


STANDARD OPERATING PROCEDURE Kidney Paired Donation Transplant Exchange Program

SOP Category: Clinical Services		Review Date: 01 May 2030
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Approved By: Dr S De Vries, Chief Executive Officer		Signature: 
Target Group: All surgical and medical staff as well as transplant co-ordinators involved in kidney transplantation		Date: 23.05.2025
1. Purpose:	<ul style="list-style-type: none"> To provide a safe, ethically sound, and cost-effective framework for the Kidney Paired Donation (KPD) transplant exchange program. The KPD program allows for compatible kidney transplantation in cases where direct donation from a willing and healthy kidney donor to a patient requiring a kidney transplant is not possible due to blood group or HLA (tissue immunological) incompatibility. It is particularly beneficial for immunologically high-risk individuals where safe donor options with good long-term outcomes are limited. This SOP extends coverage across the broader Western Cape region, including Groote Schuur, Tygerberg and George Hospitals, and renal replacement services from the Eastern Cape and Northern Cape, as well as the private sector within these provinces, as they refer patients to state and private hospitals in the Western Cape for Transplantation. 	
2. Definitions and Abbreviations	<ul style="list-style-type: none"> KPD – Kidney Paired Donation WCDOH – Western Cape Department of Health MACOT - Ministerial Advisory Committee for Organ Transplants 	
3. Background	<ul style="list-style-type: none"> South Africa's National Health Act (No. 61 of 2003, Chapter 8) regulates the legal framework for living organ donation. Within this legislative context, all living donations require formal approval through provincial structures to ensure ethical and medical oversight. In addition, all living unrelated transplants require approval by the National Minister of Health, who is advised by the Ministerial Advisory Committee for Organ Transplants (MACOT). The Western Cape Department of Health Ecosystem Authorisation Framework (August 2024) guides the process by which paired kidney donation can be authorised and implemented. This KPD program is being introduced as a safer and more cost-effective alternative to traditional incompatible living donation, reducing the need for the more complex and expensive procedures of desensitisation which are needed to allow these types of transplants to be carried out, and the increased associated complications (infection, rejection, death) which this carry. The implementation of this SOP ensures legal compliance, improved safety for high-risk donor-recipient pairs, improves long-term outcomes of 	

	transplantation and enhances access to transplantation across both public and private sectors in the Western Cape and neighbouring provinces.
4. Implementation	<ul style="list-style-type: none"> • Step 1: Identification of Eligible Donor-Recipient Pairs <ul style="list-style-type: none"> – Routine transplant work-up for clinical suitability, including blood group and tissue typing, is undertaken as for any living donor kidney transplant. – Transplant coordinators and clinical teams at the above-mentioned transplant centres then identify potential donor-recipient pairs who are incompatible. – If the recipient has no other donor options, these pairs are given the option to participate in the KPD program (Annexures A [text version] and B [flow chart version]), after reading the information brochure (Annexure C) and discussing the information with their transplant coordinator and treating nephrologist. – Once they have both consented to enter the KPD program (Annexures D and E), the MACOT needs to approve them both as fit for donor/transplant surgery, even if they are related. • Step 2: Social Worker and Psychological Assessment <ul style="list-style-type: none"> – All donor-recipient pairs undergo a further formal social worker assessment and, where deemed necessary, a structured psychological evaluation to assess emotional readiness, capacity for informed consent, understanding of the KPD process, and absence of coercion. – Particular attention will be paid to these ethical considerations to ensure institutional SOP compliance and as required for independent MACOT review. • Step 3: Matching <ul style="list-style-type: none"> – Matching is facilitated through entering their blood group and HLA data (see Annexure I for data required) onto a propriety software program designed to find simultaneous compatible donor-recipient pairs amongst the original incompatible pairs entered onto the software program. – The more incompatible pairs entered, the more likely it is that a compatible two-or-three (or more) way match can be found. – Matching runs are done a minimum of 3 monthly. Once a compatible two-or-three (or more) way match is found, patients are again asked if they are agreeable to proceed, in which case blood samples are drawn to confirm compatibility by performing a CDC T- and B-Cell crossmatches between the new donor-recipient pairs identified by the program. • Step 4: Regulatory Approval <ul style="list-style-type: none"> – Submission of each new compatible pair is done to the MACOT – as they would have approved each donor and recipient already, this should only need a cover letter (Annexure F) and new confirmatory crossmatch results showing compatibility between the newly identifies pairs, plus updated routine blood results if needed.

