

Actualización en infecciones bacterianas de vías urinarias bajas

Pedro Pablo Mayo Robles

Veterinario acreditado AVEPA en medicina interna

Hospital Veterinario Menes, Gijón

Bibliografía:

1. Abbott JE, Han A, McDonald M, Lakin C, Sur RL. Are antibiotics necessary during routine cystoscopic stent removal? *Transl Androl Urol*. 2016;5:784–788.
2. Albert X, Huertas I, Pereiro II, Sanfelix J, Gosalbes V, Perrota C. Antibiotics for preventing recurrent urinary tract infection in non-pregnant women. *Cochrane Database Syst Rev*. 2004;CD001209.
3. Arnold JJ, Hehn LE, Klein DA. Common questions about recurrent urinary tract infections in women. *Am Fam Physician*. 2016;93:560–569.
4. Arnold JJ, Hehn LE, Klein DA. Common questions about recurrent urinary tract infections in women. *Am Fam Physician*. 2016;93:560–569.
5. Baigi SR, Vaden SL, Olby NJ. The frequency and clinical implications of bacteriuria in chronically paralyzed dogs. *J Vet Intern Med*. 2017;31:1790–1795.
6. Bailiff NL, Westropp JL, Jang SS, Ling GV. *Corynebacterium urealyticum* urinary tract infection in dogs and cats: 7 cases (1996–2003). *J Am Vet Med Assoc*. 2005;226:1676–1680.
7. Barsanti JA. Genitourinary infections. In: *Infectious Diseases of the Dog and Cat*. Elsevier Saunders; St. Louis, Missouri. 2012. p. 1013–1044.
8. Biegen VR, Slusser PG, Fischetti AJ, Geist MR. Successful treatment of encrusted cystitis associated with *Staphylococcus pseudintermedius* infection in the urinary bladder of a dog. *J Am Vet Med Assoc*. 2013;242:798–802.
9. Billips BK, Yaggie RE, Cashy JP, Schaeffer AJ, Klumpp DJ. A live-attenuated vaccine for the treatment of urinary tract infection by uropathogenic *Escherichia coli*. *J Infect Dis*. 2009;200:263–272.
10. Bleidorn J, Hummers-Pradier E, Schmiemann G, Wiese B, Gágyor I. Recurrent urinary tract infections and complications after symptomatic versus antibiotic treatment: follow-up of a randomised controlled trial. *German Med Sci*. 2016;14:Doc01.
11. Bonkat G, Pickard R, Bartoletti R, Bruyere F, Geerlings SE, Wagenlehner F, Wulft B. Urological Infections: Guideline of the European Association of Urology. 2017. Disponible en: <https://uroweb.org/guideline/urological-infections/>.
12. Bryan CS, Reynolds KL. Hospital-acquired bacteremic urinary tract infection: epidemiology and outcome. *J Urol*. 1984;132:494–498.
13. Bubenik L, Hosgood G. Urinary tract infection in dogs with thoracolumbar intervertebral disc herniation and urinary bladder dysfunction managed by manual expression, indwelling catheterization or intermittent catheterization. *Vet Surg*. 2008;37:791–800.
14. Bubenik LJ, Hosgood GL, Waldron DR, Snow LA. Frequency of urinary tract infection in catheterized dogs and comparison of bacterial culture and susceptibility testing results for catheterized and noncatheterized dogs with urinary tract infections. *J Am Vet Med Assoc*. 2007;231:893–899.
15. Buffington CA, Chew DJ, Kendall MS, Scrivani PV, Thompson SB, Blaisdell JL, Woodworth BE. Clinical evaluation of cats with nonobstructive urinary tract diseases. *J Am Vet Med Assoc*. 1997;210:46–50.
16. Cai T, Mazzoli S, Mondaini N, Meacci F, Nesi G, D'Elia C, Malossini G, Boddi V, Bartoletti R. The role of asymptomatic bacteriuria in young women with recurrent urinary tract infections: to treat or not to treat? *Clin Infect Dis*. 2012;55:771–777.
17. Cai T, Nesi G, Mazzoli S, Meacci F, Lanzafame P, Caciagli P, Mereu L, Tateo S, Malossini G, Selli C, et al. Asymptomatic bacteriuria treatment is associated with a

