

표 1 . 복부 핵심질문 3 근거표

핵심질문 3

문헌정보	연구유형	대상자 수	문헌 질 KCIG
Bachur RG, Hennelly K, Callahan MJ, Chen C, Monuteaux MC. Diagnostic imaging and negative appendectomy rates in children: effects of age and gender. Pediatrics 2012; 129(5):877-884.	Observational-D x	8,959,155 visits at 40 pediatric emergency departments; 55,227 children	2
Sun JS, Noh HW, Min YG, et al. Receiver operating characteristic analysis of the diagnostic performance of a computed tomographic examination and the Alvarado score for diagnosing acute appendicitis: emphasis on age and sex of the patients. J Comput Assist Tomogr 2008; 32(3):386-391.	Observational-D x	372 patients	2
Applegate KE, Sivit CJ, Salvator AE, et al. Effect of cross-sectional imaging on negative appendectomy and perforation rates in children. Radiology 2001; 220(1):103-107.	Observational-D x	292 children	2
Bendeck SE, Nino-Murcia M, Berry GJ, Jeffrey RB, Jr. Imaging for suspected appendicitis: negative appendectomy and perforation rates. Radiology 2002; 225(1):131-136.	Observational-D x	462 patients	2
Choi WK, Brown JA, Zetler P, Wiseman S, Cooperberg P. Imaging of acute appendicitis and its impact on negative appendectomy and perforation rates: the St. Paul's experience. Can Assoc Radiol J 2007; 58(4):220-224.	Observational-D x	380 appendectomies	2
Cuschieri J, Florence M, Flum DR, et al. Negative appendectomy and imaging accuracy in the Washington State Surgical Care and Outcomes Assessment Program. Ann Surg 2008; 248(4):557-563.	Observational-D x	3,540 patients	2
Kim K, Lee CC, Song KJ, Kim W, Suh G, Singer AJ. The impact of helical computed tomography on the negative appendectomy rate: a multi-center comparison. J Emerg Med 2008; 34(1):3-6.	Observational-D x	339 patients	2
Lee CC, Golub R, Singer AJ, Cantu R, Jr., Levinson H. Routine versus selective abdominal computed tomography scan in the evaluation of right lower quadrant pain: a randomized controlled trial. Acad Emerg Med 2007; 14(2):117-122.	Experimental-D x	152 patients	1
Partrick DA, Janik JE, Janik JS, Bensard DD, Karrer FM. Increased CT scan utilization does not improve the diagnostic accuracy of appendicitis in children. J P	Observational-D x	616 children	2

ediatr Surg 2003; 38(5):659–662.			
Raja AS, Wright C, Sodickson AD, et al. Negative appendectomy rate in the era of CT: an 18-year perspective. Radiology 2010; 256(2):460–465.	Observational–D x	719-bed tertiary care adult teaching hospital; 58,000 annual emergency department visits	4
Rao PM, Rhea JT, Novelline RA, Mostafavi AA, McCabe CJ. Effect of computed tomography of the appendix on treatment of patients and use of hospital resources. N Engl J Med 1998; 338(3):141–146.	Observational–D x	100 patients	3
Rao PM, Rhea JT, Rattner DW, Venus LG, Novelline RA. Introduction of appendiceal CT: impact on negative appendectomy and appendiceal perforation rates. Ann Surg 1999; 229(3):344–349.	Observational–D x	493 (1992-1995) 209 (1997) 206 (without subsequent appendectomy)	2
Hershko DD, Sroka G, Bahouth H, Ghersin E, Mahajna A, Krausz MM. The role of selective computed tomography in the diagnosis and management of suspected acute appendicitis. Am Surg 2002; 68(11):1003–1007.	Observational–D x	308 patients	2
Raman SS, Lu DS, Kadell BM, Vodopich DJ, Sayre J, Cryer H. Accuracy of nonfocused helical CT for the diagnosis of acute appendicitis: a 5-year review. AJR 2002; 178(6):1319–1325.	Observational–D x	650 patients	2
van Randen A, Bipat S, Zwinderman AH, Ubbink DT, Stoker J, Boermeester MA. Acute appendicitis: meta-analysis of diagnostic performance of CT and graded compression US related to prevalence of disease. Radiology 2008; 249(1):97–106.	Review/Other–D x	6 studies; 671 patients	2
Chen SC, Chen KM, Wang SM, Chang KJ. Abdominal sonography screening of clinically diagnosed or suspected appendicitis before surgery. World J Surg 1998; 22(5):449–452.	Observational–D x	191 patients	2
Morse BC, Roettger RH, Kalbaugh CA, Blackhurst DW, Hines WB, Jr. Abdominal CT scanning in reproductive-age women with right lower quadrant abdominal pain: does its use reduce negative appendectomy rates and healthcare costs? Am Surg 2007; 73(6):580–584; discussion 584.	Observational–D x	439 patients	2
Krajewski S, Brown J, Phang PT, Raval M, Brown CJ.	Review/Other–D	28 articles	2

