

Urology

1. MCG Criteria Used

Clinical Criteria: MCG Care Guidelines, 30th Edition

- Cystoscopy (MCG ORG: A-0153 AC, 30th Edition)
- Nephrectomy (MCG ORG: S-870 ISC, 30th Edition)

Applicable CPT / HCPCS Codes:

CPT / HCPCS Code	Description
52000	Cystourethroscopy, diagnostic, separate procedure
52001, 52204-52240	Cystourethroscopy with procedures including fulguration, biopsy, resection of tumor, and removal of foreign body
52281-52356	Cystourethroscopy with therapeutic interventions including dilation, ureteral catheterization, lithotripsy, and stent placement
50220-50240	Nephrectomy, including partial and complete, open approach
50543-50548	Laparoscopic nephrectomy, including partial, radical, and donor nephrectomy with ureter removal
50300-50380	Renal allotransplantation, recipient nephrectomy, and donor procedures
76942, 76872	Ultrasonic guidance for needle placement and transrectal ultrasound, when performed with cystoscopic or renal procedures

2. Statement of Rationale

Akido Labs uses the criteria in MCG Care Guidelines (30th Edition) to supplement the general Medicare criteria regarding urologic services, including diagnostic and therapeutic cystoscopy and partial or complete nephrectomy, where Medicare coverage criteria are not fully established or require additional clinical specificity. MCG criteria are used to ensure consistency in reviewing the conditions to be met for coverage of urologic services and to determine when such services are medically necessary. Urologic procedures in the Medicare Advantage population carry meaningful clinical risk if applied without consistent, evidence-based selection criteria. Cystoscopy is an invasive endoscopic procedure with attendant risks of urinary tract infection, urethral trauma, and bleeding, and nephrectomy is a major operation with risks of hemorrhage, loss of renal function, and perioperative mortality that are elevated in older adults with comorbid chronic kidney disease, diabetes, and cardiovascular disease. Absent consistent criteria, there is material risk of both inappropriate denial of medically necessary procedures and inappropriate approval of procedures that are not indicated.

Potential Clinical Harms:

Cystoscopy: Inappropriate denial of cystoscopy in a patient with gross hematuria, abnormal urine cytology, or known or suspected bladder cancer could delay diagnosis of urothelial malignancy to a more advanced and less curable stage. Conversely, inappropriate approval of cystoscopy for

low-risk presentations exposes the patient to unnecessary instrumentation, procedural infection, and urethral injury.

Nephrectomy: Inappropriate denial of nephrectomy for a resectable renal malignancy, a nonfunctioning infected kidney, or an unsalvageable traumatic injury could permit progression of cancer, persistent sepsis, or ongoing hemorrhage. Inappropriate approval of nephrectomy where nephron-sparing surgery or surveillance is appropriate causes avoidable loss of functioning renal mass and elevates the long-term risk of chronic kidney disease and dialysis dependence in an elderly population.

Clinical Benefits:

Cystoscopy: MCG criteria specify validated indications for cystoscopy drawn from urologic specialty society guidance, including gross or microscopic hematuria meeting defined thresholds, abnormal urine cytology, known or suspected bladder cancer, and surveillance of prior urothelial carcinoma. By requiring an objective indication, these criteria directly mitigate the harm of delayed cancer diagnosis identified above, while the same indication thresholds prevent the unnecessary instrumentation and procedural infection that follow from cystoscopy performed without a defined clinical trigger.

Nephrectomy: MCG criteria reserve nephrectomy for defined indications such as resectable renal cell carcinoma, a nonfunctioning or chronically infected kidney, refractory renovascular hypertension, and unsalvageable renal trauma, and direct clinicians toward nephron-sparing partial nephrectomy where oncologically appropriate. This evidence-based selection directly counters the harm of avoidable nephron loss and dialysis dependence described above, while ensuring that patients with a genuine surgical indication are not denied a potentially curative or life-saving operation. The clinical benefits of using MCG Care Guidelines are highly likely to outweigh any clinical harms, including delayed or decreased access to services, because the criteria incorporate indication thresholds drawn from current urologic specialty society guidelines and are unlikely to lead to inappropriate denials.

3. Explanation of Supplementation

Basis for Use: Original Medicare clinical criteria are not fully established and require supplementation to ensure consistent medical necessity determinations for cystoscopy and nephrectomy. While Medicare statutes establish the general 'reasonable and necessary' standard, they do not specify the clinical indications and thresholds (e.g., the degree of hematuria, cytologic findings, tumor characteristics, or renal functional status) required to distinguish indicated from nonindicated urologic procedures.

Applicable Medicare References: Social Security Act Section 1862(a)(1): 'Reasonable and necessary' standard Medicare Benefit Policy Manual, Chapter 6: Hospital Services Covered Under Part B (CMS IOM Publication 100-02) Medicare Benefit Policy Manual, Chapter 15: Covered Medical and Other Health Services (CMS IOM Publication 100-02) Medicare Program Integrity Manual, Chapter 6, Section 6.5 (CMS IOM Publication 100-08) Code of Federal Regulations: 42 CFR 410.32 (diagnostic services); 42 CFR 419.22; 42 CFR 422.101 Medicare Coverage Database: <https://www.cms.gov/medicare-coverage-database/search.aspx> For cystoscopy and nephrectomy, no specific NCD or LCD fully establishes clinical procedural thresholds; Original Medicare criteria are not fully established for these services, requiring supplementation. Within the above statutes and regulations, MCG criteria assist in determining the appropriateness of diagnostic and therapeutic cystoscopy based on defined urologic indications; the medical necessity of partial versus radical nephrectomy and the appropriateness of nephron-sparing approaches; and the expected clinical course and necessity of inpatient care

following nephrectomy. Use of these criteria to supplement the coverage criteria noted above helps ensure urologic procedures are not incorrectly denied when medically appropriate, nor incorrectly approved when not reasonable and necessary, and may decrease inappropriate denials by creating a consistent set of evidence-based review criteria.

4. Summary of Clinical Evidence

Note: The following evidence summary is derived directly from MCG Care Guidelines, 30th Edition (guidelines A-0153 and S-870). The reference lists below are drawn from those respective MCG guidelines.