- higher prevalence of antibiotic resistant strains in women with urinary tract infections. *Clin Infect Dis*. 2015;61:1655–1661.
18. Cano-García MC, Casares-Pérez R, Arrabal-Martín M, Merino-Salas S, Arrabal-Polo MÁ. Prospective non-randomized study on the use of antibiotic prophylaxis with ciprofloxacin in flexible urethrocystoscopy. *Arch Esp Urol*. 2016;69:648–653.
 19. Chou H-I, Chen K-S, Wang H-C, Lee W-M. Effects of cranberry extract on prevention of urinary tract infection in dogs and on adhesion of *Escherichia coli* to Madin-Darby canine kidney cells. *Am J Vet Res*. 2016;77:421–427.
 20. Clare S, Hartmann FA, Jooss M, Bachar E, Wong YY, Trepanier LA, Viviano KR. Short- and long-term cure rates of short-duration trimethoprim-sulfamethoxazole treatment in female dogs with uncomplicated bacterial cystitis. *J Vet Intern Med*. 2014;28:818–826.
 21. Clinical and Laboratory Standards Institute. Performance Standards for Antimicrobial Disk and Dilution Susceptibility Tests for Bacteria Isolated From Animals, Fifth edn. Supplement VET08. 2018.
 22. Dalal S, Nicolle L, Marrs CF, Zhang L, Harding G, Foxman B. Long-term *Escherichia coli* asymptomatic bacteriuria among women with diabetes mellitus. *Clin Infect Dis*. 2009;49:491–497.
 23. Darouiche RO, Thornby JI, Cerra-Stewart C, Donovan WH, Hull RA. Bacterial interference for prevention of urinary tract infection: a prospective, randomized, placebo-controlled, double-blind pilot trial. *Clin Infect Dis*. 2005;41:1531–1534.
 24. Deuster S, Roten I, Muehlebach S. Implementation of treatment guidelines to support judicious use of antibiotic therapy. *J Clin Pharmacol Ther*. 2010;35:71–78.
 25. Dull RB, Friedman SK, Risoldi ZM, Rice EC, Starlin RC, Destache CJ. Antimicrobial treatment of asymptomatic bacteriuria in noncatheterized adults: a systematic review. *Pharmacotherapy*. 2014;34:941–960.
 26. Eggertsdóttir AV, Sævik BK, Halvorsen I, Sørum H. Occurrence of occult bacteriuria in healthy cats. *J Feline Med Surg*. 2011;13:800–803.
 27. Fisher H, Oluboyede Y, Chadwick T, Abdel-Fattah M, Brennan C, Fader M, Harrison S, Hilton P, Larcombe J, Little P, et al. Continuous low-dose antibiotic prophylaxis for adults with repeated urinary tract infections (AnTIC): a randomised, open-label trial. *Lancet Infect Dis*. 2018;18:957–968.
 28. Foon R, Toozs-Hobson P, Latthe P. Prophylactic antibiotics to reduce the risk of urinary tract infections after urodynamic studies. *Cochrane Database Syst Rev*. 2012;10:CD008224.
 29. Forrester SD, Troy GC, Dalton MN, Huffman JW, Holtzman G. Retrospective evaluation of urinary tract infection in 42 dogs with hyperadrenocorticism or diabetes mellitus or both. *J Vet Intern Med*. 1999;13:557–560.
 30. Foxman B. Recurring urinary tract infection: incidence and risk factors. *Am J Public Health*. 1990;80:331–333.
 31. Fu Z, Liska D, Talan D, Chung M. Cranberry reduces the risk of urinary tract infection recurrence in otherwise healthy women: a systematic review and meta-analysis. *J Nutr*. 2017;147:2282–2288.
 32. Gágyor I, Bleidorn J, Kochen MM, Schmiemann G, Wegscheider K, Hummers-Pradier E. Ibuprofen versus fosfomycin for uncomplicated urinary tract infection in women: randomised controlled trial. *BMJ*. 2015;351:h6544.
 33. Garcia-Perdomo HA, Jimenez-Mejias E, Lopez-Ramos H. Efficacy of antibiotic prophylaxis in cystoscopy to prevent urinary tract infection: a systematic review and meta-analysis. *Int Braz J Urol*. 2015;41:412–424; discussion 424.
 34. Georgiadou SP, Gamaletsou MN, Mpanaka I, Vlachou A, Goules AV, Ziogas DC, Syriou V, Tektonidou MG, Katsas G, Manoussakis MN, et al. Asymptomatic bacteriuria in women with autoimmune rheumatic disease: prevalence, risk factors, and clinical significance. *Clin Infect Dis*. 2015;60:868–874.
 35. Gupta K, Hooton TM, Naber KG, Wullt B, Colgan R, Miller LG, Moran GJ, Nicolle LE, Raz R, Schaeffer AJ, et al. International clinical practice guidelines for the treatment of acute uncomplicated cystitis and pyelonephritis in women: a 2010 update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. *Clin Infect Dis*. 2011;52:e103–e120.
 36. Hartley S, Valley S, Kuhn L, Washer LL, Gandhi T, Meddings J, Chenoweth C, Malani AN, Saint S, Srinivasan A, et al. Overtreatment of asymptomatic bacteriuria: identifying targets for improvement. *Infect Control Hosp Epidemiol*. 2015;36:470–473.

