

Protocole National de Diagnostic et de Soins (PNDS)

Transplantation rénale chez l'enfant

Argumentaire

Centres de Référence des Maladies Rénales Rares

Sous l'égide de la filière ORKiD

Novembre 2023

Cet argumentaire a été élaboré par les Centres de Référence Maladies Rénales Rares sous l'égide de la filière ORKiD. Il a servi de base à l'élaboration du PNDS Transplantation renale chez l'enfant.

Le PNDS est téléchargeable sur le site de la Filière ORKiD
www.filiereorkid.com

Sommaire

Liste des abréviations	4
Préambule	6
Annexe 1. Recherche documentaire et sélection des articles	7
Annexe 2. Liste des participants.....	8
Références bibliographiques.....	9

Liste des abréviations

ABM	Agence de Biomédecine
ALD	Affection de Longue Durée
AINS	Anti Inflammatoire Non Stéroïdien
AJPP	Allocation Journalière de Présence Parentale
AMM	Autorisation de Mise sur le Marché
AUC	Area Under the Curve (aire sous la Courbe)
BKV	BK Virus
CAMSP	Centre d'Action Médico-Sociale Précoce
CV	Cardio-Vasculaire
DFGe	Débit de Filtration Glomérulaire estimé
DSA	Anticorps Spécifique du Donneur
DV	Donneur Vivant
DP	Dialyse Péritonéale
ECG	Électrocardiogramme
EFS	Établissement Français du Sang
FAV	Fistule Artério-Veineuse
ETP	Éducation Thérapeutique du Patient
GH	Hormone de croissance (Growth Hormone)
HAS	Haute Autorité de Santé
HGPO	Hyperglycémie Provoquée per Os
HLA	Human Leukocyte Antigen
IBODE	Infirmier(e) de Bloc Opératoire Diplômé(e) d'État
IRCT	Insuffisance Rénale Chronique Terminale
KDIGO	Kidney Disease: Improving Global Outcomes
LNA	Liste Nationale d'Attente
MDPH	Maison Départementale Pour le Handicap
MFI	Intensités Moyennes de Fluorescence (Mean Fluorescence Intensity)
MRC	Maladie Rénale Chronique
MTE	Marge Thérapeutique Etroite
PCR	Polymerase Chain Reaction
PNDS	Protocole National de Diagnostic et de Soins
PNRG	Plateforme Nationale de Régulation des Greffons

PNDS - Transplantation renale chez l'enfant

PTLD	Post-Transplantation Lymphoproliferative Disorder
ou	
SLPT	Syndrome Lymphoprolifératif Post-Transplantation
SNI	Syndrome Néphrotique Idiopathique
RAI	Recherche d'Agglutinines Irrégulières
SAL	Sérum Antilymphocytaire
TCA	Temps de Céphaline Activée
TGI	Taux de Greffons Incompatibles
TP	Taux de Prothrombine
USC	Unité de Soins Continus
VCI	Veine Cave Inférieure
VD	Ventricule droit
VG	Ventricule gauche
XM	Cross Match

Préambule

Le PNDS sur Transplantation rénale chez l'enfant a été élaboré selon la « Méthode d'élaboration d'un protocole national de diagnostic et de soins pour les maladies rares » publiée par la Haute Autorité de Santé en 2012 (guide méthodologique disponible sur le site de la HAS : www.has-sante.fr). Le présent argumentaire comporte l'ensemble des données bibliographiques analysées pour la rédaction du PNDS.

Annexe 1. Recherche documentaire et sélection des articles

Recherche documentaire

Sources consultées	Bases de données : PUBMED Sites internet :PUBMED
Période de recherche	1988 - 2023
Langues retenues	Français - Anglais
Mots clés utilisés	
Nombre d'études recensées	
Nombre d'études retenues	181

Critères de sélection des articles

Selon le type de la publication et le thème traité.

Annexe 2. Liste des participants

Ce travail a été coordonné par le D^r MACHER Marie-Alice, (Service de Néphrologie Pédiatrique, Hôpital Robert Debré, Paris ; Agence de biomédecine), et par le Dr ROUSSEY Gwénaëlle (Néphropédiatre, CHU de Nantes, Centre de référence SORARE).

Ont participé à l'élaboration du PNDS :

Rédacteurs

- D^r Marina Charbit, néphropédiatre, Paris
- D^r Laurène Dehoux, néphrologue référente PNDS, néphropédiatre, Paris
- D^r Marc Fila, néphropédiatre, Montpellier
- D^r Florentine Garaix, néphropédiatre, Marseille
- P^r Jérôme Harambat, néphropédiatre, centre de référence SORARE, Bordeaux
- P^r Julien Hogan, néphropédiatre, Paris
- D^r Marie-Alice Macher, néphropédiatre, Paris, Agence de la Biomédecine, Saint-Denis
- D^r Elodie Merieau, néphropédiatre, Tours
- D^r Robert Novo, néphropédiatre, Lille
- D^r Gwénaëlle Rousseau, néphropédiatre, Nantes
- Dr Jeantet Guillaume, néphrologue, référent PNDS, Montpellier
- Dr Avramescu Marina, néphropédiatre, référente PNDS, Paris
- Mr Attout Tarik, PhD, Chargé de Mission de Coordination ORKiD, Paris.

Groupe de travail multidisciplinaire

- D^r Véronique Baudouin, néphropédiatre, Paris
- D^r Karine Brochard, néphropédiatre, Toulouse
- P^r Olivier Abbo, pédiatre chirurgien viscéral, Toulouse
- D^r Delphine Brouet, pédiatre, Lorient
- Pr Christophe Chardot, chirurgien pédiatre, Paris
- Ronan Le Quéré, association Renaloo
- Dr Bernard Cléro, anesthésiste réanimateur, association Renaloo
- P^r Vincent Guignonis, néphropédiatre, Limoges
- P^r Georges Karam, chirurgien urologue, Nantes
- Mme Florence Lucats, puericultrice de coordination et d'éducation thérapeutique, Bordeaux
- D^r François Nobili, néphropédiatre, Besançon
- D^r Ariane Zaloszcyc, néphropédiatre, Strasbourg
- Dr Stefania Querciagrossa, anesthésiste réanimateur, Paris

Déclarations d'intérêt

Tous les participants à l'élaboration du PNDS ont rempli une déclaration d'intérêt. Les déclarations d'intérêt sont en ligne et consultables sur le site internet de la filière ORKiD : www.filiereorkid.com.

Les déclarations d'intérêt ont été analysées et prises en compte, en vue d'éviter les conflits d'intérêts, conformément au guide HAS « Guide des déclarations d'intérêts et de gestion des conflits d'intérêts » (HAS, 2010).