Background

Cystoscopy (MCG ORG: A-0153 AC) Cystoscopy is the direct visualization and detailed inspection of the bladder wall using an endoscope inserted through the urethra, performed for both diagnostic and therapeutic indications. Diagnostic indications include evaluation of gross or microscopic hematuria, abnormal urine cytology, known or suspected bladder cancer, recurrent or persistent urinary tract infection, and surveillance after treatment of urothelial carcinoma. The procedure carries risks of urinary tract infection, urethral trauma, and transient hematuria.

Nephrectomy (MCG ORG: S-870 ISC) Nephrectomy, the partial or complete surgical removal of a kidney, is performed by open or laparoscopic approach for indications including renal cell carcinoma, a nonfunctioning or chronically infected kidney, refractory renovascular hypertension, unsalvageable renal trauma, and living-donor or recipient transplant procedures. Partial (nephron-sparing) nephrectomy is preferred where oncologically appropriate to preserve renal function. The goal length of stay following nephrectomy is short, with many patients discharged within 2 days postoperatively.

Evidence Summary

Cystoscopy (MCG ORG: A-0153 AC) The MCG cystoscopy guideline (30th Edition) is supported by published peer-reviewed articles, specialty society guidelines, and textbook sources. Key evidence supports cystoscopy for the evaluation of hematuria and abnormal cytology, where specialty society guidance establishes that timely cystoscopic evaluation enables earlier detection of urothelial malignancy, and supports surveillance cystoscopy at defined intervals following treatment of bladder cancer.

Nephrectomy (MCG ORG: S-870 ISC) The MCG nephrectomy guideline (30th Edition) is supported by published peer-reviewed articles, specialty society guidelines, and surgical textbook sources. Key evidence supports partial nephrectomy for small renal masses to preserve renal function, radical nephrectomy for larger or centrally located tumors, and nephrectomy for nonfunctioning or chronically infected kidneys, with evidence demonstrating favorable recovery and short postoperative length of stay in appropriately selected patients.

Rationale (from MCG) Use of these MCG care guidelines helps the clinician identify patient-specific clinical factors that establish the medical necessity of cystoscopy and nephrectomy and, for inpatient procedures, the necessity of hospital care. The evidence-based clinical criteria ensure patients receive the most appropriate care for their specific condition, reduce unnecessary risks, and provide a standard that can reduce disparities in care. These guidelines supplement but do not replace, modify, or supersede existing Medicare regulations or applicable NCDs or LCDs.

Related CMS Coverage Guidance (as cited in MCG 30th Edition): Code of Federal Regulations (CFR): 42 CFR 419.22; 42 CFR 422.101; CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapters 6 and 15; CMS IOM Publication 100-08, Medicare Program

Integrity Manual, Chapter 6, Section 6.5; Medicare Coverage Database:
<https://www.cms.gov/medicare-coverage-database/search.aspx>

References with Citation Summary -- Cystoscopy (MCG ORG: A-0153 AC, 30th Edition)

1. Whitfield HN. ABC of urology: Urological evaluation. *British Medical Journal* 2006;333(7565):432-5. DOI: 10.1136/bmj.333.7565.432. [Context Link 1] View abstract...
2. Bolenz C, West AM, Ortiz N, Kabbani W, Lotan Y. Urinary cytology for the detection of urothelial carcinoma of the bladder--a flawed adjunct to cystoscopy? *Urologic Oncology* 2013;31(3):366-71. DOI: 10.1016/j.urolonc.2011.01.017. [Context Link 1, 2] View abstract...
3. van der Aa MN, Steyerberg EW, Bangma C, van Rhijn BW, Zwarthoff EC, van der Kwast TH. Cystoscopy revisited as the gold standard for detecting bladder cancer recurrence: diagnostic review bias in the randomized, prospective CEFUB trial. *Journal of Urology* 2010;183(1):76-80. DOI: 10.1016/j.juro.2009.08.150. [Context Link 1, 2] View abstract...
4. Feifer AH, Steinberg J, Tanguay S, Aprikian AG, Brimo F, Kassouf W. Utility of urine cytology in the workup of asymptomatic microscopic hematuria in low-risk patients. *Urology* 2010;75(6):1278-82. DOI: 10.1016/j.urology.2009.09.091. [Context Link 1, 2] View abstract...
5. Kamat AM, et al. ICUD-EAU International Consultation on Bladder Cancer 2012: Screening, diagnosis, and molecular markers. *European Urology* 2013;63(1):4-15. DOI: 10.1016/j.eururo.2012.09.057. (Reaffirmed 2025 Jul) [Context Link 1, 2, 3, 4] View abstract...
6. Powles T, et al. Bladder cancer: ESMO clinical practice guideline for diagnosis, treatment, and follow-up. *Annals of Oncology* 2022;33(3):244-258. DOI: 10.1016/j.annonc.2021.11.012. (Reaffirmed 2025 May) [Context Link 1] View abstract...
7. Holzbeierlein JM, et al. Diagnosis and Treatment of Non-Muscle Invasive Bladder Cancer: AUA/SUO Guideline: 2024 Amendment. [Internet] American Urological Association. 2024 Jan Accessed at: <https://www.auanet.org/guidelines-and-quality/guidelines>. [accessed 2025 Apr 02] DOI: 10.1097/JU.0000000000003846. [Context Link 1, 2] View abstract...
8. Gontero P, et al. EAU Guidelines on Non-Muscle-Invasive Bladder Cancer (TaT1 and CIS). [Internet] European Association of Urology. 2025 Mar Accessed at: <https://uroweb.org/>. [accessed 2025 Jul 07] [Context Link 1, 2, 3]
9. Lenis AT, Lec PM, Chamie K, Mshs MD. Bladder cancer: a review. *Journal of the American Medical Association* 2020;324(19):1980-1991. DOI: 10.1001/jama.2020.17598. [Context Link 1, 2, 3] View abstract...
10. Berrettini A, et al. Bladder urothelial neoplasms in pediatric age: experience at three tertiary centers. *Journal of Pediatric Urology* 2015;11(1):26.e1-5. DOI: 10.1016/j.jpuro.2014.08.008. [Context Link 1] View abstract...
11. Ander H, et al. Urothelial carcinoma of the urinary bladder in pediatric patients: a long-term follow-up. *International Urology and Nephrology* 2015;47(5):771-4. DOI: 10.1007/s11255-015-0950-z. [Context Link 1] View abstract...
12. Flaig TW, et al. Bladder Cancer. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 1.2025; 2025 Mar 25 Accessed at: <http://www.nccn.org/>. [accessed 2025 Apr 28] [Context Link 1, 2, 3, 4, 5]
13. Yuan H, et al. Therapeutic outcome of fluorescence cystoscopy guided transurethral resection in patients with non-muscle invasive bladder cancer: a meta-analysis of randomized controlled trials. *PLoS ONE* 2013;8(9):e74142. DOI: 10.1371/journal.pone.0074142. [Context Link 1] View abstract... Ambulatory Care > Procedures and Diagnostic Tests > Urology > Cystoscopy (A-0153) 6/26/26, 5:26 PM AC - Cystoscopy https://careweb.careguidelines.com/ed30/ac/ac02_054.htm 4/7
14. Grossman HB, et al. Long-term decrease in bladder cancer recurrence with hexaminolevulinate enabled fluorescence cystoscopy. *Journal of Urology* 2012;188(1):58-62. DOI: 10.1016/j.juro.2012.03.007. [Context Link 1] View abstract...
15. Yanagisawa T, et al. Oncological impact of cystoscopic findings in non-muscle-invasive bladder cancer: a meta-analysis. *BJU International* 2023;131(6):643-659. DOI: 10.1111/bju.15944. [Context Link 1] View abstract...
16. Kulkarni GS, et al. 2025 Canadian Urological Association Expert Report: Muscle-invasive bladder cancer. *Canadian Urological Association Journal* 2025;19(1):E1-E16. DOI: 10.5489/cuaj.9096. (Reaffirmed 2025 Jul 01) [Context Link 1, 2] View abstract...

