

Further Reading

Basic Principles: Radiologic Techniques and Radiation Safety

Radiologic Techniques in the Intensive Care Unit

Book Chapters / Review Articles

MacMahon H, Giger M. Portable chest radiography: techniques and teleradiology. *Radiol Clin North Am* 1996;34(1):1 – 20

Digital Radiography

Eisenhuber E, Stadler A, Prokop M, Fuchsjäger M, Weber M, Schaefer-Prokop C. Detection of monitoring materials on bedside chest radiographs with the most recent generation of storage phosphor plates: dose increase does not improve detection performance. *Radiology* 2003;227(1):216 – 221

Prokop M, Neitzel U, Schaefer-Prokop C. Principles of image processing in digital chest radiography. *J Thorac Imaging* 2003;18(3):148 – 164

Schaefer-Prokop C, Uffmann M, Eisenhuber E, Prokop M. Digital radiography of the chest: detector techniques and performance parameters. *J Thorac Imaging* 2003;18(3):124 – 137

Schaefer-Prokop C, Uffmann M, Sailer J, Kabalan N, Herold C, Prokop M. Digital thorax radiography: flat-panel detector or storage phosphor plates. [Article in German] *Radiologe* 2003;43(5):351 – 361

Radiation Exposure to Patients and Staff

Ciraulo DL, Marini CP, Lloyd GT, Fisher J. Do surgical residents, emergency medicine physicians, and nurses experience significant radiation exposure during the resuscitation of trauma patients? *J Trauma* 1994;36(5):703 – 705

Cupitt JM, Vinayagam S, McConachie I. Radiation exposure of nurses on an intensive care unit. *Anaesthesia* 2001;56(2):183

Duetting T, Foerste B, Knoch T, Darge K, Troeger J. Radiation exposure during chest X-ray examinations in a premature intensive care unit: phantom studies. *Pediatr Radiol* 1999;29(3):158 – 162

Grazer RE, Meislin HW, Westerman BR, Criss EA. Exposure to ionizing radiation in the emergency department from commonly performed portable radiographs. *Ann Emerg Med* 1987;16(4):417 – 420

Grazer RE, Meislin HW, Westerman BR, Criss EA. A nine-year evaluation of emergency department personnel exposure to ionizing radiation. *Ann Emerg Med* 1987;16(3):340 – 342

Leppek R, Bertrams SS, Holtermann W, et al. Radiation exposure during thoracic radiography at the intensive care unit. Dose accumulation and risk of radiation-induced cancer in long-term therapy. [Article in German] *Radiologe* 1998;38:730 – 736

Mostafa G, Sing RF, McKeown R, Huynh TT, Heniford BT. The hazard of scattered radiation in a trauma intensive care unit. *Crit Care Med* 2002;30(3):574 – 576

Radiation Exposure during Pregnancy

Ames Castro M, Shipp TD, Castro EE, Ouzounian J, Rao P. The use of helical computed tomography in pregnancy for the diagnosis of acute appendicitis. *Am J Obstet Gynecol* 2001;184(5):954 – 957 PubMed

Damilakis J, Perisinakis K, Voloudaki A, Gourtsoyiannis N. Estimation of fetal radiation dose from computed tomography scanning in late pregnancy: depth-dose data from routine examinations. *Invest Radiol* 2000;35(9):527 – 533

Kennedy A. Assessment of acute abdominal pain in the pregnant patient. *Semin Ultrasound CT MR* 2000;21(1):64 – 77

Lowdermilk C, Gavant ML, Qaisi W, West OC, Goldman SM. Screening helical CT for evaluation of blunt traumatic injury in the pregnant patient. *Radiographics* 1999;19(Spec No):S 243 – S 255, discussion S 256 – S 258

Macklon NS. Diagnosis of deep venous thrombosis and pulmonary embolism in pregnancy. *Curr Opin Pulm Med* 1999;5(4):233 – 237

Radiation Exposure in Children

American Academy of Pediatrics. Committee on Environmental Health. Risk of ionizing radiation exposure to children: a subject review. *Pediatrics* 1998;101(4 Pt 1):717 – 719

Berdon WE, Slovis TL. Where we are since ALARA and the series of articles on CT dose in children and risk of long-term cancers: what has changed? *Pediatr Radiol* 2002;32(10):699

Frush DP. Pediatric CT: practical approach to diminish the radiation dose. *Pediatr Radiol* 2002;32(10):714 – 717, discussion 751 – 754

Frush DP, Slack CC, Hollingsworth CL, et al. Computer-simulated radiation dose reduction for abdominal multidetector CT of pediatric patients. *AJR Am J Roentgenol* 2002;179(5):1107 – 1113

Hall EJ. Lessons we have learned from our children: cancer risks from diagnostic radiology. *Pediatr Radiol* 2002;32(10):700 – 706