	<ul style="list-style-type: none"> • Step 5: Scheduling and Execution of Transplants <ul style="list-style-type: none"> – Once approvals are obtained, synchronised scheduling of surgeries is arranged across participating transplant centres so that the donor nephrectomies occur simultaneously, negating the possibility that a donor withdraws consent after the other(s) have already had their kidney removed. – Detailed information on the actual donor nephrectomy (Annexure G) and recipient transplant surgery (Annexure H) will be provided when consent is taken for the actual surgery procedures. • Step 6: Post-operative Follow-up and Data Collection <ul style="list-style-type: none"> – Monitoring of donors and recipients, with outcome reporting to guide ongoing policy development and scale-up of the programme, will be collected by the KPD Transplant Coordinator. • Step 7: Review by Multidisciplinary Transplant Team (<i>Pilot Phase Step</i>) <ul style="list-style-type: none"> – As this is a pilot programme, every completed KPD transplant (donor and recipient) will be reviewed by the multidisciplinary transplant team (including surgical, nephrology, ethics, social worker and psychology if necessary). – These reviews will help identify areas for refinement and determine whether ongoing psychological re-assessment is necessary as part of standard practice. – Program data will be reviewed annually to see where problems have occurred and how to improve the program.
5. Managing risk	<ul style="list-style-type: none"> • The KPD programme mitigates risks associated with high immunological-risk transplantation (e.g., desensitisation, increased immunosuppression) by enabling biologically compatible exchanges. • A social work assessment (all) and formal psychological (where deemed necessary or requested by the patients) will be done to: <ul style="list-style-type: none"> – Identify coercion, undue pressure, or psychological distress. – Assess the donor's motivation and informed decision-making capacity. • Ethical oversight ensures compliance with both national health acts and provincial policies. • Any concerns raised during evaluation triggers further investigation and may lead to exclusion from the program if donor or recipient safety is compromised.
6. Contact details	<ul style="list-style-type: none"> • Transplant Nephrologist – zunaid.barday@uct.ac.za • Transplant Surgeon – tinus.dutoit@uct.ac.za • Transplant Coordinator – fiona.mccurdie@westerncape.gov.za • Transplant Surgeon and Critical Care Subspecialist – david.thomson@uct.ac.za • Medical Manager (Surgery) - Belinda.Jacobs2@westerncape.gov.za <ul style="list-style-type: none"> ▪ Admin Support: Laetitia.Provins@westerncape.gov.za • Chief Operating Officer - Jayshina.Punwasi@westerncape.gov.za <ul style="list-style-type: none"> ▪ Personal Assistant: Stavroula.Yoakim@westerncape.gov.za

7. Appendices	A. Donor Selection - Assessment pathway for KPD - Text Version B. Donor Selection - Assessment pathway for KPD - Flow Chart Version ie. visual representation of the implementation steps and decision points C. Information Brochure – Outlining the KPD process, risks, and rights D. Consent form to participate in KPD (donor) E. Consent form to participate in KPD (recipient) F. Cover Letter to MACOT for KPD Transplants G. Information Brochure for Donor Nephrectomy (donor) H. Information Brochure for Transplant Surgery (recipient) I. Requirements to enter patients onto the KPD Program
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Clinical Departments			x	WCG Circular Reference :		
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Annexure A