17. Slovacek H, Zhuo J, Taylor JM. Approaches to non-muscle-invasive bladder cancer. *Current Oncology Reports* 2021;23(9):Online. DOI: 10.1007/s11912-021-01091-1. [Context Link 1] View abstract...
18. Ahmad I, Krishna NS. Hemospermia. *Journal of Urology* 2007;177(5):1613-1618. DOI: 10.1016/j.juro.2007.01.004. [Context Link 1] View abstract...
19. Ahmadi H, Duddalwar V, Daneshmand S. Diagnosis and staging of bladder cancer. *Hematology/Oncology Clinics of North America* 2021;35(3):531-541. DOI: 10.1016/j.hoc.2021.02.004. [Context Link 1] View abstract...
20. Ingelfinger JR. Hematuria in adults. *New England Journal of Medicine* 2021;385(2):153-163. DOI: 10.1056/NEJMra1604481. [Context Link 1, 2] View abstract...
21. Barocas DA, et al. Microhematuria. AUA/SUFU Guideline [Internet] American Urogynecologic Society. 2025 Accessed at: <https://www.auanet.org/guidelines/>. [accessed 2025 Sep 05] [Context Link 1, 2, 3, 4, 5, 6, 7]
22. Margulis V, Sagalowsky AI. Assessment of hematuria. *Medical Clinics of North America* 2011;95(1):153-159. DOI: 10.1016/j.mcna.2010.08.028. [Context Link 1] View abstract...
23. Nielsen M, Qaseem A, High Value Care Task Force of the American College of Physicians. Hematuria as a marker of occult urinary tract cancer: advice for high-value care from the American College of Physicians. *Annals of Internal Medicine* 2016;164(7):488-497. DOI: 10.7326/M15-1496. [Context Link 1, 2] View abstract...
24. Gonzalez AN, et al. The prevalence of bladder cancer during cystoscopy for asymptomatic microscopic hematuria. *Urology* 2019;126:34-38. DOI: 10.1016/j.urology.2019.01.011. [Context Link 1] View abstract...
25. Comperat E, et al. Current best practice for bladder cancer: a narrative review of diagnostics and treatments. *Lancet* 2022;400(10364):1712-1721. DOI: 10.1016/S0140-6736(22)01188-6. [Context Link 1] View abstract...
26. Wolfman DJ, et al. Hematuria. ACR appropriateness criteria [Internet] American College of Radiology (ACR). 2019 Accessed at: <https://www.acr.org>. [accessed 2024 Oct 08] [Context Link 1, 2]
27. Moloney F, Murphy KP, Twomey M, O'Connor OJ, Maher MM. Haematuria: an imaging guide. *Advances in Urology* 2014;2014:414125. DOI: 10.1155/2014/414125. [Context Link 1] View abstract...
28. Mossanen M. The epidemiology of bladder cancer. *Hematology/Oncology Clinics of North America* 2021;35(3):445-455. DOI: 10.1016/j.hoc.2021.02.001. [Context Link 1] View abstract...
29. Clemens JQ, Erickson DR, Varela NP, Lai HH. Diagnosis and Treatment of Interstitial Cystitis/Bladder Pain Syndrome. AUA Guideline [Internet] American Urological Association. 2022 May Accessed at: <https://www.auanet.org/guidelines/>. [created 2011; accessed 2025 Apr 02] DOI: 10.1097/JU.0000000000002756. [Context Link 1, 2]
30. Khullar V, et al. How can we improve the diagnosis and management of bladder pain syndrome? Part 1: ICI-RS 2018. *Neurourology and Urodynamics* 2019;38 Suppl 5:S66-S70. DOI: 10.1002/nau.24166. [Context Link 1] View abstract...
31. Taneja R, et al. Diagnostic and therapeutic cystoscopy in bladder pain syndrome/interstitial cystitis: systematic review of literature and consensus on methodology. *International Urogynecology Journal* 2023;34(6):1165-1173. DOI: 10.1007/s00192-023-05449-w. [Context Link 1] View abstract...
32. Ogawa T, Ishizuka O, Ueda T, Tyagi P, Chancellor MB, Yoshimura N. Current and emerging drugs for interstitial cystitis/bladder pain syndrome (IC/BPS). *Expert Opinion on Emerging Drugs* 2015;20(4):555-70. DOI: 10.1517/14728214.2015.1105216. [Context Link 1, 2] View abstract...
33. Yoost JL, Hertweck SP, Loveless M. Diagnosis and treatment of interstitial cystitis in adolescents. *Journal of Pediatric and Adolescent Gynecology* 2012;25(3):162-71. DOI: 10.1016/j.jpbg.2011.03.011. [Context Link 1] View abstract...
34. Beltran E. Female pelvic conditions: interstitial cystitis/bladder pain syndrome. *FP Essentials* 2024;547:33-39. [Context Link 1] View abstract...
35. Teeluckdharry B, Gilmour D, Flowerdew G. Urinary tract injury at benign gynecologic surgery and the role of cystoscopy: a systematic review and meta-analysis. *Obstetrics & Gynecology* 2015;126(6):1161-9. DOI: 10.1097/AOG.0000000000001096. [Context Link 1, 2] View abstract...

