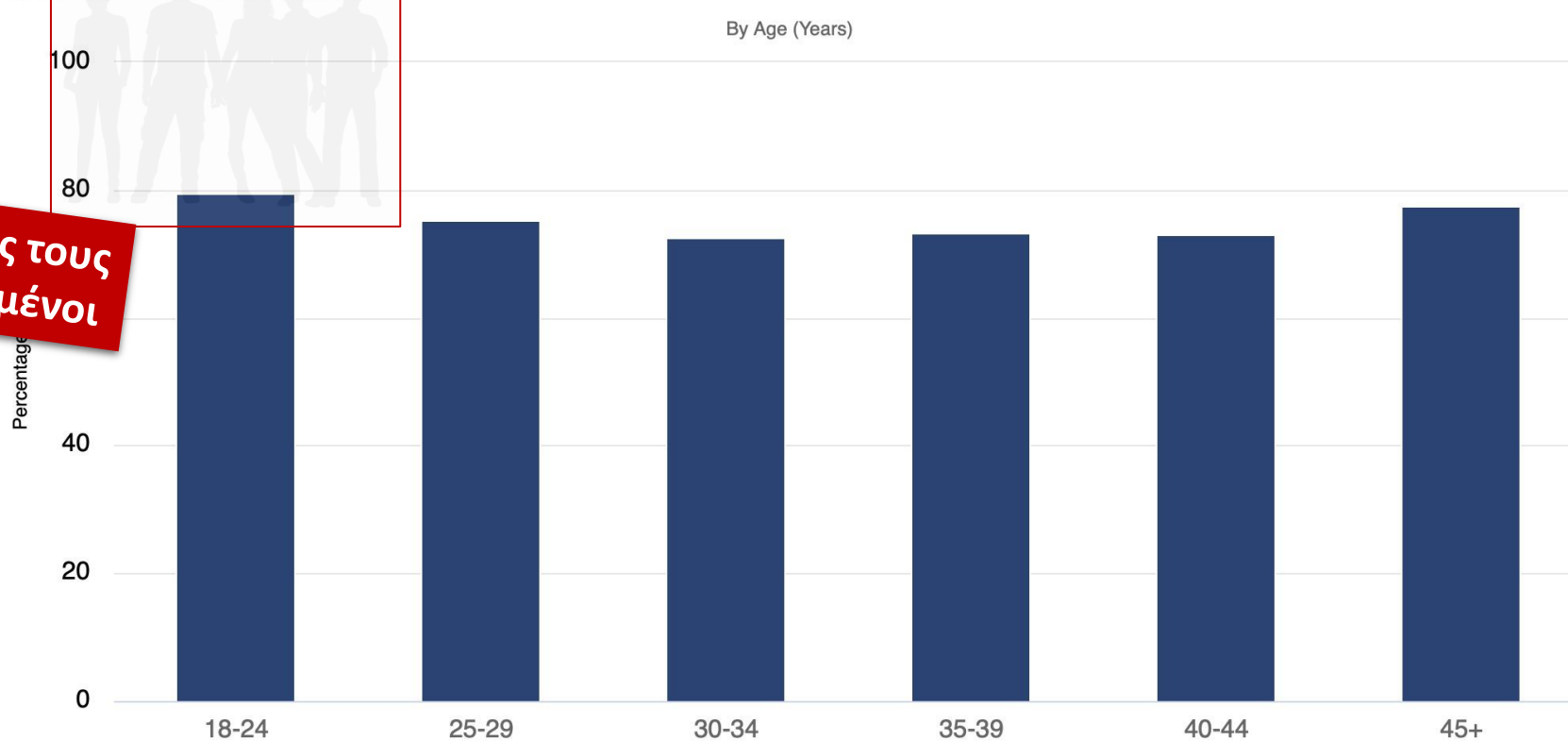
Figure 7.22 Distribution of kidney replacement modality among prevalent adult survivors of ESRD onset in childhood, 1990-2018



Data Source: 2020 United States Renal Data System Annual Data Report

Χρονικό διάστημα ζωής σε μεταμόσχευση σε **ενήλικες** που διαγνώστηκαν με ΤΣΧΝΝ στην παιδική ηλικία

Figure 7.23 Percentage of time with ESRD spent with a functioning kidney transplant among prevalent adult survivors of childhood ESRD



80% της ζωής τους μεταμοσχευμένοι

Data Source: 2020 United States Renal Data System Annual Data Report



Επιδημιολογικά στοιχεία σε παιδιά με ΤΣΧΝΝ στην Ευρώπη

Κατά τα έτη 2007-2016 :

- **6,1** παιδιά/1.000.000 παιδιών 0-14 ετών εμφάνισαν ΤΣΧΝΝ ετησίως

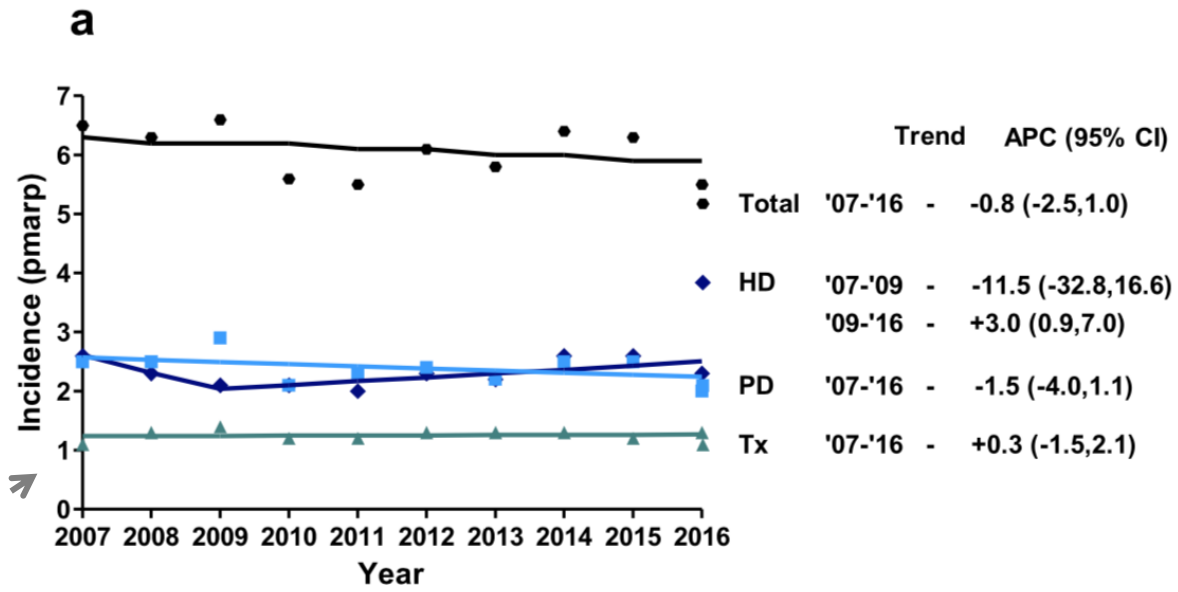
≈**500** παιδιά ετησίως

- **1** παιδί/1.000.000 παιδιών 0-14 ετών μεταμοσχεύθηκε ετησίως σαν 1^η θεραπεία ΤΣΧΝΝ

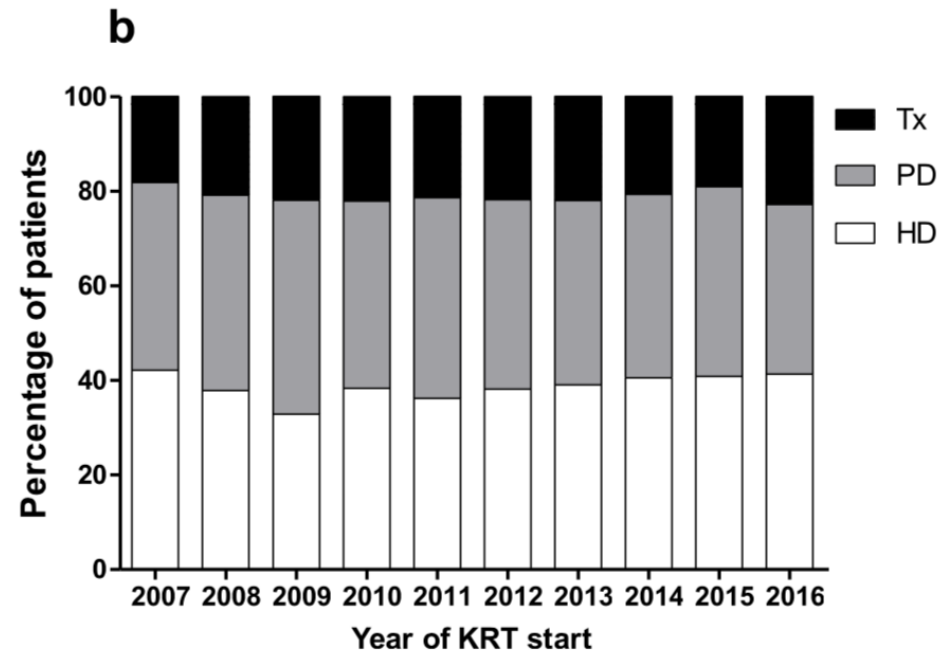
≈**80** παιδιά ετησίως



Ετήσια επίπτωση

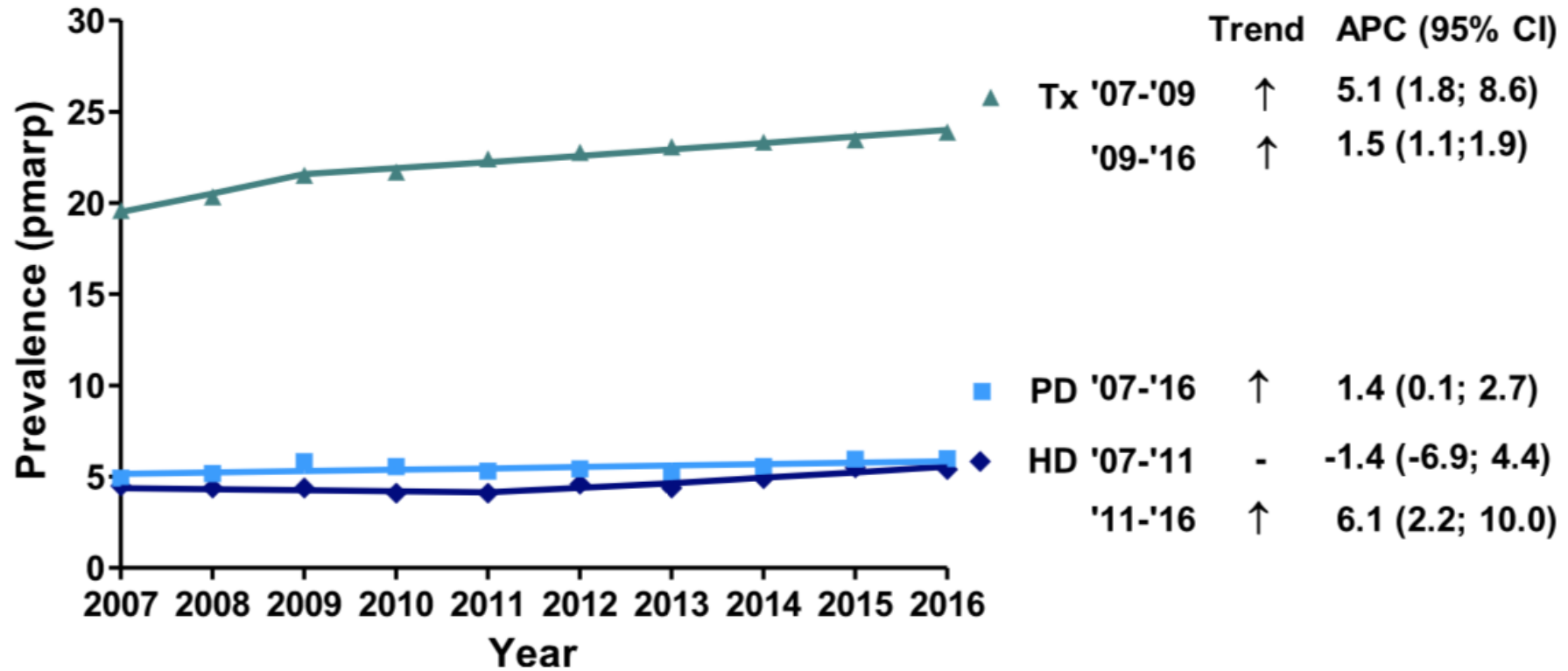


Pre-emptive
μεταμόσχευση



Bonthuis M, et al .Pediatr Nephrol. 2021 Jan 22. doi: 10.1007/s00467-021-04928-w.

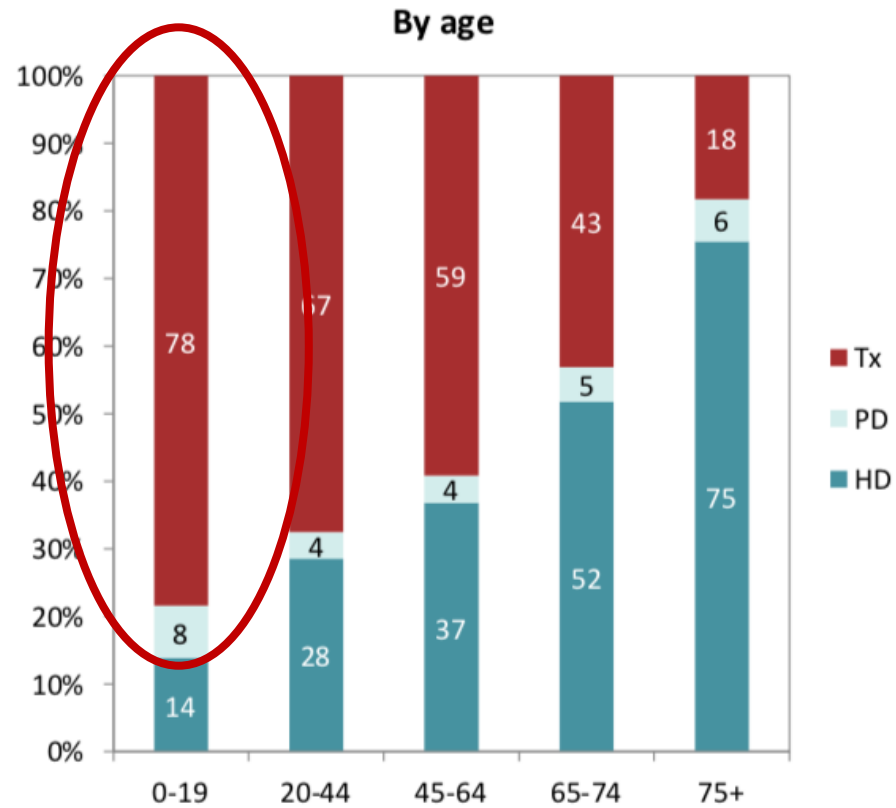
Ετήσιος επιπολασμός



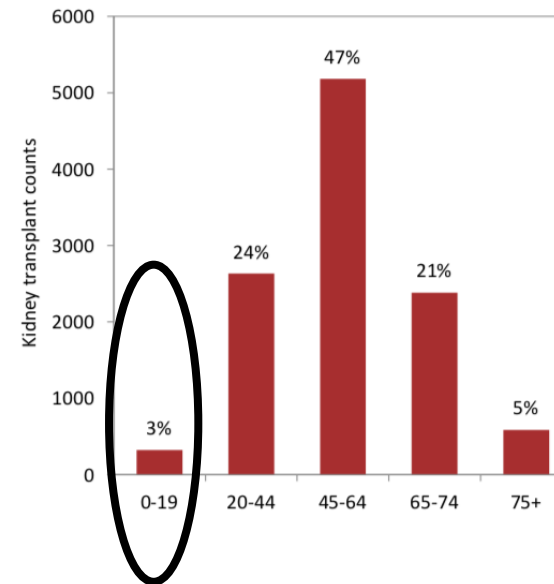
Bonthuis M, et al .Pediatr Nephrol. 2021 Jan 22. doi: 10.1007/s00467-021-04928-w.

