

Briefing to the OPTN Board of Directors on

Modify Living Donor Exclusion Criteria

OPTN Living Donor Committee

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Modify Living Donor Exclusion Criteria

Affected Policies: 14.4.E: Living Donor Exclusion Criteria
Sponsoring Committee: Living Donor
Public Comment Period: January 27, 2022 – March 23, 2022
Board of Directors Meeting: June 27, 2022

Executive Summary

The OPTN Living Donor Committee (the Committee) proposes modifying OPTN Policy 14.4.E: Living Donor Exclusion Criteria. This policy lists fourteen exclusion criteria to living donation. The majority are applicable for all living donors, while some are specific to living kidney and liver donors. The proposed modifications align exclusion criteria for living donation with current research. The request to evaluate living donor exclusion criteria originally came from transplant community members who identified that modifications to certain living donor exclusion criteria may be warranted. The member requests were specific to the malignancy and diabetes exclusion criteria, but to ensure the relevancy of OPTN Policy 14.4.E, the Committee found it appropriate to evaluate each exclusion criterion for living donation. The Committee concludes that the majority of living donor exclusion criteria remain current and relevant for the protection of living organ donors. The Committee proposes four modifications, which maintain the protection of living donors, and may reduce living donation barriers.

Purpose

The Committee's review of OPTN Policy 14.4.E: Living Donor Exclusion Criteria ensures the relevancy of living donor exclusion criteria from a perspective of maintaining living donor and transplant recipient safety. The Committee's review led to proposed modifications supported by current research, which may broaden individuals' opportunities to become living organ donors. OPTN Policy 14.4.E was holistically reviewed and assessed for relevancy and currency as the living donor exclusion criteria have not been evaluated since its implementation in 2014. The Committee strives to protect the safety of living donors and transplant recipients, while also ensuring living donation barriers are limited.

Background

In 2012, the OPTN Board of Directors approved the *Establish Requirements for the Medical Evaluation of Living Kidney Donors* proposal, which improved and standardized the psychosocial and medical evaluations for all living kidney donors.¹ Additionally, this policy proposal established living donor exclusion criteria applicable for living kidney donors.² Instead of implementing additional living liver donor evaluation requirements, the Committee opted for the expansion of policy to encompass all living donors.³ In 2014, the OPTN Board of Directors approved *Modify Existing or Establish Requirements for the Psychosocial and Medical Evaluation of all Living Donors*, developed by the Committee. The proposal expanded the living donor exclusion criteria to include all living donors as well as added exclusion criteria specific to living kidney and living liver donors (**Table 1**).

A modification to the human immunodeficiency virus (HIV) exclusion criterion was approved by the OPTN Board of Directors in 2015.⁴ The exclusion criterion was modified to add that transplant programs with an approved variance, according to *OPTN Policy 15.7: Open Variance for the Recovery and Transplantation of Organ from HIV Positive Donors*, may transplant an organ from an HIV positive individual to an HIV positive transplant candidate.⁵

A living kidney donor entering into a kidney paired donation (KPD) exchange would be subject to living donor exclusion criteria.⁶ In contrast, domino and non-domino therapeutic donors are not subject to living donor exclusion criteria as OPTN policy specifies that transplant programs may incorporate *OPTN Policy 14.4.E: Living Donor Exclusion Criteria* as appropriate.⁷

¹ OPTN Living Donor Committee, *Briefing Paper*, Proposal to Establish Requirements for the Medical Evaluation of Living Kidney Donors. Public Comment Period September 16, 2011 – December 23, 2011. https://optn.transplant.hrsa.gov/media/4772/continuous_distribution_of_lungs-public_comment.pdf.

² Ibid.

³ OPTN Living Donor Committee, *Public Comment Proposal*, Proposal to Modify Existing or Establish Requirements for the Psychosocial and Medical Evaluation of all Living Donors. Public Comment Period, March 14, 2014 – June 13, 2014. https://optn.transplant.hrsa.gov/media/1451/pubcommentproposub_337.pdf.

⁴ OPTN Organ Procurement Organization Committee, *Public Comment Proposal*, Proposal to Address the Requirements in the HIV Organ Policy Equity Act. Public Comment Period January 27, 2015 – March 27, 2015. https://optn.transplant.hrsa.gov/media/1147/0115_04_oppo_hope_act.pdf.

⁵ OPTN Policy 15.7: Open Variance for the Recovery and Transplantation of Organs from HIV Positive Donors

⁶ OPTN Policy 14: Living Donation

⁷ OPTN Policy 14.9.B: Psychosocial and Medical Evaluation Requirements for Domino and Non-Domino Therapeutic Donors

Table 1: Living Donor Exclusion Criteria in OPTN Policy⁸

| | |
|--|---|
| <p style="text-align: center;">Exclusion criteria for all Living Donors</p> | <p>Living donor recovery hospitals may exclude a donor with any condition that, in the hospital’s medical judgment, causes the donor to be unsuitable for organ donation.</p> <p>Living donor recovery hospitals must exclude all donors who meet any of the following exclusion criteria:</p> <ul style="list-style-type: none"> • Is both less than 18 years old and mentally incapable of making an informed decision • HIV, unless the requirements for a variance are met, according to <i>Policy 15.7: Open Variance for the Recovery and Transplantation of Organs from HIV Positive Donors</i> • Active malignancy, or incompletely treated malignancy • High suspicion of donor coercion • High suspicion of illegal financial exchange between donor and recipient • Evidence of acute symptomatic infection (until resolved) • Uncontrolled diagnosable psychiatric conditions requiring treatment before donation, including any evidence of suicidality |
| <p style="text-align: center;">Additional Exclusion Criteria for Living Kidney Donors</p> | <p>Kidney recovery hospitals must exclude all donors who meet <i>any</i> of the following additional exclusion criteria:</p> <ul style="list-style-type: none"> • Uncontrollable hypertension or history of hypertension with evidence of end organ damage • Diabetes |
| <p style="text-align: center;">Additional Exclusion Criteria for Living Liver Donors</p> | <p>Liver recovery hospitals must exclude all donors who meet <i>any</i> of the following additional exclusion criteria:</p> <ul style="list-style-type: none"> • HCV RNA positive • HBsAg positive • Donors with ZZ, Z-null, null-null and S-null alpha-1-antitrypsinphenotypes and untype-able phenotypes • Expected donor remnant volume less than 30% of native liver volume • Prior living liver donor |