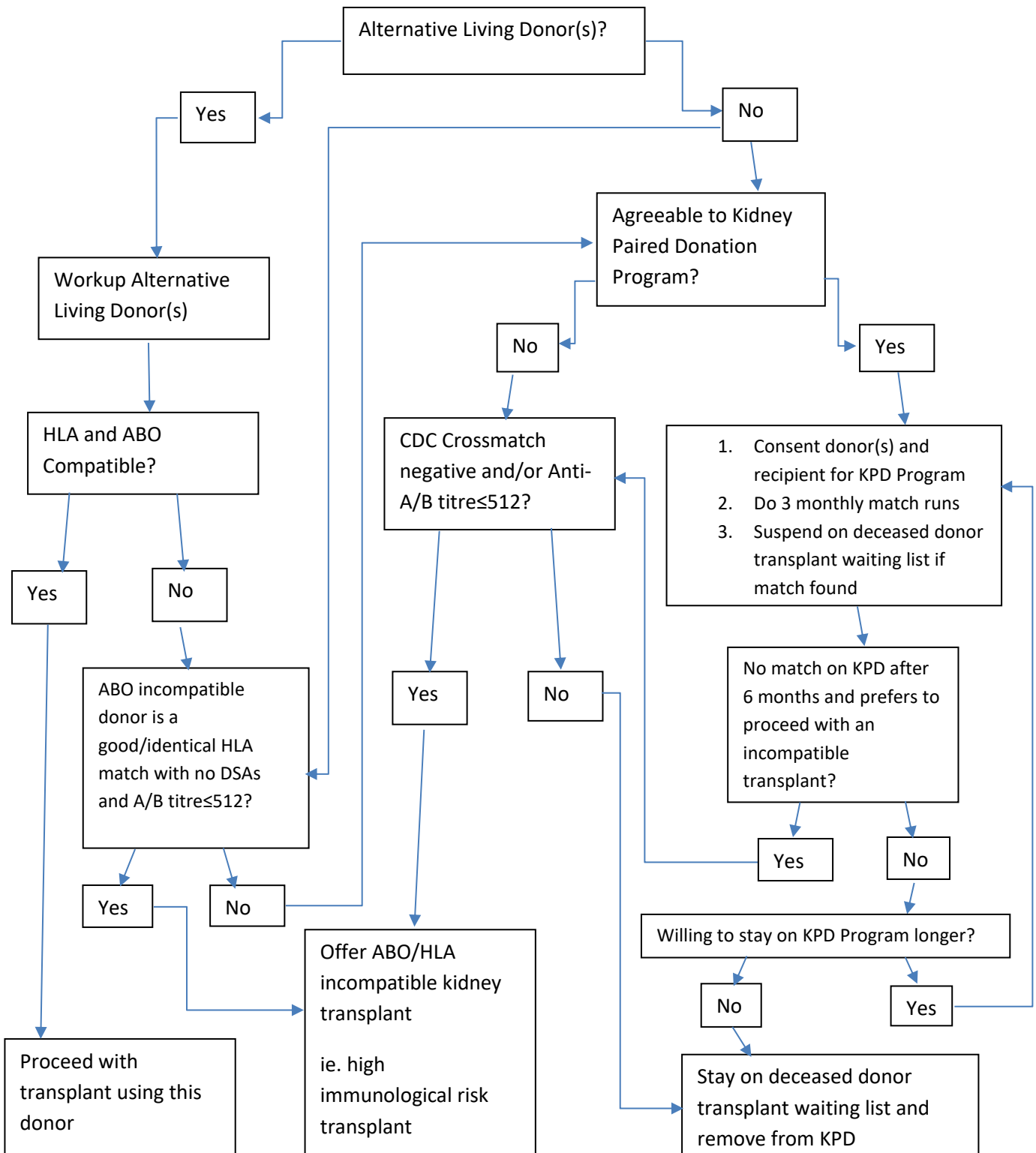
Donor Selection - Assessment Pathway for Kidney Paired Donation (KPD) and ABO incompatible transplant options

These are the kidney transplant options for patients with fully worked up but ABO or HLA incompatible living donors (ie. a donor-recipient pair that would need desensitization before proceeding with a transplant or a considered high risk in general):

1. Look for alternative living donor options, unless the current donor is an identical or very good HLA match with no significant donor specific antibodies (DSAs), but ABO incompatible (ABOi) without a very high isohaemagglutinin titre (≤ 128), in which case consider proceeding with an ABOi transplant using the current donor.
2. If there is an alternative donor(s), work these up, and if found to be HLA and ABO compatible (ABOc), then rather proceed with this donor.
3. If there is no alternative donor, proceed to point 6.
4. If the alternative donor meets the criteria as in point 1, then consider proceeding with the ABOi transplant.
5. If the alternative donor is HLA incompatible and/or ABOi with a very high isohaemagglutinin titre (>512), then offer the donor and recipient the option of KPD.
6. If they consent to taking part in KPD, get Ministerial Advisory Committee (MACOT) approval to enter them as an incompatible pair into the KPD program (see separate document for KPD requirements), and do 3 monthly match runs.
7. If a match is found, suspend the recipients from their respective deceased donor waiting list and do a CDC T- and B-Cell Crossmatch to confirm HLA compatibility, and once confirmed, proceed with steps to do this paired exchange (see separate document for KPD requirements), including getting MACOT re-approval for the new donor-recipient (KPD) pairs.
8. If no match is found on KPD after 6 to 12 months, see if the pair entered on the KPD program prefers to proceed with an incompatible transplant? If yes, consider proceeding with ABO/HLA incompatible transplant if considered not too high risk. If not, they can either stay on the KPD program for longer or exit the KPD program. In either case, the recipient can remain on their provincial deceased donor waiting list.

