

## PSTS Interim Guidelines and Recommendations on the Resumption of Kidney Transplantation and Related Practices Post-ECQ

Philippine Society for Transplant Surgeons

### Introduction

With the recent suspension of the enhanced community quarantine in several regions of the country, there is a persistent clamor to gradually resume elective surgical services including those of solid organ transplantation, which is also a life-saving procedure for patients with end-organ failure. The COVID-19 pandemic however, remains a persistent health concern. With cases now exceeding 14,000 nationwide, the hospitals' policies and resources remain focused on the treatment, control and eradication of the coronavirus.

In the midst of this, kidney transplant candidates remain hopeful that they can be transplanted soon in order for their quality of life and long-term survival to improve. However, we are also concerned because these same patients are highly susceptible to opportunistic infections and may contract the coronavirus infection in its most severe form, given their immunosuppressed state.

Therefore, in order for a safe and effective resumption of transplant clinical practices to remain feasible, we need to balance our patients' requirements for transplantation against the ongoing health crisis. Our ultimate objective is to maintain a high quality service in organ transplantation, while minimizing virus transmission and cross-infection among donors and recipients, as well as to all transplant physicians and other related allied health professionals. These interim guidelines are being set in order to help provide for a safe transition to the "new normal" of practice of transplant surgery and medicine.

---

*Disclaimer: These Interim Guidelines will be updated as we gain more knowledge on the biology and potential cure of the SARS-CoV2 or COVID infection.*

### General Principles In Resuming Transplant Surgery Post-ECQ

Although we have aligned our recommendations with the basic conditions set forth in the Philippine College of Surgeons Guidelines for the Resumption of Elective Surgery Post-ECQ, we have also tailored the following set of principles to help different institutions, who are planning to resume transplantation services.

- I. COVID-19 Awareness:
  - A. Know your national, regional and local epidemiologic profiles on the SARS-COV2 infection.
  - B. Get updated prevalence and incidence rates in your community, as well as local government mandates which will help dictate the timing of resumption of transplant practices.
  - C. A sustained reduction in the rate of new SARS-COV2 cases for at least 14 days in your geographic area is needed before initiation of transplant activity.
- II. Institutional Preparedness
  - A. Diagnostic and testing capabilities for COVID-19 infection
    1. Ensure availability of Rapid Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) testing kits for patients and hospital staff.
    2. GeneXpert systems, which are currently not available locally, are potentially helpful in hastening the documentation of COVID

infection and will facilitate the Institution's ability to test the potential donors and transplant candidates in a timely manner.

#### B. Personal Protective Equipment (PPE):

1. Know your local PPE availability and develop a regular supply chain with stored inventory of at least a month.
2. Develop policies and procedures including instructional materials for proper donning/doffing of PPE.
3. Be aware of the guidelines on the rational use, extended use, reuse and reprocessing of PPEs.

#### C. Local Facility Capacity:

1. Know your local facility's capacity (rooms, beds, ICU, ventilators) including OR capacity to provide regular disinfection and sterilization services.
2. Consider also engineering issues (retrofitting and conversion of operating room suites to negative flow ORs for transplant surgery, installation of HEPA filters).

#### D. Health Care Workers

1. Determine the minimum effective OR workforce and ensure its availability through proper coordination among staff and physicians.
2. Specialized personnel (transplant coordinators and nurses) should be assigned exclusively to attend to transplantation services and should not be designated to COVID-infected areas.
3. All transplant personnel should be educated and trained on the proper use of PPEs as well as on all the necessary precautions that are needed to prevent viral transmission among patients and health care workers.
4. Doctors, nurses and all health care personnel should be honest about their own status and

be tested or quarantined as deemed necessary based on their exposure or symptoms. No potentially infected staff should participate in the transplant procedure.

### III. Donor and Recipient Issues

#### A. Deceased Donor Retrieval and Transplantation

1. We recommend the indefinite suspension of all deceased organ donation retrieval procedures for the following reasons:
  - a. Although current molecular screening tests such as the Reverse Transcriptase – Polymerase Chain Reaction (RT-PCR) seem reliable, validation of other available diagnostics tests are yet to be determined.
  - b. The risk of coronavirus transmission during organ retrieval to the surgical team and to the recipient is still uncertain.
  - c. The outcome of a potential COVID-19 transmission to a recipient is also yet to be determined.
2. Deceased donor organ procurement may be resumed once a more reliable and rapid diagnostic tests for detection of the SARS-CoV2 infection are available.
3. Both the potential deceased donor and recipient should have NEGATIVE test results before organ procurement and transplantation should commence.

#### B. Pre-Emptive Kidney Transplant Candidates

1. Pre-emptive kidney transplant candidates should resume their pre-transplant preparation and be given access to transplantation in order for them to avoid the complications and high mortality risk resulting from chronic dialysis.
2. This is more relevant at this time of the pandemic because the indefinite suspension of their access to transplantation during the

extended community quarantine may mean transitioning to chronic hemodialysis.