37. Hill TC, Baverstock R, Carlson KV, Estey EP, Gray GJ, Hill DC, Ho CH, McGinnis RH, Moore K, Parmar R. Best practices for the treatment and prevention of urinary tract infection in the spinal cord injured population: the Alberta context. *Can Urol Assoc J*. 2013;7:122–130.
38. Hoberman A, Wald ER, Hickey RW, Baskin M, Charron M, Majd M, Kearney DH, Reynolds EA, Ruley J, Janosky JE. Oral versus initial intravenous therapy for urinary tract infections in young febrile children. *Pediatrics*. 1999;104:79–86.
39. Hooton TM, Bradley SF, Cardenas DD, Colgan R, Geerlings SE, Rice JC, Saint S, Schaeffer AJ, Tambayh PA, Tenke P, et al. Diagnosis, prevention, and treatment of catheter-associated urinary tract infection in adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. *Clin Infect Dis*. 2010;50:625–663.
40. Hugonnard M, Chalvet-Monfray K, Dernis J, Pouzot-Nevoret C, Barthélémy A, Vialard J, Goy-Thollot I. Occurrence of bacteriuria in 18 catheterised cats with obstructive lower urinary tract disease: a pilot study. *J Feline Med Surg*. 2013;15:843–848.
41. Hull R, Rudy D, Donovan W, Svanborg C, Wieser I, Stewart C, Darouiche R. Urinary tract infection prophylaxis using *Escherichia coli* 83972 in spinal cord injured patients. *J Urol*. 2000;163:872–877.
42. Jessen LR, Sørensen TM, Bjornvad CR, Nielsen SS, Guardabassi L. Effect of antibiotic treatment in canine and feline urinary tract infections: a systematic review. *Vet J*. 2015;203:270–277.
43. Jiménez-Pacheco A, Lardelli Claret P, López Luque A, Lahoz-García C, Arrabal-Polo MÁ, Noguera Ocaña M. Randomized clinical trial on antimicrobial prophylaxis for flexible urethrocystoscopy. *Arch Esp Urol*. 2012;65:542–549.
44. Kopečný L, Palm CA, Drobotz KJ, Balsa IM, Culp WTN. Risk factors for urinary tract infections in cats after ureteral stent and ureteral bypass placement. (Proceedings of the American College of Veterinary Internal Medicine Forum, Washington, DC, 8th–10th June 2017). 2017.
45. Koutinas AF, Heliadis N, Saridomichelakis MN, Leontides L, Terpsidis K, Christodoulou C. Asymptomatic bacteriuria in puppies with canine parvovirus infection: a cohort study. *Vet Microbiol*. 1998;63:109–116.
46. Lawrentschuk N, Ooi J, Pang A, Naidu KS, Bolton DM. Cystoscopy in women with recurrent urinary tract infection. *Int J Urol*. 2006;13:350–353.
47. Lee BS, Bhuta T, Simpson JM, Craig JC. Methenamine hippurate for preventing urinary tract infections. *Cochrane Database Syst Rev*. 2012;10:CD003265.
48. Lee MJ, Kim M, Kim N-H, Kim C-J, Song K-H, Choe PG, Park WB, Bang JH, Kim ES, Park SW, et al. Why is asymptomatic bacteriuria overtreated? A tertiary care institutional survey of resident physicians. *BMC Infect Dis*. 2015;15:289.
49. Leis JA, Rebeck GW, Daneman N, Gold WL, Poutanen SM, Lo P, Larocque M, Shojania KG, McGeer A. Reducing antimicrobial therapy for asymptomatic bacteriuria among noncatheterized inpatients: a proof-of-concept study. *Clin Infect Dis*. 2014;58:980–983.
50. Lekcharoensuk C, Osborne CA, Lulich JP. Epidemiologic study of risk factors for lower urinary tract diseases in cats. *J Am Vet Med Assoc*. 2001;218:1429–1435.
51. López-Medrano F, García-Bravo M, Morales JM, Andrés A, San Juan R, Lizasoain M, Aguado JM. Urinary tract infection due to *Corynebacterium urealyticum* in kidney transplant recipients: an underdiagnosed etiology for obstructive uropathy and graft dysfunction—results of a prospective cohort study. *Clin Infect Dis*. 2008;46:825–830.
52. Lusby AL, Kirk CA, Moyers TD, Toll PW. Prevalence of asymptomatic bacterial urinary tract infections in morbidly obese dogs. (Proceedings of the American College of Veterinary Internal Medicine Forum, Denver, CO, 15th–18th June 2011). 2011.
53. Mansour A, Hariri E, Shelh S, Irani R, Mroueh M. Efficient and cost-effective alternative treatment for recurrent urinary tract infections and interstitial cystitis in women: a two-case report. *Case Rep Med*. 2014;2014:698758.
54. McGhie JA, Stayt J, Hosgood GL. Prevalence of bacteriuria in dogs without clinical signs of urinary tract infection presenting for elective surgical procedures. *Aust Vet J*. 2014;92:33–37.
55. McGuire NC, Schulman R, Ridgway MD, Bollero G. Detection of occult urinary tract infections in dogs with diabetes mellitus. *J Am Med Assoc*. 2002;38:541–544.