Annexure B

Kidney Transplant Options for patients with fully worked up but ABO or HLA Incompatible Living Donors



Annexure C

Kidney Paired Donation Information Brochure

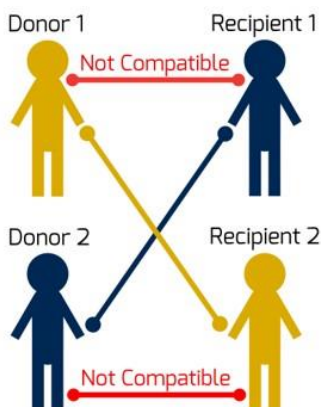
1. What is the Groote Schuur Hospital Kidney Paired Donation (GSH KPD) program?

The Groote Schuur Hospital (GSH) kidney paired donation (KPD) program is a new living kidney donor exchange program that was established to find matching transplants when family/friend donors don't match their recipient pairs – this means that the GSH KPD program is a special program to help people who need a kidney transplant and who have a fit and willing donor who is not a match.

The plan is to make the program available across the country - even when in the starting phase, it will be open to anyone in South Africa willing to participate.

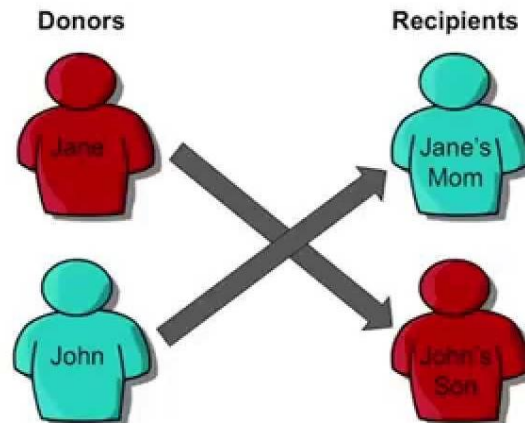
Participants in the program include patients in need of a kidney transplant (either on dialysis or close to needing it) and people who wish to donate a kidney to their chosen recipient (such as a partner, a family member or a friend) but who cannot do so because of a blood group or tissue not matching.

The GSH KPD program helps to find another matched living donor transplant pair, where the second donor is a match with the first recipient and where first donor is a match with the second recipient. By exchanging living donor kidneys, two or more matches would be created.



In the below example Jane (Donor 1) would like to donate to her mother (Recipient 1) but she is not a match. John (Donor 2) is also not a match to donate to his son (Recipient 2). However, if both donors are willing to donate to another person, their wish to be a donor is supported and they will help their respective family members get a living donor transplant that is a match.

Kidney Paired Donation Exchange



This type of transplant (paired kidney exchange) leads to better outcomes for recipients than remaining on dialysis and is also safer than undergoing desensitization, which is a procedure that can sometimes be done to allow a recipient to receive a poorly matched kidney but still leaves the recipient at increased risk of rejection, as well as bleeding and infection risk at the time of transplant.

The GSH KPD program does matching runs between all recipients and all donors on a special computer program designed to identify the best matching pairs, so as to allow an exchange of the donors' kidneys to appropriate recipients who can benefit. It is possible for one recipient to have more than one unmatched donor entered onto this program, so as to maximize the chance of a swap being possible.

2. What are the legal requirements for an organ exchange in South Africa?

The GSH KPD program is compliant with the legal framework of the National Health Act (No. 61 of 2003, Chapter 8). All donors and recipients need to be approved by the Ministerial Committee for Organ Transplants appointed by the National Minister of Health.

3. Data collection, monitoring and protection in the GSH KPD program

If you agree to participate in the GSH KPD program, you will need to provide consent to share information, relevant to an organ transplant, entered onto the computer program. This information includes your name, date of birth, relationship between donor and incompatible recipient, blood group and tissue typing.

Data from donors and recipients will be collected for ongoing monitoring and evaluation of the GSH KPD program. This information will consist of medical tests performed prior to transplantation, the surgery performed, and progress of the donor and the recipient after surgery. This will help improve the quality of the GSH KPD program.

Confidentiality - All the data you share will be kept confidential in a password protected database. Access to the database will only be allowed for staff administering the program and all paper copies of this information are stored in a secure location. Your information will not be shared with other donor-recipient pairs, or with anyone outside the program or the participating transplant centres, without your permission.

4. What costs are involved?

There is no cost to you for participating in the GSH KPD Program. You may need to consider your personal sick leave arrangements if you are employed as you will need to take time off work for testing and for surgery if a match is found. This should be discussed with your transplant centre.