36. Ibeanu OA, Chesson RR, Echols KT, Nieves M, Busangu F, Nolan TE. Urinary tract injury during hysterectomy based on universal cystoscopy. *Obstetrics & Gynecology* 2009;113(1):6-10. DOI: 10.1097/AOG.0b013e31818f6219. [Context Link 1, 2] View abstract...
37. Cohen SA, Carberry CL, Smilen SW. American Urogynecologic Society consensus statement: cystoscopy at the time of prolapse repair. *Female Pelvic Medicine and Reconstructive Surgery* 2018;24(4):258-259. DOI: 10.1097/SPV.0000000000000529. [Context Link 1, 2] View abstract...
38. AAGL Advancing Minimally Invasive Gynecology Worldwide. AAGL Practice Report: Practice guidelines for intraoperative cystoscopy in laparoscopic hysterectomy. *Journal of Minimally Invasive Gynecology* 2012 Jul-Aug;19(4):407-11. DOI: 10.1016/j.jmig.2012.05.001. (Reaffirmed 2025 Jul) [Context Link 1, 2] View abstract...
39. Cadish LA, Ridgeway BM, Shepherd JP. Cystoscopy at the time of benign hysterectomy: a decision analysis. *American Journal of Obstetrics and Gynecology* 2019;220(4):369.e1-369.e7. DOI: 10.1016/j.ajog.2019.01.217. [Context Link 1] View abstract...
40. Committee on Practice Bulletins-Gynecology and the American Urogynecologic Society. ACOG Practice Bulletin No. 155: Urinary Incontinence in Women. *Obstetrics & Gynecology* 2015;126(5):e66-81. DOI: 10.1097/AOG.0000000000001148. [Context Link 1, 2, 3, 4] View abstract...
41. Kratz KG, Spytek SH, Caceres A, Lukman R, McCarus SD. A randomized, single-blinded pilot study evaluating use of a laparoscope or a cystoscope for cystoscopy during gynecologic surgery. *Journal of Minimally Invasive Gynecology* 2012;19(5):606-14. DOI: Ambulatory Care > Procedures and Diagnostic Tests > Urology > Cystoscopy (A-0153) 6/26/26, 5:26 PM AC - Cystoscopy https://careweb.careguidelines.com/ed30/ac/ac02_054.htm 5/7 10.1016/j.jmig.2012.06.002. [Context Link 1] View abstract...
42. Coleman JA, et al. Diagnosis and Management of Non-Metastatic Upper Tract Urothelial Carcinoma. AUA/SUO Guideline [Internet] American Urological Association. 2023 Accessed at: <https://www.auanet.org/>. [accessed 2025 Apr 02] [Context Link 1, 2]
43. Holmang S, Johansson SL. Long-term follow-up of patients with tumours of the renal pelvis and ureter: how often is a bladder tumour diagnosed after five tumour-free years? *Scandinavian Journal of Urology* 2014;48(1):65-72. DOI: 10.3109/21681805.2013.814706. [Context Link 1] View abstract...
44. Neuzillet Y, et al. EAU Guidelines on Primary Urethral Carcinoma. [Internet] European Association of Urology. 2024 Apr Accessed at: <https://uroweb.org>. [accessed 2025 Jul 08] [Context Link 1, 2]
45. Cardozo L, Rovner E, Wagg A, Wein A, Abrams P. Incontinence 7th Edition. [Internet] ICI-ICS International Continence Society. 2023 Accessed at: <https://www.ics.org/ici>. [accessed 2025 Sep 12] [Context Link 1, 2, 3]
46. Ordonez J, Christie AL, Zimmern PE. Role of flexible cystoscopy in the management of postmenopausal women with recurrent urinary tract infections. *Urology* 2022;169:65-69. DOI: 10.1016/j.urology.2022.07.040. [Context Link 1] View abstract...
47. Lower Urinary Tract Symptoms in Men: Management. NICE Clinical Guideline CG97 [Internet] National Institute for Health and Care Excellence. 2015 Jun (NICE reviewed 2019) Accessed at: <https://www.nice.org.uk/guidance>. [created 2010; accessed 2024 Sep 26] [Context Link 1, 2, 3]
48. Howles S, et al. Flexible cystoscopy findings in patients investigated for profound lower urinary tract infection, and pain. *Journal of Endourology* 2012;26(11):1468-72. DOI: 10.1089/end.2012.0139. [Context Link 1, 2] View abstract...
49. Pagano MJ, Barbalat Y, Theofanides MC, Edokpolo L, James MB, Cooper KL. Diagnostic yield of cystoscopy in the evaluation of recurrent urinary tract infection in women. *Neurourology and Urodynamics* 2017;36(3):692-696. DOI: 10.1002/nau.22998. [Context Link 1] View abstract...
50. Santoni N, Ng A, Skews R, Aboumarzouk OM. Recurrent urinary tract infections in women: what is the evidence for investigating with flexible cystoscopy, imaging and urodynamics? *Urologia Internationalis* 2018;101(4):373-381. DOI: 10.1159/000490918. [Context Link 1] View abstract...
51. Wessells H, et al. Urethral Stricture Disease: AUA Guideline. [Internet] American Urological Association. 2023 Apr Accessed at: <https://www.auanet.org/>. [created 2016; accessed 2025 Apr 11] [Context Link 1]
52. Padmanabhan P, Nitti VW. Primary bladder neck obstruction in men, women, and children. *Current Urology Reports* 2007;8(5):379-84. [Context Link 1, 2] View abstract...