56. McMurdo ME, Argo I, Phillips G, Daly F, Davey P. Cranberry or trimethoprim for the prevention of recurrent urinary tract infections? A randomized controlled trial in older women. *J Antimicrob Chemother.* 2009;63:389–395.
57. Metjian TA, Prasad PA, Kogon A, Coffin SE, Zaoutis TE. Evaluation of an antimicrobial stewardship program at a pediatric teaching hospital. *Pediatr Infect Dis J.* 2008;27:106–111.
58. Mody L, Juthani-Mehta M. Urinary tract infections in older women: a clinical review. *J Am Med Assoc.* 2014;311:844–854.
59. Mrkobrada M, Ying I, Mokrycke S, Dresser G, Elsayed S, Bathini V, Boyce E, Luke P. CUA Guidelines on antibiotic prophylaxis for urologic procedures. *Can Urol Assoc.* 2015;9:13–22.
60. Murphy CP, Reid-Smith RJ, Boerlin P, Weese JS, Prescott JF, Janecko N, McEwen SA. Out-patient antimicrobial drug use in dogs and cats for new disease events from community companion animal practices in Ontario. *Can Vet J.* 2012;53:291–298.
61. Nicolle LE. Asymptomatic bacteriuria. *Curr Opin Infect Dis.* 2014;27:90–96.
62. Nicolle LE. Management of asymptomatic bacteriuria in pregnant women. *Lancet Infect Dis.* 2015;15:1252–1254.
63. Nicolle LE, Bradley S, Colgan R, Rice JC, Schaeffer A, Hooton TM. Infectious Diseases Society of America guidelines for the diagnosis and treatment of asymptomatic bacteriuria in adults. *Clin Infect Dis.* 2005;40:643–654.
64. O'Neil E, Horney B, Burton S, Lewis PJ, MacKenzie A, Stryhn H. Comparison of wet-mount, Wright-Giemsa and Gram-stained urine sediment for predicting bacteriuria in dogs and cats. *Can Vet J.* 2013;54:1061–1066.
65. Ogeer-Gyles J, Mathews K, Weese JS, Prescott JF, Boerlin P. Evaluation of catheter-associated urinary tract infections and multi-drug-resistant *Escherichia coli* isolates from the urine of dogs with indwelling urinary catheters. *J Am Vet Med Assoc.* 2006;229:1584–1590.
66. Ogilvie AT, Brisson BA, Singh A, Weese JS. In vitro evaluation of the impact of silver coating on *Escherichia coli* adherence to urinary catheters. *Can Vet J.* 2015;56:490–494.
67. Olby NJ, Vaden SL, Williams K, Griffith EH, Harris T, Mariani CL, Muñana KR, Early PJ, Platt SR, Boozer L, et al. Effect of cranberry extract on the frequency of bacteriuria in dogs with acute thoracolumbar disk herniation: a randomized controlled clinical trial. *J Vet Intern Med.* 2017;31:60–68.
68. Papich MG. Ciprofloxacin pharmacokinetics and oral absorption of generic ciprofloxacin tablets in dogs. *Am J Vet Res.* 2012;73:1085–1091.
69. Patterson CA, Bishop MA, Pack JD, Cook AK, Lawhon SD. Effects of processing delay, temperature, and transport tube type on results of quantitative bacterial culture of canine urine. *J Am Vet Med Assoc.* 2016;248:183–187.
70. Perry LA, Kass PH, Johnson DL, Ruby AL, Shiraki R, Westropp JL. Evaluation of culture techniques and bacterial cultures from uroliths. *J Vet Diagn Invest.* 2013;25:199–202.
71. Peterson AL, Torres SMF, Rendahl A, Koch SN. Frequency of urinary tract infection in dogs with inflammatory skin disorders treated with ciclosporin alone or in combination with glucocorticoid therapy: a retrospective study. *Vet Dermatol.* 2012;23:201–e243.
72. Puchot ML, Cook AK, Pohlit C. Subclinical bacteriuria in cats: prevalence, findings on contemporaneous urinalyses and clinical risk factors. *J Feline Med Surg.* 2017;19:1238–1244.
73. Raab O, Béraud R, Tefft KM, Muckle CA. Successful treatment of *Corynebacterium urealyticum* encrusting cystitis with systemic and intravesical antimicrobial therapy. *Can Vet J.* 2015;56:471–475.
74. Rantala M, Holso K, Lillas A, Huovinen P, Kaartinen L. Survey of condition-based prescribing of antimicrobial drugs for dogs at a veterinary teaching hospital. *Vet Rec.* 2004;155:259–262.
75. Ren H, Li X, Ni Z-H, Niu J-Y, Cao B, Xu J, Cheng H, Tu X-W, Ren A-M, Hu Y, et al. Treatment of complicated urinary tract infection and acute pyelonephritis by short-course intravenous levofloxacin (750 mg/day) or conventional intravenous/oral levofloxacin (500 mg/day): prospective, open-label, randomized, controlled, multicenter, non-inferiority clinical trial. *Int J Urol Nephrol.* 2017;49:499–507.