Transplant community members contacted the Committee citing that certain sections of living donor exclusion criteria are too restrictive based on recent research and updated published guidelines. Requests to reevaluate this policy were specific to the living donor exclusion criteria that exclude individuals with active malignancies, or incompletely treated malignancies, and individuals with diabetes. One inquiry explained that current policy language restricts transplant programs from evaluating potential living donors with low-grade malignancies, such as low-grade prostate cancer, citing that the management of prostate cancer has advanced significantly over the past decade. An additional inquiry stated that type 2 diabetes is no longer an absolute contraindication for living kidney donation, and the current exclusion criterion is too restrictive as it exempts these individuals as suitable living kidney donors.

⁸ OPTN Policy 14.4.E: Living Donor Exclusion Criteria as of November 2021.

The Committee holistically reviewed *OPTN Policy 14.4.E: Living Donor Exclusion Criteria*, reviewed updated literature and guidelines, and reaffirmed the majority of the living donor exclusion criteria remain relevant for living donor safety.^{9,10,11} The Committee proposed four modifications as they relate to malignancy, coercion, illegal exchange, and diabetes living donor exclusion criteria.

Proposal for Board Consideration

The Committee holistically reviewed *OPTN Policy 14.4.E*; however, the following sections summarize the living donor exclusion criteria with proposed modifications, and any subsequent post-public comment changes. The four living donor exclusion criteria with proposed modifications relate to malignancy, coercion, illegal exchange, and diabetes. For additional information regarding the Committee’s holistic review of living donor exclusion criteria, please refer to the *Modify Living Donor Exclusion Criteria* proposal.¹²

Proposed Modifications to Living Donor Exclusion Criteria

“Active malignancy, or incompletely treated malignancy”¹³

The Committee proposes modifying this exclusion criterion for all living donors to allow transplant programs more autonomy in evaluating potential living donors who have active malignancies or incompletely treated malignancies. The Committee acknowledges that there is a broad spectrum of malignancies, and that individuals with low-grade malignancies may be acceptable living donors, as current literature shows the safety for both living donors and transplant recipients.¹⁴

Kidney Disease: Improving Global Outcomes (KDIGO) guidelines state that potential living donors may be considered in some cases of “active malignancy with low transmission risk, clear management plan, and minimal risk to the donor”.¹⁵ A review of a major living liver donor transplant program in Korea reported that the decision to donate for potential living liver donors who have minimal risk malignancies should be based on individualized clinical judgement and comprehensive informed consent.¹⁶ The British Transplantation Society’s guidelines recommend active malignant disease as a contraindication to living donation, but recognizes that consideration for potential living donors with certain types of successfully treated low-grade tumors may be acceptable after careful evaluation and discussion.¹⁷

The Committee seeks to avoid creating lists of malignancies that are absolute contraindications as well as mandating specific risk thresholds, and prefers that transplant programs have autonomy in living

⁹ British Transplantation Society & The Renal Association, Guidelines for Living Donor Kidney Transplantation. (March 2018). https://bts.org.uk/wp-content/uploads/2018/07/FINAL_LDKT_guidelines_June-2018.pdf.

¹⁰ European Renal Best Practice Transplantation guideline development group, Guideline on the Management and Evaluation of the Kidney Donor and Recipient (August 2013). <https://www.era-online.org/en/erbp/guidance/transplantation/transplantation/>.

¹¹ KDIGO, Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors. (August 2017). <https://kdigo.org/wp-content/uploads/2017/07/2017-KDIGO-LD-GL.pdf>.

¹² OPTN Living Donor Committee, *Proposal, Modify Living Donor Criteria*. Public Comment Period, January 27, 2022 – March 23, 2022. Available at <https://optn.transplant.hrsa.gov/>.

¹³ OPTN Policy 14.4.E: Living Donor Exclusion Criteria as of November 2021.

¹⁴ OPTN Living Donor Committee, *Meeting Summary*, September 13, 2021.

https://optn.transplant.hrsa.gov/media/xwzhi1si/20210913_ldc_summary_final.pdf.

¹⁵ KDIGO, Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors. (August 2017).

¹⁶ Nugroho, A., et al. “Evaluation of donor workups and exclusions in a single-center experience of living donor liver transplantation”, *Liver Transplantation*. (2017); 23(5):614-624. doi: 10.1002/lt.24762.

¹⁷ British Transplantation Society & The Renal Association, Guidelines for Living Donor Kidney Transplantation. (March 2018).

donor evaluation and acceptance practices. The Committee also recognizes that potential living donors need involvement in decision-making, and transplant medical professionals should engage these individuals in shared decision-making.¹⁸

This aspect of the proposal was supported throughout public comment, which included notable support from the OPTN Ad Hoc Disease Transmission Advisory Committee (DTAC). The Committee agreed with a suggestion from public comment to clarify that the minimal risk of transmission should be “known”. The Committee decided that inclusion of this language clarification reinforces the concept that transplant programs should be aware of current literature regarding assessment of risk transmission.¹⁹ The Committee proposes modifying this exclusion criterion with the following language: “Active or incompletely treated malignancy that either

- requires treatment other than surveillance or
- has more than minimal known risk of transmission”.

