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# Medical Policy Kidney Transplant

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# **Policy Number: 196**

BCBSA Reference Number: 7.03.01 (For Plan internal use only)

NCD/LCD: N/A

#### **Related Policies**

- Allogeneic Pancreas Transplant, #328
- Intravenous Immunoglobulin, #310
- Plasma Exchange, #466

#### **Policy**

# Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue<sup>SM</sup> and Medicare PPO Blue<sup>SM</sup> Members

Renal (kidney) transplantation may be <u>MEDICALLY NECESSARY</u> for patients with end-stage renal disease <u>and</u> for those individuals with <u>no</u> contraindications who are diagnosed with <u>any</u> of the following conditions, including but not limited to:

- Diabetes mellitus
- Hypertensive nephrosclerosis
- Acute tubular necrosis Glomerulonephritis
- Lupus (SLE) Goodpasture's (Anti-glomerular base-membrane disease) Polyarteritis Wegener's granulomatosis Henoch-Schönlein purpura Hemolytic uremic syndrome
- IGA nephropathy
- Nephritis
- Focal glomerulosclerosis
- Cortical necrosis Analgesic nephropathy with medullary necrosis
- Heavy metal poisoning
- Medullary cystic disease
- Nephrocalcinosis
- Gout nephritis
- Amyloid disease
- Fabry's disease
- Cystinosis or Oxalosis

- Renal artery or vein occlusion
- Chronic pyelonephritis
- Obstructive uropathy Tuberous sclerosis
- Polycystic kidney disease
- Horseshoe kidney or Renal aplasia or hypoplasia
- Myeloma (no remission or in remission)
- Wilms' tumor or Renal-cell carcinoma, or
- Trauma requiring nephrectomy injury to kidney.

Kidney retransplant after a failed primary kidney transplant may be MEDICALLY NECESSARY.

In addition to the above information, we do not cover kidney transplantation when any of the following conditions are present:

- Known current malignancy, including metastatic cancer
- Recent malignancy with high risk of recurrence
  - Note: the assessment of risk of recurrence for a previously treated malignancy is made by the transplant team; providers must submit a statement with an explanation of why the patient with a recently treated malignancy is an appropriate candidate for a transplant.
- History of cancer with a moderate risk of recurrence
- Systemic disease that could be exacerbated by immunosuppression
- Untreated systemic infection making immunosuppression unsafe, including chronic infection
- Other irreversible end-stage disease not attributed to kidney disease
- Psychosocial conditions or chemical dependency affecting ability to adhere to therapy.

HIV (human immunodeficiency virus) -positive patients, who meet the following criteria, as stated in the 2001 guidelines of the American Society of Transplantation, could be considered candidates for kidney transplantation:

- CD4 count >200 cells per cubic millimeter for >6 months
- HIV-1 RNA undetectable
- On stable antiretroviral therapy >3 months
- No other complications from AIDS (acquired immune deficiency syndrome) (e.g., opportunistic infection, including aspergillus, tuberculosis, coccidioidomycosis, resistant fungal infections, Kaposi's sarcoma, or other neoplasm), **and**
- Meeting all other criteria for transplantation.

Indications for renal transplant include a creatinine level of greater than 8 mg/dL, or greater than 6 mg/dL in symptomatic diabetic patients. However, consideration for listing for renal transplant may start well before the creatinine level reaches this point, based on the anticipated time that a patient may spend on the waiting list.

Kidney transplant is **INVESTIGATIONAL** in all other situations.

# **Prior Authorization Information**

# Inpatient

 For services described in this policy, precertification/preauthorization <u>IS REQUIRED</u> for all products if the procedure is performed <u>inpatient</u>.

#### Outpatient

For services described in this policy, see below for products where prior authorization <u>might be</u>
 required if the procedure is performed <u>outpatient</u>.

	Outpatient
Commercial Managed Care (HMO and POS)	This procedure is performed in the inpatient setting.
Commercial PPO and Indemnity	This procedure is performed in the inpatient setting.

Medicare HMO Blue <sup>SM</sup>	This procedure is performed in the inpatient setting.
Medicare PPO Blue <sup>SM</sup>	This procedure is performed in the inpatient setting.