Modalités de concertation du groupe de travail multidisciplinaire

Réunions physique, visioconférence ou e-meeting

Références bibliographiques

Aspects chirurgicales et anesthésiques :

- Abramowicz D, Cochat P, Claas FHJ, Heemann U, Pascual J, Dudley C, et al. European Renal Best Practice Guideline on kidney donor and recipient evaluation and perioperative care: FIGURE 1. *Nephrol Dial Transplant*. nov 2015;30(11):1790-7.
- Aikawa A, Muramatsu M, Takahashi Y, Hamasaki Y, Hashimoto J, Kubota M, et al. Surgical Challenge in Pediatric Kidney Transplant Vascular Anastomosis. *Exp Clin Transplant*. mars 2018;16 Suppl 1(Suppl 1):14-9.
- Alameddine M, Jue JS, Morsi M, Gonzalez J, Defreitas M, Chandar JJ, et al. Extraperitoneal pediatric kidney transplantation of adult renal allograft using an en-bloc native liver and kidney mobilization technique. *BMC Pediatr*. déc 2020;20(1):526.
- Buder K, Zirngibl M, Bapistella S, Nadalin S, Tönshoff B, Weitz M, et al. Current practice of antithrombotic prophylaxis in pediatric kidney transplantation—Results of an international survey on behalf of the European Society for Paediatric Nephrology. *Pediatr Transplant* [Internet]. nov 2020 [cité 24 nov 2022];24(7). Disponible sur: <https://onlinelibrary.wiley.com/doi/10.1111/ptr.13799>
- Calixto Fernandes MH, Schricker T, Magder S, Hatzakorzian R. Perioperative fluid management in kidney transplantation: a black box. *Crit Care*. déc 2018;22(1):14.
- Canning DA. Re: Urological Complications, Vesicoureteral Reflux, and Long-Term Graft Survival Rate after Pediatric Kidney Transplantation. *Journal of Urology*. mai 2017;197(5):1355-1355.
- Chavers B, Najarian JS, Humar A. Kidney transplantation in infants and small children. *Pediatric Transplantation*. nov 2007;11(7):702-8.
- Chua ME, Kim JK, Gnech M, Ming JM, Amir B, Fernandez N, et al. Clinical implication of renal allograft volume to recipient body surface area ratio in pediatric renal transplant. *Pediatr Transplant*. déc 2018;22(8):e13295.
- Coupe N, O'Brien M, Gibson P, Lima J. Anesthesia for pediatric renal transplantation with and without epidural analgesia - a review of 7 years experience. *Pediatric Anesthesia*. mars 2005;15(3):220-8.
- Coupe N, O'Brien M, Gibson P, de Lima J. Anesthesia for pediatric renal transplantation with and without epidural analgesia--a review of 7 years experience. *Paediatr Anaesth*. mars 2005;15(3):220-8.
- Damji S, Callaghan CJ, Loukopoulos I, Kessar N, Stojanovic J, Marks SD, et al. Utilisation of small paediatric donor kidneys for transplantation. *Pediatr Nephrol*. oct 2019;34(10):1717-26.
- Della Rocca G, Costa MG, Bruno K, Coccia C, Pompei L, Di Marco P, et al. Pediatric renal transplantation: anesthesia and perioperative complications. *Pediatr Surg Int*. mars 2001;17(2-3):175-9.
- Donati-Bourne J, Roberts HW, Coleman RA. Donor-Recipient Size Mismatch in Paediatric Renal Transplantation. *Journal of Transplantation*. 2014;2014:1-5.
- Fontana I, Bertocchi M, Centanaro M, Varotti G, Santori G, Mondello R, et al. Abdominal Compartment Syndrome: An Underrated Complication in Pediatric Kidney Transplantation. *Transplantation Proceedings*. sept 2014;46(7):2251-3.
- Gander R, Asensio M, Molino JA, Royo GF, Lara LE, López M, et al. Outcome of kidney transplantation from young pediatric donors (aged less than 6 years) to young size-matched recipients. *Journal of Pediatric Urology*. mai 2019;15(3):213-20.
- Gander R, Asensio M, Royo GF, Molino JA, Garcia L, Madrid A, et al. Vascular thrombosis in pediatric kidney transplantation: Graft survival is possible with adequate management. *Journal of Pediatric Urology*. juin 2018;14(3):222-30.
- Gholami S, Sarwal MM, Naesens M, Ringertz HG, Barth RA, Balise RR, et al. Standardizing resistive indices in healthy pediatric transplant recipients of adult-sized kidneys. *Pediatric Transplantation*. févr 2010;14(1):126-31.
- Goldsmith PJ, Asthana S, Fitzpatrick M, Finlay E, Attia MS, Menon KV, et al. Transplantation of adult-sized kidneys in low-weight pediatric recipients achieves short-term outcomes comparable to size-matched grafts: Transplantation of adult-sized kidneys in low-weight pediatric recipients. *Pediatric Transplantation*. nov 2010;14(7):919-24.
- Herthelius M, Celsi G, Edström Halling S, Krmar RT, Sandberg J, Tydén G, et al. Renal transplantation in infants and small children. *Pediatr Nephrol*. janv 2012;27(1):145-50.
- Herz DB, McLorie GA, Hafez AT, Rodgers-Herz C, El-Ghoneimi A, Shuckett B, et al. High resolution ultrasound characterization of early allograft hemodynamics in pediatric living related renal transplantation. *J Urol*. nov 2001;166(5):1853-8.
- Irtan S, Maisin A, Baudouin V, Nivoche Y, Azoulay R, Jacqz-Aigrain E, et al. Renal transplantation in children: Critical analysis of age related surgical complications: **Renal transplantation in children**. *Pediatric Transplantation*. juin 2010;14(4):512-9.
- Lee E, Ramos-Gonzalez G, Staffa SJ, Rodig N, Vakili K, Kim HB. Perioperative renal transplantation management in small children using adult-sized living or deceased donor kidneys: A single-center experience. *Pediatr Transplant* [Internet]. nov 2019 [cité 24 nov 2022];23(7). Disponible sur: <https://onlinelibrary.wiley.com/doi/10.1111/ptr.13553>