Hollingsworth C, Frush DP, Cross M, Lucaya J. Helical CT of the body: a survey of techniques used for pediatric patients. *AJR Am J Roentgenol* 2003;180(2):401 – 406

McParland BJ, Gorka W, Lee R, Lewall DB, Omojola MF. Radiology in the neonatal intensive care unit: dose reduction and image quality. *Br J Radiol* 1996;69(826):929 – 937

Slovis TL. The ALARA concept in pediatric CT: myth or reality? *Radiology* 2002;223(1):5 – 6

Suess C, Chen X. Dose optimization in pediatric CT: current technology and future innovations. *Pediatr Radiol* 2002;32(10):729 – 734, discussion 751 – 754

Dose Reduction in Computed Tomography

Prokop M. Optimizing dosage in thoracic computerized tomography. [Article in German] *Radiologe* 2001;41(3):269 – 278

Prokop M. Radiation dose and image quality in computed tomography. [Article in German] *Rofo* 2002;174(5):631 – 636

Prokop M. Radiation dose and Image Quality. In: Prokop M, Galanski M, ed. *Spiral and Multidetektor Computed Tomography of the body*. Stuttgart: Thieme; 2003

Dose Reduction in Digital Radiography

Eisenhuber E, Stadler A, Prokop M, Fuchsjäger M, Weber M, Schaefer-Prokop C. Detection of monitoring materials on bedside chest radiographs with the most recent generation of storage phosphor plates: dose increase does not improve detection performance. *Radiology* 2003;227(1):216 – 221

Communication, Reporting of Findings, and Teleradiology

Redfern RO, Kundel HL, Polansky M, Langlotz CP, Horii SC, Lanken PN. A picture archival and communication system shortens delays in obtaining radiographic information in a medical intensive care unit. *Crit Care Med* 2000;28(4):1006 – 1013

Steckel RJ, Batra P, Johnson S, et al. Chest teleradiology in a teaching hospital emergency practice. *AJR Am J Roentgenol* 1997;168(6):1409 – 1413

Thoracic Imaging of the Intensive Care Patient

Review Articles / Book Chapters

Bankier A, Fleischmann D, Aram L, Heimberger K, Schindler E, Herold C. Imaging in intensive care. Methods, indications, diagnostic signs. I. [Article in German] *Radiologe* 1998;38(11):972 – 986