53. Lec PM, Nitti VW. Bladder outlet obstruction in women: Advanced evaluation. *Neurourology and Urodynamics* 2025;44(1):30-36. DOI: 10.1002/nau.25298. [Context Link 1] View abstract...
54. Keihani S, Kajbafzadeh AM. Concomitant anterior and posterior urethral valves: a comprehensive review of literature. *Urology* 2015;86(1):151-7. DOI: 10.1016/j.urology.2015.02.019. [Context Link 1, 2] View abstract...
55. Kajbafzadeh AM, et al. Concomitant anterior and posterior urethral valves in pediatrics: A single center experience over 12 years and long-term follow up after endoscopic treatment. *International Journal of Urology* 2015;22(5):514-9. DOI: 10.1111/iju.12712. [Context Link 1, 2] View abstract...
56. Pagano MJ, van Batavia JP, Casale P. Laser ablation in the management of obstructive uropathy in neonates. *Journal of Endourology* 2015;29(5):611-4. DOI: 10.1089/end.2014.0260. [Context Link 1, 2] View abstract...
57. Martinez JM, et al. Laser ablation of posterior urethral valves by fetal cystoscopy. *Fetal Diagnosis and Therapy* 2015;37(4):267-73. DOI: 10.1159/000367805. [Context Link 1, 2] View abstract...
58. Sananes N, et al. Two-year outcomes after diagnostic and therapeutic fetal cystoscopy for lower urinary tract obstruction. *Prenatal Diagnosis* 2016;36(4):297-303. DOI: 10.1002/pd.4771. [Context Link 1] View abstract...
59. Keegan KA, Nanigian DK, Stone AR. Female urethral stricture disease. *Current Urology Reports* 2008;9(5):419-23. [Context Link 1] View abstract...
60. Ozcan L, et al. Internal urethrotomy versus plasmakinetic energy for surgical treatment of urethral stricture. *Archivio Italiano di Urologia, Andrologia* 2015;87(2):161-4. DOI: 10.4081/aiua.2015.2.161. [Context Link 1] View abstract...
61. Lumen N, et al. EAU Guidelines on Urethral Strictures. [Internet] European Association of Urology. 2025 Accessed at: <https://uroweb.org/guidelines>. [accessed 2025 Sep 10] [Context Link 1]
62. Diamond DA, Mattoo TK. Endoscopic treatment of primary vesicoureteral reflux. *New England Journal of Medicine* 2012;366(13):1218-1226. DOI: 10.1056/NEJMct1108922. [Context Link 1, 2] View abstract...
63. Chertin B, Abu Arafeh W, Kocherov S. Endoscopic correction of complex cases of vesicoureteral reflux utilizing Vantris as a new non biodegradable tissue-augmenting substance. *Pediatric Surgery International* 2014;30(4):445-8. DOI: 10.1007/s00383-014-3468-z. [Context Link 1] View abstract...
64. Puri P, Kutasy B, Colhoun E, Hunziker M. Single center experience with endoscopic subureteral dextranomer/hyaluronic acid injection as first line treatment in 1,551 children with intermediate and high grade vesicoureteral reflux. *Journal of Urology* 2012;188(4 Suppl):1485-9. DOI: 10.1016/j.juro.2012.02.023. [Context Link 1] View abstract...
65. Williams G, Hodson EM, Craig JC. Interventions for primary vesicoureteric reflux. *Cochrane Database of Systematic Reviews* 2019, Issue 2. Art. No.: CD001532. DOI: 10.1002/14651858.CD001532.pub5. [Context Link 1] View abstract...
66. Management and Screening of Primary Vesicoureteral Reflux in Children. AUA guideline [Internet] American Urological Association. 2010 (AUA reviewed and validity confirmed 2017) Accessed at: <https://www.auanet.org/guidelines/>. [created 1997; accessed 2025 Apr 08] [Context Link 1, 2]
67. Centers for Medicare and Medicaid Services. "Hospital services excluded from payment under the hospital outpatient prospective payment system." 42 CFR 419.22 Washington, DC 2023 Jul [accessed 2025 Jul 22] Accessed at: <https://www.ecfr.gov/>. [Context Link 1] Ambulatory Care > Procedures and Diagnostic Tests > Urology > Cystoscopy (A-0153) 6/26/26, 5:26 PM AC - Cystoscopy https://careweb.careguidelines.com/ed30/ac/ac02_054.htm 6/7
68. Centers for Medicare and Medicaid Services. "Requirements relating to basic benefits." 42 CFR 422.101 Washington, DC 2025 Jun 03 [accessed 2025 Jul 23] Accessed at: <https://www.ecfr.gov/>. [Context Link 1]
69. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 14 - Medical Devices Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/>. [accessed 2025 Sep 09] [Context Link 1]
70. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 15 - Covered Medical and Other Health Services Rev. 13108 [Internet] Centers for Medicare and Medicaid Services. 2025 Apr 11 Accessed at: <https://www.cms.gov/manuals/>. [accessed 2025 Sep 09] [Context Link 1]

71. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 16 - General Exclusions From Coverage Rev. 198 [Internet] Centers for Medicare and Medicaid Services. 2014 Nov 06 Accessed at: <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/>. [accessed 2025 Sep 09] [Context Link 1]
72. Medicare Coverage Database. [Internet] Centers for Medicare and Medicaid Services. Accessed at: <https://www.cms.gov/medicare-coverage-database/search.aspx?> Updated 2025 [accessed 2025 Oct 23] [Context Link 1]

References with Citation Summary -- Nephrectomy (MCG ORG: S-870 ISC, 30th Edition)

