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| **Clinical Standard Operating Procedure for Deceased Donor kidney Transplantation (DDKT) at Bristol Royal Hospital for Children during the COVID-19 pandemic** | |
| **SETTING** | Bristol Royal Hospital for Children |
| **FOR STAFF** | All staff involved in the care of children and young people undergoing kidney transplantation |
| **PATIENTS** | Children and young people (CYP) undergoing kidney transplantation |
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Process of patient selection and monitoring  * Decisions for listing or relisting potential recipients will be made as part of multidisciplinary team (MDT) discussions and documented in the electronic case record. These discussions should occur every 2-4 weeks * In the initial phase, deceased donor transplantation will be offered to those patients considered to be at reduced risk of acquiring COVID-19 and who are expected to have an uncomplicated post-transplant course. * Recipients who have higher risk of acquiring COVID-19 are those expected to have longer in-patient stays following transplantation, including:   + Children whose weight is <20kg, those with complex anatomy, cardiorespiratory comorbidity, high immunological risk, or recipients anticipated to require Intensive Care. These criteria will be reviewed regularly. * Prior to listing or relisting, all patients should be asked about symptoms of and possible exposure to COVID-19. * For wait-listed patients, enquiries about symptoms of COVID-19 should be made at each review and families advised to contact the [NHS 111 online](https://111.nhs.uk/) coronavirus service (or call 111 if under 5 years) and their consultant or specialist nurse as soon as possible if they think they have COVID‑19   + Patients with positive SARS-CoV-2 test results should be suspended from the waiting list and assessed for relisting (reactivation) once they have been symptom-free for 28 days * Face to face appointments will be kept to the minimum necessary. Virtual consultations will be the preferred option. When patients need to attend a clinic, they need to come with only one family member and attend a ’COVID secure’ area.      * 1. Patient information and consent – general principles [see Appendix A for details] * All recipients should be counselled regarding the risks of surgery during the COVID-19 pandemic and discussions documented in their electronic records * The available data on risk is likely to change regularly, but consent should include the potential risks of:   + already having asymptomatic COVID-19 prior to surgery   + acquiring the virus in the perioperative, post-operative or initial follow up period. * Clinicians should discuss the following issues with the patient and parents / carers:   + The risks of severe disease due to COVID-19 infection for children and young people (CYP) in general, and in the transplant population     - The need to be suspended if the CYP acquires COVID-19 whilst on the waiting list   + The risk of transmission of SARS-CoV-2 from donor to recipient (no reported case currently; likely to be very low)   + The risk of the recipient developing COVID-19 post-transplant from sources not related to the donor   + Logistical and organisational issues, e.g. access to operating theatres, critical care beds, ward beds, and outpatient follow-up and re-admission, availability of rapid SARS-COV-2 testing   + The risk of delays or not proceeding to transplantation * Advice must be given on social distancing while on the list and shielding post-transplant for the patient and their household.   + Wait-listed CYP will not be asked to shield   + Children and young people will be required to shield for 3 months post-transplant     - Other family members will not be asked to self-isolate; siblings may return to school and parents to work   + Families will be updated with any new relevant information about COVID-19 and kidney transplantation especially if this may change their decision to consent. * Where consent for listing for transplantation is not given by families, we will continue to offer further opportunities to discuss transplantation at further appointments. * Guidance regarding social distancing and shielding from the government can be found at:   <https://www.gov.uk/government/publications/stay-alert-and-safe-social-distancing-guidance-for-young-people/staying-alert-and-safe-social-distancing-guidance-for-young-people>  and :  <https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19>   * 1. Deceased donor selection criteria * Deceased donor kidneys will continue to be considered using pre-existing clinical pathways, with careful consideration of individual risks and benefits for the potential recipient. * Every kidney offer will be discussed by the on-call transplant surgeon and paediatric nephrologist as per routine practice. In the initial phase donor kidneys that are likely to have a higher chance of delayed graft function (e.g. donor severe acute kidney injury, donor with significant co-morbidities) or surgical complications (e.g. complex vascular or urological reconstructions, extensive capsular tears), will not be accepted. Donation after cardiac death (DCD) donors should be discussed on a case by case basis as a young donor with short cold ischaemia time (CIT) may be acceptable. * Deceased donor selection and COVID-19 issues.   + All potential deceased organ donors in the UK that proceed to organ offering have nose and throat swabs and endotracheal aspirates sent for SARS-CoV-2 nucleic acid testing. A positive result precludes organ donation.   + Negative SARS-CoV-2 nucleic acid testing does not completely exclude evolving SARS-CoV-2 infection. To date, there have been no reported proven cases of donor-derived transmission of SARS-CoV-2.   + Consideration of organs from potential deceased donors who have recovered from confirmed or suspected COVID-19 will follow NHSBT guidance. Discussion with Trust consultant virology colleagues is mandatory if organs from such donors are considered or if there are other significant donor viral issues.  1. Perioperative considerations for recipient    1. Admission pathway   For patients offered a deceased donor kidney:   * Before confirming admission:   + Check their history of social distancing and any possible contact with people who might have COVID‑19 **[see Appendix B for questions to ask family when offered kidney].** * On arrival at hospital:   + Conduct rapid nasopharyngeal swab testing for SARS‑CoV‑2 **(Rapid Covid Test (cepheid))**     - Phone Haematology 22579, or Biochemistry bleep 2331 if no response from haematology and request ‘Rapid Covid Test (cepheid)’     - A result should be available within 30-60 minutes of the swab reaching the laboratory     - Only in exceptional circumstances and, as agreed by nephrologist and surgeon, should the transplant proceed without a negative test result       * This should be discussed with CYP and / or parent / carer and reported as a (serious) adverse event report to NHSBT (see Incident Submission Form:- <https://www.organdonation.nhs.uk//IncidentSubmission/>; Urgent incidents must be reported to the NHS Blood and Transplant (NHSBT) Organ Donation and Transplantation (ODT) Hub on **01179 757580**   + Conduct a respiratory assessment.   + Review the completed screening questionnaire and confirm accuracy with the family.   + If the patient or any household members are found to have had symptoms during the previous 2 weeks, or the swabs are positive, the transplant will be cancelled for at least 28 days in conjunction and re-swabbed.   + Prescribe immunosuppression per current guidance     - Immunosuppressive medications should not be given to the patient until a negative COVID-19 swab has been confirmed   1. Perioperative care * Conditions of use of the cubicle to which potential recipient is admitted should include:   + PPE is worn by staff during patient contact.   + The number of staff looking after the patient during admission will be minimised. Every attempt will be made to have a minimal number of nurse colleagues looking after the transplanted child during each shift and, where possible, the same team over the course of the admission.   + Only one parent will be resident throughout * Issues specific to recipients that need back up plans:   + Management of Rejection episodes: Decisions regarding the treatment of rejection episodes will be made on a case by case basis in conjunction with the patient and transplant team. Management to be discussed in a small group at the time and involve the transplant team.   + Management of delayed graft function (DGF): DGF is not uncommon in deceased donor kidney transplantation (DDKT). Therefore, every attempt will be made when accepting an organ to minimise this. In case of DGF, dialysis will be provided in the patient’s cubicle by a dialysis nurse early in the morning before that nurse has had contact with any other dialysis patients.  1. Post-Transplant follow up pathway  * There are already established shared-care arrangements between the MDT and local paediatric services with individualised patient pathways for local investigations including blood tests in “COVID - secure” clinical areas   + Virtual reviews are encouraged wherever possible   + Clinicians should enquire about symptoms of and exposure to COVID-19 at each review (see NICE COVID-19 rapid guideline on renal transplantation)   + A screening questionnaire is undertaken with patient and carer prior to entering outpatient facilities appointment or admission | |
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| **RELATED DOCUMENTS** | [COVID 19 rapid guideline: renal transplantation NICE guideline [NG178]](https://www.nice.org.uk/guidance/NG178)  [NHSBT Guidance for transplant centres considering or planning, for transplantation services to resume](https://www.odt.nhs.uk/deceased-donation/covid-19-advice-for-clinicians/)  Link to SNOD checklist:  <https://nhsbtdbe.blob.core.windows.net/umbraco-assets-corp/18626/frm6439-covid-19-snod-checklist.pdf>  BRCH clinical guideline: Management of Children and Young People admitted for Kidney Transplant |
| **AUTHORISING BODY** | Clinical Effectiveness Committee |
| **SAFETY** | If there are unusual or unexpected safety concerns (to staff or patient), emphasize them here |
| **QUERIES** | Contact attending consultant paediatric nephrologist |