Medical expenses associated with the transplantation procedure, including testing done before and after the operation, are usually covered by the provincial health authorities (or the recipient medical aid if they have one). However, additional costs, such as transportation or loss of income, will not be covered.

Any payment between donors and recipients either directly or indirectly is illegal under South African law. There is no money or other incentives allowed to donors, and no claim can be made if a planned exchange does not proceed. All donors need to be donating freely and with no bullying or bribing. This will be looked for and is punishable by law.

5. What are the benefits and risks of participating?

Participation in the GSH KPD Program may improve the recipient's chances of finding a matching donor, which is safer than going ahead with a kidney transplant from a donor that is not a match. The GSH KPD Program is voluntary, and participants can withdraw at any time without the need to give a reason. Potential donors and recipients receive separate counselling sessions, so that each person can make up their own mind in their own time.

There is no guarantee that a match will be found for pairs in the KPD program, but with more donor pairs in the program and with more matching runs, the chances do increase. We cannot however predict the how long it will take for a match will be found. Matching runs are done regularly throughout the year.

If successful, recipients receive a living donor kidney, and donors may receive the psychological benefit of donating a kidney to an individual in need and knowing that this resulted in their family member or friend receiving a compatible kidney.

The surgical/medical risks and benefits of the donation operation and the transplant operation are no different to living kidney donation from any other donor. This will be fully explained to you closer to the time of surgery if a match is found, and a separate consent for the actual procedure will be obtained from you.

Donation is an emotional and psychologically stressful process and outcomes of any surgery are not always perfect. Expectations can be high, and KPD does not always work out. You will be counselled and supported through this should it occur.

6. If I agree to participate, what is the process?

The GSH KPD program works by entering the information needed to check that donors and recipients find a safe match on a computer database. This is a combination of blood group and tissue typing information. At 3-monthly intervals, the database searches for matching donor-recipient pairs (a 'match run'). Your nephrologist or transplant coordinator will notify you at that time if a matching pair has been identified with whom a kidney exchange may be possible. Another blood test (crossmatch test) is then performed using a fresh blood sample to double check that the match is safe. If the crossmatch test confirms that the proposed transplants are a match, then each donor and recipient pair and their respective transplant teams need to agree to proceed and arrange the surgery times to happen at the same time.

7. Are there any special considerations specific to the GSH KPD Program?

The health of a donor will be tested using standard South African and international guidelines, including a social worker assessment and, if needed, a psychological review.

Recipients remain on their usual provincial deceased donor transplant waiting list until such time as a paired match is found.

If a paired exchange match is found and if everyone has agreed to go ahead, the recipients are removed from their provincial deceased donor waiting list so that such an organ offer does not disrupt the planned paired exchange.

Recipients will be given the option to accept or reject a matched kidney. To make this decision the recipient is given relevant medical information such as age and gender and level of kidney function in the potential donor (the one they do not know) in order to make an informed decision about whether or not to accept the matched kidney. No information is shared that allows for the identification of the potential donor.

Donors will not be informed about the person who receives their kidney.

The donors' operations will usually occur at the same hospital where they have been assessed. Each donor's kidney is then transported to the matched recipients' transplant hospital.

All donor nephrectomy (removal of kidney) operations will be performed at the same time to prevent a situation of one donor withdrawing permission after the other has already donated their kidney. The recipients' operations need not be performed at the same time.

All surgeries could be cancelled or postponed at any time before the scheduled day of surgery. This may be due to unexpected circumstances such as acute illness or, very rarely, a participant withdrawing from the program which is allowed up to the point of being put to sleep (going under general anaesthetic) for the donor operation.

In the event that the transplants are postponed, all matched recipients remain suspended from the usual deceased waiting list until the transplant occurs. If this period is likely to be more than a few months, patients or their doctors can decide to look for another match on the KPD program or withdraw from the KPD program.

If either the donor or recipient withdraws consent, or are not considered healthy enough to proceed, both will be removed from the KPD program.

What happens if one of the kidneys cannot be transplanted?

There is a very small possibility that a transplant may not be able to proceed as planned, due to an unexpected event, even if donors and recipients have agreed to operations occurring at the same time.

Potential causes may be that a recipient becomes suddenly too sick, and the transplant needs to be abandoned, even though the donor has already had his kidney removed. In these instances, the unused donated kidney will be allocated to the most suitable recipient on the deceased waiting list.