1. Sharma V, Khanna A, Shah P. Contemporary open surgery of the kidney. In: Dmochowski RR, et al., editors. Campbell Walsh Wein Urology. 13th ed. Elsevier; 2026:2990-3026.e2. [Context Link 1, 2, 3, 4, 5, 6]
2. Mandelbrot DA, et al. KDOQI US commentary on the 2017 KDIGO clinical practice guideline on the evaluation and care of living kidney donors. American Journal of Kidney Diseases 2020;75(3):299-316. DOI: 10.1053/j.ajkd.2019.10.005. [Context Link 1, 2] View abstract...
3. Lentine KL, et al. KDIGO clinical practice guideline on the evaluation and care of living kidney donors. Transplantation 2017;101(8S Suppl 1):S1- S109. DOI: 10.1097/TP.0000000000001769. [Context Link 1, 2] View abstract...
4. Campbell S, et al. Renal Mass and Localized Renal Cancer: Evaluation, Management, and Follow-Up. [Internet] American Urological Association. 2021 Apr Accessed at: <https://www.auanet.org/>. [accessed 2025 Jun 27] [Context Link 1, 2, 3, 4, 5]
5. Kliegman RM, et al. Neoplasms of the kidney. In: Kliegman RM, et al., editors. Nelson Textbook of Pediatrics. 22nd ed. Elsevier; 2025:3130-3135. [Context Link 1, 2, 3] Inpatient & Surgical Care > Optimal Recovery Guidelines > Urology >Nephrectomy (S-870) 6/26/26, 5:27 PM ISC - Nephrectomy <https://careweb.careguidelines.com/ed30/isc/1304550a.htm> 6/9
6. Powles T, et al. Renal cell carcinoma: ESMO Clinical Practice Guideline for diagnosis, treatment and follow-up. Annals of Oncology 2024;35(8):692-706. DOI: 10.1016/j.annonc.2024.05.537. (Reaffirmed 2025 Jun) [Context Link 1, 2, 3] View abstract...
7. Motzer RJ, et al. Kidney Cancer. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 1.2026; 2025 Jul 24 Accessed at: <https://www.nccn.org/>. [accessed 2025 Aug 21] [Context Link 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]
8. Razavi S, Kavoussi LR. Laparoscopic and robotic surgery of the kidney. In: Dmochowski RR, et al., editors. Campbell Walsh Wein Urology. 13th ed. Elsevier; 2026:3027-3058.e6. [Context Link 1, 2]
9. Chadban SJ, et al. KDIGO clinical practice guideline on the evaluation and management of candidates for kidney transplantation. Transplantation 2020;104(4S1 Suppl 1):S11-S103. DOI: 10.1097/TP.0000000000003136. [Context Link 1, 2, 3, 4, 5] View abstract...
10. Crawford B, Kizilbash S, Bhatia VP, Kulsum-Mecchi N, Cannon S, Bartosh SM. Native nephrectomy in advanced pediatric kidney disease: indications, timing, and surgical approaches. Pediatric Nephrology 2024;39(4):1041-1052. DOI: 10.1007/s00467-023-06117-3. [Context Link 1, 2, 3, 4, 5] View abstract...
11. Balis F, et al. Wilms Tumor (Nephroblastoma). NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 2.2025; 2025 Jun 11 Accessed at: <https://www.nccn.org/>. [accessed 2025 Jun 23] [Context Link 1]
12. Dahm P, et al. Cytoreductive nephrectomy in metastatic renal cell carcinoma. Cochrane Database of Systematic Reviews 2024, Issue 6. Art. No.: CD013773. DOI: 10.1002/14651858.CD013773.pub2. [Context Link 1] View abstract...
13. Flaig TW, et al. Bladder Cancer. NCCN Clinical Practice Guidelines in Oncology [Internet] National Comprehensive Cancer Network (NCCN). v. 1.2025; 2025 Mar 25 Accessed at: <http://www.nccn.org/>. [accessed 2025 Apr 28] [Context Link 1, 2, 3, 4]
14. Kliegman RM, et al. Anatomic abnormalities associated with hematuria. In: Kliegman RM, et al., editors. Nelson Textbook of Pediatrics. 22nd ed. Elsevier; 2025:3213-3217. [Context Link 1]
15. El Chediak A, Degheili JA, Khauli RB. Genitourinary interventions in autosomal dominant polycystic kidney disease: clinical recommendations for urologic and transplant surgeons. Experimental and Clinical Transplantation 2021;19(2):95-103. DOI: 10.6002/ect.2020.0292. [Context Link 1, 2] View abstract...

