

# Kidney transplantation vs COVID-19 in Australia

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Submitted 18 November 2020, Accepted 01 December 2020

**Keywords** kidney transplant, corona virus disease 2019 (COVID-19)c implications, Australia, recipients

**For referencing** van der Jeugd J. Kidney transplantation vs COVID-19 in Australia. Renal Society of Australasia Journal 2020; 16(3):86-87.

**DOI** <https://doi.org/10.33235/rsaj.16.3.86-87>

## Introduction

As the devastating corona virus disease 2019 (COVID-19) unfolds, the path of destruction laid is similar to that of a minefield, with unidentified future impacts. The current repercussions economically, socially, personally, medically and geographically are notable throughout the world. Globally, health professionals are confronted with pressures to design innovative clinical management and develop flexible strategic plans in a pandemic not seen on this scale for most lifetimes. The need to redesign and reevaluate the renal transplant care we deliver is constantly evolving in this COVID-19 era; a collaborative approach is needed to deliver a framework of adaptable healthcare and modified models of management to our renal transplant patient population in order to maintain gold standards of care during these trying times.

## Discussion

In January 2020, the World Health Organization (WHO) declared COVID-19 as a public health emergency of international concern; by 12 March 2020, WHO declared COVID-19 as a worldwide pandemic (WHO, 2020; Johnston et al., 2020).

In Australia, the cohort of patients both waiting for a kidney transplant and with an existing transplant, are at increased risk of developing COVID-19. Generally, this identified group possess greater than one health comorbidity – diabetes, poor renal function, hypertension, lowered immune system – and their susceptibility of acquiring infections over the general population, with no comorbidity, is high. This is of concern for our vulnerable immunosuppressed kidney transplant recipients.

Kidney transplantation in Australia is not without risk. High rates of infection in the first year post-transplant, followed by risks of cardiovascular disease and long-term risks of malignancy can be problematic. Transplantation is not always an easy

process, and is often met with convoluted and turbulent postoperative recovery. However, the long-term benefits of kidney transplantation far outweigh the options of remaining on a dialysis therapy (Stephen Marshall, 2020).

The emergence and presence of COVID-19 adds an additional layer of complexity to the immunosuppressed transplant recipients' journey, and the road for their families. All kidney transplant units in Australia have been somewhat affected by COVID-19. 20 kidney transplant patients in Australia who have tested positive to COVID-19. Of these transplant recipients, 19 out of the 20 have recovered and there has been one death to date (TSANZ, 2020).

The consequences of COVID-19 can be potentially fatal, severe and have poor outcomes in this patient group. Due to the increasing numbers of reported COVID-19 cases across all Australian states (ANZSN, 2020), all live kidney donor transplants in Australia were suspended from proceeding from 6 March 2020. All deceased donor kidney transplants in Australia were under suspension (exception for urgent paediatric kidney transplants) as recommended by the Transplant Society of Australia and New Zealand (TSANZ, 2020).

The transmission of COVID-19 is via respiratory droplet infection and fomite transfer from one infected human to another. The spreading is highly contagious. The kidney transplant recipient is at increased risk of acquiring COVID-19, especially in the early stages of transplantation



Image: Melissa Webb, 17 July 2020, Nephrology

Image: Andrew Joseph, 11 February 2020, Health

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where immunosuppression is at its highest and immunity is significantly lowered for the body to accept the new kidney.

The volume of kidney transplants performed in Australia was reduced by 27% in 2020 compared to data from 2019 (ANZSN, 2020). Similar figures exist with other solid organ transplants in Australia.

Issues encountered with kidney transplantation in Australia during this COVID-19 time, included (ANZSN, 2020):

- Flight availabilities for organ retrieval.
- Commercial flight availabilities for patient transfers.
- Border closures for organ retrieval.
- Border closures for organ recipients to road travel to receive proposed organ transplants.
- Video conferencing for outpatient assessments versus face-to-face assessments.
- Telehealth being suboptimal for accurate clinical assessment.
- Risk of COVID-19 infection in the early postoperative period with immunosuppression at its high levels.
- Risk of ICU beds becoming a scarce resource post-transplant if needed.
- Patient safety was the key priority, leading to the suspension of transplant surgeries.
- Patient fear for their long-term wellbeing.
- Patients needing to remain on dialysis for longer.
- Live donor transplants being cancelled and postponed to unknown dates.
- Patient concerns about collecting medication from hospital and community pharmacies, with apprehension of increased potential virus exposure.
- Fear of specialised staff contracting COVID-19.
- Reduced specialist staff with quarantine measures.
- Easy transmission with airborne risk factors.
- Breakout clusters enforcing home isolation and limited medical contact.
- Social media hysteria.
- Vulnerability being an inpatient in a COVID-19 designated hospital.
- Logistics of running the paired kidney exchange program.
- Bulging dialysis units with limited flow to transplantation to relieve capacity pressures.

Many of the existing transplant recipients also experienced hysteria and fear (Guha et al., 2020) and much reassurance was needed. Advice was given to continually check websites, such as Kidney Health Australia, WHO and individual state health websites as health recommendations continue to constantly pose as a moving target on a daily basis in every state jurisdiction.

Ongoing education and counselling regarding risks of COVID-19 was required to be given to the recipient population with a focus on: the reporting of unwanted respiratory symptoms; the importance of infection control measures preventing transmission; cough etiquette; washing hands;

and reinforcement for physical distancing and obtaining a COVID-19 swab with any health concern (SA Health, 2020). This patient cohort gave an illusion of being extremely vulnerable, both emotionally and health-wise (Coates et al., 2020). They expressed fear of presenting to emergency departments, collecting medications, and having blood and other important diagnostic investigations (Guha et al., 2020).

Deceased donor transplants recommenced in South Australia and Western Australia at the end of April 2020, NSW following a week later. Victoria remained on alert and selectively were only were transplanting highly sensitised and well-matched donor/recipients (ANZSN, 2020) until recent times. Live donations in Australia tentatively resumed in early June 2020 (ANZSN, 2020).

## Conclusion

The management of the immunosuppressed kidney transplant recipient has been challenging for renal transplants units in this COVID-19 age. Communication, unity, and collaboration of all units has been an admirable national team approach, providing a pathway to move forward to provide the best possible care for our patient cohort group.

Globally, 2020 has been one of the most rapidly evolving and challenging eras. Australia has dealt with the COVID-19 pandemic on a smaller scale compared to many other countries such as America, Italy and the United Kingdom. We cannot afford to be complacent, and must continue to maintain all efforts aiming to prevent further spread and re-emergence of such a virulent and easily transmittable virus with potentially devastating effects; currently with no cure. Australian kidney transplant units remain on high alert for our venerable immunosuppressed transplant recipients with national unity, cohesive and collaborative contingency plans in place.

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