The proposed modifications allow transplant programs to evaluate individuals who have low-grade malignancies that do not require current or future treatment, other than surveillance, or have a minimal risk of transmission to the transplant recipient, for living donation. Below are summaries detailing specific considerations the Committee made regarding risk transmission, low-grade malignancies, and treatment of malignancies, which lend further context to the intent of this modification.

Risk of transmission

The proposed modifications allow transplant programs to evaluate individuals whose malignancy has a minimal risk of transmission to the recipient for living donation.

The Committee referenced a framework developed by the DTAC, which reviewed literature to develop an approach to risk evaluation in malignancy.²⁰ Literature on living donation and malignancy apply this framework, even though the framework was not developed specifically for living donor malignancies.^{21,22,23} Therefore, the Committee found it appropriate to apply these risk categorizations to potential living donors with malignancies. The article specifies that minimal risk is equal to, or less than, 0.1 percent.²⁴ The Committee concluded that individuals with malignancies that have a minimal risk of transmission may be acceptable for living donation based on clinical judgement and informed consent.²⁵ The Committee does not seek to mandate specific risk thresholds in policy, and prefers that transplant programs, potential living donors, transplant candidates, and families participate in shared decision-making.

¹⁸ OPTN Living Donor Committee, *Meeting Summary*, September 13, 2021.

¹⁹ OPTN Living Donor Committee, *Meeting Summary*, April 4, 2022.
https://optn.transplant.hrsa.gov/media/xj3djib4/20220404_ldc_summary_final.pdf.

²⁰ Nalesnik, M., et al. “Donor-transmitted malignancies in organ transplantation: Assessment of clinical risk”, *American Journal of Transplantation*. (2011);11(6):1140-1147. doi: 10.1111/j.1600-6143.2011.03565.x.

²¹ Claisse, G., Gaillard, F., Mariat, C. “Living kidney donor evaluation”, *Transplantation*. (2020);104(12):1487-1496. doi: 10.1097/TP.0000000000003242.

²² Nugroho, A., et al. “Evaluation of donor workups and exclusions in a single-center experience of living donor liver transplantation”, *Liver Transplantation*. (2017);23(5):614-624. doi: 10.1002/lt.24762.

²³ British Transplantation Society & The Renal Association, Guidelines for Living Donor Kidney Transplantation. (March 2018).
https://bts.org.uk/wp-content/uploads/2018/07/FINAL_LDKT_guidelines_June-2018.pdf.

²⁴ Nalesnik, M., et al. “Donor-transmitted malignancies in organ transplantation: Assessment of clinical risk”, *American Journal of Transplantation*. (2011);11(6):1140-1147. doi: 10.1111/j.1600-6143.2011.03565.x.

²⁵ OPTN Living Donor Committee, *Meeting Summary*, September 13, 2021.

For additional context, the risk category of transmission above minimal risk is low risk, defined as a range greater than 0.1 percent to less than, or equal, to 1 percent.²⁶ The proposed modifications do not intend for potential living donors with malignancies that have a low risk of transmission to the transplant recipient to become living donors. Several articles cite that living donors with low risk malignancies should only be utilized when a transplant candidate has a significant risk of mortality.^{27,28}

Low-grade malignancies

The proposed modifications allow transplant programs to evaluate individuals who have low-grade malignancies for living donation. As an example, the Committee notes that under thorough evaluation and informed consent, an individual with low-grade prostate cancer may be an acceptable living donor.

Prostate cancer is a highly diverse disease, ranging from remarkably slow progression or inactivity to highly aggressive and fatal.²⁹ Therapeutic decision-making and outcome greatly depend on the appropriate stratification of patients to risk groups, which help differentiate between benign versus more aggressive states, and significant progress has been made in this area.³⁰ Literature reports that in over 100 kidney transplants from deceased donors with prostate cancer, there were no reported malignancy transmissions.³¹ Additionally, 10-year patient survival for an individual with low-grade prostate cancer is 99 percent.³² The proposed modifications may remove current living donation barriers for individuals such as this.

Treatment of malignancies

The proposed modifications allow transplant programs to evaluate individuals who do not require current or future treatment of their malignancy for living donation. Individuals whose malignancy requires surveillance may be acceptable living donors (e.g. surveillance of low-grade prostate cancer).

As the proposed modifications cite treatment, an individual with a known, non-melanoma skin cancer should be excluded due to the knowledge that future treatment of the potential living donor would be required. While basal cell carcinoma and squamous cell carcinoma are categorized as minimal risk of transmission within the malignancy risk categorizations, the proposed modifications do not intend to allow individuals with these types of malignancies to donate before appropriate treatment.³³ The Committee reasons that individuals with these types of malignancies should undergo treatment and resection before proceeding with living organ donation surgery.³⁴ Basal cell carcinoma and squamous cell carcinoma can be treated in a short time frame, and it is in the best interest of the individual to seek treatment before participating in an elective surgery.

²⁶ Nalesnik, M., et al. "Donor-transmitted malignancies in organ transplantation: Assessment of clinical risk", *American Journal of Transplantation*. (2011);11(6):1140-1147. doi: 10.1111/j.1600-6143.2011.03565.x.

²⁷ Kirchner, V., Liu, P., & Pruett, T. "Infection and cancer screening in potential living donors: Best practices to protect the donor and recipient", *Current Transplant Reports*. (2015);2, 35-43. doi: 10.1007/s40472-014-0049-y.

²⁸ Nugroho, A., et al. "Evaluation of donor workups and exclusions in a single-center experience of living donor liver transplantation", *Liver Transplantation*. (2017);23(5):614-624. doi: 10.1002/lt.24762.