16. Jones DW, et al. 2025
AHA/ACC/AANP/AAPA/ABC/ACCP/ACPM/AGS/AMA/ASPC/NMA/PCNA/SGIM guideline for the prevention, detection, evaluation and management of high blood pressure in adults: a report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation* 2025;DOI: 10.1161/CIR.0000000000001356. [Context Link 1] View abstract...
17. Morey AF, et al. Urotrauma: AUA Guideline. 2020 Update [Internet] American Urological Association. 2020 Accessed at: <https://www.auanet.org>. [accessed 2025 Apr 11] [Context Link 1, 2, 3, 4]
18. Morgan KE, et al. Upper pole pathologies in duplex kidneys: an analysis of predictive factors for surgery and urinary tract infections from the Mid Atlantic Pediatric Academic Consortium. *Journal of Pediatric Urology* 2022;18(6):803.e1-803.e6. DOI: 10.1016/j.jpuro.2022.05.019. [Context Link 1] View abstract...
19. Morris CS, et al. Society of Interventional Radiology position statement on the role of percutaneous ablation in renal cell carcinoma: endorsed by the Canadian Association for Interventional Radiology and the Society of Interventional Oncology. *Journal of Vascular and Interventional Radiology* 2020;31(2):189-194.e3. DOI: 10.1016/j.jvir.2019.11.001. (Reaffirmed 2025 Jul) [Context Link 1] View abstract...
20. Upfill-Brown A, et al. Treatment utilization and overall survival in patients receiving radical nephroureterectomy versus endoscopic management for upper tract urothelial carcinoma: evaluation of updated treatment guidelines. *World Journal of Urology* 2019;37(6):1157-1164. DOI: 10.1007/s00345-018-2506-1. [Context Link 1] View abstract...
21. Schuil HW, Figaroa OJA, Baard J, Lifshitz DA, Jamaludin FS, Kamphuis GM. Comparison of surgical effectiveness: kidney sparing surgery for upper tract urothelial carcinoma. *Current Opinion in Urology* 2025;35(1):58-67. DOI: 10.1097/MOU.0000000000001248. [Context Link 1, 2] View abstract...
22. Takase HM, et al. Nephrectomy versus embolization of non-functioning renal graft: a systematic review with a proportional meta-analysis. *Annals of Transplantation* 2018;23:207-217. [Context Link 1] View abstract...
23. Lionberg A, Jeffries J, Van Ha TG. Renal artery embolization for neoplastic conditions. *Seminars in Interventional Radiology* 2020;37(4):420-425. DOI: 10.1055/s-0040-1715884. [Context Link 1] View abstract...
24. Patel J, Jones CN. Anaesthesia for major urological surgery. *Anesthesiology Clinics* 2022;40(1):175-197. DOI: 10.1016/j.anclin.2021.11.009. [Context Link 1, 2] View abstract...
25. Harrison R, et al. Single-port versus multiport partial nephrectomy: a propensity-score-matched comparison of perioperative and short-term outcomes. *Journal of Robotic Surgery* 2023;17(1):223-231. DOI: 10.1007/s11701-022-01415-8. [Context Link 1] View abstract...
26. Premier PINC AI™ Healthcare Database (PHD), 01/01/2023-12/31/2024. Premier, Inc. [Context Link 1, 2, 3]
27. Prionas A, Craddock C, Papalois V. Feasibility, safety and efficacy of enhanced recovery after living donor nephrectomy: systematic review and meta-analysis of randomized controlled trials. *Journal of Clinical Medicine* 2020;10(1):Online. DOI: 10.3390/jcm10010021. [Context Link 1] View abstract...
28. Lim K, et al. Morbidity and mortality of multivisceral resection with radical nephrectomy for locally advanced renal cell carcinoma: An analysis of the National Surgical Quality Improvement Program (NSQIP) database. *Urologic Oncology* 2023;41(4):209e1-e209e9. DOI: 10.1016/j.urolonc.2023.01.003. [Context Link 1] View abstract...
29. Rosiello G, et al. Preoperative frailty predicts adverse short-term postoperative outcomes in patients treated with radical nephroureterectomy. *Journal of Surgical Oncology* 2020;121(4):688-696. DOI: 10.1002/jso.25840. [Context Link 1] View abstract...
30. Rosiello G, et al. The effect of frailty on post-operative outcomes and health care expenditures in patients treated with partial nephrectomy. *European Journal of Surgical Oncology* 2022;Online. DOI: 10.1016/j.ejso.2022.01.001. [Context Link 1] View abstract...
31. Hudson T. The role of social determinates of health in discharge practices. *Nursing Clinics of North America* 2021;56(3):369-378. DOI: 10.1016/j.cnur.2021.04.004. [Context Link 1] View abstract...
Inpatient & Surgical Care > Optimal Recovery Guidelines > Urology > Nephrectomy (S-870) 6/26/26, 5:27 PM ISC - Nephrectomy <https://careweb.careguidelines.com/ed30/isc/1304550a.htm> 7/9

32. Chovanec KA, Arsene C, Beck A, Zachrich K, Liedel B, Wolff-Elliott J. Association of discharge disposition with outcomes. *Population Health Management* 2021;24(1):116-121. DOI: 10.1089/pop.2019.0176. [Context Link 1] View abstract...
33. Centers for Medicare and Medicaid Services. "Condition of participation: Discharge planning." 42 CFR Pt. 482.43 Washington, DC 2025 Jan 01 [accessed 2025 Jul 22] Accessed at: <https://www.ecfr.gov/>. [Context Link 1, 2, 3]
34. Management of patients with kidney disorders. In: Hinkle JL, Cheever KH, Overbaugh KJ, editors. *Brunner & Suddarth's Textbook of Medical Surgical Nursing*. 15th ed. Wolters Kluwer; 2022:1554-1603. [Context Link 1]
35. The client with alterations in the kidney and urinary tract. In: Haugen N, Galura SJ, editors. *Ulrich & Canale's Nursing Care Planning Guides, 8th Edition Revised Reprint with 2021-2023 NANDA-I Updates*. 8th ed. Elsevier; 2022:633-671. [Context Link 1, 2, 3]
36. Skin integrity and wound care. In: Lynn P, editor. *Taylor's Clinical Nursing Skills*. 6th ed. Wolters Kluwer; 2023:452-540. [Context Link 1, 2]
37. Targeted care planning and care transitions. In: Perez R, editor. *CMSA's Integrated Case Management*. 2nd ed. Springer Publishing Company LLC; 2023:178-189. [Context Link 1, 2]
38. Elements of Excellence in Transitions of Care (TOC). TOC Checklist [Internet] National Transitions of Care Coalition. 2006 Accessed at: <https://www.ntocc.org>. [accessed 2025 Sep 16] [Context Link 1]
39. Medical-surgical nursing. In: Hinkle JL, Cheever KH, Overbaugh KJ, editors. *Brunner & Suddarth's Textbook of Medical-Surgical Nursing*. 15th ed. Wolters Kluwer; 2022:33-55. [Context Link 1]
40. Transition of care. In: Gillingham DC, editor. *Foundations of Case Management*. Blue Bayou Press; 2021:137-144. [Context Link 1]
41. Becker C, et al. Interventions to improve communication at hospital discharge and rates of readmission: a systematic review and meta-analysis. *JAMA Network Open* 2021;4(8):e2119346. DOI: 10.1001/jamanetworkopen.2021.19346. [Context Link 1] View abstract...
42. The nursing process in drug therapy and patient safety. In: Tucker RG, editor. *Karch's Focus on Nursing Pharmacology*. 9th ed. Wolters Kluwer; 2023:47-57. [Context Link 1]
43. Adverse drug reactions and medication errors. In: Burchum JR, Rosenthal LD, editors. *Lehne's Pharmacology for Nursing Care*. 12th ed. Elsevier; 2025:64-75. [Context Link 1]
44. Safe medication preparation. In: Perry AG, Potter PA, Ostendorf WR, Laplante N, editors. *Clinical Nursing Skills and Techniques*. 11th ed. Elsevier; 2025:586-607. [Context Link 1]
45. The case manager's roles, functions, and activities. In: Gillingham DC, editor. *Foundations of Case Management*. Blue Bayou Press; 2021:9-14. [Context Link 1]
46. Nursing care of the client having surgery. In: Haugen N, Galura SJ, editors. *Ulrich & Canale's Nursing Care Planning Guides, 8th Edition Revised Reprint with 2021-2023 NANDA-I Updates*. 8th ed. Elsevier; 2022:81-115. [Context Link 1]
47. Anderson TS, Ayanian JZ, Herzig SJ, Souza J, Landon BE. Gaps in primary care follow-up after hospital discharge among Medicare beneficiaries. *Journal of the American Geriatrics Society* 2025;DOI: 10.1111/jgs.19496. [Context Link 1] View abstract...
48. Management of genitourinary cancers. In: Goroll AH, Mulley AG Jr., editors. *Primary Care Medicine: Office Evaluation and Management of the Adult Patient*. 8th ed. Philadelphia, PA: Wolters Kluwer; 2021:1195-1212. [Context Link 1, 2, 3]
49. Achkar KA, Abdelnour LM, Abu Jawdeh BG, Tantisattamoa E, Al Ammary F. Evaluation and long-term follow-up of living kidney donors. *Advances in Kidney Disease and Health* 2024;31(5):400-407. DOI: 10.1053/j.akdh.2024.04.003. [Context Link 1, 2, 3] View abstract...
50. Snyder JS, Sump CA. Palliative and end-of-life care. In: Snyder JS, Sump CA, editors. *Swearingen's All-in-One Nursing Care Planning Resource*. 6th ed. Elsevier; 2024:88-96. [Context Link 1, 2]
51. Williams-Taylor SP, Oro G, Redwantz TJ, Voltz M, Arce E, Lee R. Organ donation and transplantation. In: Urden LD, Stacy KM, Lough ME, Sanchez K, editors. *Critical Care Nursing*. 10th ed. Elsevier; 2026:871-917. [Context Link 1]
52. Snyder JS, Sump CA. Cancer care. In: Snyder JS, Sump CA, editors. *Swearingen's All-in-One Nursing Care Planning Resource*. 6th ed. Elsevier; 2024:53-87. [Context Link 1]