76. Rodrigues F, Maia MJ, das Neves J, Sarmento B, Amaral MH, Oliveriera MBP. Vaginal suppositories containing *Lactobacillus acidophilus*: development and characterization. *Drug Dev Ind Pharm*. 2014;41:1518–1525.
77. Ruple-Czerniak A, Aceto HW, Bender JB, Paradis MR, Shaw SP, Van Metre DC, Weese JS, Wilson DA, Wilson JH, Morley PS. Using syndromic surveillance to estimate baseline rates for healthcare-associated infections in critical care units of small animal referral hospitals. *J Vet Intern Med*. 2013;27:1392–1399.
78. Sævik BK, Trangerud C, Ottesen N, Sørsum H, Eggertsdóttir AV. Causes of lower urinary tract disease in Norwegian cats. *J Feline Med Surg*. 2011;13:410–417.
79. Segev G, Bankirer T, Steinberg D, Duvdevani M, Shapur NK, Friedman M, Lavy E. Evaluation of urinary catheters coated with sustained-release varnish of chlorhexidine in mitigating biofilm formation on urinary catheters in dogs. *J Vet Intern Med*. 2013;27:39–46.
80. Segev G, Sykes JE, Klumpp DJ, Schaeffer AJ, Antaki EM, Byrne BA, Yaggie RE, Westropp JL. Evaluation of the live biotherapeutic product, asymptomatic bacteriuria *Escherichia coli* 2-12, in healthy dogs and dogs with clinical recurrent UTI. *J Vet Intern Med*. 2018;32:267–273.
81. Smarick SD, Haskins SC, Aldrich J, Foley JE, Kass PH, Fudge M, Ling GV. Incidence of catheter-associated urinary tract infection among dogs in a small animal intensive care unit. *J Am Vet Med Assoc*. 2004;224:1936–1940.
82. Sørensen TM, Jensen AB, Damborg P, Bjornvad CR, Guardabassi L, Jessen LR. Evaluation of different sampling methods and criteria for diagnosing canine urinary tract infection by quantitative bacterial culture. *Vet J*. 2016;216:168–173.
83. Stapleton AE, Au-Yeung M, Hooton TM, Fredricks DN, Roberts PL, Czaja CA, Yarova-Yarovaya Y, Fiedler T, Cox M, Stamm WE. Randomized, placebo-controlled phase 2 trial of a *Lactobacillus crispatus* probiotic given intravaginally for prevention of recurrent urinary tract infection. *Clin Infect Dis*. 2011;52:1212–1217.
84. Stapleton AE, Dziura J, Hooton TM, Cox ME, Yarova-Yarovaya Y, Chen S, Gupta K. Recurrent urinary tract infection and urinary *Escherichia coli* in women ingesting cranberry juice daily: a randomized controlled trial. *Mayo Clin Proc*. 2012;87:143–150.
85. Sullivan LA, Campbell VL, Onuma SC. Evaluation of open versus closed urine collection systems and development of nosocomial bacteriuria in dogs. *J Am Vet Med Assoc*. 2010;237:187–190.
86. Tenke P, Köves B, Johansen TEB. An update on prevention and treatment of catheter-associated urinary tract infections. *Curr Opin Infect Dis*. 2014;27:102–107.