²⁹ Adamaki, M. & Zoumpourlis, V. "Prostate cancer biomarkers: From diagnosis to prognosis and precision – guided therapeutics", *Pharmacology & Therapeutics*. (2021);228, 107932. doi: .org/10.1016/j.pharmthera.2021.107932.

³⁰ Ibid.

³¹ Dholakia, S., et al. "Renal donors with prostate cancer, no longer a reason to decline", *Transplantation Reviews*. (2016);30(1):48-50. doi: 10.1016/j.trre.2015.06.001.

³² Institute for Quality and Efficiency in Health Care. "Localized prostate cancer: Low-risk prostate cancer: Active surveillance or treatment?". (2020). <https://www.ncbi.nlm.nih.gov/books/NBK487255/>.

³³ Nalesnik, M., et al. "Donor-transmitted malignancies in organ transplantation: Assessment of clinical risk", *American Journal of Transplantation*. (2011);11(6):1140-1147. doi: 10.1111/j.1600-6143.2011.03565.x.

³⁴ OPTN Living Donor Committee, *Meeting Summary*, September 13, 2021.

As previously mentioned, the Committee referenced individuals with low-grade prostate cancer as an example of a potential acceptable living donor. To expound further on this example in relation to treatment considerations, the U.S. Preventive Services Taskforce, as well as other organizations, have found active surveillance of low-grade prostate cancer to be an acceptable treatment.³⁵ Active surveillance of low-grade prostate cancer may limit the harms of active treatment by forgoing surgery or radiation in favor of ongoing monitoring.³⁶ The Committee discussed that individuals who are undergoing surveillance as a form of treatment may be acceptable individuals to be evaluated as living donors.³⁷

“High suspicion of donor coercion”³⁸

The Committee proposes modifying this exclusion criterion for all living donors to better align with other OPTN policy references. *OPTN Policy 14.1.A: Living Donor Psychosocial Evaluation Requirements* states that the living donor must be assessed by a psychiatrist, psychologist, or social worker whether their “decision to donate is free of inducement, coercion, and other undue pressure”.³⁹ Additionally, *OPTN Policy 14.3: Informed Consent Requirements* states that the living donor’s signature confirms that the donor “is free from inducement and coercion”.⁴⁰ Due to these additional references to coercion in other OPTN living donor policy, the Committee concluded modifications are necessary for consistency.⁴¹

An exclusion criterion that addresses potential living donors who are thought to be induced, coerced, or otherwise pressured into their decision is essential to the ethical basis of living organ donation. The Committee emphasizes that as stewards of the potential living donor’s well-being and safety, especially in the context of a surgery with no medical benefit to the living donor, transplant teams must regard coercive factors as absolute contraindications to living donation. Potential living donors who are influenced by coercive factors are unable to make autonomous and informed choices to donate. The Committee affirms that this exclusion criterion is relevant in ensuring the protection of living donors.

This aspect of the proposal was supported throughout public comment. Based on one suggestion from public comment, the Committee considered rephrasing the exclusion criterion to specify “undue donor inducement, coercion, or other pressure”. Ultimately, the Committee affirmed their original intention of aligning language in OPTN living donor policy. The Committee reasoned that the suggested rephrasing implies that there may be due donor inducement, and opposed the belief that there may be appropriate inducement in the context of living donation.⁴² Additionally, the exclusion criterion states there must be “high suspicion”, which leaves the final determination to the transplant program.⁴³ No post-public comment changes were made to this exclusion criterion and the Committee proposes the following language: “High suspicion of donor inducement, coercion, or other undue pressure”.

³⁵ U.S. Preventive Services Task Force. “Screening for prostate cancer: U.S. Preventive Services Task Force recommendation statement”, *JAMA*. (2018);319(18):1901-1913. doi: 10.1001/jama.2018.3710.

³⁶ *Ibid.*

³⁷ OPTN Living Donor Committee, *Meeting Summary*, September 13, 2021.

³⁸ OPTN Policy 14.4.E: Living Donor Exclusion Criteria as of November 2021

³⁹ OPTN Policy 14.1.A: Living Donor Psychosocial Evaluation Requirements.

⁴⁰ OPTN Policy 14.3: Informed Consent Requirements.

⁴¹ OPTN Living Donor Committee, *Meeting Summary*, September 8, 2021.

⁴² OPTN Living Donor Committee, *Meeting Summary*, April 4, 2022.

⁴³ OPTN Living Donor Committee, *Meeting Summary*, April 13, 2022.

https://optn.transplant.hrsa.gov/media/xfzj42g/20220413_ldc_summary_final.pdf

“High suspicion of illegal financial exchange between donor and recipient”⁴⁴

The Committee proposes modifying this exclusion criterion for all living donors to better align with other OPTN policy references. *OPTN Policy 14.3: Informed Consent* states that living donor recovery hospitals must disclose to living donors that “it is a federal crime for any person to knowingly acquire, obtain or otherwise transfer any human organ for anything of value”.⁴⁵ The proposed modification specifies that high suspicion of illegal exchange of anything valuable is an absolute contraindication, not solely financial exchanges. The Committee also reviewed NOTA Sec. 274e. Prohibition of organ purchases.⁴⁶ The Committee considered adding the term “valuable consideration” into the exclusion criterion but concluded that it may be difficult for living donors and living donor families to understand.⁴⁷

Similar to the aforementioned exclusion criterion for high suspicion of donor coercion, this exclusion criterion is crucial for the ethical basis of living organ donation. The Committee emphasizes that illegal exchange of anything of value interferes directly and substantially with donor autonomy and decision-making. It is prudent for OPTN living donor exclusion criteria policy to uphold standards set in federal law and informed consent policy. The Committee affirms that this exclusion criterion is relevant to protect all living donors.