3. These transplant candidates are unique subsets of patients who have marginal renal function but are not clinically-decompensated (no signs and symptoms of uremia).
4. They may not manifest life-threatening symptoms that warrant emergent therapy but they are considered to benefit the most from kidney transplantation.
5. The long-term survival of a pre-emptive kidney transplant recipient is higher compared to their counterparts who remain on dialysis because the former are spared of the sustained chronic ill-effects of dialysis which include progressive cardiovascular disease and renal osteodystrophy.

#### C. Risk stratification of kidney transplant candidates

1. For purposes of prioritization, the candidates should be classified according to two clinical categories based on their co-morbidity and immunological risks:
  - a. Low Risk:
    1. Low to intermediate cardiac risk
    2. No prior cardiac intervention in the past 6 months (i.e. angioplasty, coronary artery bypass surgery)
    3. Negative CDC and flow cross-match
    4. No CMV mismatch (i.e. +D/-R)
    5. Panel Reactive Antibody screening < 20%
    6. Negative donor-specific antibodies (DSA)
    7. HLA mismatch  $\leq 3$  or DR matched
    8. Pre-emptive transplant or first transplant
  - b. High Risk:
    1. Re-transplants
    2. Panel Reactive Antibody screening > 20%

3. Positive for donor-specific antibodies (DSA)
4. CMV (+D/-R) mismatch
5. Requiring desensitization
6. HLA mismatch >3 or DR mismatched
7. Negative CDC but flow cross-match (+)

2. Based on these categories, we recommend prioritizing low risk patients in the first few months post ECQ as we acquire more knowledge about coronavirus infection in transplantation.
3. High-risk patients especially those requiring desensitization or ICU care may have a protracted course postoperatively increasing the chance of developing nosocomial infections.
4. The use of a more selective induction therapy such as monoclonal antibody is encouraged as it is believed that the use of non-selective antibody induction may increase the chance of infections.

#### D. General guidelines on living donor transplantation

1. A comprehensive clinical assessment, based on a thorough history-taking and physical exam should be done to assure that both the potential donor and the transplant candidate are free of any transmissible infection, specifically, SARS-CoV2.
2. Although transmission of COVID-19 from donor to recipient has not been reported, we prefer to err on the side of safety and thus recommend the following.
  - a. Mandatory testing of both donor and recipient should be done with the use of RT-PCR.
  - b. Donors with history of or suggestive of COVID-19 infection should be avoided.

- c. Only RT-PCR NEGATIVE donors and recipients will be allowed to proceed with donation and transplant.
- E. Prioritization of scheduling of transplantation
1. Patients with irresolvable dialysis access issues should be considered as urgent candidates for transplantation. Their pre-transplant evaluation and ethical evaluation should be expedited and once completed; transplantation should be scheduled immediately.
  2. Patients who had completed pre-transplant evaluation and have secured Hospital Ethics Committee approval prior to the ECQ may be scheduled, provided that they are considered as low-risk candidates as enumerated earlier.
  3. Patients who have completed their pre-transplant evaluation prior to the ECQ, and qualify as low-risk candidates may apply for Hospital Ethics Committee evaluation, and scheduled subsequently for transplantation.
  4. High-risk candidates will only be accommodated once there is evidence of a sustained decline in the coronavirus infection within the region that will then open the opportunity for more advanced and supportive therapy for the transplant candidate.
- F. Laparoscopic donor nephrectomy (LDN) may be done in consideration of the following.
1. As opposed to traditional open surgery, the benefits of LDN are well established and includes less postoperative pain, faster convalescence, shorter length of hospital stay and better cosmesis.
  2. The advantages of LDN translate to a lesser risk of exposure to nosocomial infection and also less change of developing pulmonary complications.
  3. In order to obtain the maximal benefits derived from LDN, only experienced laparoscopic surgeons should perform this procedure.
  4. Safety precautions on the control of fumes related to the application of pneumoperitoneum and use of energy-based sealing devices should be observed in order to minimize the potential ill-effects of aerosolization.
  5. In the absence of experienced laparoscopic donor surgeons, the preferred approach for allograft retrieval is still open donor nephrectomy.
- IV. Pre-Transplant and Post-operative Surveillance of Donors and Recipients.
- A. Telemedicine is preferred to minimize “face-to-face” consults and physical contact between the physician and the patient.
1. Several online platforms may be utilized for this purpose.
  2. This will also reduce the number of hospital visits and potential exposure to COVID-19 infection, which could occur at any point, during travel or within the hospital premises.
  3. The requisitions for laboratory work-up and radiologic imaging studies may be sent through emails and other virtual platforms.
  4. The interpretation of these results is preferably done online through these same platforms.
  5. The pre-transplant evaluation shall be discussed by a multidisciplinary team of doctors which may include the attending nephrologist, transplant surgeon, infectious disease specialist and other physicians (as needed) to determine the suitability for transplantation.
  6. Postoperative surveillance may be done in coordination with the transplant surgeon and the attending nephrologist and with other specialists as needed.