87. Torres SMF, Diaz SF, Nogueira SA, Jessen C, Polzin DJ, Gilbert SM, Horne KL. Frequency of urinary tract infection among dogs with pruritic disorders receiving long-term glucocorticoid treatment. *J Am Vet Med Assoc*. 2005;227:239–243.
88. Trautner BW, Grigoryan L. Approach to a positive urine culture in a patient without urinary symptoms. *Infect Dis Clin North Am*. 2014;28:15–31.
89. Wan SY, Hartmann FA, Jooss MK, Viviano KR. Prevalence and clinical outcome of subclinical bacteriuria in female dogs. *J Am Vet Med Assoc*. 2014;245:106–112.
90. Warren J, Abrutyn E, Hebel J, Johnson J, Schaeffer A, Stamm W. Guidelines for antimicrobial treatment of uncomplicated acute bacterial cystitis and acute pyelonephritis in women. *Clin Infect Dis*. 1999;29:745–758.
91. Way LI, Sullivan LA, Johnson V, Morley PS. Comparison of routine urinalysis and urine Gram stain for detection of bacteriuria in dogs. *J Vet Emerg Crit Care*. 2013;23:23–28.
92. Weese JS, Blondeau J, Boothe D, Breitschwerdt E, Guardabassi L, Hillier A, Lloyd D, Papich MG, Rankin S, Turnidge JD, et al. Antimicrobial use guidelines for treatment of urinary tract infections in dogs and cats: antimicrobial guidelines working group of the International Society for Companion Animal Infectious Diseases. *Vet Med Int*. 2011;104:1–9.
93. Weese JS, Blondeau J, Boothe D, Guardabassi LG, Gumley N, Papich M, Jessen LR, Lappin M, Rankin S, Westropp JL, Sykes J. International Society for Companion Animal Infectious Diseases (ISCAID) guidelines for the diagnosis and management of bacterial urinary tract infections in dogs and cats. *Vet J*. 2019;247:8–25.
94. Westropp J, Sykes J, Irom S, Daniels JB, Smith A, Keil D, Settje T, Wang Y, Chew DJ. Evaluation of the efficacy and safety of high dose short duration enrofloxacin treatment regimen for uncomplicated urinary tract infections in dogs. *J Vet Intern Med*. 2012;26:506–512.

95. White JD, Cave NJ, Grinberg A, Thomas DG, Heuer C. Subclinical bacteriuria in older cats and its association with survival. *J Vet Intern Med.* 2016;30:1824–1829.
96. Wolf JS, Bennett CJ, Dmochowski RR, Hollenbeck BK, Pearle MS, Schaeffer AJ, Urologic Surgery Antimicrobial Prophylaxis Best Practice Policy Panel. Best practice policy statement on urologic surgery antimicrobial prophylaxis. *J Urol.* 2008;179:1379–1390.
97. Wong C, Epstein SE, Westropp JL. Antimicrobial susceptibility patterns in urinary tract infections in dogs (2010–2013). *J Vet Intern Med.* 2015;29:1045–1054.
98. Zalmanovici Trestioreanu A, Lador A, Sauerbrun-Cutler M-T, Leibovici L. Antibiotics for asymptomatic bacteriuria. *Cochrane Database Syst Rev.* 2015;4:CD009534.