

British Association of Paediatric Nephrology

Pre-transplant assessment for children and young people in the UK undergoing kidney transplantation

Scope document

1 Guideline title

Pre-transplant assessment for children and young people in the UK undergoing kidney transplantation

2 Short title:

Pre-transplant work-up

3 The remit

Paediatric kidney transplant preparation varies across the UK. The purpose of this national guideline development is to reduce unwarranted variation in practice and facilitate an equitable approach to transplant work-up. This will also allow patients to be transplanted in different centres more seamlessly should the need arise.

4 Clinical need for the guideline

Chronic kidney disease (CKD) in children has an estimated prevalence of 80 per million children in the UK. CKD is associated with significant morbidity, reduced quality of life, and increased healthcare utilization. Kidney transplantation is widely regarded as the optimal treatment for children with kidney failure, offering improved survival and developmental outcomes compared to dialysis. Current pre-transplant practices vary considerably between centers in the UK, including differences in timing, required investigations, psychosocial assessments, and involvement of multidisciplinary teams. This variation can lead to inequities in access to transplantation, and inefficiencies whilst patients are being prepared for kidney transplantation. The absence of a national guideline can also result in inconsistencies in clinical decision-making across the UK, possibly affecting transplant readiness and long-term outcomes. The development of a national guideline will address this variation, supporting a more equitable, safe and efficient pathway to transplantation for all paediatric patients, irrespective of geographical location. A national guideline will also reduce inefficiencies when patients are transferred between centers.

5 Guideline Content

- The guideline will be developed according to UKKA Guideline development policy and endorsed by the British Transplantation Society (BTS). Where evidence is lacking, a Delphi consensus process may be employed to increase the rigour of development of recommendations.

- This document is the scope. It defines exactly what this guidance will (and will not) examine, and what the guidance developers will consider.
- The areas to be addressed by the guideline are in the following sections.

4.1 Population

5.1.1 Groups that will be covered

Children aged 0-17 years old inclusive undergoing preparation for a kidney transplant

5.1.2 Groups that will not be covered

- Young people aged 18 and over in need of a kidney transplant
- Those in need of multiorgan transplantation.

4.2 Healthcare settings and services

- Specialist paediatric nephrology centres (Total of 13 in the UK)
- Any centre contributing to pre-transplant kidney assessments.

4.3 Key areas

4.3.1 Clinical issues that will be covered

1. Timing and referral for transplant work-up
 - 1.1. When to initiate work-up in relation to CKD progression
2. Immunological assessment
 - 2.1. How to consent for HLA testing
 - 2.2. HLA typing and antibody screening
 - 2.3. HLA match grades for listing
 - 2.4. Crossmatch procedures and sensitisation management
 - 2.5. Desensitisation protocols where appropriate
 - 2.6. Calculated reaction frequencies and their impact on time to transplant
 - 2.7. Avoidance of potential live donor antigens
 - 2.8. Communicating chances of transplant
3. Donor identification and evaluation
 - 3.1. Living donor options and assessment
 - 3.2. Deceased donor considerations
 - 3.3. Paired/pooled donation options
 - 3.4. ABO incompatible donor considerations
4. Laboratory investigations
 - 4.1. Required haematology and biochemistry laboratory parameters
 - 4.2. Virology screening
 - 4.3. Coagulation screening
5. Imaging investigations
 - 5.1. Renal and bladder imaging
 - 5.2. Vessel angiology and cross-sectional imaging

6. Urological assessment
 - 6.1. Bladder function assessments
 - 6.2. Need for urodynamic studies
7. Cardiovascular assessment
 - 7.1. Echocardiograms
8. Infectious disease screening and immunisation
 - 8.1. Immunisation history
 - 8.2. Catch-up or accelerated vaccination protocols
 - 8.3. Assessment of infection risk and management plans including Hep B/HCV/HIV monitoring
 - 8.4. Management of latent infections (eg TB)
9. Psychosocial evaluation and support
 - 9.1. Transplant education
 - 9.2. Psychological readiness and family support assessment
 - 9.3. Social considerations
 - 9.4. Special considerations for late adolescents and transfer of care
10. Surgical and anaesthetic risk assessment
11. Multidisciplinary team meetings and sign-off process.

5.1.2 Clinical issues that will not be covered

1. Post-transplant management
 - 1.1. Immunosuppression protocols
 - 1.2. Management of acute or chronic rejection
 - 1.3. Long-term follow-up and graft surveillance
 - 1.4. Post-transplant infections and complications
2. Dialysis
 - 2.1. Peritoneal dialysis or haemodialysis selection
 - 2.2. Dialysis access issues
 - 2.3. Dialysis-specific complications
3. Living donor work-up (adult donor-specific pathways)
 - 3.1. Adult donor eligibility and work-up criteria
4. Organ allocation
 - 4.1. Criteria for accepting offers from deceased donors
 - 4.2. Organ matching and prioritisation (covered by NHS Blood and Transplant)
5. Transplant surgery technique
6. Management of multiorgan transplants

6 Clinical questions

- 1) When should the pre-transplant work-up begin in children with CKD?
- 2) How should immunological risk be assessed and managed?
- 3) What are the biochemical and hematological parameters for safe transplantation?
- 4) What infectious disease screening and immunisation strategies are needed before transplant?

- 5) What are the necessary bladder investigations in preparation for transplant?
- 6) What is the necessary vascular imaging needed in preparation for transplant?
- 7) What is the necessary cardiac assessment needed in preparation for transplant?
- 8) What thrombophilia screening should be undertaken?
- 9) Which health professionals should take responsibility for readiness for transplantation?
- 10) How will information be shared between centres in the event that children will be transplanted in another centre?

7 Related guidance

Local guidelines from each transplant centre ascertained and will be part of the evaluation process

Renal replacement therapy and conservative management. NICE guideline NG107, October 2018

8 Further information

9 References

Plumb L, Magadi W, Casula A, Reynolds BC, Convery M, Haq S, Hegde S, Lunn A, Malina M, Morgan H, Muorah M, Tyerman K, Sinha MD, Wallace D, Inward C, Marks S, Nitsch D, Medcalf J. Advanced chronic kidney disease among UK children. *Arch Dis Child.* 2022 Oct 19;107(11):1043-1045. doi: 10.1136/archdischild-2021-323686. PMID: 35732469.