Σ. Σταμπουλή-21ο Πανελλήνιο Συνέδριο Μεταμοσχεύσεων

Επιπολασμός ασθενών με ΤΣΧΝΝ στην Ευρώπη το 2019



Kidney transplant counts and percentages by recipient age, unadjusted



The percentages in this figure sum up to 100% for all age groups together



- Η μεταμόσχευση νεφρού στην παιδική ηλικία υπερέχει στην έκβαση των παιδιατρικών ασθενών με ΧΝΝ



- Η μεταμόσχευση νεφρού στην παιδική ηλικία υπερέχει στην έκβαση των παιδιατρικών ασθενών με ΧΝΝ



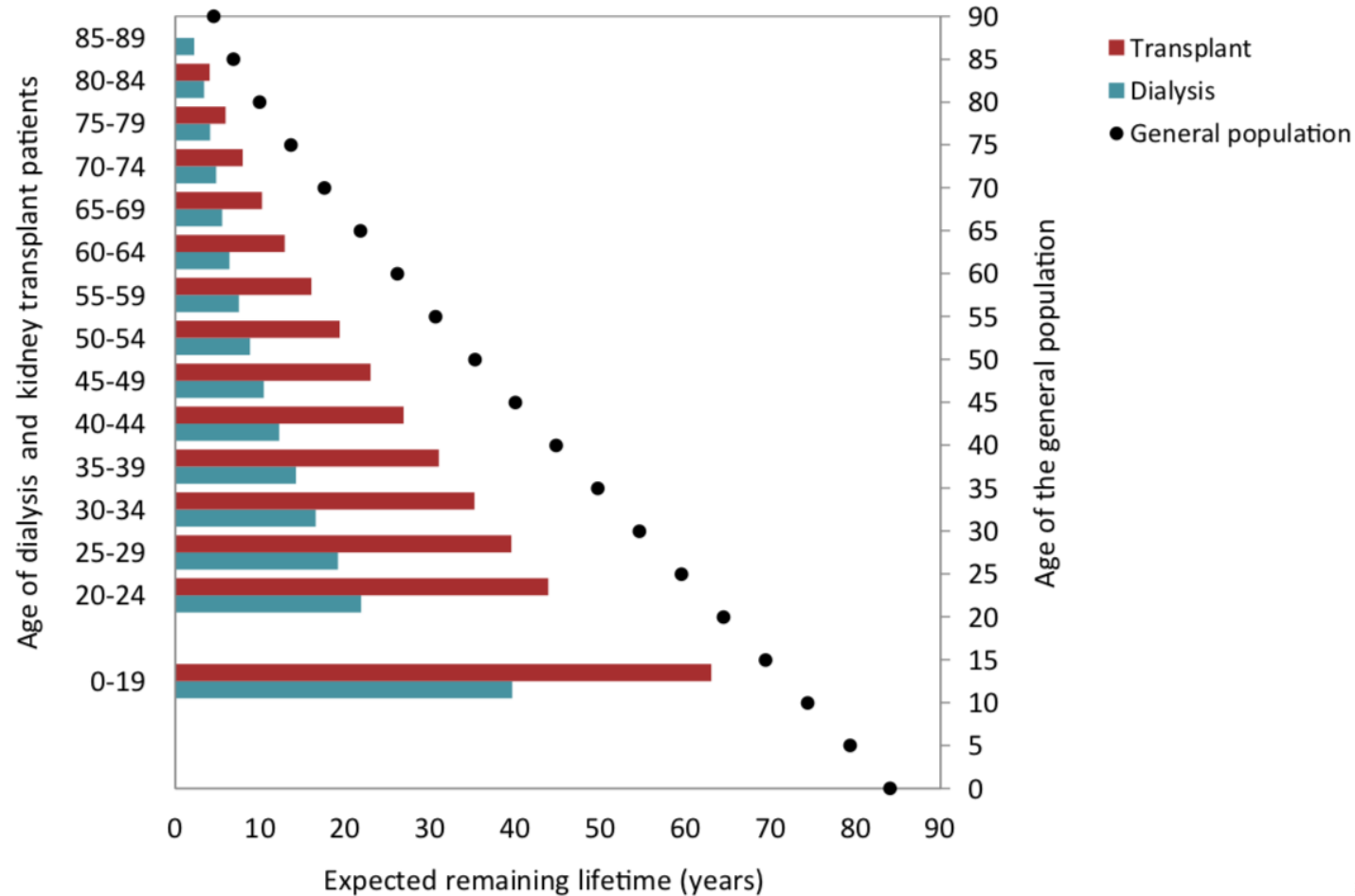
- **Συννοσηρότητες**

- Σωματική αύξηση
- Γνωσιακή ανάπτυξη και ωρίμανση

- Χρόνος στο νοσοκομείο
- Πολυφαρμακία
- Διαιτητικοί περιορισμοί
- Κοινωνικοποίηση
- Εκπαίδευση και εργασία

Πλεονέκτημα της μεταμόσχευσης στο προσδόκιμο επιβίωσης

Expected remaining lifetimes of the general population and of prevalent dialysis and kidney transplant patients



Αν ένας έφηβος 14 ετών υποβληθεί σε μεταμόσχευση νεφρού
πόσο αυξάνεται το προσδόκιμο επιβίωσης?

Είναι σε εξωνεφρική κάθαρση?

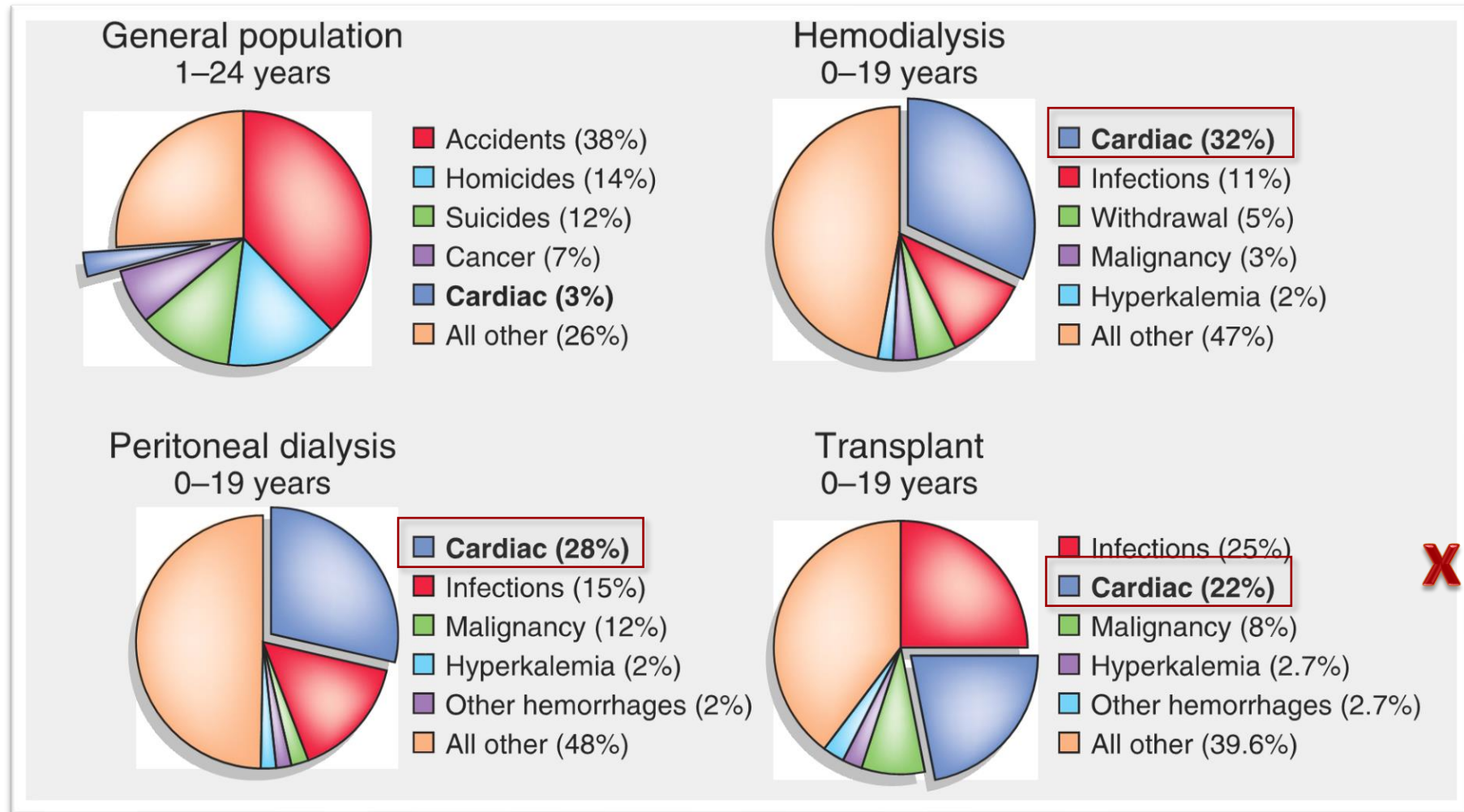
Σε ποια ηλικία άρχισε εξωνεφρική κάθαρση?

Ποια η πρωτοπαθής νόσος?

Υπάρχουν συννοσηρότητες?

Υπάρχει ζώντας δότης?

Θνητότητα σε παιδιά με ΤΣΧΝΝ



x7

Source: US Renal Data System 2006-2008

Mitnefes M, J Am Soc Nephrol 23: 578-585, 2012

Σ. Σταμπουλή-21ο Πανελλήνιο Συνέδριο Μεταμοσχεύσεων

Θνητότητα μετά από παιδιατρική μεταμόσχευση νεφρού

Μεταβολές στη διάρκεια μακροχρόνιας παρακολούθησης

- Αναδρομική μελέτη από τη US Renal Data System (USRDS) database
- 18 911 ασθενείς που υποβλήθηκαν σε 1^η μεταμόσχευση σε ηλικία <21 ετών μεταξύ 1983–2006
- Οι κύριες αιτίες θανάτου ήταν τα **καρδιαγγειακά επεισόδια 29.5%** και οι λοιμώξεις 15.4%

Μέσος χρόνος παρακολούθησης 9 έτη

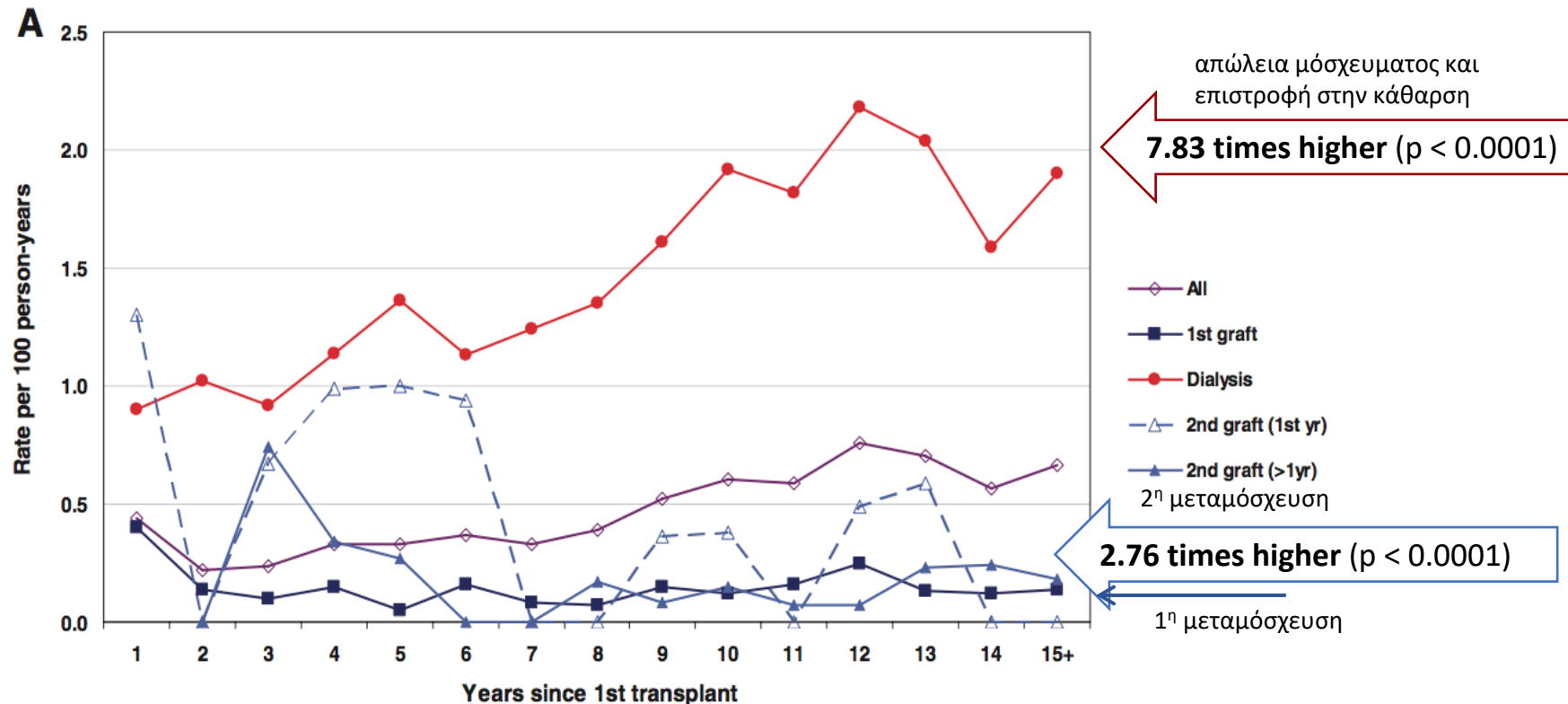
	1st graft	Dialysis	1st year of 2nd transplant	Subsequent years of 2nd transplant	All statuses
Cardiovascular	198 (18.3%)	555 (40.7%)	16 (22.5%)	32 (17.1%)	801 (29.5%)

Απώλεια μόσχευματος
και **επιστροφή** στην
κάθαρση

Θνητότητα μετά από παιδιατρική μεταμόσχευση νεφρού

Μεταβολές στη διάρκεια μακροχρόνιας παρακολούθησης

Για κάθε 1 έτος μετά τη συμπλήρωση του 1^{ου} χρόνου από τη μεταμόσχευση ο κίνδυνος θνητότητας από καρδιαγγειακά νοσήματα για την ηλικία και το φύλο παρουσίαζε **μείωση κατά 16%**