53. Snyder JS, Sump CA. Psychosocial support for the patient. In: Snyder JS, Sump CA, editors. Swearingen's All-in-One Nursing Care Planning Resource. 6th ed. Elsevier; 2024:97-105. [Context Link 1]
54. Elliot K, Patterson KH. Palliative and end-of-life care. In: Brant JM, editor. Core Curriculum for Oncology Nursing. 7th ed. Elsevier; 2024:28-44. [Context Link 1]
55. Harding MM. Substance use disorders in acute care. In: Harding MM, Kwong J, Hagler D, Reinisch C, editors. Lewis's Medical-Surgical Nursing: Assessment and Management of Clinical Problems. 12th ed. St. Louis, MO: Mosby; 2023:162-178. [Context Link 1]
56. A - W. In: Phelps LL, editor. Nursing Diagnosis Reference Manual. 12th ed. Wolters Kluwer; 2023:2-750. [Context Link 1]
57. Management of patients with dermatologic disorders. In: Hinkle JL, Cheever KH, Overbaugh KJ, editors. Brunner & Suddarth's Textbook of Medical-Surgical Nursing. 15th ed. Wolters Kluwer; 2022:1815-1864. [Context Link 1]
58. Centers for Medicare and Medicaid Services. "Admissions." 42 CFR 412.3 Washington, DC 2025 Jul [accessed 2025 Jul 22] Accessed at: <https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-B/part-412>. [Context Link 1]
59. Centers for Medicare and Medicaid Services. "Hospital services excluded from payment under the hospital outpatient prospective payment system." 42 CFR 419.22 Washington, DC 2023 Jul [accessed 2025 Jul 22] Accessed at: <https://www.ecfr.gov/>. [Context Link 1]
60. Centers for Medicare and Medicaid Services. "Requirements relating to basic benefits." 42 CFR 422.101 Washington, DC 2025 Jun 03 [accessed 2025 Jul 23] Accessed at: <https://www.ecfr.gov/>. [Context Link 1]
61. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 1 - Inpatient Hospital Services Covered Under Part A Rev. 10892 [Internet] Centers for Medicare and Medicaid Services. 2021 Aug Accessed at: <https://www.cms.gov/manuals/>. [accessed 2025 Sep 09] [Context Link 1] Inpatient & Surgical Care > Optimal Recovery Guidelines > Urology > Nephrectomy (S-870) 6/26/26, 5:27 PM ISC - Nephrectomy <https://careweb.careguidelines.com/ed30/isc/1304550a.htm> 8/9
62. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 6 - Hospital Services Covered Under Part B Rev. 12425 [Internet] Centers for Medicare and Medicaid Services. 2023 Dec Accessed at: <http://www.cms.gov/manuals/>. [accessed 2025 Sep 09] [Context Link 1]
63. Centers for Medicare and Medicaid Services. Medicare Benefit Policy Manual. Chapter 15 - Covered Medical and Other Health Services Rev. 13108 [Internet] Centers for Medicare and Medicaid Services. 2025 Apr 11 Accessed at: <https://www.cms.gov/manuals/>. [accessed 2025 Sep 09] [Context Link 1]
64. Centers for Medicare and Medicaid Services. Medicare Program Integrity Manual. Chapter 6, Section 6.5 - Medical Review of Inpatient Hospital Claims for Part A Payment Rev. 10365 [Internet] Centers for Medicare and Medicaid Services. 2020 Oct 02 Accessed at: <https://www.cms.gov/medicare/regulations-guidance/manuals/internet-only-manuals-ioms>. [accessed 2025 Sep 09] [Context Link 1]
65. Medicare Coverage Database. [Internet] Centers for Medicare and Medicaid Services. Accessed at: <https://www.cms.gov/medicare-coverage-database/search.aspx?> Updated 2025 [accessed 2025 Oct 23] [Context Link 1]

5. Public Accessibility

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