Impact of computed tomography of the abdomen on clinical outcomes in patients with acute right lower quadrant pain: a meta-analysis. <i>Can J Surg</i> 2011; 54(1):43-53.	x	es	
Coursey CA, Nelson RC, Patel MB, et al. Making the diagnosis of acute appendicitis: do more preoperative CT scans mean fewer negative appendectomies? A 10-year study. <i>Radiology</i> 2010; 254(2):460-468.	Observational-D x	925 patients; 526 men, 399 women	2
Rybkin AV, Thoeni RF. Current concepts in imaging of appendicitis. <i>Radiol Clin North Am</i> 2007; 45(3):411-422, vii.	Review/Other-D x	N/A	2
Pooler BD, Lawrence EM, Pickhardt PJ. MDCT for suspected appendicitis in the elderly: diagnostic performance and patient outcome. <i>Emerg Radiol</i> 2012; 19(1):27-33.	Observational-D x	262 consecutive adult patients	2
Toorenvliet BR, Wiersma F, Bakker RF, Merkus JW, Breslau PJ, Hamming JF. Routine ultrasound and limited computed tomography for the diagnosis of acute appendicitis. <i>World J Surg</i> 2010; 34(10):2278-2285.	Observational-D x	802 patients	2
Poortman P, Oostvogel HJ, Bosma E, et al. Improving diagnosis of acute appendicitis: results of a diagnostic pathway with standard use of ultrasonography followed by selective use of CT. <i>J Am Coll Surg</i> 2009; 208(3):434-441.	Observational-D x	151 patients	2
Poletti PA, Platon A, De Perrot T, et al. Acute appendicitis: prospective evaluation of a diagnostic algorithm integrating ultrasound and low-dose CT to reduce the need of standard CT. <i>Eur Radiol</i> 2011; 21(12):2558-2566.	Observational-D x	183 consecutive patients	2
Kim K, Kim YH, Kim SY, et al. Low-dose abdominal CT for evaluating suspected appendicitis. <i>N Engl J Med</i> 2012; 366(17):1596-1605.	Experimental-D x	891 patients	1
Johnson PT, Horton KM, Kawamoto S, et al. MDCT for suspected appendicitis: effect of reconstruction section thickness on diagnostic accuracy, rate of appendiceal visualization, and reader confidence using axial images. <i>AJR</i> 2009; 192(4):893-901.	Observational-D x	212 patients	1
Kim HC, Yang DM, Jin W, Park SJ. Added diagnostic value of multiplanar reformation of multidetector CT data in patients with suspected appendicitis. <i>Radiographics</i> 2008; 28(2):393-405; discussion 405-396.	Review/Other-D x	N/A	2
Neville AM, Paulson EK. MDCT of acute appendicitis: value of coronal reformations. <i>Abdom Imaging</i> 2009; 34(1):42-48.	Review/Other-D x	N/A	2
Lane MJ, Liu DM, Huynh MD, Jeffrey RB, Jr., Mindelzun RE, Katz DS. Suspected acute appendicitis: nonenhanced helical CT in 300 consecutive patients. <i>Radiology</i> 1999; 213(2):341-346.	Observational-D x	300 consecutive patients	2
Hlibczuk V, Dattaro JA, Jin Z, Falzon L, Brown MD. Diagnostic accuracy of noncontrast computed tomography	Review/Other-D x	7 studies; 1,060	2