# **APPENDIX A: Issues to be discussed with patients, parents and carers prior to activating on deceased donor list**

Discuss with parents and carers (and, where appropriate, the young person):

The risks of severe disease due to COVID-19 infection for children and young people (CYP) in general, and in the transplant population

* 1. *post-transplant UK data:*
     1. *of 1700 patients aged between 0-17 years with a functioning transplant (any organ type, e.g. heart / lung / liver / kidney) in early 2020, 3 have tested positive for SARS-CoV-2 by mid-May. None have died.*
  2. *waiting list UK data:* 
     1. *of 170 patients aged between 0-17 years on the wait list for transplants 2020 (any organ type), 3 have tested positive for SARS-CoV-2 by mid-May. None has died.*

Risk of development of COVID-19 whilst on waiting list and need for suspension for 28 days following resolution of symptoms

The risk of transmission of SARS-CoV-2 from donor to recipient

*No cases described yet in the international literature*

The risk of developing COVID-19 post-transplant from sources not related to the donor, including:

* 1. Risk of nosocomial acquisition of COVID-19 post-transplant noting current data regarding COVID infection status at BRHC and strategies in place to minimise risk:
     1. Detailed questioning on COVID symptoms and exposure pre-transplant
     2. Rapid SARS-COV-2 testing for all donors and recipients immediately prior to transplant
     3. Post-operative focus on minimising staff to patient contact, PPE, staff testing when available and infection, prevention and control policies
     4. Plans for follow-up with minimisation of face to face contact and shielding for 3 months post-transplant

Risk of having asymptomatic COVID-19 at the point of transplantation (median incubation period 5 days) and that a negative result does not definitely rule out infection

* + 1. *Outcome data on major surgery undertaken in patients during incubation period from adults define mortality at ~20% (0 in people under 30). No data following transplantation so far.*
  + Note that we cannot guarantee that patients and carers won’t come into contact with patients / visitors / carers / healthcare works carrying SARS-CoV-2

1. How COVID-19 would be managed post-transplant and implications for the recipient and graft and immunosuppression management
   1. families are advised to contact the [NHS 111 online](https://111.nhs.uk/) coronavirus service (or call 111 if under 5 years) and the MDT as soon as possible if they think they have COVID‑19
2. Logistical and organisational issues, e.g. access to operating theatres, critical care beds, ward beds, and outpatient follow-up and re-admission pathways
   1. Risk of delays
3. Risks of not proceeding to transplantation
   1. Outcomes without transplantation
   2. Implications of declining an offer and the estimated wait for another offer, including difficulties predicting this in the COVID-19 environment (likely drop in donors in the short-term)

# **Appendix B: COVID-19 – questions to ask families when offering kidney for DDKT**

To be completed by transplant coordinator or paediatric nephrologist when inviting CYP for DDKT and confirmed by paediatric nephrologist and / or transplant surgeon on admission

1. Does your CYP or any household members or people with whom the CYP has contact, have any of the following symptoms in the last 14 days:

**Other household member(s)**

**CYP**

Y N Unsure Y N Unsure

Fever (> 37.8o) □ □ □ □ □ □

Continuous cough □ □ □ □ □ □

Loss of smell/taste □ □ □ □ □ □

1. Has the CYP been seen by their GP or required attendance at A&E department or admission to hospital in last month in last month (please circle)? Yes / No

Was this related to any of the symptoms in Q1 above (please circle)?

Yes / No. If Yes: Please detail:

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1. Has the CYP needed a COVID-19 swab to be taken in last month (please circle)? Yes / No

If Yes: Details: Result, date and location

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1. Any other issues to consider

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