Παράγοντες που σχετίζονται με την καρδιαγγειακή θνητότητα μετά παιδιατρική μεταμόσχευση νεφρού

Table 7. Multivariable Cox models

	Cardiovascular mortality		
	All-cause mortality HR [95% CI] p	Without imputation HR [95% CI] p	With imputation HR [95% CI] p
Years since 1st transplant (per year)	0.99 [0.97, 1.00] p = 0.06	0.89 [0.79, 0.99] p = 0.03	0.84 [0.73, 0.96] p = 0.007
Status category (vs. 1st transplant)			
Dialysis	4.40 [3.98, 4.87] p < 0.0001	4.80 [4.15, 5.55] p < 0.0001	7.83 [6.48, 9.47] p < 0.0001
2nd transplant-1st year	2.39 [1.86, 3.07] p < 0.0001	2.51 [1.75, 3.59] p < 0.0001	2.76 [1.70, 4.50] p < 0.0001
2nd transplant- subsequent years	1.23 [1.03, 1.46] p = 0.02	1.25 [0.98, 1.61] p = 0.07	1.25 [0.87, 1.79] p = 0.2
Male (vs. female)	0.92 [0.85, 1.01] p = 0.06	0.89 [0.79, 1.00] p = 0.05	0.85 [0.73, 0.98]
Socioeconomic status quartile (vs. lowest)			
Low-mid	0.81 [0.72, 0.92] p = 0.001	0.83 [0.69, 0.98] p = 0.03	0.81 [0.69, 0.95] p = 0.01
High-mid	0.78 [0.69, 0.87]	0.75 [0.63, 0.88]	0.75 [0.63, 0.88]
Era of transplant (vs. 1983–1987)			
1988–1994	0.83 [0.75, 0.91] p = 0.0001	0.77 [0.67, 0.88] p = 0.0002	0.77 [0.67, 0.88] p = 0.0002
1995–1997	0.77 [0.66, 0.90] p = 0.0008	0.66 [0.53, 0.83] p = 0.0004	0.66 [0.53, 0.83] p = 0.0004
1998–2001	0.77 [0.64, 0.91] p = 0.003	0.74 [0.58, 0.95] p = 0.02	0.74 [0.58, 0.95] p = 0.02
2002–2006	0.69 [0.52, 0.92] p = 0.01	0.65 [0.43, 0.97] p = 0.04	0.65 [0.43, 0.97] p = 0.04
Deceased donor (vs. living donor)	1.05 [0.96, 1.15] p = 0.3	1.15 [0.99, 1.35] p = 0.06	1.15 [0.99, 1.35] p = 0.06
Duration of dialysis before 1st transplant (per year)	1.06 [1.04, 1.09] p < 0.0001	1.05 [1.00, 1.10] p = 0.03	1.05 [1.00, 1.10] p = 0.03

Era of transplant (vs. 1983–1987)		
1988–1994	0.83 [0.75, 0.91] p = 0.0001	0.77 [0.67, 0.88] p = 0.0002
1995–1997	0.77 [0.66, 0.90] p = 0.0008	0.66 [0.53, 0.83] p = 0.0004
1998–2001	0.77 [0.64, 0.91] p = 0.003	0.74 [0.58, 0.95] p = 0.02
2002–2006	0.69 [0.52, 0.92] p = 0.01	0.65 [0.43, 0.97] p = 0.04
Deceased donor (vs. living donor)	1.05 [0.96, 1.15] p = 0.3	1.15 [0.99, 1.35] p = 0.06
Duration of dialysis before 1st transplant (per year)	1.06 [1.04, 1.09] p < 0.0001	1.05 [1.00, 1.10] p = 0.03

↓
Παιδιά που μεταμοσχεύτηκαν σε πιο πρόσφατα έτη χαμηλότερο κίνδυνο για θνητότητα από καρδιαγγειακά αίτια

↑
Μεταμόσχευση αποβιώσαντες δότες και μεγαλύτερη διάρκεια κάθαρσης πριν είχε μεγαλύτερο κίνδυνο για θνητότητα από καρδιαγγειακά αίτια

Long-term consequences of renal insufficiency in children: lessons learned from the Dutch LERIC study

Jaap W. Groothoff¹, Martin Offringa², Martha Grootenhuis³ and Kitty J. Jager⁴

Μέσος χρόνος παρακολούθησης 25 έτη

Long-term consequences of renal insufficiency in children

Table 2. Comparison of populations, interventions, disease course and mortality rates between the LERIC cohort and two other long-term outcome studies on chronic RRT in children

Cohort	LERIC (The Netherlands)	ANZDATA (Australia/ New Zealand)	CPERDD (Canada)
Cause of death	CVD 31% (41%) ^d CVA 60% Congestive heart failure 13% Myocardial infarction 13% Cardiac arrest 7% Other 8%	CVD 45% CVA 16% Cardiac arrest 25% Myocardial ischemia 14% Pulmonary edema 12% Hyperkalemia 11% Other 22%	Cardiovascular disease 27.4% Infection 15.5% Malignancies 9.4% Social 10.7% (refusal treatment, suicide, alcohol/drugs—all dx) Undetermined 23.3% Other 27%
	Infections 32% (25%) ^d	Infections 21%	
	Malignancies 13% (9.5%) ^d	Other ND	
	Other 21% (22%) ^d Refusal treatment 8% (11%) ^d Hyperkalemia 3% (5%) ^d Bleeding 2% (2%) ^d		
Mortality rate	1.57 (381 patients)–1.69 patients/100 patient-years	2.38/100 patient-years	1.79/100 patient-years
	1.49 (39.0) after 25.5 years on RRT	436/1634 (26.7) after 11.3 years on RRT	107/843 (12.7) after 7.1 years on RRT
		32.6% on tx	21.5% on tx
			55.1% during first dx episode

Long-term consequences of renal insufficiency in children

Table 2. Comparison of populations, interventions, disease course and mortality rates between the LERIC cohort and two other long-term outcome studies on chronic RRT in children

Cohort	LERIC (The Netherlands)	ANZDATA (Australia/ New Zealand)	CPERDD (Canada)
Number of patients	381/249 ^a	1634	843
Included population	All Dutch patients, RRT onset <15 years from 1972–92, born <1979	Australia/New Zealand registry, RRT onset <20 years, 1963–2002	Canadian registry RRT patients <19 years, 1992–2007
Factors associated with premature death ^b	RRT decade (versus 1982–92)	RRT decade (versus 1993–2002)	RRT decade (versus 2000–07)
	1972–82 1.7 (1;2.7)	1963–72 4.2 1973–82 2.0	1992–99 1.18 (0.69;2.03, ns)
	HR Time dx versus Tx 7.2 (4.4;11.8)	HR tx versus dialysis: 0.15–0.3 ^c	HR time without graft function 7.17 (3.86;13.34)
	HR Age onset RRT (versus >5 years) <6 years 2.2 (1.3;3.5)	HR age onset RRT (versus 15–19 years) <1 year: 3.7 1–4 year: 1.7 5–14 year: n.s	HR age onset RRT (versus 10–18 years) <1 7.82 (3.97;15.44) 1–9 1.47 (0.70;3.12, ns)
	HR > 50% time hypertension 3.1 (2.1; 4.6)	Hypertension ND	Hypertension ND
>20 years of tx time			
Number (%) of patients with >20 consecutive years on tx	71 (28.5)	ND	ND
Mortality rate	1.57 (381 patients)–1.69	2.38/100 patient-years	1.79/100 patient-years
Number of deaths (%)	(249 patients)/100 patient-years	436/1634 (26.7) after 11.3 years on RRT	107/843 (12.7) after 7.1 years on RRT
	249 (39.0) after 25.5 years on RRT	32.6% on tx	21.5% on tx
	43.3% on tx	22.2% on PD	55.1% during first dx episode
			22.4% during second dx episode

- Η μεταμόσχευση νεφρού στην παιδική ηλικία υπερέχει στην έκβαση των παιδιατρικών ασθενών με ΧΝΝ



- Συννοσηρότητες
- **Σωματική αύξηση**
- Γνωσιακή ανάπτυξη και ωρίμανση

- Χρόνος στο νοσοκομείο
- Πολυφαρμακία
- Διαιτητικοί περιορισμοί
- Κοινωνικοποίηση
- Εκπαίδευση και εργασία

Αν ένας έφηβος 14 ετών υποβληθεί σε μεταμόσχευση
νεφρού?

Θα πάρει ύψος??

Αύξηση μετά τη μεταμόσχευση

- Το ύψος ήταν εντός του φυσιολογικού εύρους στο 55%, ενώ το 28% παρουσίασε μέτριο και το 17% σοβαρό έλλειμμα ανάπτυξης
- Η αύξηση μετά τη μεταμόσχευση παραμένει χαμηλή και παρατηρείται κυρίως στις μικρότερες ηλικίες και σε **(preemptive) μεταμόσχευση από ζώντα δότη**

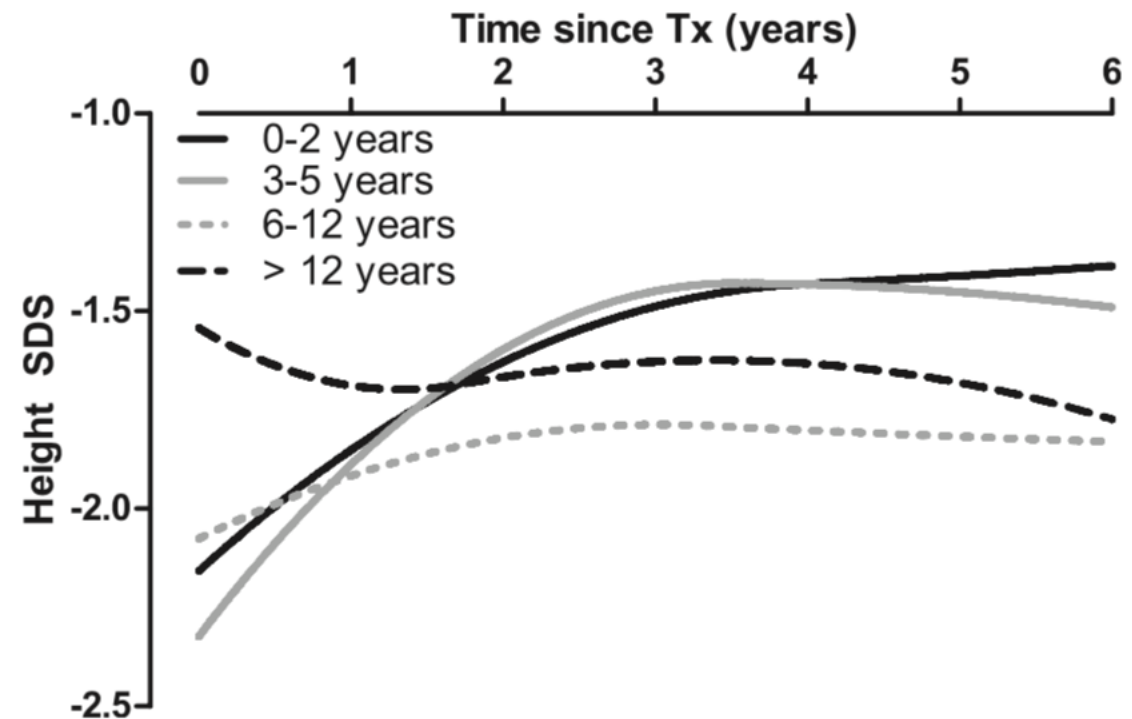


FIGURE 2. Unadjusted posttransplant growth patterns stratified by age at KT. KT, kidney transplantation.

Bonthuis M, et al. Growth Patterns After Kidney Transplantation in European Children Over the Past 25 Years: An ESPN/ERA-EDTA Registry Study. Transplantation. 2020 Jan;104(1):137-144.

Αύξηση μετά τη μεταμόσχευση

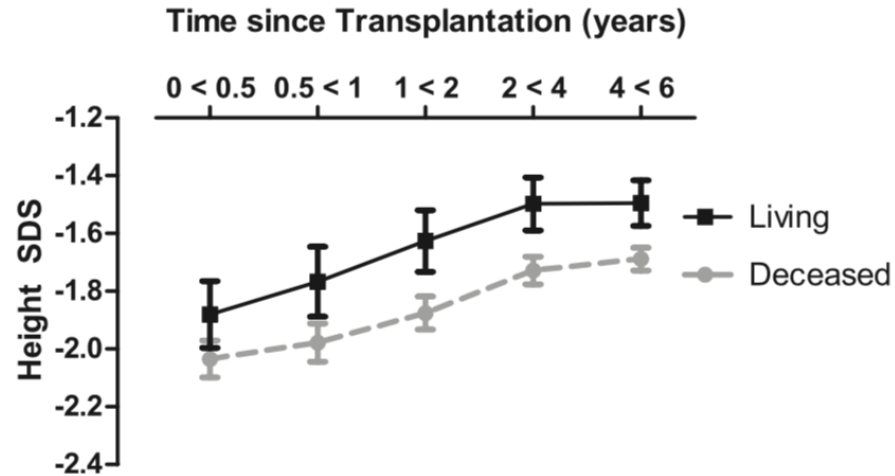


FIGURE 1. Posttransplant growth by donor type. Adjustments were made for sex, age at KT, PRD, and period of KT. KT, kidney transplantation; PRD, primary renal disease.

Bonthuis M, et al. Growth Patterns After Kidney Transplantation in European Children Over the Past 25 Years: An ESPN/ERA-EDTA Registry Study. Transplantation. 2020 Jan;104(1):137-144.

TABLE 2.