PNDS - Transplantation rénale chez l'enfant

23. Lee S, Naesens M, Li L, Sarwal M. Stanniocalcin Supports the Functional Adaptation of Adult-Sized Kidneys Transplanted Into the Pediatric Recipients. *Transplantation*. 15 juin 2012;93(11):1130-5.
24. Luijten JCHBM, Voet M, de Gier RPE, Nusmeier A, Scharbatke H, van der Vliet JA, et al. Transplantation of adult living donor kidneys in small children, a single-centre initial experience. *Transpl Int*. juin 2017;30(6):640-2.
25. Marouane A, Cornelissen EAM, Nusmeier A, Bootsma-Robroeks CMHHT. Oscillometric and intra-arterial blood pressure in children post-kidney transplantation: Is invasive blood pressure measurement always needed? *Pediatr Transplant*. févr 2019;23(1):e13309.
26. Marsac L, Michelet D, Sola C, Didier-Vidal A, Combet S, Blanc F, et al. A survey of the anesthetic management of pediatric kidney transplantation in France. *Pediatr Transplant*. sept 2019;23(6):e13509.
27. Michelet D, Brasher C, Marsac L, Zanoun N, Assefi M, Elghoneimi A, et al. Intraoperative hemodynamic factors predicting early postoperative renal function in pediatric kidney transplantation. *Ramamoorthy C, éditeur. Pediatr Anaesth*. sept 2017;27(9):927-34.
28. Millan MT, Sarwal MM, Lemley KV, Yorgin P, Orlandi P, So S, et al. A 100% 2-year graft survival can be attained in high-risk 15-kg or smaller infant recipients of kidney allografts. *Arch Surg*. sept 2000;135(9):1063-8; discussion 1068-1069.
29. Murat I, Dubois MC. Perioperative fluid therapy in pediatrics. *Pediatric Anesthesia*. mai 2008;18(5):363-70.
30. Naesens M, Kambham N, Concepcion W, Salvatierra O, Sarwal M. The Evolution of Nonimmune Histological Injury and Its Clinical Relevance in Adult-Sized Kidney Grafts in Pediatric Recipients. *Am J Transplant*. nov 2007;7(11):2504-14.
31. Najarian JS, Frey DJ, Matas AJ, Gillingham KJ, So SSK, Cook M, et al. Renal Transplantation in Infants: *Annals of Surgery*. sept 1990;212(3):353-67.
32. Ramesh S, Taylor K, Koyle MA, Lorenzo AJ. "Inverted" positioning of renal allograft during kidney transplantation in children and adolescents: A single-institution comparative analysis. *Pediatr Transplant [Internet]*. mai 2019 [cité 24 nov 2022];23(3). Disponible sur: <https://onlinelibrary.wiley.com/doi/10.1111/ptr.13365>
33. Salvatierra O, Singh T, Shifrin R, Conley S, Alexander S, Tanney D, et al. Successful transplantation of adult-sized kidneys into infants requires maintenance of high aortic blood flow. *Transplantation*. 15 oct 1998;66(7):819-23.
34. Salvatierra O, Millan M, Concepcion W. Pediatric renal transplantation with considerations for successful outcomes. *Seminars in Pediatric Surgery*. août 2006;15(3):208-17.
35. Salvatierra O, Sarwal M. RENAL PERFUSION IN INFANT RECIPIENTS OF ADULT-SIZED KIDNEYS IS A CRITICAL RISK FACTOR: *Transplantation*. août 2000;70(3):412-3.
36. Sarwal MM, Cecka JM, Millan MT, Salvatierra O. Adult-size kidneys without acute tubular necrosis provide exceedingly superior long-term graft outcomes for infants and small children: a single center and UNOS analysis. *United Network for Organ Sharing. Transplantation*. 27 déc 2000;70(12):1728-36.
37. Taylor K, Kim WT, Maharramova M, Figueroa V, Ramesh S, Lorenzo A. Intraoperative management and early postoperative outcomes of pediatric renal transplants. *Lerman J, éditeur. Paediatr Anaesth*. oct 2016;26(10):987-91.
38. ter Haar AS, Parekh RS, Leunissen RWJ, van den J, Lorenzo AJ, Hebert D, et al. How to stent the ureter after kidney transplantation in children?-A comparison of two methods of urinary drainage. *Pediatr Transplantation*. févr 2018;22(1):e13065.
39. The European Renal Best Practice (ERBP) Transplantation guideline development group, Abramowicz D, Cochat P, Claas F, Dudley C, Harden P, et al. Guideline. *Nephrology Dialysis Transplantation*. 1 août 2013;28(suppl_2):ii1-71.
40. Thomas A, Dropulic LK, Rahman MH, Geetha D. Ureteral Stents: A Novel Risk Factor for Polyomavirus Nephropathy. *Transplantation*. 15 août 2007;84(3):433-6.
41. Torricelli FCM, Watanabe A, Piovesan AC, David-Neto E, Nahas WC. Urologic issues in pediatric transplant recipients. *Transl Androl Urol*. avr 2019;8(2):134-40.
42. van Heurn E, de Vries EE. Kidney transplantation and donation in children. *Pediatr Surg Int*. mai 2009;25(5):385-93.
43. Voet M, Nusmeier A, Lerou J, Luijten J, Cornelissen M, Lemson J. Cardiac output-guided hemodynamic therapy for adult living donor kidney transplantation in children under 20 kg: A pilot study. *Pediatr Anaesth*. sept 2019;29(9):950-8.
44. Wasson NR, Deer JD, Suresh S. Anesthetic Management of Pediatric Liver and Kidney Transplantation. *Anesthesiology Clinics*. sept 2017;35(3):421-38.
45. Weitz M, Laube GF, Schmidt M, Krupka K, Murer L, Müller D, et al. Outcome of renal transplantation in small infants: a match-controlled analysis. *Pediatr Nephrol*. juin 2018;33(6):1057-68.

Donneurs adultes petits receveurs:

PNDS - Transplantation renale chez l'enfant

1. Chavers B, Najarian JS, Humar A. Kidney transplantation in infants and small children. *Pediatric Transplantation*. nov 2007;11(7):702-8.
2. Chesnaye NC, van Stralen KJ, Bonthuis M, Groothoff JW, Harambat J, Schaefer F, et al. The association of donor and recipient age with graft survival in paediatric renal transplant recipients in a European Society for Paediatric Nephrology/European Renal Association–European Dialysis and Transplantation Association Registry study. *Nephrology Dialysis Transplantation*. 1 nov 2017;32(11):1949-56.
3. Gholami S, Sarwal MM, Naesens M, Ringertz HG, Barth RA, Balise RR, et al. Standardizing resistive indices in healthy pediatric transplant recipients of adult-sized kidneys. *Pediatric Transplantation*. févr 2010;14(1):126-31.
4. Goldsmith PJ, Asthana S, Fitzpatrick M, Finlay E, Attia MS, Menon KV, et al. Transplantation of adult-sized kidneys in low-weight pediatric recipients achieves short-term outcomes comparable to size-matched grafts: Transplantation of adult-sized kidneys in low-weight pediatric recipients. *Pediatric Transplantation*. nov 2010;14(7):919-24.
5. Herthelius M, Celsi G, Edström Halling S, Krmar RT, Sandberg J, Tydén G, et al. Renal transplantation in infants and small children. *Pediatr Nephrol*. janv 2012;27(1):145-50.
6. Hogan J, Bacchetta J, Charbit M, Roussey G, Novo R, Tsimaratos M, et al. Patient and transplant outcome in infants starting renal replacement therapy before 2 years of age. *Nephrology Dialysis Transplantation*. 1 août 2018;33(8):1459-65.
7. Lee S, Naesens M, Li L, Sarwal M. Stanniocalcin Supports the Functional Adaptation of Adult-Sized Kidneys Transplanted Into the Pediatric Recipients. *Transplantation*. 15 juin 2012;93(11):1130-5.
8. Luijten JCHBM, Voet M, de Gier RPE, Nusmeier A, Scharbatke H, van der Vliet JA, et al. Transplantation of adult living donor kidneys in small children, a single-centre initial experience. *Transpl Int*. juin 2017;30(6):640-2.
9. Marouane A, Cornelissen EAM, Nusmeier A, Bootsma-Robroeks CMHHT. Oscillometric and intra-arterial blood pressure in children post-kidney transplantation: Is invasive blood pressure measurement always needed? *Pediatr Transplant*. févr 2019;23(1):e13309.
10. Millan MT, Sarwal MM, Lemley KV, Yorgin P, Orlandi P, So S, et al. A 100% 2-year graft survival can be attained in high-risk 15-kg or smaller infant recipients of kidney allografts. *Arch Surg*. sept 2000;135(9):1063-8; discussion 1068-1069.
11. Salvatierra O, Singh T, Shifrin R, Conley S, Alexander S, Tanney D, et al. Successful transplantation of adult-sized kidneys into infants requires maintenance of high aortic blood flow. *Transplantation*. 15 oct 1998;66(7):819-23.
12. Sarwal MM, Cecka JM, Millan MT, Salvatierra O. Adult-size kidneys without acute tubular necrosis provide exceedingly superior long-term graft outcomes for infants and small children: a single center and UNOS analysis. *United Network for Organ Sharing. Transplantation*. 27 déc 2000;70(12):1728-36.
13. Wasson NR, Deer JD, Suresh S. Anesthetic Management of Pediatric Liver and Kidney Transplantation. *Anesthesiology Clinics*. sept 2017;35(3):421-38.
14. Williams RC, West LJ, Opelz G. The Risk of Failure With HLA Mismatch and Recipient Age in First Pediatric (<18 years) Kidney Transplants. *Transplantation Direct*. juill 2018;4(7):e365.

Donneurs vivants vs Donneurs décédés :

1. Agence de la biomédecine. Recommandations formalisées d'experts sur le prélèvement et la greffe à partir de donneur vivant. Paris: Médi-texte; 2009.
2. Chaudhuri A, Gallo A, Grimm P. Pediatric deceased donor renal transplantation: An approach to decision making II. Acceptability of a deceased donor kidney for a child, a snap decision at 3 AM. *Pediatr Transplantation*. nov 2015;19(7):785-91.
3. Fehrman-Ekholm I, Elinder CG, Stenbeck M, Tydén G, Groth CG. KIDNEY DONORS LIVE LONGER1: *Transplantation*. oct 1997;64(7):976-8.
4. Gaillard F, Baron S, Timsit MO, Eladari D, Fournier C, Prot-Bertoye C, et al. What is the significance of end-stage renal disease risk estimation in living kidney donors? *Transpl Int*. août 2017;30(8):799-806.
5. Gaillard F, Courbebaisse M, Kamar N, Rostaing L, Del Bello A, Girerd S, et al. The age-calibrated measured glomerular filtration rate improves living kidney donation selection process. *Kidney International*. sept 2018;94(3):616-24.
6. Garcia-Ochoa C, Feldman LS, Nguan C, Monroy-Cuadros M, Arnold J, Boudville N, et al. Perioperative Complications During Living Donor Nephrectomy: Results From a Multicenter Cohort Study. *Can J Kidney Health Dis*. janv 2019;6:205435811985771.
7. Garg AX, Nevis IF, McArthur E, Sontrop JM, Koval JJ, Lam NN, et al. Gestational Hypertension and Preeclampsia in Living Kidney Donors. *N Engl J Med*. 8 janv 2015;372(2):124-33.
8. Gaston RS, Kumar V, Matas AJ. Reassessing Medical Risk in Living Kidney Donors. *JASN*. mai 2015;26(5):1017-9.
9. Grams ME, Garg AX, Lentine KL. Kidney-Failure Risk Projection for the Living Kidney-Donor Candidate. *N Engl J Med*. 26 mai 2016;374(21):2094-5.
10. Grams ME, Sang Y, Levey AS, Matsushita K, Ballew S, Chang AR, et al. Kidney-Failure Risk Projection for the Living Kidney-Donor Candidate. *N Engl J Med*. 4 févr 2016;374(5):411-21.