# **CPT Codes / HCPCS Codes / ICD Codes**

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above <u>medical necessity criteria MUST</u> be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

# **CPT Codes**

CPT codes:	Code Description
50360	Renal allotransplantation, implantation of graft; without recipient nephrectomy
50365	Renal allotransplantation, implantation of graft; with recipient nephrectomy

#### **ICD-10 Procedure Codes**

ICD-10-PCS	
procedure	
codes:	Code Description
0TT00ZZ	Resection of Right Kidney, Open Approach
0TT04ZZ	Resection of Right Kidney, Percutaneous Endoscopic Approach
0TT10ZZ	Resection of Left Kidney, Open Approach
0TT14ZZ	Resection of Left Kidney, Percutaneous Endoscopic Approach
0TT20ZZ	Resection of Bilateral Kidneys, Open Approach
0TT24ZZ	Resection of Bilateral Kidneys, Percutaneous Endoscopic Approach
0TT60ZZ	Resection of Right Ureter, Open Approach
0TT64ZZ	Resection of Right Ureter, Percutaneous Endoscopic Approach
0TT67ZZ	Resection of Right Ureter, Via Natural or Artificial Opening
0TT68ZZ	Resection of Right Ureter, Via Natural or Artificial Opening Endoscopic
0TT70ZZ	Resection of Left Ureter, Open Approach
0TT74ZZ	Resection of Left Ureter, Percutaneous Endoscopic Approach
0TT77ZZ	Resection of Left Ureter, Via Natural or Artificial Opening
0TT78ZZ	Resection of Left Ureter, Via Natural or Artificial Opening Endoscopic
0TY00Z0	Transplantation of Right Kidney, Allogeneic, Open Approach
0TY00Z1	Transplantation of Right Kidney, Syngeneic, Open Approach
0TY00Z2	Transplantation of Right Kidney, Zooplastic, Open Approach
0TY10Z0	Transplantation of Left Kidney, Allogeneic, Open Approach
0TY10Z1	Transplantation of Left Kidney, Syngeneic, Open Approach
0TY10Z2	Transplantation of Left Kidney, Zooplastic, Open Approach

# **Description**

Solid organ transplantation offers a treatment option for patients with different types of end-stage organ failure that can be lifesaving or provide significant improvements to a patient's quality of life. Many advances have been made in the last several decades to reduce perioperative complications. Available data support improvement in long-term survival as well as improved quality of life, particularly for liver,

kidney, pancreas, heart, and lung transplants. Allograft rejection remains a key early and late complication risk for any organ transplantation. Transplant recipients require life-long immunosuppression to prevent rejection. Patients are prioritized for transplant by mortality risk and severity of illness criteria developed by Organ Procurement and Transplantation Network (OPTN) and United Network of Organ Sharing (UNOS).

#### **Kidney Transplant**

In 2022, 42,889 transplants were performed in the United States procured from 36,421 deceased donors and 6,468 living donors. Kidney transplants were the most common procedure with 25,500 transplants performed from both deceased and living donors in 2022. Since 1988, the cumulative number of kidney transplants is 553,905. The cumulative total, approximately 67% of the kidneys came from deceased donors and 33% from living donors.

Kidney transplant, using kidneys from deceased or living donors, is an accepted treatment of end-stage renal disease (ESRD). ESRD refers to the inability of the kidneys to perform their functions (ie, filtering wastes and excess fluids from the blood). ESRD, which is life-threatening, is also known as chronic kidney disease stage 5 and is defined as a glomerular filtration rate (GFR) less than 15 mL/min/1.73 m<sup>2</sup>.<sup>4</sup> Patients with advanced chronic kidney disease, mainly stage 4 (GFR 15 to 29 mL/min/1.73 m2) and stage 5 (GFR <15 mL/min/1.73 m2), should be evaluated for transplant.<sup>5</sup> Being on dialysis is not a requirement to be considered for kidney transplant. Severe non-compliance and substance abuse serve as contraindications to kidney transplantation but even those could be overcome with clinician support and patient motivation. All kidney transplant candidates receive organ allocation points based on waiting time, age, donor-recipient immune system compatibility, prior living donor status, distance from donor hospital, and survival benefit.<sup>6,7</sup>

Combined kidney and pancreas transplants and management of acute rejection of kidney transplant using either intravenous immunoglobulin or plasmapheresis are discussed in separate evidence reviews.

# **Summary**

#### **Description**

Kidney transplant, a treatment option for end-stage renal disease, involves the surgical removal of a kidney from a cadaver, living-related donor, or living-unrelated donor and transplantation into the recipient.

#### **Summary of Evidence**

For individuals who have end-stage renal disease without contraindications to kidney transplant who receive a kidney transplant from a living donor or deceased (cadaveric) donor, the evidence includes registry data and case series. Relevant outcomes are overall survival (OS), morbid events, and treatment-related mortality and morbidity. Data from large registries have demonstrated reasonably high survival rates after kidney transplant for appropriately selected patients and significantly higher survival rates for patients undergoing kidney transplant compared with those who remained on a waiting list. Kidney transplantation is contraindicated for patients in whom the procedure is expected to be futile due to comorbid disease or in whom posttransplantation care is expected to significantly worsen comorbid conditions. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have a failed kidney transplant without contraindications to kidney transplant who receive a kidney retransplant from a living donor or deceased (cadaveric) donor, the evidence includes registry data and case series. Relevant outcomes are OS, morbid events, and treatment-related mortality and morbidity. Data have demonstrated reasonably high survival rates after kidney retransplant (eg, 5-year survival rates ranging from 87% to 96%) for appropriately selected patients. Kidney retransplantation is contraindicated for patients for whom the procedure is expected to be futile due to comorbid disease or for whom posttransplantation care is expected to significantly worsen comorbid conditions. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