Factors associated with height SDS

Variable	Unadjusted		Adjusted	
	Mean height SDS (95% CI)	P value ^a	Mean height SDS (95% CI)	P value ^a
Sex			Adjusted for ^b	
Boys	-1.73 (-1.78 to -1.67)	Reference	-1.73	Reference
Girls	-1.84 (-1.93 to -1.76)	0.008	-1.84 (-1.93 to -1.76)	0.01
Age at KT (y)			Adjusted for ^c	
13-17	-1.77 (-1.83 to -1.70)	Reference	-1.74	Reference
6-12	-1.83 (-1.90 to -1.75)	0.14	-1.83 (-1.90 to -1.75)	0.03
3-5	-1.78 (-1.88 to -1.68)	0.79	-1.82 (-1.92 to -1.72)	0.13
0-2	-1.59 (-1.70 to -1.49)	0.003	-1.63 (-1.74 to -1.52)	0.09
Period of KT ^d			Adjusted for ^e	
1990-1999	-1.74 (-1.81 to -1.67)	Reference	-1.77	Reference
2000-2009	-1.78 (-1.86 to -1.71)	0.23	-1.77 (-1.85 to -1.69)	0.97
2010-2012	-1.82 (-1.94 to -1.70)	0.19	-1.77 (-1.90 to -1.65)	0.98
Primary renal disease			Adjusted for ^f	
CAKUT	-1.81 (-1.88 to -1.75)	Reference	-1.83	Reference
Glomerulonephritis	-1.67 (-1.79 to -1.54)	0.03	-1.63 (-1.76 to -1.51)	0.005
Hereditary nephropathy	-1.70 (-1.86 to -1.55)	0.18	-1.75 (-1.91 to -1.60)	0.33
Cystic kidney disease	-1.83 (-1.96 to -1.69)	0.83	-1.81 (-1.94 to -1.67)	0.68
HUS	-1.40 (-1.61 to -1.19)	<0.001	-1.36 (-1.57 to -1.15)	<0.001
Ischemic renal failure	-1.81 (-2.11 to -1.51)	0.97	-1.80 (-2.10 to -1.51)	0.84
Vasculitis	-1.36 (-1.67 to -1.05)	0.008	-1.32 (-1.64 to -1.01)	0.004
Metabolic disorder	-2.57 (-2.79 to -2.34)	<0.001	-2.55 (-2.77 to -2.33)	<0.001
Miscellaneous or unknown	-1.67 (-1.80 to -1.53)	0.05	-1.64 (-1.78 to -1.50)	0.01
Time on dialysis			Adjusted for ^g	
0 y (preemptive KT)	-1.68 (-1.76 to -1.60)	Reference	-1.65 (-1.78 to -1.52)	Reference
0 ≤ 1 y	-1.62 (-1.73 to -1.52)	0.31	-1.63 (-1.74 to -1.52)	0.74
>1 y	-1.97 (-2.07 to -1.87)	<0.001	-1.98 (-2.09 to -1.87)	<0.001
Donor source			Adjusted for ^h	
Deceased	-1.83 (-1.88 to -1.78)	Reference	-1.83	Reference
Living	-1.65 (-1.74 to -1.56)	<0.001	-1.64 (-1.74 to -1.56)	<0.001
Steroids use			Adjusted for ⁱ	
Steroid based	-1.77 (-1.81 to -1.72)	Reference	-1.77	Reference
Steroid free	-1.60 (-1.40 to -1.79)	0.10	-1.55 (-1.75 to -1.36)	0.03
eGFR			Adjusted for ^j	
>90	-1.77 (-1.83 to -1.70)	Reference	-1.75	Reference
60-89	-1.75 (-1.80 to -1.69)	0.50	-1.74 (-1.79 to -1.69)	0.61
30-59	-1.78 (-1.83 to -1.72)	0.65	-1.79 (-1.84 to -1.73)	0.26
<30	-1.88 (-1.95 to -1.82)	0.006	-1.92 (-1.98 to -1.85)	<0.001
Hypertension			Adjusted for ^k	
Yes	-1.78 (-1.82 to -1.73)	Reference	-1.77	Reference
No	-1.72 (-1.74 to -1.69)	<0.001	-1.71 (-1.74 to -1.68)	0.0002
Anemia			Adjusted for ^k	
Yes	-1.86 (-1.93 to -1.80)	Reference	-1.85	Reference
No	-1.77 (-1.82 to -1.72)	0.002	-1.77 (-1.83 to -1.72)	0.01

Αύξηση μετά τη μεταμόσχευση

TABLE 2.
Factors associated with height SDS

Variable	Unadjusted		Adjusted	
	Mean height SDS (95% CI)	P value ^a	Mean height SDS (95% CI)	P value ^a
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Boys	-1.73 (-1.78 to -1.67)	Reference	-1.73	Reference
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2010-2012	-1.82 (-1.94 to -1.70)	0.19	-1.77 (-1.90 to -1.65)	0.98
Primary renal disease			Adjusted for ^f	
GN1	-1.81 (-1.93 to -1.70)	0.002	-1.82	Reference
GN2	-1.81 (-1.93 to -1.70)	0.002	-1.82	Reference
Time on dialysis			Adjusted for ^g	
0 y (preemptive KT)	-1.68 (-1.76 to -1.60)	Reference	-1.65 (-1.78 to -1.52)	Reference
0 ≤ 1 y	-1.62 (-1.73 to -1.52)	0.31	-1.63 (-1.74 to -1.52)	0.74
>1 y	-1.97 (-2.07 to -1.87)	<0.001	-1.98 (-2.09 to -1.87)	<0.001
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Steroid free	-1.60 (-1.40 to -1.79)	0.10	-1.55 (-1.75 to -1.36)	0.03
Hypertension			Adjusted for ^j	
Yes	-1.78 (-1.82 to -1.73)	Reference	-1.77	Reference
No	-1.72 (-1.74 to -1.69)	<0.001	-1.71 (-1.74 to -1.68)	0.0002
Anemia			Adjusted for ^k	
Yes	-1.86 (-1.93 to -1.80)	Reference	-1.85	Reference
No	-1.77 (-1.82 to -1.72)	0.002	-1.77 (-1.83 to -1.72)	0.01

Bonthuis M, et al. Growth Patterns After Kidney Transplantation in European Children Over the Past 25 Years: An ESPN/ERA-EDTA Registry Study. Transplantation. 2020 Jan;104(1):137-144.

Ύψος κατά την ενηλικίωση Μεταμόσχευση νεφρού vs. κάθαρση

1. Μεγαλύτερη ηλικία στην αρχή της κάθαρσης
2. Πιο πρόσφατη περίοδος ένταξης
3. Αθροιστικός ποσοστιαίος χρόνος με λειτουργικό μόσχευμα
4. Μεγαλύτερο ύψος κατά την ένταξη σε κάθαρση

συσχετίστηκαν ανεξάρτητα με ένα υψηλότερο τελικό ύψος

Variable	Unadjusted		Adjusted	
	Mean Final Height SDS (95% CI)	P Value	Mean Final Height SDS (95% CI)	P Value
Height at start of RRT				
Per 1 SDS increase	0.38 (0.34 to 0.43)	<0.001	0.37 (0.32 to 0.41) ^a	<0.001
Percentage of lifetime RRT				
Per 10% increase	-0.09 (-0.12 to -0.06)	<0.001	0.04 (-0.01 to 0.09) ^b	0.11
Percentage of lifetime with functioning graft				
Per 10% increase	0.008 (-0.03 to 0.04)	0.64	0.19 (0.15 to 0.24) ^b	<0.001
Percentage of RRT time with functioning graft				
Per 10% increase	0.06 (0.04 to 0.08)	<0.001	0.10 (0.07 to 0.12) ^b	<0.001
Years with functioning graft				
Per additional year	0.004 (-0.01 to 0.02)	0.62	0.10 (0.08 to 0.12) ^b	<0.001
Percentage of RRT time on dialysis				
Per 10% increase	-0.06 (-0.08 to -0.04)	<0.001	-0.10 (-0.12 to -0.08) ^b	<0.001
Years on dialysis				
Per additional year	-0.16 (-0.19 to -0.13)	<0.001	-0.14 (-0.17 to -0.11) ^b	<0.001

SDS, SD score; CI, confidence interval; RRT, renal replacement therapy.
^aAdjusted for age at start of RRT, period of RRT, sex, and primary renal disease.
^bAdjusted for age at start of RRT, period of RRT, sex, primary renal disease, and initial RRT modality.

Harambat J, et al; ESPN/ERA-EDTA Registry. Adult height in patients with advanced CKD requiring renal replacement therapy during childhood. Clin J Am Soc Nephrol. 2014 Jan;9(1):92-9.

Ύψος κατά την ενηλικίωση

Μεταμόσχευση νεφρών κατά την παιδική ηλικία

1. Μεγαλύτερη ηλικία έναρξης
 2. Πιο πρόσφατη έναρξη
 3. Αθροιστικός χρόνος με μεταμόσχευση νεφρών
 4. Μεγαλύτερος χρόνος με μεταμόσχευση νεφρών
- συσχετίστηκαν με το ύψος κατά την ενηλικίωση

Table 3. Factors associated with final height SD score: continuous variables (n=1612)

Variable	Unadjusted		Adjusted	
	Mean Final Height SDS (95% CI)	P Value	Mean Final Height SDS (95% CI)	P Value
Height at start of RRT Per 1 SDS increase	0.38 (0.34 to 0.43)	<0.001	0.37 (0.32 to 0.41) ^a	<0.001
Percentage of lifetime RRT Per 10% increase	-0.09 (-0.12 to -0.06)	<0.001	0.04 (-0.01 to 0.09) ^b	0.11
Percentage of lifetime with functioning graft Per 10% increase	0.008 (-0.03 to 0.04)	0.64	0.19 (0.15 to 0.24) ^b	<0.001
Percentage of RRT time with functioning graft Per 10% increase	0.06 (0.04 to 0.08)	<0.001	0.10 (0.07 to 0.12) ^b	<0.001
Years with functioning graft Per additional year	0.004 (-0.01 to 0.02)	0.62	0.10 (0.08 to 0.12) ^b	<0.001
Percentage of RRT time on dialysis Per 10% increase	-0.06 (-0.08 to -0.04)	<0.001	-0.10 (-0.12 to -0.08) ^b	<0.001
Years on dialysis Per additional year	-0.16 (-0.19 to -0.13)	<0.001	-0.14 (-0.17 to -0.11) ^b	<0.001

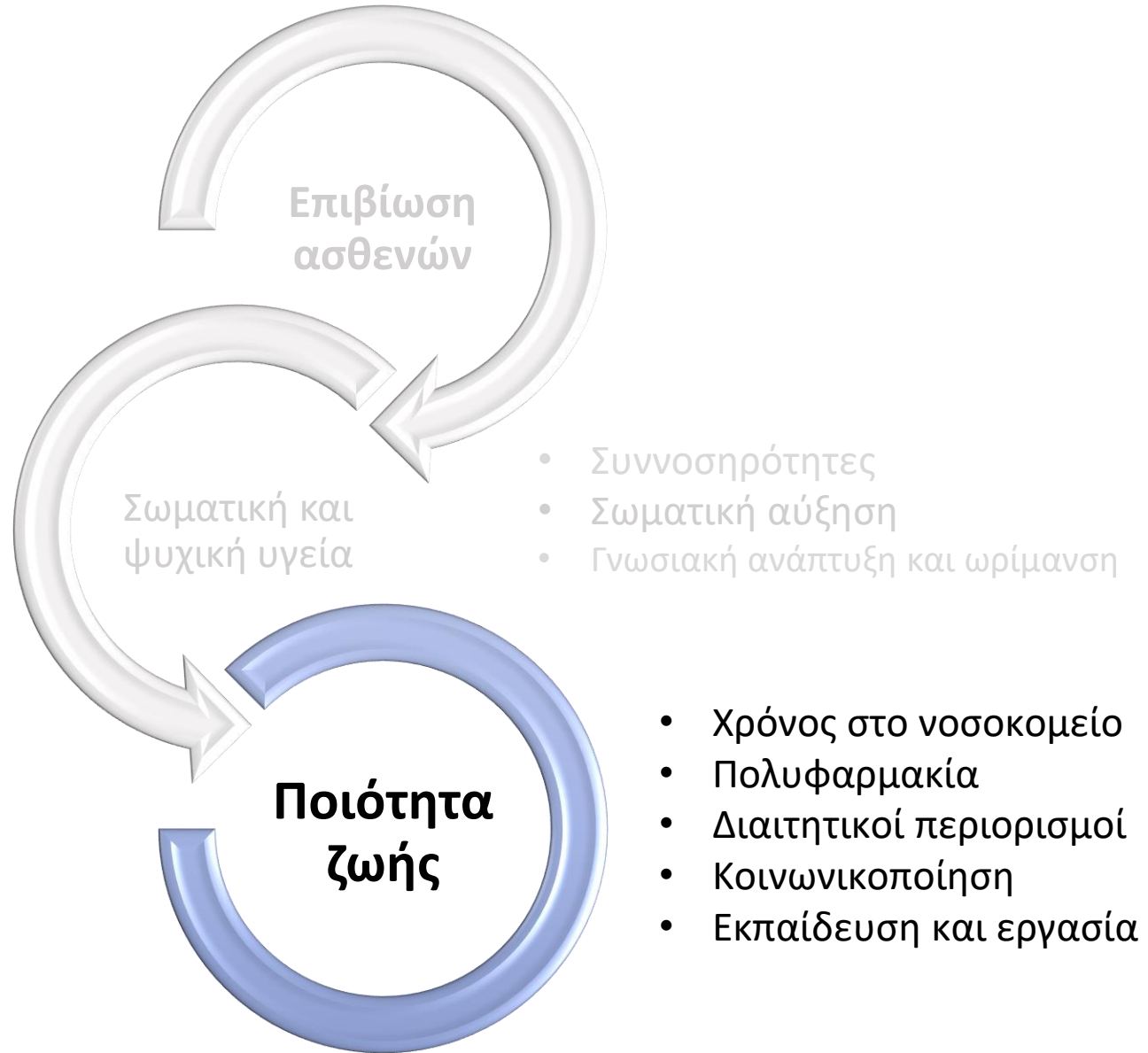
Harambat J, et al; ESPN/ERA-EDTA Report 2017
renal replacement therapy during childhood

SDS, SD score; CI, confidence interval; RRT, renal replacement therapy.

^aAdjusted for age at start of RRT, period of RRT, sex, and primary renal disease.

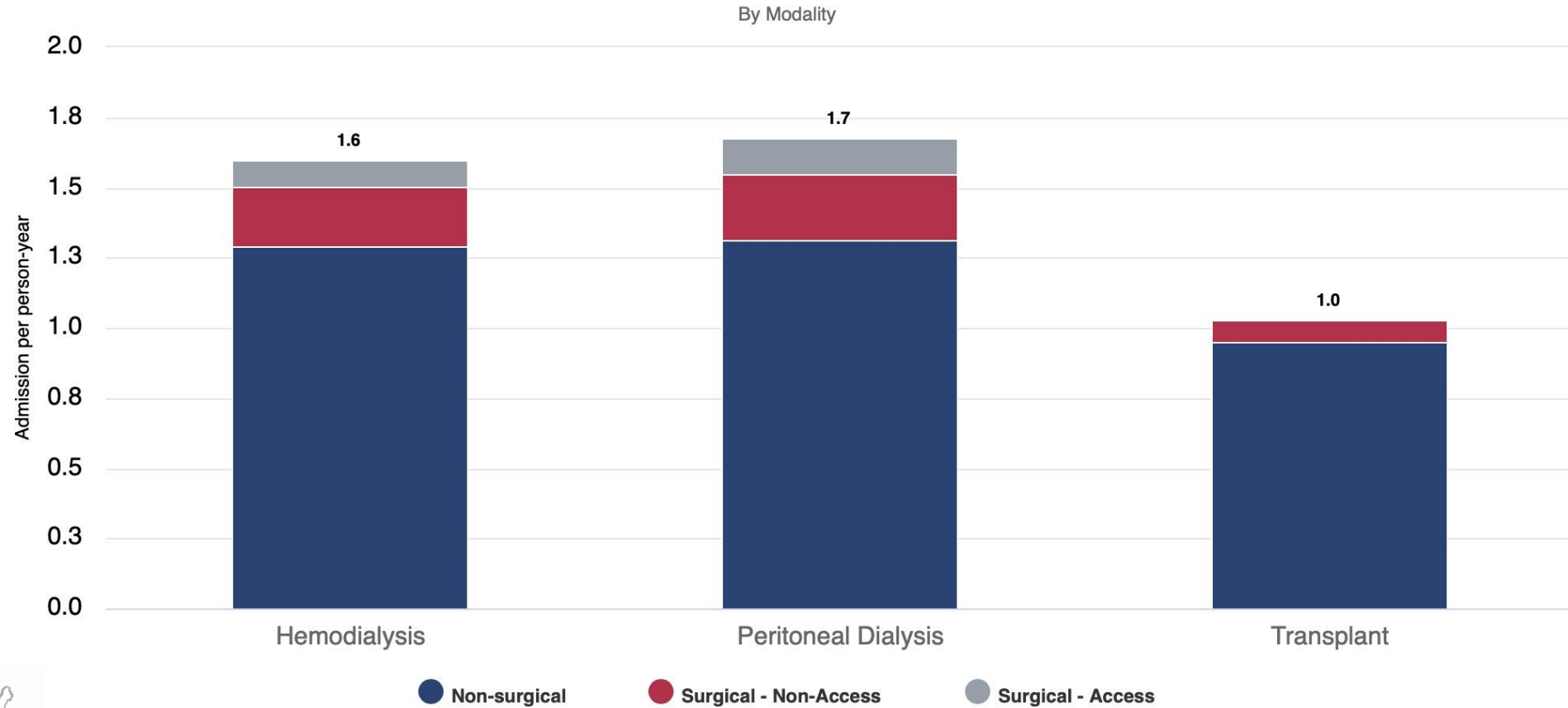
^bAdjusted for age at start of RRT, period of RRT, sex, primary renal disease, and initial RRT modality.