PNDS - Transplantation renale chez l'enfant

11. Ibrahim HN, Foley R, Tan L, Rogers T, Bailey RF, Guo H, et al. Long-Term Consequences of Kidney Donation. *N Engl J Med.* 29 janv 2009;360(5):459-69.
12. Keith DS, Vranic G, Barcia J, Norwood V, Nishio-Lucar A. Longitudinal analysis of living donor kidney transplant rates in pediatric candidates in the United States. *Pediatr Transplantation.* mars 2017;21(2):e12859.
13. Lentine KL, Lam NN, Axelrod D, Schnitzler MA, Garg AX, Xiao H, et al. Perioperative Complications After Living Kidney Donation: A National Study. *Am J Transplant.* juin 2016;16(6):1848-57.
14. Lentine KL, Kasiske BL, Levey AS, Adams PL, Alberú J, Bakr MA, et al. KDIGO Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors. *Transplantation.* août 2017;101(8S):S7-105.
15. Lentine KL, Segev DL. Understanding and Communicating Medical Risks for Living Kidney Donors: A Matter of Perspective. *JASN.* janv 2017;28(1):12-24.
16. Maggiore U, Budde K, Heemann U, Hilbrands L, Oberbauer R, Oniscu GC, et al. Long-term risks of kidney living donation: review and position paper by the ERA-EDTA DESCARTES working group. *Nephrology Dialysis Transplantation.* 1 févr 2017;32(2):216-23.
17. Mamode N, Marks SD. Maximising living donation with paediatric blood-group-incompatible renal transplantation. *Pediatr Nephrol.* juill 2013;28(7):1037-40.
18. Marlais M, Callaghan C, Marks SD. Kidney donation after circulatory death: current evidence and opportunities for pediatric recipients. *Pediatr Nephrol.* juill 2016;31(7):1039-45.
19. Matas AJ, Berglund DM, Vock DM, Ibrahim HN. Causes and timing of end-stage renal disease after living kidney donation. *Am J Transplant.* mai 2018;18(5):1140-50.
20. Mjøen G, Hallan S, Hartmann A, Foss A, Midtvedt K, Øyen O, et al. Long-term risks for kidney donors. *Kidney International.* juill 2014;86(1):162-7.
21. Muzaale AD, Massie AB, Wang MC, Montgomery RA, McBride MA, Wainright JL, et al. Risk of End-Stage Renal Disease Following Live Kidney Donation. *JAMA.* 12 févr 2014;311(6):579.
22. Opelz G, Döhler B, Middleton D, Süsal C. HLA Matching in Pediatric Kidney Transplantation: HLA Poorly Matched Living Donor Transplants Versus HLA Well-Matched Deceased Donor Transplants. *Transplantation.* nov 2017;101(11):2789-92.
23. Reese PP, Bloom RD, Feldman HI, Rosenbaum P, Wang W, Saynisch P, et al. Mortality and Cardiovascular Disease Among Older Live Kidney Donors: Outcomes Among Older Live Kidney Donors. *American Journal of Transplantation.* août 2014;14(8):1853-61.
24. Ryan AF. Immune-mediated otitis media in an animal model. *Ann Otol Rhinol Laryngol Suppl.* 1988;132:24-7.
25. Schold JD, Goldfarb DA, Buccini LD, Rodrigue JR, Mandelbrot DA, Heaphy ELG, et al. Comorbidity Burden and Perioperative Complications for Living Kidney Donors in the United States. *CJASN.* 7 oct 2013;8(10):1773-82.
26. Smith JM, Brewer ED. Decreasing living donor rates in pediatric kidney transplantation: A time for action. *Pediatr Transplantation.* mars 2017;21(2):e12883.
27. The British Transplantation Society. UK Guidelines for Living Donor Kidney. mars 2019; Disponible sur: https://bts.org.uk/wp-content/uploads/2018/07/FINAL_LDKT-guidelines_June-2018.pdf
28. Van Arendonk KJ, Chow EKH, James NT, Orandi BJ, Ellison TA, Smith JM, et al. Choosing the Order of Deceased Donor and Living Donor Kidney Transplantation in Pediatric Recipients: A Markov Decision Process Model. *Transplantation.* févr 2015;99(2):360-6.

Infections post-transplantation:

1. Ahlenstiel-Grunow T, Koch A, Großhennig A, Frömke C, Sester M, Sester U, et al. A multicenter, randomized, open-labeled study to steer immunosuppressive and antiviral therapy by measurement of virus (CMV, ADV, HSV)-specific T cells in addition to determination of trough levels of immunosuppressants in pediatric kidney allograft recipients (IVIST01-trial): study protocol for a randomized controlled trial. *Trials.* déc 2014;15(1):324.
2. Ahlenstiel-Grunow T, Pape L. Diagnostics, treatment, and immune response in BK polyomavirus infection after pediatric kidney transplantation. *Pediatr Nephrol.* mars 2020;35(3):375-82.
3. Allen UD, Preiksaitis JK. Epstein-Barr Virus and Posttransplant Lymphoproliferative Disorder in Solid Organ Transplantation. *American Journal of Transplantation.* mars 2013;13:107-20.
4. Brunkhorst LC, Fichtner A, Höcker B, Burmeister G, Ahlenstiel-Grunow T, Krupka K, et al. Efficacy and Safety of an Everolimus- vs. a Mycophenolate Mofetil-Based Regimen in Pediatric Renal Transplant Recipients. *Stepkowski S, éditeur. PLoS ONE.* 25 sept 2015;10(9):e0135439.
5. Cameron BM, Kennedy SE, Rawlinson WD, Mackie FE. The efficacy of valganciclovir for prevention of infections with cytomegalovirus and Epstein-Barr virus after kidney transplant in children. *Pediatr Transplantation.* févr 2017;21(1):e12816.
6. Chaiyapak T, Borges K, Williams A, Banh T, Vasilevska-Ristovska J, Allen U, et al. Incidence of Cytomegalovirus DNAemia in Pediatric Kidney Transplant Recipients After Cessation of Antiviral