hy for appendicitis in adults: a systematic review. <i>Ann Emerg Med</i> 2010; 55(1):51-59 e51.		patients	
Anderson SW, Soto JA, Lucey BC, et al. Abdominal 64-MDCT for suspected appendicitis: the use of oral and IV contrast material versus IV contrast material only. <i>AJR</i> 2009; 193(5):1282-1288.	Experimental-D x	303: 151-Group 1: 64 MDCT with oral and IV contrast; 152-Group 2: 64-MDCT with IV contrast only	2
Kepner AM, Bacasnot JV, Stahlman BA. Intravenous contrast alone vs intravenous and oral contrast computed tomography for the diagnosis of appendicitis in adult ED patients. <i>Am J Emerg Med</i> 2012; 30(9):1765-1773.	Experimental-D x	114 IV patients and 113 IV and oral contrast patients	2
Keyzer C, Cullus P, Tack D, De Maertelaer V, Bohy P, Gevenois PA. MDCT for suspected acute appendicitis in adults: impact of oral and IV contrast media at standard-dose and simulated low-dose techniques. <i>AJR</i> 2009; 193(5):1272-1281.	Experimental-D x	131 consecutive patients	
Pickhardt PJ, Lawrence EM, Pooler BD, Bruce RJ. Diagnostic performance of multidetector computed tomography for suspected acute appendicitis. <i>Ann Intern Med</i> 2011; 154(12):789-796, W-291.	Observational-D x	2,871 adults	2
Barger RL, Jr., Nandalur KR. Diagnostic performance of magnetic resonance imaging in the detection of appendicitis in adults: a meta-analysis. <i>Acad Radiol</i> 2010; 17(10):1211-1216.	Review/Other-D x	8 articles; 363 total patients	2
Cobben L, Groot I, Kingma L, Coerkamp E, Puylaert J, Blickman J. A simple MRI protocol in patients with clinically suspected appendicitis: results in 138 patients and effect on outcome of appendectomy. <i>Eur Radiol</i> 2009; 19(5):1175-1183.	Observational-D x	138 patients	2
Heverhagen JT, Pfestroff K, Heverhagen AE, Klose KJ, Kessler K, Sitter H. Diagnostic accuracy of magnetic resonance imaging: a prospective evaluation of patients with suspected appendicitis (diamond). <i>J Magn Reson Imaging</i> 2012; 35(3):617-623.	Observational-D x	52 patients	2
Terasawa T, Blackmore CC, Bent S, Kohlwes RJ. Systematic review: computed tomography and ultrasonography to detect acute appendicitis in adults and adolescents. <i>Ann Intern Med</i> 2004; 141(7):537-546.	Review/Other-D x	12 CT studies and 14 US studies	2