- Η μεταμόσχευση νεφρού στην παιδική ηλικία υπερέχει στην έκβαση των παιδιατρικών ασθενών με ΧΝΝ



Νοσηλείες σε παιδιά με ΤΣΧΝΝ

Figure 7.8 Adjusted rates of hospitalization in children in the year after ESRD onset, by type of hospitalization, age, and treatment modality, 2013-2017



Data Source: 2020 United States Renal Data System Annual Data Report

Σχετιζόμενη με την υγεία ποιότητα ζωής

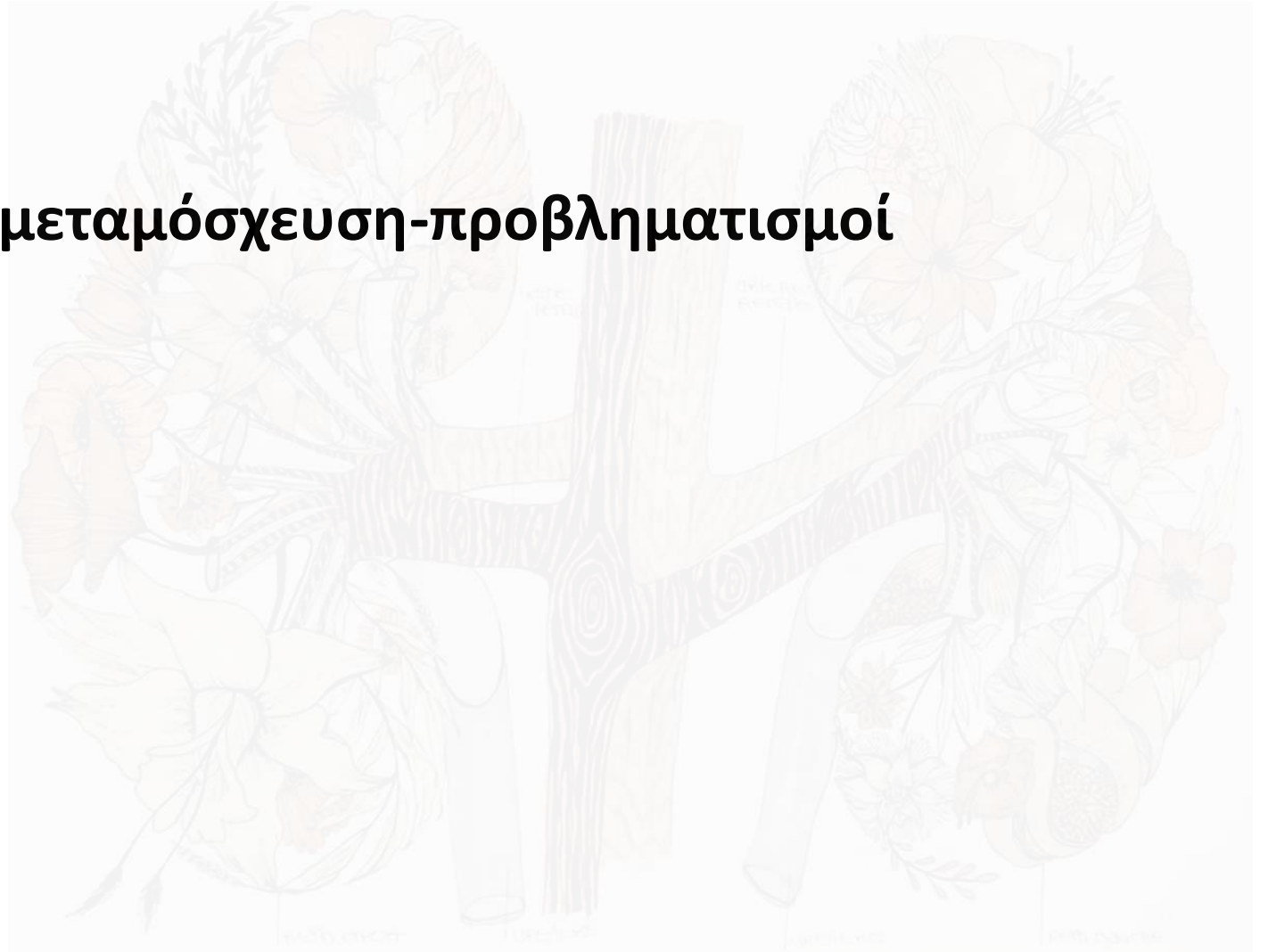
- Τα παιδιά με ΤΣΧΝΝ πρέπει να αντιμετωπίσουν αρκετές προκλήσεις, συχνές νοσηλείες, επώδυνες ιατρικές διαδικασίες, σχολική απουσία, περιορισμός των δραστηριοτήτων
- Ύπαρξη συννοσηροτήτων, όπως **καρδιαγγειακές παθήσεις, υποκείμενα σύνδρομα, ουρολογικά προβλήματα** αποτελούν σημαντικούς παράγοντες για χαμηλή ποιότητα ζωής
- Μελέτες αναφέρουν στατιστικά σημαντικά **υψηλότερες βαθμολογίες HRQoL σε παιδιά με νεφρικό μόσχευμα**, βελτιωμένη σωματική δραστηριότητα, μεγαλύτερη ικανοποίηση, λιγότερη δυσφορία και καλύτερη σχολική συμμετοχή
- Ορισμένες μελέτες αναφέρουν **παρόμοιες βαθμολογίες HRQoL σε σύγκριση με τον γενικό πληθυσμό**

Perspectives on life participation by young adults with childhood-onset chronic kidney disease

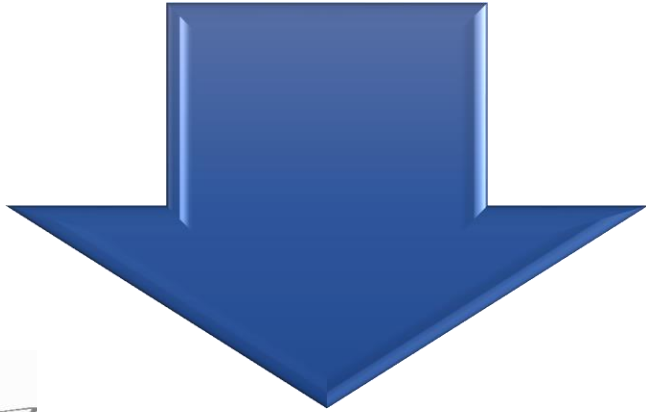


Kerklaan J, BMJ Open. 2020 Oct 16;10(10):e037840.

Στοχεύοντας στην ιδανική μεταμόσχευση-προβληματισμοί



Σχεδιάζοντας τη μεταμόσχευση



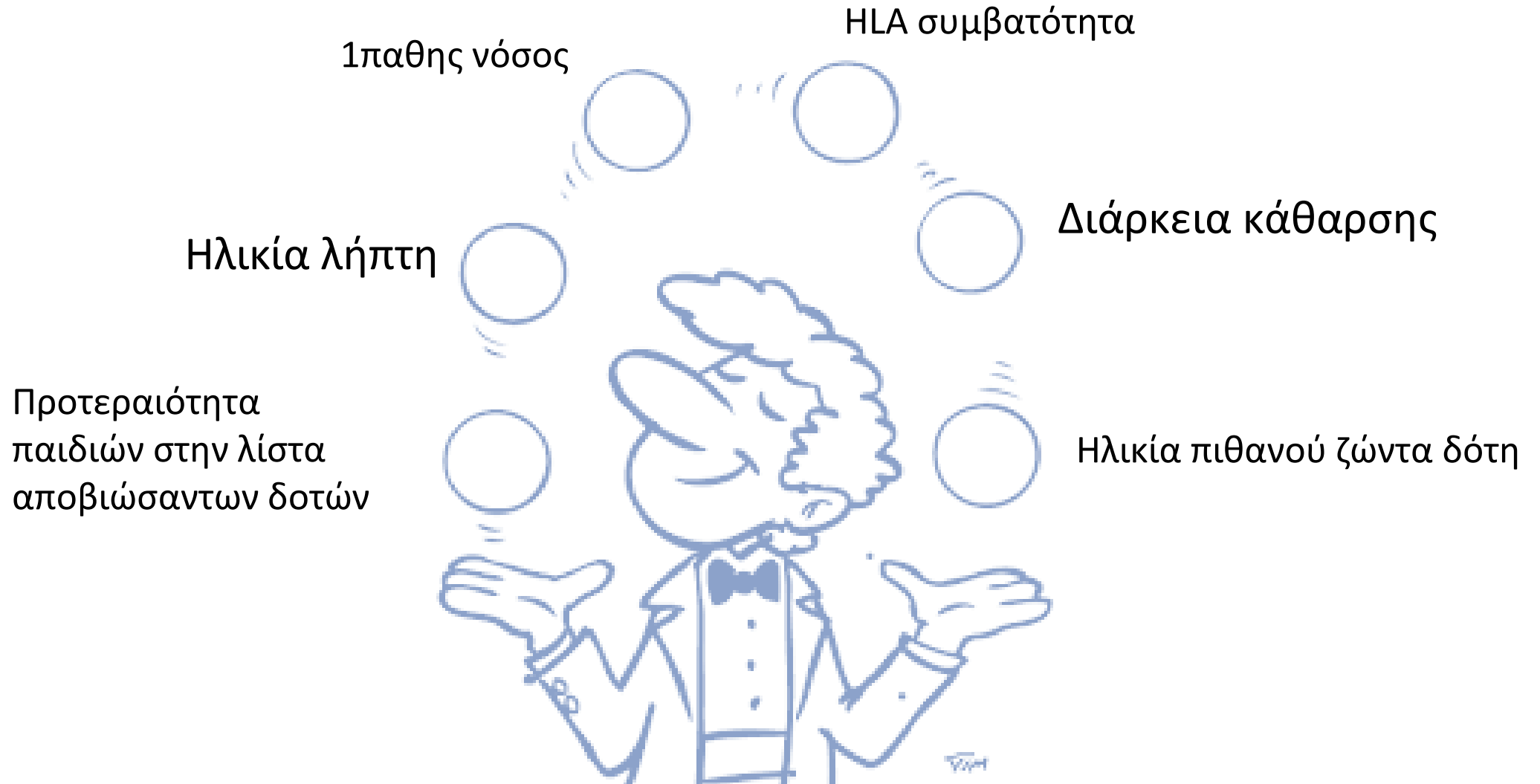
Τα παιδιά που υποβάλλονται σε μεταμόσχευση έχουν πολλά χρόνια ζωής μπροστά τους και συχνά θα χρειαστούν δεύτερη μεταμόσχευση



Ο χρόνος στην αιμοκάθαρση επηρεάζει αρνητικά την έκβαση
→ μεταμόσχευση παιδιών το συντομότερο δυνατόν



Επιλογή του ιδανικού δότη



The association of donor and recipient age with graft survival in paediatric renal transplant recipients in ESPN/ERA–EDTA Registry study

4.686 ασθενείς με 1^η μεταμόσχευση νεφρού μεταξύ την περίοδο 1990 -2013 σε 13 Ευρωπαϊκές χώρες

Αποβιώσαντες δότες

- 5-ετης 85.1% (95% CI 83.7–86.3)
- 10-ετης 72.0% (95% CI 69.7–74.3)

Ζώντες δότες

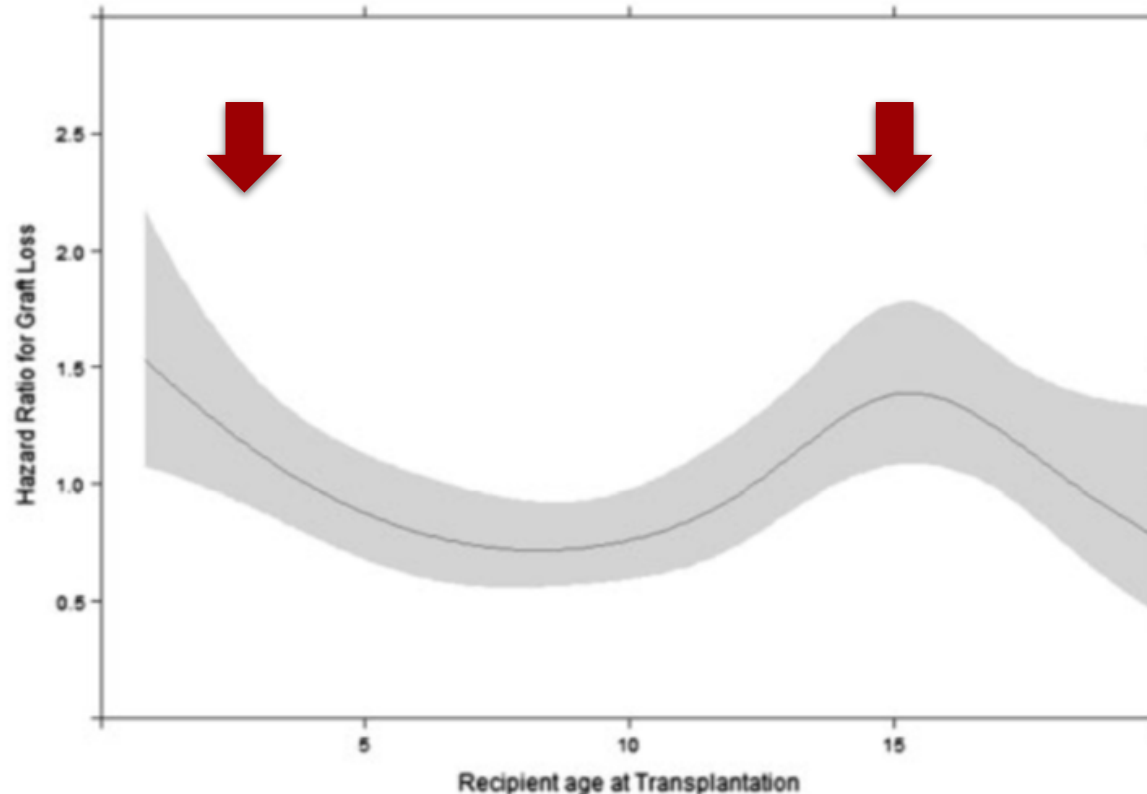
- 5-ετης: 90.1% (95% CI 87.8–92.0)
- 10-ετης: 76.9% (95% CI 72.1– 81.0)

log-rank P < 0.0001



The association of donor and recipient age with graft survival in paediatric renal transplant recipients in ESPN/ERA–EDTA Registry study