A donor may suddenly be too sick at the time of surgery and the kidney cannot be removed, or in very rare cases, irreversible damage to the donated kidney may occur during the kidney's removal or transport to the recipient's hospital. In this situation, the intended recipient would not be able to receive the matched kidney, and their initial donor would have already given a kidney to another recipient. This unfortunate recipient will be allocated priority points on the deceased donor waiting list to improve their chance of being allocated a deceased donor kidney.

These situations are extremely unlikely. This is also the experience from other KPD programs.

9. Can Donors and Recipients meet?

The GSH KPD program tries to protect the identity of donor-recipient pairs before surgery by maintaining strict privacy and confidentiality for each donor-recipient pair, but this cannot be guaranteed, especially around the time of hospital admission if both pairs are at the same hospital.

Donors or recipients engaging with the media/social media prior to an exchange is not allowed.

- It may result in private and confidential information being shared with the public which could put the exchange proceedings at risk and lead to cancellation of the transplant.
- It could also contravene the Protection of Personal Information Act 4 of 2013 (POPIA).
- All donations must be voluntary and social media posts and speaking with the media can place pressure on participants to proceed with the donation.

Following surgery and only with the full consent of all involved participants, may it be possible for an assisted meeting between donors and recipients to be arranged by the KPD Program transplant coordinators.

In the event you are contacted by the media to share your story, and you are interested in participating, you should contact the GSH KPD transplant coordinator immediately to discuss the request before engaging further, as they can offer good advice.

10. Who do I contact if I have questions?

Your transplant team must inform you about all the details and discuss with you all the requirements, risks and benefits of participating in the GSH KPD program, so as to help you decide whether to agree to be on the programme. It is important that you understand the process fully. Feel free to ask any questions at any time by contacting your local transplant team and/or our KPD transplant coordinator at ucttransplants@gmail.com or 0214044300.

Annexure D

Tick	Donor consent to participate in the GSH Kidney Paired Donation program
	I have read and I have understood the GSH KPD Information Brochure and conditions of participation, and all my questions have been answered.
	As a living donor, I have been fully informed about all the transplant options for my non-matching transplant recipient (family member/ friend).
	I consent to my personal information (including my health information) being used and disclosed for the purposes explained in the GSH KPD information brochure.
	I agree not to do interviews with the media prior to the exchange taking place and immediately afterwards, and to contact the GSH KPD coordinator regarding media engagements after the paired kidney exchange has taken place.
	I will not use social media or any public platform to post, share, or otherwise disclose information that could place pressure or undue influence on the paired kidney exchange process. This includes, but is not limited to, comments, posts, or campaigns that might affect the privacy, fairness, or integrity of the proceeding, or attempt to influence decisions made by medical professionals, the exchange program, or any participants involved.
	I hereby agree to be tested for the presence of hepatitis B, hepatitis C, and HIV in the workup and immediately prior to organ donation, if a match is found.
	I hereby agree and consent to participate in the GSH KPD program and understand that I can withdraw my consent for participation at any time without penalty or disadvantage.

Donor Name		Donor ID Number	
Donor Signature		Date	
Nephrologist/Surgeon Name			
Signature		Date	
Transplant Coordinator Name			
Signature		Date	

Annexure E

Tick	Recipient consent to participate in the GSH Kidney Paired Donation program
	I have read and I have understood the GSH KPD Information Brochure and conditions of participation, and all my questions have been answered.
	I have been fully informed about all of my other transplant options for living kidney donation from an incompatible donor.
	I consent to my personal information (including my health information) being used and disclosed for the purposes explained in the GSH KPD information brochure.
	I hereby agree not to participate in interviews with the media prior to the exchange taking place and immediately afterwards, and to contact the GSH KPD coordinator regarding media engagements after the paired kidney exchange has taken place.
	I hereby agree not to use social media or any public platform to post, share, or otherwise disclose information that could place pressure or undue influence on the paired kidney exchange process. This includes, but is not limited to, comments, posts, or campaigns that might affect the privacy, fairness, or integrity of the proceeding, or attempt to influence decisions made by medical professionals, the exchange program, or any participants involved.
	I hereby agree and consent to participate in the GSH KPD program and understand that I can withdraw my consent for participation at any time without penalty or disadvantage.

Recipient Name		Recipient ID Number	
Recipient Signature		Date	
Nephrologist/Surgeon Name			
Signature		Date	
Transplant Coordinator Name			
Signature		Date	

Annexure G

Groote Schuur Hospital Living Kidney Donor Operation – Information Brochure

Dear Donor

This brochure has been created to help you understand living kidney donor operations. We hope you find the information helpful. We are here to support you every step of the way, so please ask one of our medical team members should you have any questions. Please note that a further detailed discussion will be had the day before your kidney donation operation when you will be asked to sign a document confirming that you understand the operation and possible risks.