Doria AS, Moineddin R, Kellenberger CJ, et al. US or CT for Diagnosis of Appendicitis in children and Adults? A Meta-Analysis. <i>Radiology</i> 2006; 241(1):83-94.	Review/Other-D x	children: (26 studies, 9,356 patients); Adults (31 studies, 4,341 patients)	2
Baldisserotto M, Marchiori E. Accuracy of noncompressive sonography of children with appendicitis according to the potential positions of the appendix. <i>AJR</i> 2000; 175(5):1387-1392.	Observational-D x	425 patients	3
Hahn HB, Hoepner FU, Kalle T, et al. Sonography of acute appendicitis in children: 7 years experience. <i>Pediatr Radiol</i> 1998; 28(3):147-151.	Observational-D x	3,859 children	2
Lessin MS, Chan M, Catalozzi M, et al. Selective use of ultrasonography for acute appendicitis in children. <i>Am J Surg</i> 1999; 177(3):193-196.	Observational-D x	215 children	2
Schulte B, Beyer D, Kaiser C, Horsch S, Wiater A. Ultrasonography in suspected acute appendicitis in childhood-report of 1285 cases. <i>Eur J Ultrasound</i> 1998; 8(3):177-182.	Observational-D x	1,285 children	2
Krishnamoorthi R, Ramarajan N, Wang NE, et al. Effectiveness of a staged US and CT protocol for the diagnosis of pediatric appendicitis: reducing radiation exposure in the age of ALARA. <i>Radiology</i> 2011; 259(1):231-239.	Observational-D x	631 patients	2
Bachur RG, Hennelly K, Callahan MJ, Monuteaux MC. Advanced radiologic imaging for pediatric appendicitis, 2005-2009: trends and outcomes. <i>J Pediatr</i> 2012; 160(6):1034-1038.	Observational-D x	55,238 children	2
Kim YJ, Kim JE, Kim HS, Hwang HY. MDCT with coronal reconstruction: clinical benefit in evaluation of suspected acute appendicitis in pediatric patients. <i>AJR</i> 2009; 192(1):150-152.	Observational-D x	61 patients	2
Johnson AK, Filippi CG, Andrews T, et al. Ultrafast 3-T MRI in the evaluation of children with acute lower abdominal pain for the detection of appendicitis. <i>AJR</i> 2012; 198(6):1424-1430.	Observational-D x	42 patients	1
Moore MM, Gustas CN, Choudhary AK, et al. MRI for clinically suspected pediatric appendicitis: an implemented program. <i>Pediatr Radiol</i> 2012; 42(9):1056-1063.	Observational-D x	208 children	2
Lim HK, Bae SH, Seo GS. Diagnosis of acute appendicitis in pregnant women: value of sonography. <i>AJR</i> 1992; 159(3):539-542.	Observational-D x	45 patients	2
Lazarus E, Mayo-Smith WW, Mainiero MB, Spencer PK. CT in the evaluation of nontraumatic abdominal pain in pregnant women. <i>Radiology</i> 2007; 244(3):784-790.	Observational-D x	78 patients	2

Basaran A, Basaran M. Diagnosis of acute appendicitis during pregnancy: a systematic review. <i>Obstet Gynecol Surv</i> 2009; 64(7):481-488; quiz 499.	Review/Other-D x	3 articles on CT; 5 articles on MRI	2
Israel GM, Malguria N, McCarthy S, Copel J, Weinreb J. MRI vs. ultrasound for suspected appendicitis during pregnancy. <i>J Magn Reson Imaging</i> 2008; 28(2):428-433.	Observational-D x	33 patients	2
Oto A, Ernst RD, Ghulmiyyah LM, et al. MR imaging in the triage of pregnant patients with acute abdominal and pelvic pain. <i>Abdom Imaging</i> 2009; 34(2):243-250.	Observational-D x	118 patients	2
Pedrosa I, Levine D, Eyvazzadeh AD, Siewert B, Ngo L, Rofsky NM. MR imaging evaluation of acute appendicitis in pregnancy. <i>Radiology</i> 2006; 238(3):891-899.	Observational-D x	51 patients	2
Blumenfeld YJ, Wong AE, Jafari A, Barth RA, El-Sayed YY. MR imaging in cases of antenatal suspected appendicitis--a meta-analysis. <i>J Matern Fetal Neonatal Med</i> 2011; 24(3):485-488.	Review/Other-D x	229 patients	2
Pedrosa I, Lafornera M, Pandharipande PV, Goldsmith JD, Rofsky NM. pregnant patients suspected of having acute appendicitis: effect of MR imaging on negative laparotomy rate and appendiceal perforation rate. <i>Radiology</i> 2009; 250(3):749-757.	Observational-D x	148; Mean gestational age, 20 weeks	2