PNDS - Transplantation renale chez l'enfant

- Prophylaxis. Transplantation. août
2018;102(8):1391-6. <https://www.hcsp.fr/Explore.cgi/avisrapportsdomaine?clefr=504>
7. Colombini E, Guzzo I, Morolli F, Longo G, Russo C, Lombardi A, et al. Viral load of EBV DNAemia is a predictor of EBV-related post-transplant lymphoproliferative disorders in pediatric renal transplant recipients. *Pediatr Nephrol.* août 2017;32(8):1433-42.
 8. Drachenberg CB, Papadimitriou JC, Chaudhry MR, Ugarte R, Mavanur M, Thomas B, et al. Histological Evolution of BK Virus–Associated Nephropathy: Importance of Integrating Clinical and Pathological Findings. *American Journal of Transplantation.* août 2017;17(8):2078-91.
 9. Dulek DE, de St. Maurice A, Halasa NB. Vaccines in pediatric transplant recipients—Past, present, and future. *Pediatr Transplant.* nov 2018;22(7):e13282.
 10. Eid AJ, Chen SF. Human Parvovirus B19 in Solid Organ Transplantation. *American Journal of Transplantation.* mars 2013;13:201-5.
 11. Ettenger R, Chin H, Kesler K, Bridges N, Grimm P, Reed EF, et al. Relationship Among Viremia/Viral Infection, Alloimmunity, and Nutritional Parameters in the First Year After Pediatric Kidney Transplantation. *American Journal of Transplantation.* juin 2017;17(6):1549-62.
 12. Fishman JA. Infection in Solid-Organ Transplant Recipients. *N Engl J Med.* 20 déc 2007;357(25):2601-14.
 13. Fox TG, Nailescu C. Vaccinations in pediatric kidney transplant recipients. *Pediatr Nephrol.* avr 2019;34(4):579-91.
 14. Franceschini E, Plessi J, Zona S, Santoro A, Digaetano M, Fontana F, et al. Clinical Utility of Epstein-Barr Virus Viral Load Monitoring and Risk Factors for Posttransplant Lymphoproliferative Disorders After Kidney Transplantation: A Single-Center, 10-Year Observational Cohort Study. *Transplantation Direct.* juill 2017;3(7):e182.
 15. Green M, Michaels MG. Epstein–Barr Virus Infection and Posttransplant Lymphoproliferative Disorder. *American Journal of Transplantation.* févr 2013;13:41-54.
 16. Gupta S, Fricker FJ, González-Peralta RP, Slayton WB, Schuler PM, Dharnidharka VR. Post-transplant lymphoproliferative disorder in children: Recent outcomes and response to dual rituximab/low-dose chemotherapy combination: Dual PTLD treatment in children. *Pediatric Transplantation.* nov 2010;14(7):896-902.
 17. Hatton O, Martinez OM, Esquivel CO. Emerging therapeutic strategies for Epstein-Barr virus+ post-transplant lymphoproliferative disorder: Emerging therapeutic strategies for EBV+PTLD. *Pediatric Transplantation.* mai 2012;16(3):220-9.
 18. HCSP. Vaccination des personnes immunodéprimées ou aspléniques. Rapport Haut Conseil de la Santé Publique [Internet]. déc 2014;2e ed. Disponible sur:
 19. Hertig A, Zuckermann A. Rabbit antithymocyte globulin induction and risk of post-transplant lymphoproliferative disease in adult and pediatric solid organ transplantation: An update. *Transplant Immunology.* juin 2015;32(3):179-87.
 20. Hirsch HH, Randhawa P. BK Polyomavirus in Solid Organ Transplantation. *American Journal of Transplantation.* mars 2013;13:179-88.
 21. Hirsch HH, Randhawa PS, AST Infectious Diseases Community of Practice. BK polyomavirus in solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice. *Clin Transplant.* sept 2019;33(9):e13528.
 22. Höcker B, Zencke S, Pape L, Krupka K, Köster L, Fichtner A, et al. Impact of Everolimus and Low-Dose Cyclosporin on Cytomegalovirus Replication and Disease in Pediatric Renal Transplantation. *American Journal of Transplantation.* mars 2016;16(3):921-9.
 23. Höcker B, Fickenscher H, Delecluse HJ, Böhm S, Küsters U, Schnitzler P, et al. Epidemiology and Morbidity of Epstein-Barr Virus Infection in Pediatric Renal Transplant Recipients: A Multicenter, Prospective Study. *Clinical Infectious Diseases.* 1 janv 2013;56(1):84-92.
 24. Höcker B, Zencke S, Krupka K, Fichtner A, Pape L, Dello Strologo L, et al. Cytomegalovirus Infection in Pediatric Renal Transplantation and the Impact of Chemoprophylaxis With (Val-)Ganciclovir. *Transplantation.* avr 2016;100(4):862-70.
 25. Hogan J, Pietrement C, Sellier-Leclerc AL, Louillet F, Salomon R, Macher MA, et al. Infection-related hospitalizations after kidney transplantation in children: incidence, risk factors, and cost. *Pediatr Nephrol.* déc 2017;32(12):2331-41.
 26. Jordan CL, Taber DJ, Kyle MO, Connelly J, Pilch NW, Fleming J, et al. Incidence, risk factors, and outcomes of opportunistic infections in pediatric renal transplant recipients. *Pediatr Transplantation.* févr 2016;20(1):44-8.
 27. Kanzelmeyer NK, Maecker-Kolhoff B, Zierhut H, Lerch C, Verboom M, Haffner D, et al. Graft outcomes following diagnosis of post-transplant lymphoproliferative disease in pediatric kidney recipients: a retrospective study. *Transpl Int.* avr 2018;31(4):367-76.
 28. Kizilbash SJ, Rheault MN, Bangdiwala A, Matas A, Chinnakotla S, Chavers BM. Infection rates in tacrolimus versus cyclosporine-treated pediatric kidney transplant recipients on a rapid discontinuation of prednisone protocol: 1-year analysis. *Pediatr Transplantation.* juin 2017;21(4):e12919.
 29. Laurent A, Klich A, Roy P, Lina B, Kassai B, Bacchetta J, et al. Pediatric renal transplantation: A retrospective single-center study on epidemiology and morbidity due to EBV. *Pediatr Transplantation.* mai 2018;22(3):e13151.

PNDS - Transplantation renale chez l'enfant

30. Malone K, Clark S, Palmer JA, Lopez S, Pradhan M, Furth S, et al. A quality improvement initiative to increase pneumococcal vaccination coverage among children after kidney transplant. *Pediatr Transplantation*. sept 2016;20(6):783-9.
31. Mengel M. BK Virus Nephropathy Revisited. *American Journal of Transplantation*. août 2017;17(8):1972-3.
32. Miettinen J, Lautenschlager I, Weissbach F, Wernli M, Auvinen E, Mannonen L, et al. BK polyomavirus viremia and antibody responses of pediatric kidney transplant recipients in Finland: XXXX. *Pediatr Transplant*. févr 2019;23(1):e13324.
33. Pergam SA, Limaye AP. Varicella Zoster Virus in Solid Organ Transplantation. *American Journal of Transplantation*. mars 2013;13:138-46.
34. Pham PT, Schaenman J, Pham PC. BK virus infection following kidney transplantation: an overview of risk factors, screening strategies, and therapeutic interventions. *Current Opinion in Organ Transplantation*. août 2014;19(4):401-12.
35. Rabot N, Büchler M, Foucher Y, Moreau A, Debiais C, Machet MC, et al. CNI withdrawal for post-transplant lymphoproliferative disorders in kidney transplant is an independent risk factor for graft failure and mortality. *Transpl Int*. sept 2014;27(9):956-65.
36. Razonable RR, Humar A. Cytomegalovirus in Solid Organ Transplantation. *American Journal of Transplantation*. mars 2013;13:93-106.
37. Scaggs Huang FA, Danziger-Isakov L. Infectious disease risks in pediatric renal transplantation. *Pediatr Nephrol*. 1 juill 2019;34(7):1155-66.
38. Smith JM, Dharnidharka VR. Viral surveillance and subclinical viral infection in pediatric kidney transplantation. *Pediatr Nephrol*. mai 2015;30(5):741-8.
39. Tanné C, Roy P, Frobert É, Duncan A, Laurent A, Cochat P. Cytomegalovirus infection in the first year after pediatric kidney transplantation. *Néphrologie & Thérapeutique*. mars 2019;15(1):44-50.
40. Varela-Fascinetto G, Benchimol C, Reyes-Acevedo R, Genevray M, Bradley D, Ives J, et al. Tolerability of up to 200 days of prophylaxis with valganciclovir oral solution and/or film-coated tablets in pediatric kidney transplant recipients at risk of cytomegalovirus disease. *Pediatr Transplantation*. févr 2017;21(1):e12833.
41. Yamada M, Nguyen C, Fadakar P, Ganoza A, Humar A, Shapiro R, et al. Epidemiology and outcome of chronic high Epstein-Barr viral load carriage in pediatric kidney transplant recipients. *Pediatr Transplantation*. mai 2018;22(3):e13147.
42. Yi SG, Knight RJ, Lunsford KE. BK virus as a mediator of graft dysfunction following kidney transplantation. *Current Opinion in Organ Transplantation*. août 2017;22(4):320-7.