- B. A comprehensive history taking should include the following:
1. Elicit from the patient possible exposure to COVID-19 infection.
  2. Signs and symptoms (cough, fever, sore throat, difficulty of breathing, loss of taste or smell, diarrhea) suggestive of COVID-19 infection.
  3. Asymptomatic patients who had recent exposure to a COVID-infected patient should be advised to undergo RT-PCR, and do self-quarantine for 14 days as prescribed by local and national health guidelines.
  4. Symptomatic patients should be advised to seek help from designated health facilities for acute treatment.
  5. The transplant candidate should be informed regarding his or her increased vulnerability to COVID-19 infection as a result of immunosuppression.
  6. A signed patient declaration/commitment form stating absence of symptoms and exposure.
- C. Testing for possible COVID-19 infection.
1. We recommend nasopharyngeal/oropharyngeal swab RT-PCR for all patients prior to donation and transplantation in accordance with the WHO guidelines.
  2. A chest radiograph or a CT scan should be negative for infiltrates.
  3. If the transplant procedure is delayed by more than two weeks, we recommend clinical evaluation and testing to assure that both Donor/Recipient pairs remain COVID-free before the anticipated date of transplantation.
  4. Patients should have a NEGATIVE test no more than 1 week before the transplant procedure.
  5. It is advisable that donors and recipients who tested NEGATIVE self-quarantine while awaiting their admission date in order to avoid exposure to the COVID-19 virus.
- V. Guidelines On Personal Protective Equipment (PPE) During Transplant Surgery
- A. The recommended minimum level of PPE for both the donor and transplant surgical teams is Level 3, as defined in the guidelines for the Rationale Use of PPEs by the Philippine College of Surgeons. This should be worn by all personnel including the anesthesia team, all participating nurses, surgeons and assists.
1. These include surgical scrubs, surgical caps, goggles or face shields, N95 masks, sterile gown, gloves and shoe covers.
- B. Alternative options include the use of the following:
1. Half of full-face reusable elastomeric masks
  2. Face shields should be worn on top of magnifying loupes
  3. Powered air-purifying respirators (PAPR) are not necessary but may be used:
    - a. These are industrial grade re-usable respirators which were not routinely used and tested in the surgical setting.
    - b. Their initial use requires some investment because of their high costs.
    - c. These need specific disinfection or sterilization methods which should be followed strictly as specified by the manufacturers.
    - d. Although there may be some potential advantages for their use, especially for aerosol- generating procedures, they currently not recommended for routine use and should be only used at the discretion of the transplant personnel.

## References

1. PCS Guidelines on Post-ECQ Resumption of Elective Surgeries and Outpatient Clinics Published 04202020.
2. Guidance on Coronavirus Disease 2019 (COVID-19) for Transplant Clinicians by The Transplantation Society, Updated March 16, 2020. <https://tts.org/23-tid/tid-news/657-tid-update-and-guidance-on-2019-novel-coronavirus-2019-ncov-for-transplant-id-clinicians>

3. Recommendations from the EAU Renal Transplantation Guidelines Panel applicable during the COVID-19 pandemic from the EAU Guidelines Office Rapid Reaction Group: An organization-wide collaborative effort to adapt the EAU guidelines recommendations to the COVID-19 era. <https://uroweb.org/covid-19-recommendations-by-eau-guidelines-panels/> April 17, 2020.
4. Gori A, et al. Coronavirus disease 2019 and transplantation: A view from the inside. *Am J Transplant.* 2020 Mar 17. doi: 10.1111/ajt.15853. [Epub ahead of print]
5. Li Y, et al. Strategies for Prevention and Control of the 2019 Novel Coronavirus Disease in the Department of Kidney Transplantation. *Transpl Int.* 2020 May 1. Doi10.1111/tri.13634. [Epub ahead of print]
6. Montagud-Marrahi E, et al. Preliminary data on outcomes of SARS-CoV-2 infection in a Spanish single centre cohort of kidney recipients. *Am J Transplant.* 2020 May 5. doi: 10.1111/ajt.15970. [Epub ahead of print]
7. Angelico R, et al. The COVID-19 outbreak in Italy: Initial implications for organ transplantation programs. *Am J Transplant.* 2020 Apr 3. doi: 10.1111/ajt.15904. [Epub ahead of print]
8. Steffens I. A hundred days into the coronavirus disease (COVID-19) pandemic. *Euro Surveill* 2020 Apr;25(14). doi: 10.2807/1560-7917.ES.2020.25.14.2000550.
9. Samavat S, et al. COVID-19 Rapid Guideline in Kidney Transplant Recipients. *Iran J Kidney Dis* 2020 May;14(3):231-4.
10. Li Y, et al. Strategies for Prevention and Control of the 2019 Novel Coronavirus Disease in the Department of Kidney Transplantation. *Transpl Int.* 2020 May 1. doi: 10.1111/tri.13634. [Epub ahead of print]
11. Banerjee D, et al. COVID-19 infection in kidney transplant recipients. *Kidney Int.* 2020 Apr 9. pii: S0085-2538(20)30361-6. doi: 10.1016/j.kint.2020.03.018. [Epub ahead of print]
12. PCS COVID Guidelines #10: Recommendations For The Rational and Effective Use of Personal Protective Equipment (PPE): Guidelines for Extended Use, Re-Use and Acceptable Reprocessing Methods Published April 28, 2020.