Effect of recipient age at transplantation on the hazard of graft loss adjusted for donor age, PRD with a high risk of disease recurrence, sex, pre-emptive transplantation



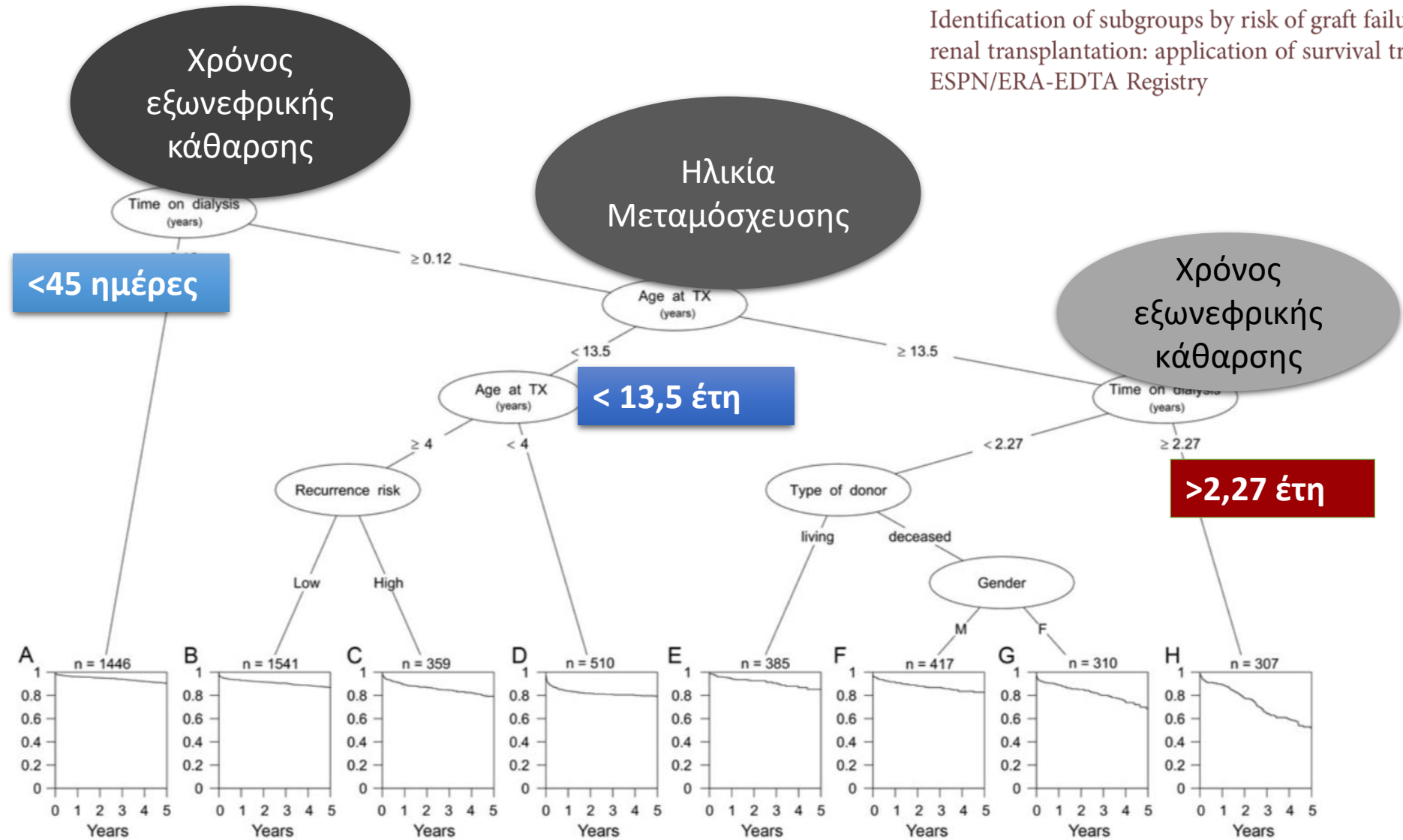
Recipient age was **non-linearly** associated with graft loss ($P < 0.0001$) but did not differ by transplant source (P-value for interaction term = 0.80) or study period (P-value for interaction term = 0.94)

Chesnaye et al, Nephrol Dial Transplant (2017) 32: 1949–1956

Σ. Σταμπουλή-21ο Πανελλήνιο Συνέδριο Μεταμοσχεύσεων

Ιδανικός Χρόνος Μεταμόσχευσης

Identification of subgroups by risk of graft failure after paediatric renal transplantation: application of survival tree models on the ESPN/ERA-EDTA Registry



Lofaro et al, Nephrol Dial Transplant (2016) 31: 317–324

Σ. Σταμπουλή-21ο Πανελλήνιο Συνέδριο Μεταμοσχεύσεων

Ποια τα πραγματικά δεδομένα..

Ποια τα πραγματικά δεδομένα..

- Στην Ευρώπη

Paediatric patients aged 20 years or under who received a renal allograft between 1990 and 2009

Table 1. Characteristics of transplanted patients (n = 5275)

Variables	N (%)
Gender	
Female	2160 (41.0)
Age at start RRT (years)	10.5 (5.4–14.3)
Age at transplantation (years)	11.8 (7.1–15.3)
Time on dialysis (years) ^a	1.03 (0.49–1.96)
Pre-emptive transplantation	1248 (23.7)
Type of donor	
Living	1780 (33.7)
Causes of renal failure	
High-risk recurrence	728 (13.8)
FSGS	392 (53.9)
MPGN	87 (12.0)
PH	46 (6.3)
HUS	203 (27.9)
eGFR (mL/min/1.73 m ²) ^b	58.3 (47.2–69.6)
Imputed 573 (31%)	
Haemoglobin (g/dL) ^b	11.7 (10.5–12.6)
Imputed 531 (29%)	
Systolic blood pressure (SDS) ^b	1.06 (0.17–1.95)
Imputed 567 (31%)	
Diastolic blood pressure (SDS) ^b	0.73 (0.05–1.47)
Imputed 682 (37%)	
Height (SDS) ^b	–1.84 (–2.72–1.00)
Imputed 176 (9.6%)	
Graft failure 5th year	714 (13.5)

Ποια τα πραγματικά δεδομένα..

- Στην Ευρώπη

Paediatric patients aged 20 years or under who received a renal allograft between 1990 and 2009

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Lofaro et al, Nephrol Dial Transplant (2016) 31: 317–324

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Graft failure 5th year	714 (13.5)

Ποια τα πραγματικά δεδομένα..

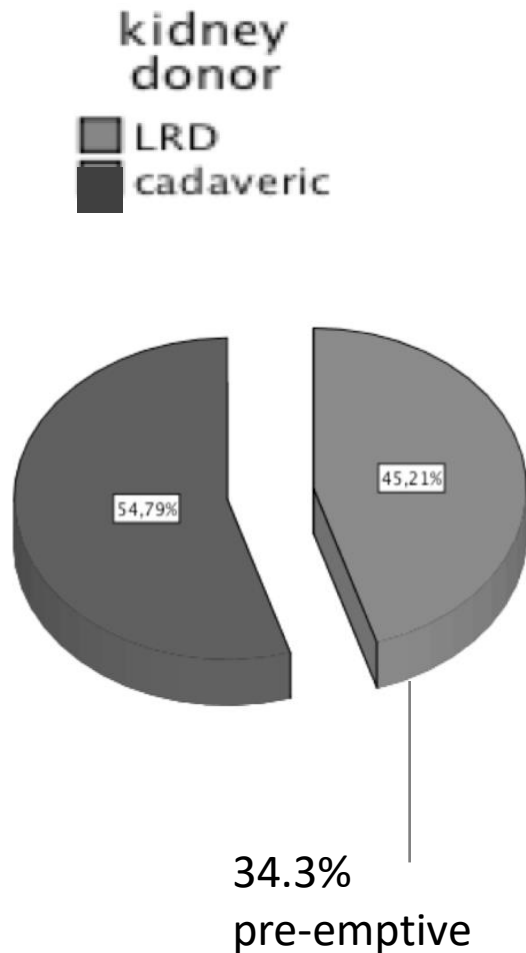
• Στην Ελλάδα

Παιδιατρικοί
ασθενείς < 20 ετών
που
μεταμοσχεύτηκαν
μεταξύ 1990-2012

Table 1. Recipients' characteristics

	LRD n = 75 (mean ± s.d. or median + range or %)	DD n = 62 (mean ± s.d. or median + range or %)	p
Age at Tx (yr)	11,7 ±4,48 έτη	10,11± 3,5 έτη	<0.05
Sex (male/female)	45 (60)/30(40)	31(50)/31(50)	NS
Primary diagnosis			
CAKUT	25 (37.9)	15 (27.3)	NS
PKD	5 (7.6)	2 (3.6)	NS
Nephronophthisis	5 (7.6)	1 (1.8)	NS
HUS	0	7 (12.7)	–
Focal segmental glomerulosclerosis	4 (6.1)	7 (12.7)	NS
Tubulointerstitial nephritis	4 (6.1)	0	–
Membranous nephritis	2 (3)	0	–
Mesangial proliferative GN	0	2 (3.6)	–
Other glomerulopathies	11 (12.1)	6 (10.9)	NS
Other causes	6 (9.1)	12 (21.8)	NS
Unknown	7 (10.6)	3 (5.5)	NS
Not reported	9	7	
First/second/third Tx	66 (97.1)/2 (2.9)	45 (78.9)/10 (17.5)/2 (3.5)	<0.05/<0.05/–
Not reported	7	5	
Donor age (yr)	44.79 ± 9.55	27.75 ± 21.54	<0.001
Donor sex (male/female)	15 (19)/60 (81)	21 (43.8)/27 (56.3)	0.001
Not reported	–	14	
Cold Ischemia (h)	0.75 (0.30–2.75)	18.5 (2–38)	<0.001
Common HLA	3.33 ± 1.09	2.02 ± 0.98	<0.001
No. of transfusions	0 (0–7)	2 (0–40)	<0.005
Dialysis before Tx			
None	24 (34.3)	2 (3.5)	<0.001
HD	23 (32.9)	13 (22.8)	NS
PD	18 (25.7)	31 (54.4)	NS
Both HD and PD	5 (7.1)	11 (19.3)	NS
Not reported			
Duration of dialysis before Tx (months)	1,5 ±1,25 έτη	4,08± 2,9 έτη	<0.001

Ζώντας vs. Πτωματικός Δότης: Σύγκριση 2 δεκαετιών



There was a ↓ tendency in LRD Tx rates in period **2001-13 (47.1%)** compared with period **1990-2001 (62.7%)** ($p = 0.06$)

Long-term outcome of pediatric kidney transplantation: A single-center experience from Greece

Παράγοντες που καθορίζουν την έκβαση

Variable	5-yr graft survival	
	HR (CI)	p-value
Decade		
2 vs. 1	1.373 (0.629–2.994)	0.424
Recipient age (yr)	1.032 (0.939–1.134)	0.516
Recipient sex		
Male vs. female	0.666 (0.308–1.439)	0.297
Dialysis before		
Yes vs. no	0.745 (0.299–1.856)	0.526
Duration of dialysis before (months)	1.016 (1.004–1.028)	0.008
No Blood transfusions	1.041 (0.981–1.104)	0.155
HLA match		
(0–6)	0.695 (0.444–1.086)	0.100
Primary non-function		
Yes vs. no	32.333 (6.526–160.197)	0.000
Delayed graft function		
Yes vs. no	2.181 (0.711–6.692)	0.205
Kidney donor		
DD vs. LRD	2.211 (1.001–4.885)	0.044
Donor age (yr)	0.988 (0.964–1.013)	0.340
Donor sex		
Male vs. female	1.272 (0.477–3.389)	0.630
Cold storage time (h)	1.001 (1.000–1.001)	0.096
Hypertension at 1 yr post-Tx		
Hypertension vs. normotension	0.252 (0.028–2.251)	0.217
Induction therapy		
ALG vs. BAS	4.195 (1.223–14.384)	0.023
ATG vs. BAS	2.874 (0.321–25.722)	0.345
Immunosuppression protocol		
Era 2 vs. Era 1	2.101 (0.763–5.783)	0.151
Era 3 vs. Era 1	0.346 (0.040–2.963)	0.333
Era 4 vs. Era 1		
Acute rejection episodes		
≥1 vs. none	0.710 (0.268–2.883)	0.489

ESPN/ERA-EDTA registry annual report

Prevalent paediatric patients on kidney replacement therapy on the 31st of December 2017 and 31st of December 2018.
Prevalent counts and prevalence per million age related population, by age groups.