1) What is living kidney donation?

Living kidney donation is when a healthy person (the donor) gives one of their two kidneys to someone with kidney failure (the recipient). The remaining kidney typically provides enough function to maintain the donor's long-term health.

2) What does the donor operation entail?

For you to undergo the operation, you will be placed under general anaesthetic (put to sleep) for about 2 to 4 hours. Once asleep, drips will be placed, and a catheter will be inserted into your bladder. These days the operation is performed with the help of a camera, also known as keyhole surgery. Typically, the operation is completed through three keyhole incisions of about 1cm each, and an incision in the lower stomach area (similar to a caesarean section operation) to remove the kidney. Blood is flushed from the kidney when outside your body and stored in ice for 2-3 hours. The operation will be completed by closing the muscles to prevent hernias, and skin as neatly as possible.

3) Which kidney will be removed during the operation?

Our kidneys' functions are usually equally strong. Rarely, one kidney's function may be slightly stronger than the other. In this case, we always leave the stronger kidney with the donor. When the function is close to equal, we prefer to remove the left kidney for transplant, as the longer blood vessels may result in an easier kidney transplant operation.

4) What happens after the operation?

You will be woken up from the anaesthetic, observed for a short while in the recovery room, and taken back to your room in ward E12 for further monitoring. The first evening may be quite busy with nursing staff entering and leaving your room, as you will need close monitoring, several drips, and medication. Our team will see you every morning at 9 am to discuss your progress. The catheter will be removed after a day or two, and you should be able to move around more easily from the second day onwards. However, each patient is different and recovers at their own pace. You should expect to stay in the hospital for about 3-5 days should everything go perfectly well. We would like to see you on the 8th day after surgery for a check-up. Most patients are ready to return to work after 6 weeks, but it depends on the type of work you do. The important thing is to slowly increase your activity until you are back to normal activity levels.

5) What are the risks of undergoing kidney donation as a living donor?

The operation is regarded as a safe and low-risk operation, but every surgery has some risks. Very rarely, bleeding may develop in or after your operation, requiring an urgent reoperation or blood transfusion. At times, we may not be able to complete the operation with the camera through keyhole surgery and may have to make an extra cut to safely proceed with your operation. Hernias and wound infections may develop but are rare.

You will have a minimal risk of developing long-term kidney issues, but regular follow-ups will be performed to see how you are doing and ensure that kidney issues are identified early. Is there a risk of death? There is always a risk of death with any major operation. However, the risk of death from surgery for living kidney donors is very low. Living donors undergo careful pre-operative testing and evaluation to make sure they are healthy enough for surgery. In one study of over 80,000 living kidney donors, death from surgery was 3 .1 per 10,000 donors, so less than 1 in 1000 donors. This rate has not changed for the last 15 years and is less than your chance of dying in a motor vehicle accident.

Living kidney donation is a wonderful and selfless gift that could save or dramatically improve someone's life. Most donors live healthy lives with one kidney and may benefit from a positive emotional experience and sense of purpose.

Regards
Your kidney donation team

Annexure H

Groote Schuur Hospital Kidney Transplant Operation – Recipient Information Brochure

Dear Patient

This brochure has been created to help you understand kidney transplant operations. We hope you find the information helpful. We are here to support you every step of the way, so please ask one of our medical team members should you have any questions. Please note that a further detailed discussion will be had the day before your kidney transplant operation when you will be asked to sign a document confirming that you understand the operation and possible risks.

1) What is a kidney transplant?

A kidney transplant is an operation where a healthy kidney is placed into your body to replace the function of your failing or failed kidneys. In your case, the donated kidney will be donated by a living person unknown to you but proven to be a good match.

2) What does the operation entail?

For you to undergo the operation, you will be placed under general anaesthetic (put to sleep) for about 2 to 4 hours. Once asleep, special drips will be placed, and a catheter will be inserted into your bladder. A cut of about 20 cm will be made in the lower stomach region and the kidney will be connected to the nearby blood vessels. Blood flow will be restored into the new kidney, after which it will be connected to your bladder over a thin plastic pipe called a stent. A rubber drain will be left next to the kidney to drain excess blood or fluid that collects during the first few days. The operation will be completed by closing the muscle and skin overlying your new kidney.

3) Will the kidneys I was born with be removed during the transplant operation?