Petits donneurs :

1. Chaudhuri A, Grimm P, Concepcion W. Small pediatric deceased donors for pediatric renal transplant recipients. *Pediatr Transplantation*. févr 2016;20(1):7-10.
2. Laurence JM, Sandroussi C, Lam VWT, Pleass HCC, Eslick GD, Allen RDM. Utilization of Small Pediatric

Donor Kidneys: A Decision Analysis. *Transplantation*. 27 mai 2011;91(10):1110-3.

3. Yaffe HC, Friedmann P, Kayler LK. Very small pediatric donor kidney transplantation in pediatric recipients. *Pediatr Transplantation*. août 2017;21(5):e12924.

Transplantations rénales (divers) :

1. Abramowicz D, Cochat P, Claas FHJ, Heemann U, Pascual J, Dudley C, et al. European Renal Best Practice Guideline on kidney donor and recipient evaluation and perioperative care: FIGURE 1. *Nephrol Dial Transplant*. nov 2015;30(11):1790-7.
2. Brubaker AL, Stoltz DJ, Chaudhuri A, Maestretti L, Grimm PC, Concepcion W, et al. Superior Hypertension Management in Pediatric Kidney Transplant Patients After Native Nephrectomy. *Transplantation*. juill 2018;102(7):1172-8.
3. De Meester J, Smits JM, Offner G, Persijn GG. Renal retransplantation of children: is a policy « first cadaver donor, then live donor » an acceptable option? *Pediatr Transplant*. juin 2001;5(3):179-86.
4. Dharnidharka VR, Fiorina P, Harmon WE. Kidney Transplantation in Children. *N Engl J Med*. 7 août 2014;371(6):549-58.
5. El-Ghoneimi A, Abou-Hashim H, Bonnard A, Verkauskas G, Macher MA, Huot O, et al. Retroperitoneal laparoscopic nephrectomy in children: At last the gold standard? *Journal of Pediatric Urology*. août 2006;2(4):357-63.
6. Foster BJ, Dahhou M, Zhang X, Platt RW, Smith JM, Hanley JA. Impact of HLA Mismatch at First Kidney Transplant on Lifetime With Graft Function in Young Recipients. *American Journal of Transplantation*. avr 2014;14(4):876-85.
7. Foster BJ, Dahhou M, Zhang X, Platt RW, Hanley JA. Relative Importance of HLA Mismatch and Donor Age to Graft Survival in Young Kidney Transplant Recipients. *Transplantation*. 15 sept 2013;96(5):469-75.
8. Fraser N, Lyon PC, Williams AR, Christian MT, Shenoy MU. Native nephrectomy in pediatric

PNDS - Transplantation renale chez l'enfant

- transplantation – Less is more! *Journal of Pediatric Urology*. févr 2013;9(1):84-9.
9. Gaillard F, Flamant M, Lemoine S, Baron S, Timsit MO, Eladari D, et al. Estimated or Measured GFR in Living Kidney Donors Work-up? *American Journal of Transplantation*. oct 2016;16(10):3024-32.
10. Ghane Sharbat F, Bitzan M, Szymanski KM, Bell LE, Gupta I, Tchervenkov J, et al. Native nephrectomy prior to pediatric kidney transplantation: biological and clinical aspects. *Pediatr Nephrol*. juill 2012;27(7):1179-88.
11. Gralla J, Tong S, Wiseman AC. The Impact of Human Leukocyte Antigen Mismatching on Sensitization Rates and Subsequent Retransplantation After First Graft Failure in Pediatric Renal Transplant Recipients. *Transplantation*. 27 mai 2013;95(10):1218-24.
12. Gritsch HA, Veale JL, Leichtman AB, Guidinger MK, Magee JC, McDonald RA, et al. Should Pediatric Patients Wait for HLA-DR-Matched Renal Transplants? *American Journal of Transplantation*. oct 2008;8(10):2056-61.
13. Harambat J, van Stralen KJ, Kim JJ, Tizard EJ. Epidemiology of chronic kidney disease in children. *Pediatr Nephrol*. mars 2012;27(3):363-73.
14. Hoyer PF. 'Tie Breaker' for HLA Matching in Pediatric Renal Transplant Recipients? *American Journal of Transplantation*. oct 2008;8(10):1970-1.
15. Hwang AH, Cho YW, Cicciarelli J, Mentser M, Iwaki Y, Hardy BE. Risk Factors for Short- and Long-term Survival of Primary Cadaveric Renal Allografts in Pediatric Recipients: A UNOS Analysis: *Transplantation*. août 2005;80(4):466-70.
16. Lee E, Ramos-Gonzalez G, Rodig N, Elisofon S, Vakili K, Kim HB. Bilateral native nephrectomy to reduce oxalate stores in children at the time of combined liver-kidney transplantation for primary hyperoxaluria type 1. *Pediatr Nephrol*. mai 2018;33(5):881-7.
17. Lentine KL, Kasiske BL, Levey AS, Adams PL, Alberú J, Bakr MA, et al. KDIGO Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors. *Transplantation*. août 2017;101(8S):S7-105.
18. Maggiore U, Abramowicz D, Budde K, Crespo M, Mariat C, Oberbauer R, et al. Standard work-up of the low-risk kidney transplant candidate: a European expert survey of the ERA-EDTA Developing Education Science and Care for Renal Transplantation in European States Working Group. *Nephrology Dialysis Transplantation*. 1 sept 2019;34(9):1605-11.
19. Marlais M, Pankhurst L, Martin K, Mumford L, Tizard EJ, Marks SD. Renal allograft survival rates in kidneys initially declined for paediatric transplantation. *Pediatr Nephrol*. sept 2018;33(9):1609-16.
20. Parmentier C, Lassalle M, Berard E, Bacchetta J, Delbet JD, Harambat J, et al. Setting reasonable objectives for improving preemptive kidney transplantation rates in children. *Pediatr Nephrol*. déc 2020;35(12):2353-60.
21. Phillips BL, Callaghan CJ. Graft nephrectomy in children. *Pediatr Nephrol*. juin 2018;33(6):947-55.
22. Rusai K, Szabo AJ. Recent developments in kidney transplantation in children. *Curr Opin Organ Transplant*. août 2014;19(4):381-6.
23. Sypek MP, Hughes P, Kausman JY. HLA epitope matching in pediatric renal transplantation. *Pediatr Nephrol*. oct 2017;32(10):1861-9.
24. Tagliamacco A, Cioni M, Comoli P, Ramondetta M, Brambilla C, Trivelli A, et al. DQ molecules are the principal stimulators of *de novo* donor-specific antibodies in nonsensitized pediatric recipients receiving a first kidney transplant. *Transpl Int*. juill 2014;27(7):667-73.
25. Tait BD, Süsal C, Gebel HM, Nickerson PW, Zachary AA, Claas FHJ, et al. Consensus Guidelines on the Testing and Clinical Management Issues Associated With HLA and Non-HLA Antibodies in Transplantation. *Transplantation*. 15 janv 2013;95(1):19-47.
26. The European Renal Best Practice (ERBP) Transplantation guideline development group, Abramowicz D, Cochat P, Claas F, Dudley C, Harden P, et al. Guideline. *Nephrology Dialysis Transplantation*. 1 août 2013;28(suppl_2):ii1-71.
27. Trnka P, McTaggart SJ, Francis A. The impact of donor/recipient age difference and HLA mismatch on graft outcome in pediatric kidney transplantation. *Pediatr Transplant*. nov 2018;22(7):e13265.
28. Van Arendonk KJ, Boyarsky BJ, Orandi BJ, James NT, Smith JM, Colombani PM, et al. National Trends Over 25 Years in Pediatric Kidney Transplant Outcomes. *Pediatrics*. 1 avr 2014;133(4):594-601.
29. Wiebe C, Gibson IW, Blydt-Hansen TD, Karpinski M, Ho J, Storsley LJ, et al. Evolution and Clinical Pathologic Correlations of De Novo Donor-Specific HLA Antibody Post Kidney Transplant. *American Journal of Transplantation*. mai 2012;12(5):1157-67.
30. Wiebe C, Nevins TE, Robiner WN, Thomas W, Matas AJ, Nickerson PW. The Synergistic Effect of Class II HLA Epitope-Mismatch and Nonadherence on Acute Rejection and Graft Survival. *American Journal of Transplantation*. août 2015;15(8):2197-202.
31. Willem L, Knops N, Mekahli D, Cochat P, Edefonti A, Verrina E, et al. Renal Replacement Therapy in children with severe developmental disability: guiding questions for decision-making. *Eur J Pediatr*. déc 2018;177(12):1735-43.
32. Willicombe M, Brookes P, Sergeant R, Santos-Nunez E, Steggar C, Galliford J, et al. De Novo DQ Donor-Specific Antibodies Are Associated With a Significant Risk of Antibody-Mediated Rejection and Transplant Glomerulopathy. *Transplantation*. 27 juill 2012;94(2):172-7.
33. Zhong Y, Muñoz A, Schwartz GJ, Warady BA, Furth SL, Abraham AG. Nonlinear Trajectory of GFR in