# **Policy History**

Date	Action
10/2024	Annual policy review. References updated. Policy statements unchanged.
10/2023	Annual policy review. Description, summary, and references updated. Policy
	statements unchanged.
10/2022	Annual policy review. References added. Minor editorial refinements to policy
	statements; intent unchanged.
9/2021	Annual policy review. Description, summary, and references updated. Policy
	statements unchanged.
10/2020	Annual policy review. Description, summary, and references updated. Policy
	statements unchanged.
10/2019	Annual policy review. Description, summary, and references updated. Policy
	statements unchanged.
10/2018	Annual policy review. Description, summary, and references updated. Policy
	statements unchanged.
10/2017	Annual policy review. New references added.
1/2017	Annual policy review. New references added.
11/2015	Added coding language.
8/2015	Annual policy review. New references added.
10/2014	Medical policy remediation: New indications for non-coverage. Coding information clarified. Effective 10/1/2014.
6/2014	Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.
12/2013	Removed ICD-9 diagnosis codes as the policy requires prior authorization.
11/2013	Annual policy review. New medically necessary indications described. Effective 11/1/2013.
11/2011-	Medical policy ICD 10 remediation: Formatting, editing and coding updates.
4/2012	No changes to policy statements.
10/2011	Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplants.
	No changes to policy statements.
11/2010	Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplants.
	No changes to policy statements.
6/2010	Reviewed following local input. Revised policy statement.
11/2009	Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplants.
	No changes to policy statements.
11/2008	Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplants.
	No changes to policy statements.
11/2007	Reviewed - Medical Policy Group - Gastroenterology, Nutrition and Organ Transplants.
	No changes to policy statements.

# Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

Medical Policy Terms of Use

Managed Care Guidelines

Indemnity/PPO Guidelines

Clinical Exception Process

Medical Technology Assessment Guidelines

# References

- 1. Black CK, Termanini KM, Aguirre O, et al. Solid organ transplantation in the 21 st century. Ann Transl Med. Oct 2018; 6(20): 409. PMID 30498736
- 2. United Network for Organ Sharing (UNOS). Transplant trends. Updated July 1, 2024; https://unos.org/data/transplant-trends/. Accessed July 3, 2024.
- 3. Organ Procurement and Transplantation Network. View Data Reports. n.d.; https://optn.transplant.hrsa.gov/data/view-data-reports/. Accessed July 3, 2024.