Country	Gender 2018					Treatment modality 2018					Gender 2017		Treatment modality 2017				
	0-14 years		0-14 years		0-14 years			0-14 year		0-14 years		0-14 years		0-14 years			
	Male	Female	HD	PD	Transplantation			Male	Female	HD	PD	Transplantation					
	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	
Albania	19.4	16.5	6.0	2.0	4.0			33.8	28.2	19.4	1.9	3.9					
Austria	53.4	29.1	2.4	2.4	36.9			56.9	26.0	4.0	4.7	33.2					
Belarus	31.5	15.4	3.7	3.1	16.8			32.9	14.2	6.3	2.5	15.0					
Bosnia and Herzegovina	7.2	11.3	7.4	0.0	1.8			21.5	7.6	9.2	0.0	5.5					
Bulgaria	9.7	6.1	2.0	0.0	6.0			13.6	4.1	3.0	0.0	6.0					
Cyprus	41.7	72.7	7.1	21.3	28.4			41.9	73.3	7.2	21.5	28.6					
Czech Republic	33.6	25.6	4.2	4.8	20.8			34.1	18.6	3.6	2.4	20.5					
Denmark	63.0	25.7	1.0	6.3	36.5			52.7	25.6	0.0	4.2	35.4					
Estonia	0.0	9.5	0.0	0.0	4.6			9.1	9.6	0.0	0.0	9.3					
Finland	112.5	69.3	1.1	1.1	89.1			107.4	68.8	3.4	3.4	81.8					
France	47.4	33.1	6.8	4.7	29.1			47.3	33.3	7.2	3.9	28.9					
Germany-CERTAIN*	27.9		-	-	5.2			28.4		-	-	8.4					
Greece	-	-	9.7	12.3	-			-	-	9.7	10.3	-					
Hungary	38.4	26.0	2.8	3.5	26.0			47.9	28.9	4.9	7.0	26.7					
Iceland	115.5	0.0	0.0	14.8	44.4			116.7	0.0	0.0	14.9	44.7					
Ireland	33.0	34.6	7.9	6.0	13.9			34.9	32.5	8.9	8.9	14.9					
Italy*	13.8	8.7	4.7	4.6	2.0			13.1	10.9	4.8	5.8	1.5					
Latvia	25.4	20.3	0.0	13.1	9.8			25.5	13.6	0.0	6.6	13.1					
Malta	57.9	0.0	0.0	0.0	29.9			59.0	0.0	0.0	0.0	30.5					
Norway	58.2	37.3	1.1	4.3	42.7			64.4	41.6	0.0	3.2	50.1					
Portugal	66.3	36.1	3.5	13.4	34.6			66.8	35.7	2.1	11.2	37.7					
Republic of Serbia	40.7	20.6	8.0	6.0	17.0			30.8	24.5	6.9	3.0	17.8					
Romania	18.5	17.5	11.2	4.6	2.0			14.7	12.2	8.5	3.6	1.3					
Russia	24.8	16.7	2.7	7.4	10.6			23.8	14.8	2.5	7.3	9.7					
Slovakia	20.5	16.8	5.9	7.0	5.9			13.8	19.4	3.6	8.3	4.7					
Slovenia	24.9	39.6	3.2	12.8	12.8			31.4	46.5	3.2	12.9	22.6					
Spain	59.7	34.4	4.2	2.9	39.8			59.9	31.9	3.7	12.9	38.0					
Switzerland	36.4	27.2	0.8	4.7	27.3			39.9	34.0	1.6	8.7	27.6					
the Netherlands	49.7	31.3	1.8	3.3	36.7			51.4	36.2	2.2	1.1	40.8					
Turkey*	18.0	18.2	2.8	7.7	7.6			20.9	19.6	3.6	9.4	7.3					
Ukraine	-	-	3.6	2.6	-			-	-	15.8	4.5	3.0					
Total*	29.8		4.3	5.3	20			29.7		4.4	4.9	20					

* Data from the German transplantation registry are based on 18 transplantation centres. In 2017, 117 patients and in 2018, 133 patients under the age of 21 years were transplanted in Germany. In Italy, deceased donor transplantation patients are not included; these numbers are an underestimation of the true prevalence. The prevalence in Turkey is an underestimation of the true prevalence. Therefore, Germany, Italy, and Turkey were excluded from the overall prevalence.

ESPN/ERA-EDTA registry annual report

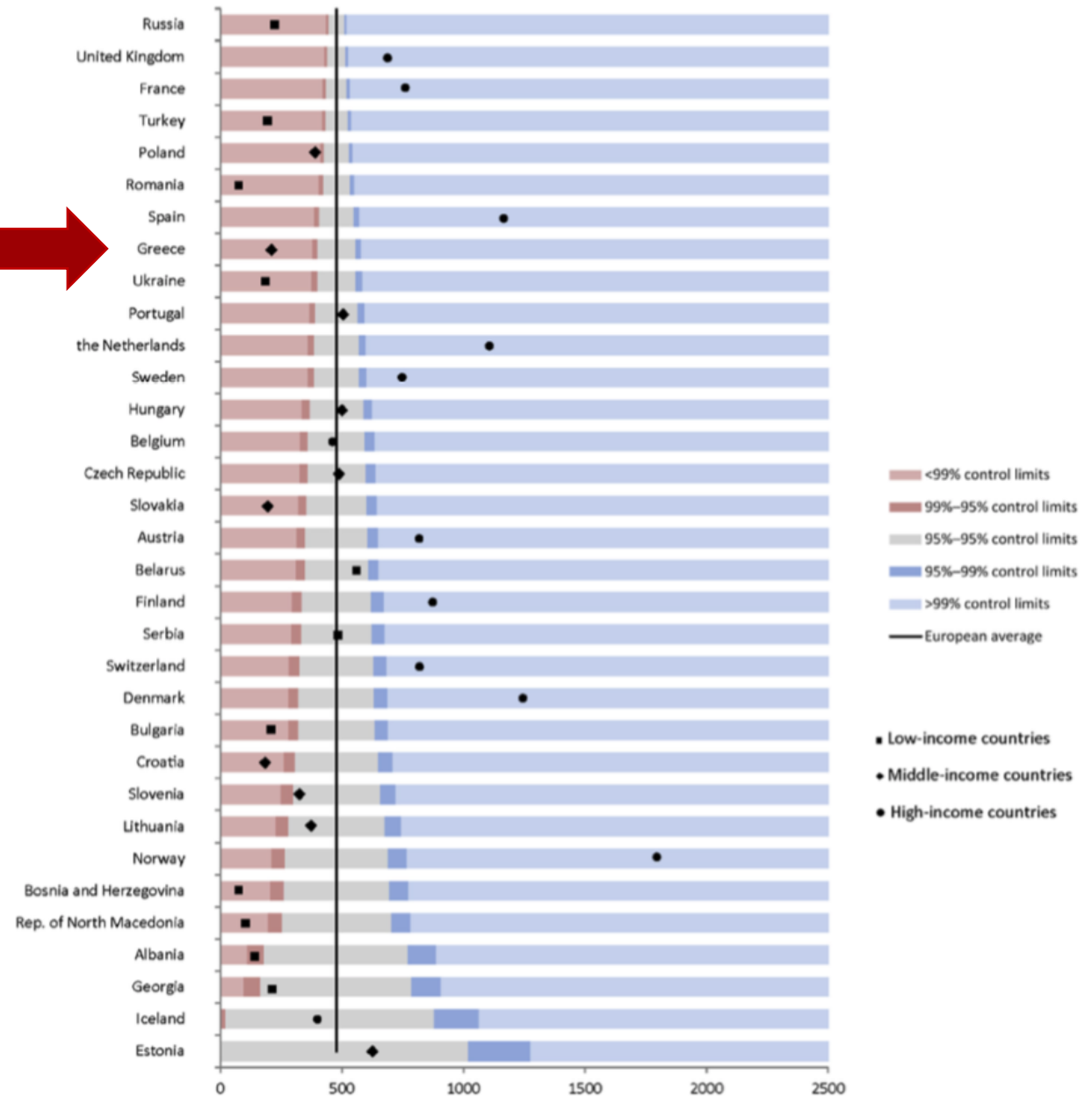
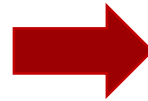
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Country	Gender 2018		Treatment modality 2018			Gender 2017		Treatment modality 2017		
	0-14 years		0-14 years		0-14 years	0-14 year		0-14 years		0-14 years
	Male	Female	HD	PD	Transplantation	Male	Female	HD	PD	Transplantation
	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp	pmarp
Albania	19.4	16.5	6.0	2.0	4.0	33.8	28.2	19.4	1.9	3.9
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Estonia	0.0	9.5	0.0	0.0	4.6	9.1	9.6	0.0	0.0	9.3
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Germany-CERTAIN*	30.0	19.4			24.7	29.6	18.7			24.0
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Iceland	115.5	0.0	0.0	14.8	44.4	116.7	0.0	0.0	14.9	44.7
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Ukraine	19.1	15.2	3.6	2.6	9.6	17.2	15.8	4.5	3.0	8.1
Total*	36.2	24.1	4.3	5.3	20.3	36.0	23.4	4.4	4.9	20.0

Σημαντικός αριθμός παιδιών και εφήβων με τελικό στάδιο ΧΝΝ βρίσκεται σε εξωνεφρική κάθαρση

* Data from the German transplantation registry are based on 18 transplantation centres. In 2017, 117 patients and in 2018 133 patients under the age of 21 years were transplanted in Germany. In Italy, deceased donor transplantation patients are not included; these numbers are an underestimation of the true prevalence. The prevalence in Turkey is an underestimation of the true prevalence. Therefore, Germany, Italy, and Turkey were excluded from the overall prevalence.

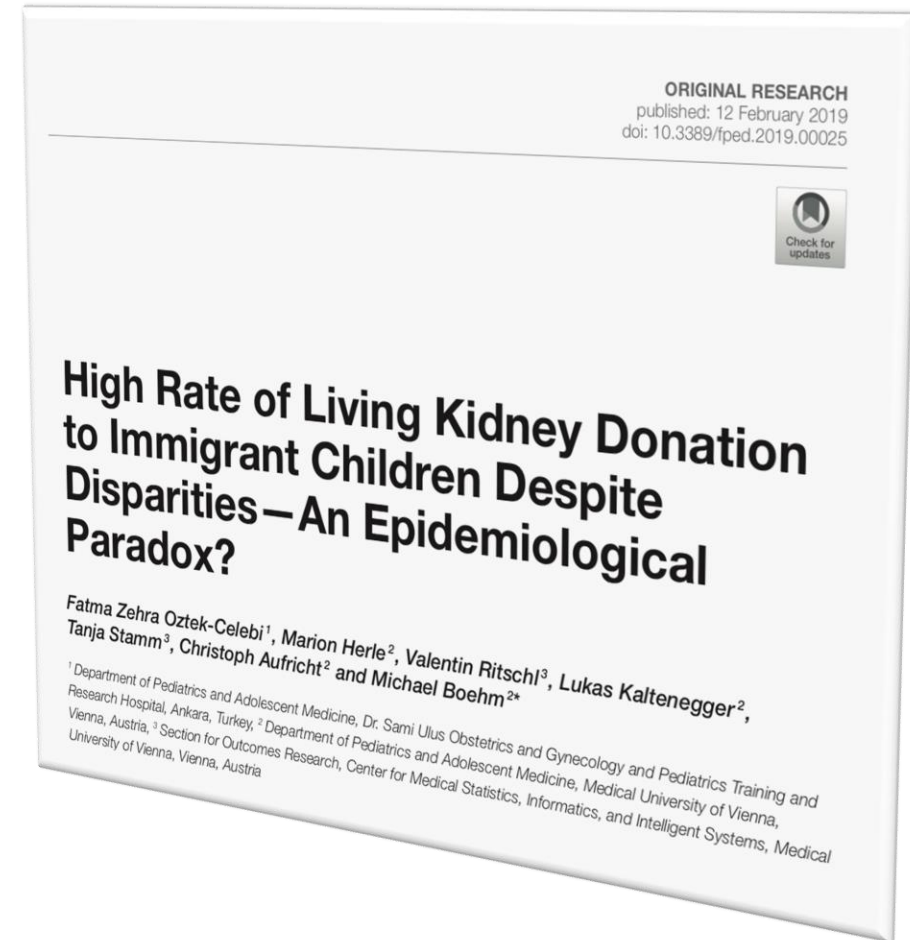
Number of kidney transplantations per 1000 patient-years of follow-up per country



Bonthuis M, et al. Results in the ESPN/ERA-EDTA Registry suggest disparities in access to kidney transplantation but little variation in graft survival of children across Europe. *Kidney Int.* 2020 Aug;98(2):464-475. doi: 10.1016/j.kint.2020.03.029. Epub 2020 Apr 26. PMID: 32709294.

The choice between deceased and living donor kidney transplantation in children and adolescents: a multicentric cross-sectional study in Belgium

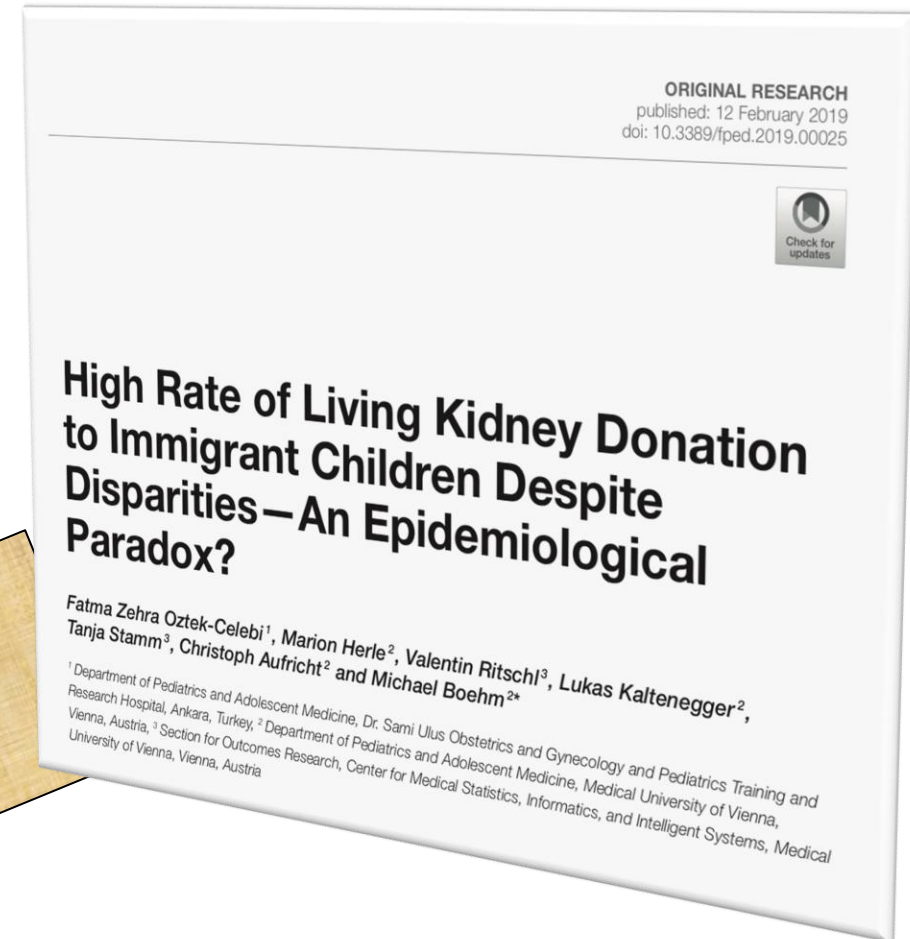
- Parental reasons for choosing DD were medical (n = 7), socio-economic (n = 1), combination of both (n = 1) or no reason (n = 4)
- Pediatric nephrologists advised against LD for medical (n = 6) or socio-economic (n = 6) reasons or a combination of both (n = 2).