This aspect of the proposal was supported throughout public comment. Based on public comment feedback, the Committee recognized the need to further clarify that this criterion intends to exclude individuals on the basis of illegal exchanges. A specific comment from ASTS recommended the addition of clarifying language to ensure that individuals are not excluded from living donation if they are to receive legal reimbursement.⁴⁸ The Committee agreed with ASTS as they do not seek to unintentionally exclude individuals who receive legal and acceptable transactions, such as, but not limited to, reimbursement through National Living Donor Assistance Center (NLDAC).⁴⁹ The Committee proposes the following language, based on public comment feedback: “High suspicion of knowingly and unlawfully acquiring, receiving, or otherwise transferring anything of value in exchange for any human organ”.

“Diabetes”⁵⁰

The Committee proposes modifying this exclusion criterion for living kidney donors to remove current barriers for select individuals with type 2 diabetes. The Committee proposes type 1 diabetes remain an absolute contraindication to living kidney donation.

Public comment feedback was mixed regarding the proposed diabetes exclusion criterion modifications. Feedback for the proposed modification cited support for increased transplant program autonomy in evaluation and acceptance practices for individuals with type 2 diabetes. Of note, the OPTN Kidney Transplantation Committee supported the proposed modifications to this exclusion criterion. While opposition of the proposed modifications cited that the proposed language was unclear and individuals with diabetes should remain excluded from living kidney donation based on the lack of data ensuring the long-term safety of donating a kidney.

⁴⁴ OPTN Policy 14.4.E: Living Donor Exclusion Criteria as of November 2021

⁴⁵ OPTN Policy 14.3: Informed Consent Requirements

⁴⁶ NOTA 42 U.S.C. §274e.

⁴⁷ OPTN Living Donor Committee, *Meeting Summary*, September 8, 2021.

⁴⁸ ⁴⁸ All public comments submitted on the proposal are available at <https://optn.transplant.hrsa.gov/>.

⁴⁹ OPTN Living Donor Committee, *Meeting Summary*, April 4, 2022.

⁵⁰ OPTN Policy 14.4.E: Living Donor Exclusion Criteria as of November 2021

Both AST and ASTS recommended altering terminology from “type 1” and type 2” to “insulin dependent” and “non-insulin dependent” citing that diabetes mellitus is now understood to exist along a spectrum. AST agreed that type 1 diabetes (i.e. insulin dependent) should remain an absolute contraindication to living kidney donation. However, AST stated that the modifications for type 2 diabetes (i.e. non-insulin dependent) are vague, and perhaps “resolved” diabetes (i.e. A1c < 6.5) with lifestyle modification may be an appropriate expansion especially with the addition of an age modifier.

The Committee discussed modifying the criterion language to differentiate exclusion on the basis of diabetes management (i.e. insulin dependent versus non-insulin dependent). The Committee decided that language clarity would not benefit from this modification. The Committee supports the original intent in allowing individualized decision-making among transplant programs, and modifying language to include diabetes management would not further support that intent. The Committee reasons that different descriptors would not aid in balancing policy language between living donor safety and transplant program autonomy.⁵¹ Additionally, the decision to modify language to distinguish between type 1 and type 2 diabetes was based on current literature and research. To modify the language to specify diabetes management would require literature to support that the language would remain applicable and evidence-based.^{52,53,54} Further, the Committee emphasized that the purpose of the policy is to exclude individuals from living donation, not defining acceptable living donors.⁵⁵

Additional public comment feedback suggested adding language related to age within the type 2 diabetes exclusion criterion. The Committee reaffirmed their previous decision to forgo adding age thresholds into policy language. However, to provide more specificity, the Committee proposed clarifying that individuals whose lifetime risk is determined to be unacceptable by the transplant program should be excluded from living kidney donation.⁵⁶ Therefore, the Committee proposes the following language: “Type 1 diabetes”; and “Type 2 diabetes where an individualized assessment of donor demographics or comorbidities reveals either

- evidence of end organ damage or
- unacceptable lifetime risk of complications”.

Type 1 Diabetes

Type 1 and type 2 diabetes may lead to diabetic nephropathy, damage to blood vessel clusters in kidneys that filter waste from blood⁵⁷; Type 1 diabetes is more likely to lead to end stage renal disease (ESRD).⁵⁸ Additionally, type 1 diabetes generally is more common in young adulthood, a critical period of risk for those with type 1 diabetes, and who have many more life years of risk ahead.⁵⁹ Due to the vast differences between type 1 diabetes and type 2 diabetes, the Committee concluded retaining type 1 diabetes as an absolute contraindication to living kidney donation is necessary for living kidney donor

⁵¹ OPTN Living Donor Committee, *Meeting Summary*, April 4, 2022.

⁵² OPTN Living Donor Committee, *Meeting Summary*, March 9, 2022.

https://optn.transplant.hrsa.gov/media/fq0jyca/20220309_idc_summary_final.pdf

⁵³ British Transplantation Society & The Renal Association, *Guidelines for Living Donor Kidney Transplantation*. (March 2018).

⁵⁴ KDIGO, *Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors*. (August 2017).

⁵⁵ OPTN Living Donor Committee, *Meeting Summary*, April 4, 2022.

⁵⁶ *Ibid*.