- 4. National Kidney Foundation. Glomerular Filtration Rate (GFR). n.d.; https://www.kidney.org/atoz/content/gfr. Accessed July 3, 2024.
- 5. US Department of Health & Human Services. Educational guidance on patient referral to kidney transplantation. September 2015; https://optn.transplant.hrsa.gov/resources/guidance/educational-guidance-on-patient-referral-to-kidney-transplantation/. Accessed July 3, 2024.
- 6. United Network for Organ Sharing (UNOS). How we match organs. 2023. https://unos.org/transplant/how-we-match-organs/. Accessed July 3, 2024.
- 7. Organ Procurement and Transplantation Network (OPTN). OPTN policies. Updated March 16, 2023. https://optn.transplant.hrsa.gov/media/1200/optn\_policies.pdf. Accessed July 3, 2024.
- 8. Chaudhry D, Chaudhry A, Peracha J, et al. Survival for waitlisted kidney failure patients receiving transplantation versus remaining on waiting list: systematic review and meta-analysis. BMJ. Mar 01 2022; 376: e068769. PMID 35232772
- Krishnan N, Higgins R, Short A, et al. Kidney Transplantation Significantly Improves Patient and Graft Survival Irrespective of BMI: A Cohort Study. Am J Transplant. Sep 2015; 15(9): 2378-86. PMID 26147285
- Querard AH, Foucher Y, Combescure C, et al. Comparison of survival outcomes between Expanded Criteria Donor and Standard Criteria Donor kidney transplant recipients: a systematic review and meta-analysis. Transpl Int. Apr 2016; 29(4): 403-15. PMID 26756928
- 11. Pestana JM. Clinical outcomes of 11,436 kidney transplants performed in a single center Hospital do Rim. J Bras Nefrol. 2017; 39(3): 287-295. PMID 28902233
- 12. Segev DL, Muzaale AD, Caffo BS, et al. Perioperative mortality and long-term survival following live kidney donation. JAMA. Mar 10 2010; 303(10): 959-66. PMID 20215610
- 13. Muller E, Barday Z, Mendelson M, et al. HIV-positive-to-HIV-positive kidney transplantation--results at 3 to 5 years. N Engl J Med. Feb 12 2015; 372(7): 613-20. PMID 25671253
- 14. Locke JE, Reed RD, Mehta SG, et al. Center-Level Experience and Kidney Transplant Outcomes in HIV-Infected Recipients. Am J Transplant. Aug 2015; 15(8): 2096-104. PMID 25773499
- 15. Locke JE, Mehta S, Reed RD, et al. A National Study of Outcomes among HIV-Infected Kidney Transplant Recipients. J Am Soc Nephrol. Sep 2015; 26(9): 2222-9. PMID 25791727
- 16. Locke JE, Gustafson S, Mehta S, et al. Survival Benefit of Kidney Transplantation in HIV-infected Patients. Ann Surg. Mar 2017; 265(3): 604-608. PMID 27768622
- 17. Sawinski D, Forde KA, Eddinger K, et al. Superior outcomes in HIV-positive kidney transplant patients compared with HCV-infected or HIV/HCV-coinfected recipients. Kidney Int. Aug 2015; 88(2): 341-9. PMID 25807035
- 18. Zheng X, Gong L, Xue W, et al. Kidney transplant outcomes in HIV-positive patients: a systematic review and meta-analysis. AIDS Res Ther. Nov 20 2019; 16(1): 37. PMID 31747972
- Working Party of the British Transplantation Society. Kidney and Pancreas Transplantation in Patients with HIV. Second Edition (Revised). 2017. https://bts.org.uk/wpcontent/uploads/2017/04/02 BTS Kidney Pancreas HIV.pdf. Accessed July 3, 2024.
- 20. Fabrizi F, Martin P, Dixit V, et al. Meta-analysis of observational studies: hepatitis C and survival after renal transplant. J Viral Hepat. May 2014; 21(5): 314-24. PMID 24716634
- 21. Gill JS, Lan J, Dong J, et al. The survival benefit of kidney transplantation in obese patients. Am J Transplant. Aug 2013; 13(8): 2083-90. PMID 23890325
- 22. Pieloch D, Dombrovskiy V, Osband AJ, et al. Morbid obesity is not an independent predictor of graft failure or patient mortality after kidney transplantation. J Ren Nutr. Jan 2014; 24(1): 50-7. PMID 24070588
- 23. Kwan JM, Hajjiri Z, Metwally A, et al. Effect of the Obesity Epidemic on Kidney Transplantation: Obesity Is Independent of Diabetes as a Risk Factor for Adverse Renal Transplant Outcomes. PLoS One. 2016; 11(11): e0165712. PMID 27851743
- 24. Kervinen MH, Lehto S, Helve J, et al. Type 2 diabetic patients on renal replacement therapy: Probability to receive renal transplantation and survival after transplantation. PLoS One. 2018; 13(8): e0201478. PMID 30110346
- 25. Lim WH, Wong G, Pilmore HL, et al. Long-term outcomes of kidney transplantation in people with type 2 diabetes: a population cohort study. Lancet Diabetes Endocrinol. Jan 2017; 5(1): 26-33. PMID 28010785
- 26. Barocci S, Valente U, Fontana I, et al. Long-term outcome on kidney retransplantation: a review of 100 cases from a single center. Transplant Proc. May 2009; 41(4): 1156-8. PMID 19460504

- 27. Kainz A, Kammer M, Reindl-Schwaighofer R, et al. Waiting Time for Second Kidney Transplantation and Mortality. Clin J Am Soc Nephrol. Jan 2022; 17(1): 90-97. PMID 34965955
- 28. Gupta M, Wood A, Mitra N, et al. Repeat Kidney Transplantation After Failed First Transplant in Childhood: Past Performance Informs Future Performance. Transplantation. Aug 2015; 99(8): 1700-8. PMID 25803500
- 29. Shelton BA, Mehta S, Sawinski D, et al. Increased Mortality and Graft Loss With Kidney Retransplantation Among Human Immunodeficiency Virus (HIV)-Infected Recipients. Am J Transplant. Jan 2017; 17(1): 173-179. PMID 27305590
- American Society of Transplant Surgeons (ASTS), The American Society of Transplantation (AST), The Association of Organ Procurement Organizations (AOPO), et al. Statement on transplantation of organs from HIV-infected deceased donors. 2011; https://asts.org/docs/default-source/positionstatements/transplantation-of-organs-from-hiv-infected-deceased-donors-july-22-2011.pdf?sfvrsn=fbae5a20 4. Accessed July 3, 2024.
- 31. Centers for Medicare & Medicaid Services. Medicare Benefit Policy Manual: Chapter 11 End Stage Renal Disease (ESRD). 2019; https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/bp102c11.pdf. Accessed July 3, 2024.