- Bankier A, Fleischmann D, Aram L, Heimberger K, Schindler E, Herold CJ. Imaging in intensive medicine. Techniques. Indications, diagnostic signs. II. [Article in German] *Radiologe* 1998;38(12):1089–1099
- Goodman LR. Acute pulmonary disease. In: Goodman LR, Putman CE, eds. *Critical Care Imaging*. Philadelphia: Saunders; 1992
- Henschke CI, Yankelevitz DF, Wand A, Davis SD, Shiau M. Accuracy and efficacy of chest radiography in the intensive care unit. *Radiol Clin North Am* 1996;34(1):21–31
- Maffessanti M, Berlot G, Bortolotto P. Chest roentgenology in the intensive care unit: an overview. *Eur Radiol* 1998;8(1):69–78
- Miller WT Sr. The chest radiograph in the intensive care unit. *Semin Roentgenol* 1997;32(2):89–101
- Wandtke JC. Bedside chest radiography. *Radiology* 1994;190(1):1–10
- Portable Chest Radiography—Efficiency**
- Brainsky A, Fletcher RH, Glick HA, Lanken PN, Williams SV, Kundel HL. Routine portable chest radiographs in the medical intensive care unit: effects and costs. *Crit Care Med* 1997;25(5):801–805
- Fong Y, Whalen GF, Hariri RJ, Barie PS. Utility of routine chest radiographs in the surgical intensive care unit. A prospective study. *Arch Surg* 1995;130(7):764–768
- Greenbaum DM, Marschall KE. The value of routine daily chest x-rays in intubated patients in the medical intensive care unit. *Crit Care Med* 1982;10(1):29–30
- Hall JB, White SR, Karrison T. Efficacy of daily routine chest radiographs in intubated, mechanically ventilated patients. *Crit Care Med* 1991;19(5):689–693
- Silverstein DS, Livingston DH, Elcavage J, Kovar L, Kelly KM. The utility of routine daily chest radiography in the surgical intensive care unit. *J Trauma* 1993;35(4):643–646
- Adult Respiratory Distress Syndrome (ARDS)**
- Bernard GR, Artigas A, Brigham KL, et al. The American-European Consensus Conference on ARDS. Definitions, mechanisms, relevant outcomes, and clinical trial coordination. *Am J Respir Crit Care Med* 1994;149(3 Pt 1):818–824
- Krafft P, Fridrich P, Pernerstorfer T, et al. The acute respiratory distress syndrome: definitions, severity and clinical outcome. An analysis of 101 clinical investigations. *Intensive Care Med* 1996;22(6):519–529
- Montgomery AB, Stager MA, Carrico CJ, Hudson LD. Causes of mortality in patients with the adult respiratory distress syndrome. *Am Rev Respir Dis* 1985;132(3):485–489
- Navarrete-Navarro P, Rodriguez A, Reynolds N, et al. Acute respiratory distress syndrome among trauma patients: trends in ICU mortality, risk factors, complications and resource utilization. *Intensive Care Med* 2001;27(7):1133–1140
- Pathophysiology, Imaging**
- Bankier A, Fleischmann D, Aram L, Heimberger K, Schindler E, Herold CJ. Imaging in intensive care. Methods, indications, diagnostic signs. I. [Article in German] *Radiologe* 1998;38(11):972–986
- Bankier A, Fleischmann D, Aram L, Heimberger K, Schindler E, Herold CJ. Imaging in intensive medicine. Techniques. Indications, diagnostic signs. II. [Article in German] *Radiologe* 1998;38(12):1089–1099
- Bink A, Marksteller K, Birkenkamp K, et al. Multi-rotation CT and acute respiratory distress syndrome. Animal experiment studies. [Article in German] *Radiologe* 2001;41:195–200
- Bombino M, Gattinoni L, Pesenti A, Pistolesi M, Miniati M. The value of portable chest roentgenography in adult respiratory distress syndrome. Comparison with computed tomography. *Chest* 1991;100(3):762–769
- Desai SR. Acute respiratory distress syndrome: imaging of the injured lung. *Clin Radiol* 2002;57(1):8–17
- Desai SR, Hansell DM. Lung imaging in the adult respiratory distress syndrome: current practice and new insights. *Intensive Care Med* 1997;23(1):7–15
- Desai SR, Wells AU, Rubens MB, Evans TW, Hansell DM. Acute respiratory distress syndrome: CT abnormalities at long-term follow-up. *Radiology* 1999;210(1):29–35
- Gattinoni L, Bombino M, Pelosi P, et al. Lung structure and function in different stages of severe adult respiratory distress syndrome. *JAMA* 1994;271(22):1772–1779
- Gattinoni L, Pelosi P, Suter PM, Pedoto A, Vercesi P, Lissoni A. Acute respiratory distress syndrome caused by pulmonary and extrapulmonary disease. Different syndromes? *Am J Respir Crit Care Med* 1998;158(1):3–11
- Goodman LR, Fumagalli R, Tagliabue P, et al. Adult respiratory distress syndrome due to pulmonary and extrapulmonary causes: CT, clinical, and functional correlations. *Radiology* 1999;213(2):545–552
- Goodman PC. Radiographic findings in patients with acute respiratory distress syndrome. *Clin Chest Med* 2000;21(3):419–433, vii
- Greene R. Adult respiratory distress syndrome: acute alveolar damage. *Radiology* 1987;163(1):57–66
- Halperin BD, Feeley TW, Mihm FG, Chiles C, Guthaner DF, Blank NE. Evaluation of the portable chest roentgenogram for quantitating extravascular lung water in critically ill adults. *Chest* 1985;88(5):649–652
- Henschke CI, Yankelevitz DF, Wand A, Davis SD, Shiau M. Accuracy and efficacy of chest radiography in the intensive care unit. *Radiol Clin North Am* 1996;34(1):21–31
- Howling SJ, Evans TW, Hansell DM. The significance of bronchial dilatation on CT in patients with adult respiratory distress syndrome. *Clin Radiol* 1998;53(2):105–109
- Meade MO, Cook RJ, Guyatt GH, et al. Interobserver variation in interpreting chest radiographs for the diagnosis of acute respiratory distress syndrome. *Am J Respir Crit Care Med* 2000;161(1):85–90
- Nöbauer-Huhmann IM, Eibenberger K, Schaefer-Prokop C, et al. Changes in lung parenchyma after acute respiratory distress syndrome (ARDS): assessment with high-resolution computed tomography. *Eur Radiol* 2001;11(12):2436–2443
- Owens CM, Evans TW, Keogh BF, Hansell DM. Computed tomography in established adult respiratory distress syndrome. Correlation with lung injury score. *Chest* 1994;106(6):1815–1821
- Pelosi P, Crotti S, Brazzi L, Gattinoni L. Computed tomography in adult respiratory distress syndrome: what has it taught us? *Eur Respir J* 1996;9(5):1055–1062
- Pelosi P, D'Andrea L, Vitale G, Pesenti A, Gattinoni L. Vertical gradient of regional lung inflation in adult respiratory distress syndrome. *Am J Respir Crit Care Med* 1994;149(1):8–13
- Pesenti A, Tagliabue P, Patroniti N, Fumagalli R. Computerised tomography scan imaging in acute respiratory distress syndrome. *Intensive Care Med* 2001;27(4):631–639
- Puybasset L, Cluzel P, Gusman P, Grenier P, Preteux F, Rouby JJ; CT Scan ARDS Study Group. Regional distribution of gas and tissue in acute respiratory distress syndrome. I. Consequences for lung morphology. *Intensive Care Med* 2000;26(7):857–869
- Rubinfeld GD, Caldwell E, Granton J, Hudson LD, Matthay MA. Interobserver variability in applying a radiographic definition for ARDS. *Chest* 1999;116(5):1347–1353
- Tagliabue M, Casella TC, Zincone GE, Fumagalli R, Salvini E. CT and chest radiography in the evaluation of adult respiratory distress syndrome. *Acta Radiol* 1994;35(3):230–234
- Therapeutic Measures**
- Amato MBP, Barbas CSV, Medeiros DM, et al. Effect of a protective-ventilation strategy on mortality in the acute respiratory distress syndrome. *N Engl J Med* 1998;338(6):347–354
- Blanch L, Mancebo J, Perez M, et al. Short-term effects of prone position in critically ill patients with acute respiratory distress syndrome. *Intensive Care Med* 1997;23(10):1033–1039