⁵⁷ Diabetic nephropathy (kidney disease), *Mayo Clinic*. <https://www.mayoclinic.org/diseases-conditions/diabetic-nephropathy/symptoms-causes/syc-20354556#:~:text=Diabetic%20nephropathy%20is%20a%20common,and%20cause%20high%20blood%20pressure.>

⁵⁸ Johns Hopkins Medicine. “Diabetic nephropathy (kidney disease)”, *Health*. (2021). [https://hopkinsmedicine.org/health/conditions-and-diseases/diabetes/diabetic-nephropathy-kidney-disease.](https://hopkinsmedicine.org/health/conditions-and-diseases/diabetes/diabetic-nephropathy-kidney-disease)

⁵⁹ Monaghan, M., Helgeson, V., & Wiebe, D. “Type 1 diabetes in young adulthood”, *Current Diabetes Reports*. (2016);11(4)239-250. doi: 10.2174/1573399811666150421114957.

safety.⁶⁰ This is in agreement with the British Transplantation Society, European Best Renal Practices, and KDIGO guidelines.^{61,62,63} Due to lack of domestic long-term data and analyses on living donors with diabetes, the Committee reviewed international transplant community literature and guidelines.

Type 2 Diabetes

KDIGO and British Transplantation Society guidelines for living kidney donation recommend that the decision to approve potential living kidney donors should be individualized based on demographics, health profiles, and lifetime risk assessments.⁶⁴ These guidelines recommend that optimally managed individuals with type 2 diabetes can be considered for living kidney donation after thorough individualized assessments, and in the absence of end organ damage.⁶⁵ Although the European Renal Best Practices guidelines recommend diabetes as a contraindication to living kidney donation, it does recognize that donation is allowable in exceptional circumstances.⁶⁶

Much like the current hypertension exclusion criterion, the Committee seeks to allow transplant programs more autonomy in the decision to evaluate select type 2 diabetic individuals as living kidney donors. While the Committee proposes to open the opportunity of becoming a living kidney donor to individuals with type 2 diabetes, they are not comfortable removing type 2 diabetes from living kidney donor exclusion criteria entirely, due to limited long-term outcome data.⁶⁷ The proposed modification allows transplant programs to evaluate older individuals with type 2 diabetes, where the time to ESRD or time to chronic kidney disease (CKD) from the diagnosis of type 2 diabetes is longer than their expected life expectancy, for living kidney donation.⁶⁸ Additionally, the individual should have optimally managed type 2 diabetes with no evidence of end organ damage.⁶⁹ An individualized assessment of a potential living kidney donor's demographics, comorbidities, and lifetime risk of complications intend to reveal those individuals that should remain excluded from living kidney donation.

Overall Sentiment from Public Comment

This proposal was released for public comment from January 27, 2022 to March 23, 2022. The proposal was presented during 11 OPTN regional meetings and received additional feedback via the OPTN website.⁷⁰ The proposal was presented to the OPTN Ad Hoc Disease Transmission, Ethics, Kidney Transplantation, Transplant Administrators, and Transplant Coordinators Committees.

Most public comment expressed support for the proposed living donor exclusion criteria modifications and some offered suggestions for Committee consideration. As seen in **Figure 1**, most of the OPTN

⁶⁰ OPTN Living Donor Committee, *Meeting Summary*, October 29, 2021.

⁶¹ British Transplantation Society & The Renal Association, *Guidelines for Living Donor Kidney Transplantation*. (March 2018).

⁶² European Renal Best Practice Transplantation guideline development group, *Guideline on the Management and Evaluation of the Kidney Donor and Recipient* (August 2013).

⁶³ KDIGO, *Clinical Practice Guideline on the Evaluation and Care of Living Kidney Donors*. (August 2017).

⁶⁴ *Ibid.*

⁶⁵ European Renal Best Practice Transplantation guideline development group, *Guideline on the Management and Evaluation of the Kidney Donor and Recipient* (August 2013).

⁶⁶ *Ibid.*

⁶⁷ OPTN Living Donor Committee, *Meeting Summary*, October 13, 2021.

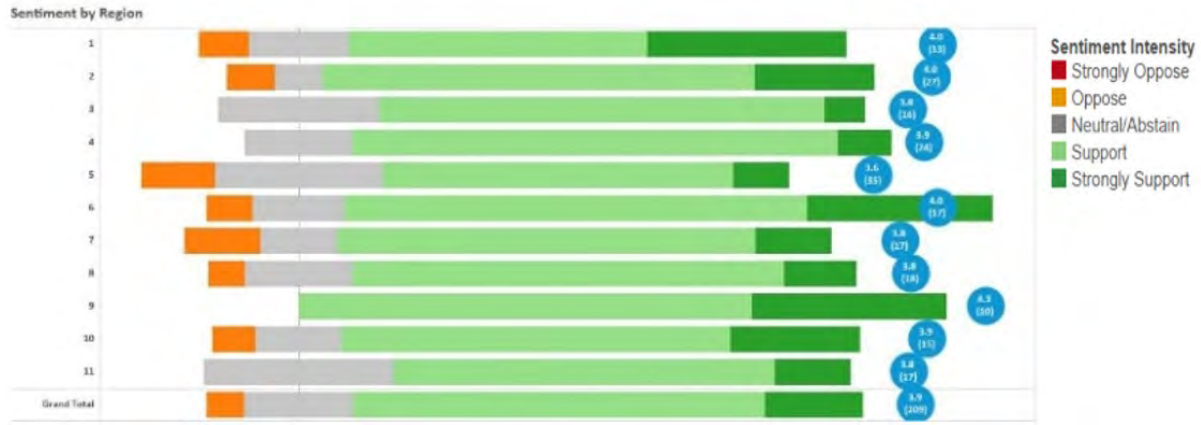
⁶⁸ *Ibid.*

⁶⁹ *Ibid.*

⁷⁰ All public comments submitted on the proposal are available at <https://optn.transplant.hrsa.gov/>.