It is very unusual for your own kidneys to need removal at transplant. Rarely, we may have to remove them if we think they may cause infection or other complications after transplant. This will be discussed with you before the transplant.

4) What happens after the operation?

You will be woken up from the anaesthetic, be observed for a short while in the recovery room, and be taken back to your room in ward E12 for further monitoring. The first evening may be quite busy with nursing staff entering and leaving your room, as you will need close monitoring, several drips, and medications. Blood tests will be done early in the morning, and our team will see you every morning at 9 am to discuss your progress. The catheter will be removed 5 days after your transplant, and the stent 5 days later. You should expect to stay in the hospital for about 10 days should everything go perfectly well. An important part of the hospital stay will be learning your new medication to prevent rejection and infections in the future. Most patients are ready to return to work after 6 weeks, but it depends on the type of work you do.

5) What are the risks of a kidney transplant operation?

While many transplants are successful, all surgeries carry risks. Whenever we operate on blood vessels, they may bleed or clot. These are rare complications but may require you to go back to the theatre to stop the

bleeding, remove the clot, and/or undergo a blood transfusion. In very rare cases, it may lead to the new kidney being starved of blood for too long, and the kidney may have to be removed to save your life – this occurs in less than 5% of cases. Rarely, the new kidney may also leak urine which will need repair during another operation. Rejection and infection may occur during your hospital or after discharge. You will be given medication to prevent these, but they may still occur.

Is there a risk of death? There is a risk of dying during the kidney transplant operation, or during the first few weeks or months afterwards. This is usually due to the stress of the surgery on your heart and lungs, or because of serious complications such as infections, heart attacks or strokes. It's important to remember that your kidney doctor will only recommend a kidney transplant if they think that the benefits outweigh the risks and that this is on average less than 1 to 2 %.

A kidney transplant operation is seen as a safe operation offering freedom from dialysis, a better quality of life, and a longer life expectancy compared to staying on dialysis.

Regards
Your kidney transplant team

Annexure I

Requirements for donors and recipient to be entered onto Kidney Paired Donation (KPD) Programme - to be sent to the KPD Transplant Coordinator via email to ucttransplants@gmail.com

1. The team looking after the recipient must have explored all other donor options for the patient needing a kidney transplant.
2. The ABO and/or HLA incompatibility should be considered too high an immunological risk to proceed with their current donor.
3. The donor and recipient need to be medically fit and approved for transplantation by their local transplant panel and the Minister of Health (via the Ministerial Advisory Committee for Organ Transplants), even if they are related, as a match on the KPD Program will inevitably be from an unrelated donor. A copy of this MOH/MACOT approval must be part of the KPD application.
4. The donor and recipient must sign their respective KPD consent forms.
5. The donor and recipient need the following minimum immunological workup:
 - a. Blood Group
 - b. HLA Typing for A, B, DR and DQ loci – next generation sequencing (4-digit minimum) is required
6. The recipient needs the complete and most recent HLA single antigen antibodies (4-digit minimum) with MFIs. Only full HLA antibody results from the local tissue immunology lab will be accepted for entry onto the KPD Program – no transcribed results and not only a list of DSAs against the initial intended donor.
7. Any recipient HLA antibody with an $MFI \geq 2000$ renders the corresponding antigen in any potential donor as an “unacceptable antigen”.
8. HLA antibody results should not be more than 6 months old and should be updated at least 6 months for the pair to remain on the KPD Program.
9. If a recipient has a sensitising event (blood transfusion etc.), repeat HLA antibodies should be done after 2 to 4 weeks and results sent to the KPD Transplant Coordinator as soon as possible, as this may change the antibody profile significantly.
10. Once a match is found on the KPD Program, CDC crossmatches will be done to confirm the virtual negative crossmatches identified via the KPD software.
11. The logistics of how the transplant will take place can be finalised between the transplant centres involved, but in principle:
 - a. the donor operations should take place concurrently
 - b. the recipient operations should occur in the recipient transplant centre
 - c. if the donor transplant centre is distant to the recipient transplant centre, the kidney can be flown to the recipient centre post donor nephrectomy, instead of flying the donor

Documents/results required to enter the KPD Program:

1. MOH/MACOT approval for both donor and recipient
2. Signed Donor and Recipient Consent forms confirming that they agree to participate in the KPD Program
3. Tissue Immunology Report(s) with Blood Group and HLA Typing of Donor
4. Tissue Immunology Report(s) with Blood Group and HLA Typing of Recipient
5. Latest (<6months) Tissue Immunology Report with full HLA antibodies of Recipient