The choice between deceased and living donor kidney transplantation in children and adolescents: a multicentric cross-sectional study in Belgium

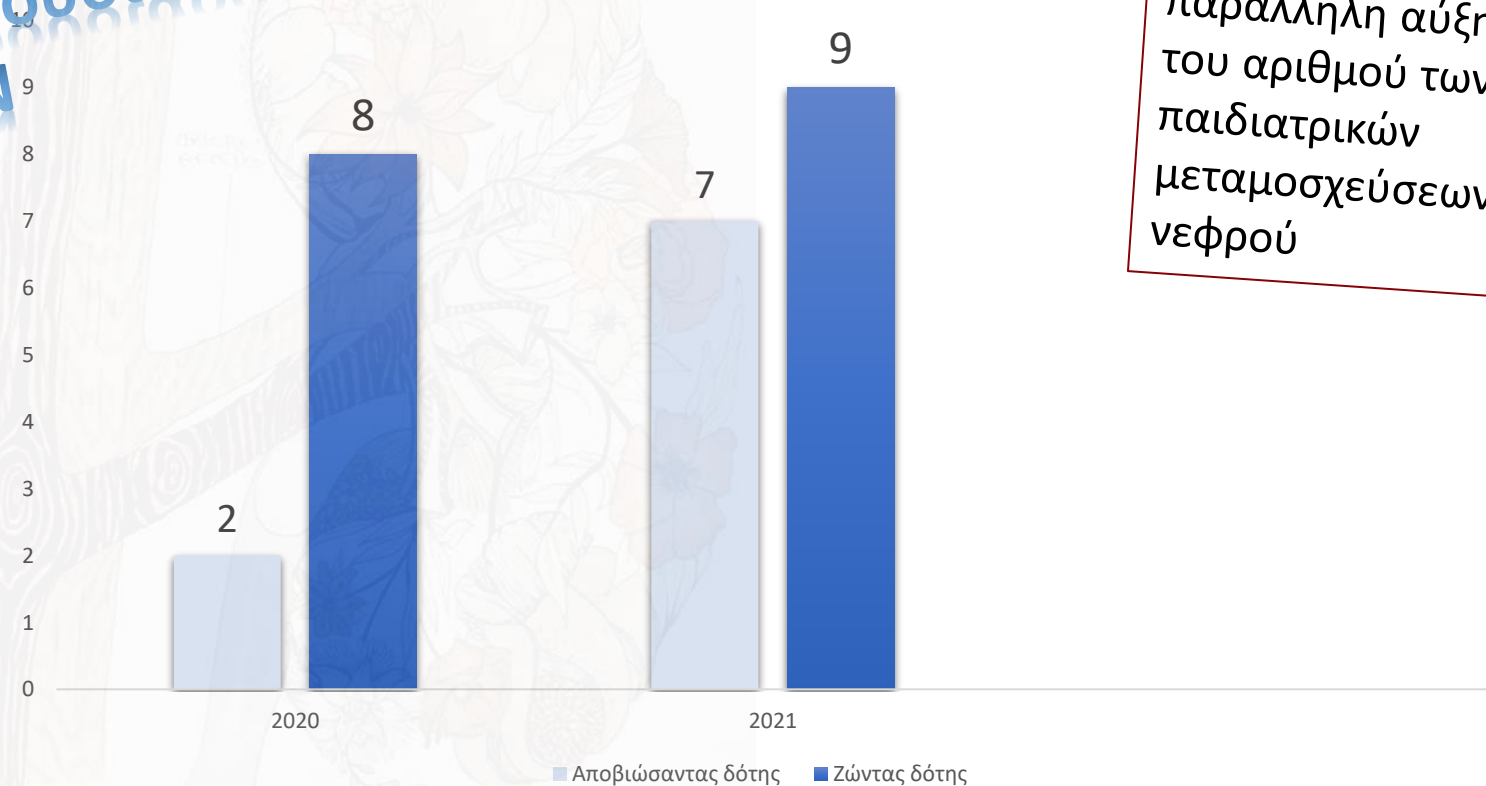
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- Pediatric nephrologists advised against LD for medical (n = 6) or socio-economic (n = 6) reasons or a combination of both (n = 2).

A new center?
Family Education?
Early referral?



Στην Ελλάδα κάθε χρόνο
κατά μέσο όρο
5 παιδιά θα παρουσιάσουν
ΤΣΧΝΝ

Παιδιατρικές μεταμοσχεύσεις 2011-2021
Πηγές : 2011-2020 ΕΟΜ, 2021 ΓΝΑ Λαϊκό και ΓΝΘ Ιππποκράτειο



Τα τελευταία 2 έτη ο αριθμός των παιδιατρικών κέντρων μεταμόσχευσης στην Ελλάδα αυξήθηκε με παράλληλη αύξηση του αριθμού των παιδιατρικών μεταμοσχεύσεων νεφρού

Μετάβαση στην ενηλικίωση



Μετάβαση σε κέντρα ενηλίκων..

Components of guidelines	Guideline		
	IPNA/ISN 2011 [11]	NICE 2016 [53]	AAP 2011 [13]
Nephrology-specific	• Yes	• No	• No
Timing of starting transition	• Start early	• Start planning at the latest by age 13–14 years	• Start planning by 14 years of age
Personnel involved	<ul style="list-style-type: none"> • Directed by lead clinicians • Optimally, a transition clinic would involve adult and paediatric nephrologists 	• Have a transition champion to oversee and co-ordinate the process	• Medical providers on paediatric and adult healthcare teams
Transition plan	<ul style="list-style-type: none"> • Transition should occur according to a general plan that is individualised to the young person's needs and abilities • Education should involve their family members/significant others • Foster peer support • Transition readiness can be assessed by surveys • Progress monitored on a pathway such as a transition passport. • Visit the adult centre before transfer 	<ul style="list-style-type: none"> • Focus on the positive and aim to achieve what is possible for that person in their situation • Support the young person and their families/ significant others • Involve young people and their caregivers in the planning, delivery and education of transition care • Have a formal plan which the young person and team can refer to assess progress 	<ul style="list-style-type: none"> • Jointly initiate plan with the young person and their parents • Regularly review progress and assess transition readiness • Plan and prepare for adult care • Address age-appropriate issues • Have a written transition policy and general plan that is individualised to the young person • Visit the adult centre before transfer • Operate on an adult model of care before transfer
Timing of transfer to adult care	<ul style="list-style-type: none"> • After preparing the young person and communicating acomprehensive patient history to the adult service. • Transfer should be individualised and mutually acceptable • Occur in a stable period • After finishing school 	<ul style="list-style-type: none"> • Offer support for a minimum of 6 months pre and post transfer • The paediatric care team should ensure the young person has engaged with adult care team • The exact timing of transfer should be individualised 	<ul style="list-style-type: none"> • After an adult model of care is instituted in the paediatric setting • After comprehensive patient summary is given to adult team and the patient • Timing should be individualised

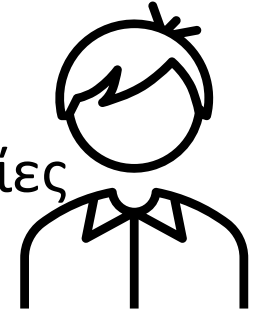
IPNA, International Paediatric Nephrology Association; ISN, International Society of Nephrology; NICE, National Institute for Health and Care Excellence; AAP, American Academy of Paediatrics

Πόσες τυχαιοποιημένες ελεγχόμενες μελέτες υπάρχουν κατά τη μετάβαση στο ΤΣΧΝΝ σε κάθαρση;

0

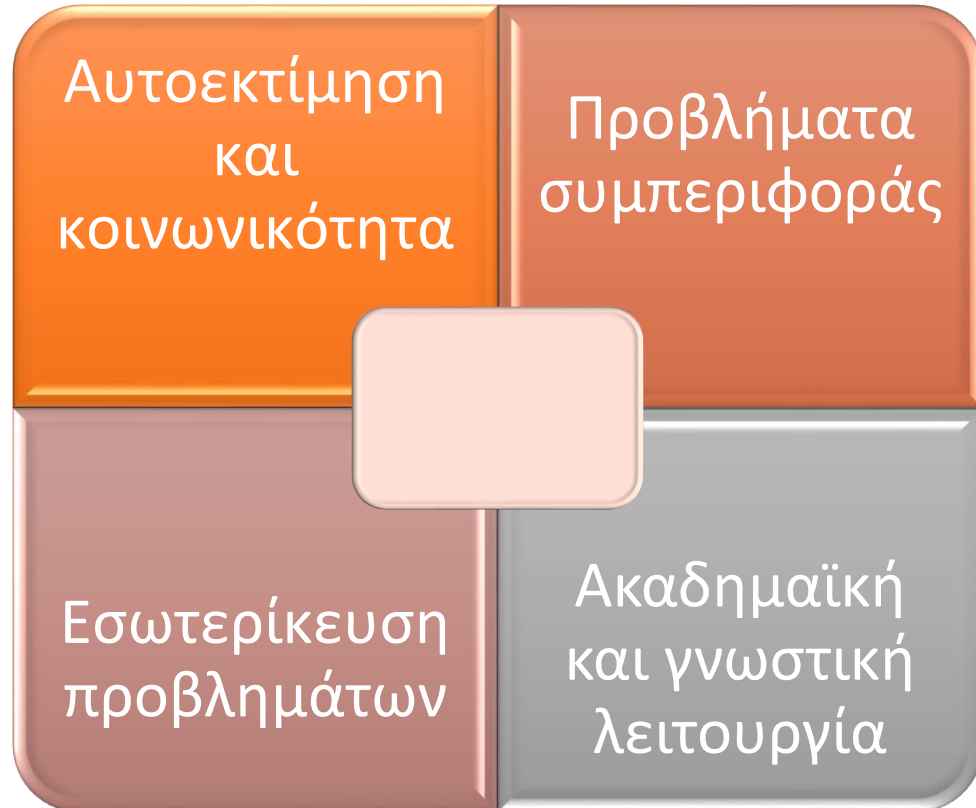
Γνωρίζοντας το παιδιατρικό ασθενή στην εξωνεφρική κάθαρση

Μια συστηματική ανασκόπηση ποιοτικών μελετών σχετικά με τις εμπειρίες των παιδιών στην αιμοκάθαρση κατέληξε σε 5 κοινά χαρακτηριστικά:



1. απώλεια ελέγχου (π.χ. εξάρτηση από γονείς)
2. περιορισμένη ζωή (π.χ. περιορισμένες ευκαιρίες κοινωνικοποίησης, αγώνας με ακαδημαϊκές επιδόσεις)
3. προβλήματα διαχείρισης της θεραπείας (π.χ. συμμόρφωση)
4. ελλειμματική αυτοδιαχείρισης (π.χ. κοινωνική υποστήριξη, άρνηση)
5. αίσθημα διαφορετικότητας (π.χ. “μη φυσιολογική” φυσική εμφάνιση)

Ψυχοκοινωνικό προφίλ



Clementi et al, Pediatric Nephrology (2020) 35:767–775

Βλέπουν τη μεταμόσχευση ως ελευθερία από την κάθαρση και επιστροφή σε μια πιο φυσιολογική ζωή

Επικεντρώνονται στις θετικές πτυχές της μεταμόσχευσης για να μειώσουν το άγχος και να καθησυχαστούν ενόψει της αβεβαιότητας

Αναγνωρίζουν ότι η μεταμόσχευση δεν είναι επιστροφή στην πλήρη υγεία και αναζητούν ενεργά τρόπους για να αυτοδιαχειριστούν τη φροντίδα τους, ενώ παραμένουν ανήσυχοι για το μέλλον τους

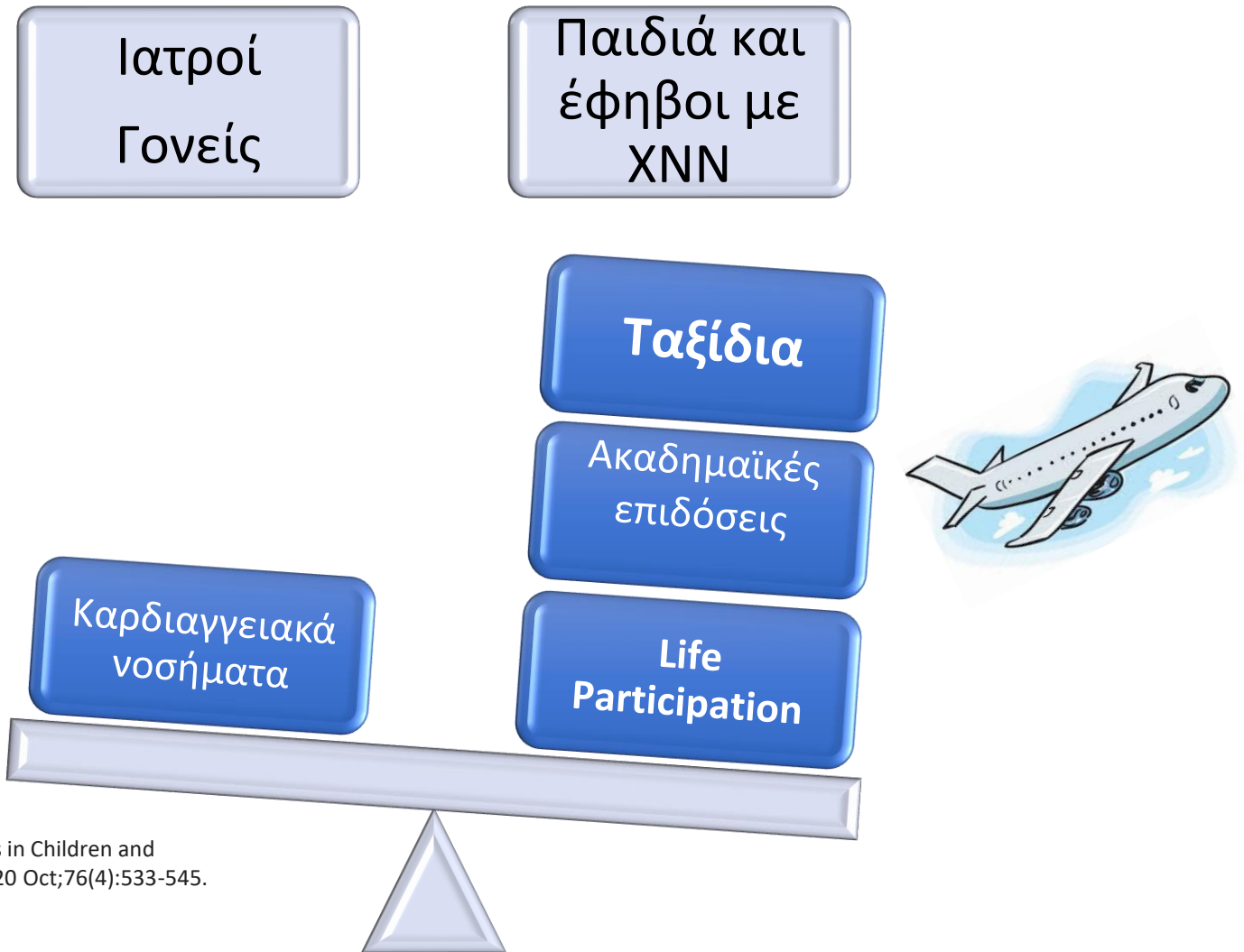
Οι έφηβοι με ΤΣΧΝΝ

Walker et al, Journal of Renal Care 2019

Ποιες οι προτεραιότητες των παιδιών με ΧΝΝ?

Ποιες οι προτεραιότητες των παιδιών με ΧΝΝ?

- Caregivers and HCPs rated cardiovascular disease higher than patients
- Patients gave lower ratings to all outcomes compared with caregivers/HCPs except they rated life participation (round 2 mean difference, 0.1), academic performance (0.1), mobility (0.4), and ability to travel (0.4) higher than caregivers and rated ability to travel (0.4) higher than HCPs



Logeman C, et al. Developing Consensus-Based Outcome Domains for Trials in Children and Adolescents With CKD: An International Delphi Survey. Am J Kidney Dis. 2020 Oct;76(4):533-545. doi: 10.1053/j.ajkd.2020.03.014. Epub 2020 Jul 10. PMID: 32654889.

Στον έφηβο που τολμά να ονειρεύεται
τη ζωή χωρίς αιμοκάθαρση..





Σ. Σταμπουλή-21ο Πανελλήνιο Συνέδριο Μεταμοσχεύσεων