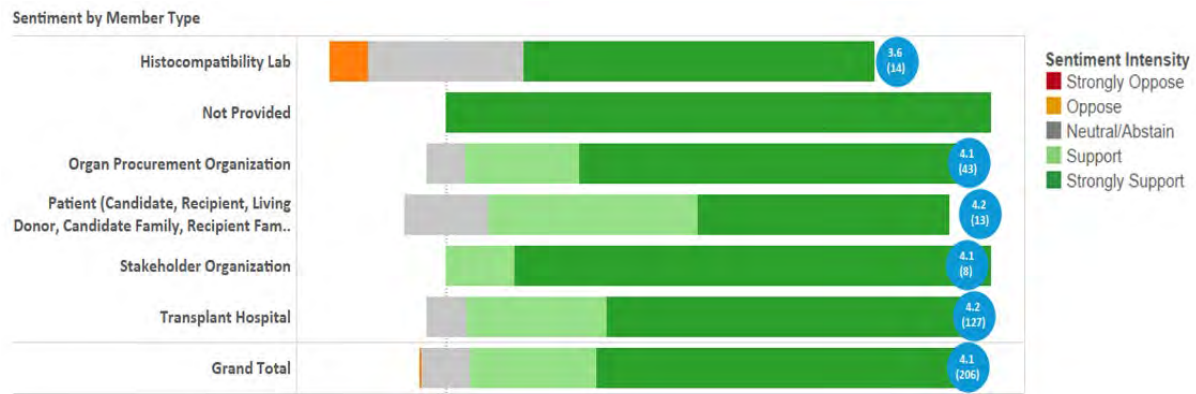
regions indicated sentiment of support or strong support for the Committee’s *Modify Living Donor Exclusion Criteria* proposal.⁷¹

Figure 1: Sentiment at OPTN Regional Meetings



Public comment sentiment by member type is below in **Figure 2**.⁷²

Figure 2: Sentiment by Member Type



The transplant community recognized the proposed modifications intend to allow more transplant program autonomy and decision-making. The community was overall supportive of increasing transplant program autonomy, and thus supportive of the proposed modifications that allow for individualized decision-making. The transplant community supported the proposed modifications as they relate to the malignancy, coercion, and illegal exchange exclusion criteria, with a few suggested clarifications. The public comment specific to the diabetes exclusion criterion received mixed feedback; support for increased transplant autonomy, suggestions for additional language clarifications, and opposition citing lack of long-term data to support individuals with type 2 diabetes as acceptable living kidney donors.

⁷¹This chart shows the sentiment for the public comment proposal. Sentiment is reported by the participant using a 5-point Likert scale (1-5 representing Strongly Oppose to Strongly Support). Sentiment for regional meetings only includes attendees at that regional meeting. Region 6 uses the average score for each institution. The circles after each bar indicate the average sentiment score and the number of participants is in the parentheses.

⁷² This chart shows the sentiment for the public comment proposal. Sentiment is reported by the participant using a 5-point Likert scale (1-5 representing Strongly Oppose to Strongly Support). Sentiment by member type includes all comments. The circles after each bar indicate the average sentiment score and the number of participants is in the parentheses.

A number of stakeholder organizations provided feedback on the proposal throughout public comment including the American Nephrology Nurses Association (ANNA), American Society for Histocompatibility and Immunogenetics (ASHI), American Society of Transplant Surgeons (ASTS), American Society of Transplantation (AST), Humana, NATCO, National Catholic Bioethics Center and National Catholic Partnership on Disability, and Virginia Mason Franciscan Health. While the majority of stakeholder organizations supported this proposal, AST and ASTS offered specific feedback related to the diabetes and illegal exchange exclusion criteria, which was detailed in the respective sections above.

In addition to feedback on the proposed modifications, the Committee received general feedback regarding lack of long-term outcome data on living organ donors. While most of the concern was in relation to the potential evaluation and acceptance of individuals who have historically been excluded from living donation, there were recommendations to expand follow-up on living donors in order to gather better outcome data. Transplant community feedback cited that long-term data on living donors is needed to ensure patient safety as well as enhance the ability to provide informed consent.

Compliance Analysis

NOTA and OPTN Final Rule

This proposal is authorized under NOTA, which requires the OPTN to “adopt and use standards of quality for the acquisition...of donated organs.”⁷³ Additionally, in 2006, the Department of Health and Human Services (HHS) stated that oversight over living donation of all types falls under the authority of the OPTN.⁷⁴ “Under 42 CFR 121.4(a)(6), the Secretary directs the OPTN to develop policies regarding living organ donors and living organ donor recipients, including policies for the equitable allocation of living donor organs,’ in accordance with section 121.8 of the final rule.”⁷⁵ This project addresses living organ donors by reviewing existing living donor exclusion criteria in OPTN policy in order to increase opportunities for living donation and establish standards of quality for the procurement of living donor organs, while maintaining the safety of living donors and the potential recipients of organs donated by living donors.

OPTN Strategic Plan

Promote living donor and transplant recipient safety

The holistic review of living donor exclusion criteria reaffirmed that the majority of the exclusion criteria remain relevant and current for the protection of living donors. The four proposed modifications further promote living donor and transplant recipient safety by aligning policy language and increasing transplant program autonomy based on current literature and evidence.

⁷³ 42 U.S.C. §274(b)(2)(E)

⁷⁴ Department of Health and Human Services, Health Resources and Services Administration, “Response to Solicitation on Organ Procurement and Transplantation Network Living Donor Guidelines,” 71 Fed. Reg. 34946 No. 116 (June 16, 2006). <https://www.federalregister.gov/documents/2006/06/16/E6-9401/response-to-solicitation-on-organ-procurement-and-transplantation-network-optn-living-donor>.

⁷⁵ Ibid.

Implementation Considerations

Member and OPTN Operations

Operations affecting Transplant Hospitals

All transplant programs that perform living donor evaluations will need to become familiar with the modifications to living donor exclusion criteria, especially the new language surrounding malignancy and diabetes. This proposal does not require transplant programs to change their living donor evaluation and acceptance practices. However, should a transplant program choose to expand their living donor evaluation and acceptance practices based on the proposed modifications, there may be additional administrative burden for programs to adapt evaluation protocols.