Transplantations rénales - épidémiologie:

1. ANZDATA Registry. 40th Report, Chapter 11: Paediatric. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia [Internet]. 2018; Disponible sur: <http://www.anzdata.org.au>
2. CORR. Canadian Organ Replacement Register (CORR) data 2008-2017. 2018; Disponible sur: <https://www.cihi.ca/en/organ-replacement-in-canada-corr-annual-statistics>
3. European Registry for Children on Renal Replacement Therapy. https://www.espn-reg.org/files/AR2016_final.pdf. 2016;
4. EuroTransplant annual report 2016. <http://www.eurotransplant.org/wp-content/uploads/2019/12/AR2016.pdf>.
5. Harambat J, van Stralen KJ, Schaefer F, Grenda R, Jankauskiene A, Kostic M, et al. Disparities in Policies, Practices and Rates of Pediatric Kidney Transplantation in Europe. *American Journal of Transplantation*. août 2013;13(8):2066-74.
6. Harambat J, Ekulu PM. Inequalities in access to pediatric ESRD care: a global health challenge. *Pediatr Nephrol*. mars 2016;31(3):353-8.
7. Harambat J, Groothoff J. Annual reports ESPN/ERA Registry Paediatric Data 2016. *European Registry for Children on Renal Replacement Therapy* [Internet]. 2016; Disponible sur: https://www.espn-reg.org/files/AR2016_final.pdf
8. Harambat J, van Stralen KJ, Kim JJ, Tizard EJ. Epidemiology of chronic kidney disease in children. *Pediatr Nephrol*. mars 2012;27(3):363-73.
9. Hart A, Smith JM, Skeans MA, Gustafson SK, Wilk AR, Castro S, et al. OPTN/SRTR 2017 Annual Data Report: Kidney. *Am J Transplant*. févr 2019;19 Suppl 2:119-123.
10. Hattori M. Current Trend of Pediatric Renal Replacement Therapy in Japan. In: Nakamoto H, Nitta K, Tsuchiya K, Okada H, Hasegawa H, éditeurs. *Contributions to Nephrology* [Internet]. S. Karger AG; 2018 [cité 22 mai 2023]. p. 223-8. Disponible sur: <https://www.karger.com/Article/FullText/485726>
11. Jahnukainen T, Bjerre A, Larsson M, Tainio J, Thiesson HC, Jalanko H, et al. The second report of the Nordic Pediatric Renal Transplantation Registry 1997-2012: More infant recipients and improved graft survivals. *Pediatr Transplant*. mai 2016;20(3):364-71.
12. Kramer A, Pippias M, Noordzij M, Stel VS, Andrushev AM, Aparicio-Madre MI, et al. The European Renal Association - European Dialysis and Transplant Association (ERA-EDTA) Registry Annual Report 2016: a summary. *Clin Kidney J*. oct 2019;12(5):702-20.
13. Nishimura N, Kasahara M, Ishikura K, Nakagawa S. Current status of pediatric transplantation in Japan. *j intensive care*. déc 2017;5(1):48.
14. EuroTransplant annual report 2016. Annual Report/Eurotransplant International Foundation.– Leiden: Eurotransplant Foundation. -III., graf., tab. Published annually Annual report 2016 / ed. by Peter Branger and Undine Samuel. 2016; Disponible sur: <http://www.eurotransplant.org/wp-content/uploads/2019/12/AR2016.pdf>
15. U.S. Renal Data System, USRDS (2019) Annual data report: atlas of chronic kidney disease and end-stage renal disease in the United States. Volume 2: End-Stage Renal Disease in the United States. 2019; Disponible sur: <https://usrds-adr.niddk.nih.gov/2020/end-stage-renal-disease/introduction-to-volume-2>
16. UK Renal Registry (2019) UK Renal Registry 21st Annual Report – data to 31/12/2017, Bristol, UK. Available from <https://www.renalreg.org/publications-reports/>. UK Renal Registry. 2019;