Operations affecting the OPTN

This proposal will not require information technology (IT) effort, and no member actions are required. Communications and education will be developed and deployed across appropriate channels to inform members.

Operations affecting Histocompatibility Laboratories

This proposal is not anticipated to affect the operations of histocompatibility laboratories.

Operations affecting Organ Procurement Organizations

This proposal is not anticipated to affect the operations of organ procurement organizations.

Projected Fiscal Impact

Projected Impact on Histocompatibility Laboratories

There is no projected fiscal impact on histocompatibility laboratories.

Projected Impact on Organ Procurement Organizations

There is no projected fiscal impact on organ procurement organizations.

Projected Impact on Transplant Hospitals

There is no projected fiscal impact on transplant hospitals. This proposal does not require transplant programs to change their living donor evaluation and acceptance practices. Should a transplant hospital expand based upon the proposed modifications to living donor exclusion criteria, then the transplant hospital may incur additional costs. These additional costs may be related to staff training, and increased living donor evaluations and acceptances.

Projected Impact on the OPTN

The OPTN Contractor estimates 90 hours for implementation. Implementation will involve member and staff training and communication. The OPTN Contractor estimates 70 hours for ongoing support. Ongoing support will involve answering member questions and producing policy monitoring reports at six months, one year and two years post-implementation.

Post-implementation Monitoring

Member Compliance

This proposal will not change current routine monitoring of OPTN members. The OPTN will continue to verify that living donor recovery hospitals are evaluating living donors according to the requirements in OPTN policy.

Policy Evaluation

Monitoring reports using pre- versus post-implementation comparisons will be presented to the Committee after approximately 6 months, 1 year, and 2 years. Metrics included:

- Overall volume of living donors by organ (Kidney and Liver)
- Number and percent of living donors with diabetes indicated on the LDR form (overall and by treatment)
- Short-term outcomes (as reported on the LDF form) by indication of diabetes on the LDR form
- Number and percent of living donors with history of cancer indicated on the LDR form (overall and by type of malignancy and by cancer free interval as applicable)
- Volume of tumors transmitted from the donor reported on Post Transplant Malignancy forms

The OPTN and SRTR contractors will work with the Committee on any additional data requests related to the policy change.

Conclusion

The Committee proposes OPTN policy modifications to four living donor exclusion criteria and offers justifications for maintaining other living donor exclusion criteria. Living donor exclusion criteria modifications related to donor coercion and illegal financial exchange align language with other areas of OPTN living donor policy for consistency. The proposed malignancy exclusion criterion modifications allows transplant programs more autonomy in evaluating potential living donors with low-grade malignancies and minimal risk of transmission. The proposed modifications to the diabetes exclusion criterion allows transplant programs to evaluate select type 2 diabetic individuals for living kidney donation while maintaining type 1 diabetes as an absolute contraindication to living kidney donation. The Committee proposes these modifications which maintain the protection of living donor and transplant recipient safety, and may reduce barriers to living donation.

Policy Language

Proposed new language is underlined (example) and language that is proposed for removal is struck through (~~example~~). Heading numbers, table and figure captions, and cross-references affected by the numbering of these policies will be updated as necessary.

1 **14.4.E Living Donor Exclusion Criteria**

2 **Table 14-10: Living Donor Exclusion Criteria**

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|---|--|
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Exclusion criteria for all Living Donors</p> | <p>Living donor recovery hospitals may exclude a donor with any condition that, in the hospital’s medical judgment, causes the donor to be unsuitable for organ donation.</p> <p>Living donor recovery hospitals must exclude all donors who meet any of the following exclusion criteria:</p> <ul style="list-style-type: none"> • Is both less than 18 years old and mentally incapable of making an informed decision • HIV, unless the requirements for a variance are met, according to <i>Policy 15.7: Open Variance for the Recovery and Transplantation of Organs from HIV Positive Donors</i> • Active malignancy, or incompletely treated malignancy <u>that either</u> <ul style="list-style-type: none"> ○ <u>requires treatment other than surveillance or</u> ○ <u>has more than minimal known risk of transmission</u> • High suspicion of donor <u>inducement, coercion, or other undue pressure</u> • High suspicion of <u>knowingly and unlawfully acquiring, receiving, or otherwise transferring anything of value in</u>illegal financial <u>exchange for any human organ</u>between donor and recipient • Evidence of acute symptomatic infection (until resolved) • Uncontrolled diagnosable psychiatric conditions requiring treatment before donation, including any evidence of suicidality |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Additional Exclusion Criteria for Living Kidney Donors</p> | <p>Kidney recovery hospitals must exclude all donors who meet <i>any</i> of the following additional exclusion criteria:</p> <ul style="list-style-type: none"> • Uncontrollable hypertension or history of hypertension with evidence of end organ damage • Diabetes • <u>Type 1 diabetes</u> • <u>Type 2 diabetes where an individualized assessment of donor demographics or comorbidities reveals either</u> <ul style="list-style-type: none"> ○ <u>evidence of end organ damage or</u> ○ <u>unacceptable lifetime risk of complications</u> |
| <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Additional Exclusion Criteria for Living Liver Donors</p> | <p>Liver recovery hospitals must exclude all donors who meet <i>any</i> of the following additional exclusion criteria:</p> <ul style="list-style-type: none"> • HCV RNA positive • HBsAg positive • Donors with ZZ, Z-null, null-null and S-null alpha-1-antitrypsin phenotypes and untype-able phenotypes • Expected donor remnant volume less than 30% of native liver volume • Prior living liver donor |

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