- Brower RG, Fessler HE. Mechanical ventilation in acute lung injury and acute respiratory distress syndrome. *Clin Chest Med* 2000;21(3):491 – 510, viii
- Brower RG, Ware LB, Berthiaume Y, Matthay MA. Treatment of ARDS. *Chest* 2001;120(4):1347 – 1367
- Dambrosio M, Roupie E, Mollet JJ, et al. Effects of positive end-expiratory pressure and different tidal volumes on alveolar recruitment and hyperinflation. *Anesthesiology* 1997;87(3):495 – 503
- Dellinger RP, Zimmerman JL, Taylor RW, et al; Inhaled Nitric Oxide in ARDS Study Group. Effects of inhaled nitric oxide in patients with acute respiratory distress syndrome: results of a randomized phase II trial. *Crit Care Med* 1998;26(1):15 – 23
- Domenighetti G, Stricker H, Waldispuehl B. Nebulized prostacyclin (PGI₂) in acute respiratory distress syndrome: impact of primary (pulmonary injury) and secondary (extrapulmonary injury) disease on gas exchange response. *Crit Care Med* 2001;29(1):57 – 62
- Fridrich P, Krafft P, Hochleuthner H, Mauritz W. The effects of long-term prone positioning in patients with trauma-induced adult respiratory distress syndrome. *Anesth Analg* 1996;83(6):1206 – 1211
- Gattinoni L, D'Andrea L, Pelosi P, Vitale G, Pesenti A, Fumagalli R. Regional effects and mechanism of positive end-expiratory pressure in early adult respiratory distress syndrome. *JAMA* 1993;269(16):2122 – 2127
- Gattinoni L, Mascheroni D, Torresin A, et al. Morphological response to positive end expiratory pressure in acute respiratory failure. Computerized tomography study. *Intensive Care Med* 1986;12(3):137 – 142
- Gattinoni L, Pelosi P, Crotti S, Valenza F. Effects of positive end-expiratory pressure on regional distribution of tidal volume and recruitment in adult respiratory distress syndrome. *Am J Respir Crit Care Med* 1995;151(6):1807 – 1814
- Gattinoni L, Pesenti A, Avalli L, Rossi F, Bombino M. Pressure-volume curve of total respiratory system in acute respiratory failure. Computed tomographic scan study. *Am Rev Respir Dis* 1987;136(3):730 – 736
- Johnson MM, Ely EW, Chiles C, et al. Radiographic assessment of hyperinflation: correlation with objective chest radiographic measurements and mechanical ventilator parameters. *Chest* 1998;113(6):1698 – 1704
- Ketai LH, Godwin JD. A new view of pulmonary edema and acute respiratory distress syndrome. *J Thorac Imaging* 1998;13(3):147 – 171
- Parker JC, Hernandez LA, Peevy KJ. Mechanisms of ventilator-induced lung injury. *Crit Care Med* 1993;21(1):131 – 143
- Vincent JL, Brase R, Santman F, et al. A multi-centre, double-blind, placebo-controlled study of liposomal prostaglandin E₁ (TLC G-53) in patients with acute respiratory distress syndrome. *Intensive Care Med* 2001;27(10):1578 – 1583
- Walmrath D, Schneider T, Pilch J, Grimminger F, Seeger W. Aerosolized prostacyclin in adult respiratory distress syndrome. *Lancet* 1993;342(8877):961 – 962
- Walmrath D, Schneider T, Schermuly R, Olschewski H, Grimminger F, Seeger W. Direct comparison of inhaled nitric oxide and aerosolized prostacyclin in acute respiratory distress syndrome. *Am J Respir Crit Care Med* 1996;153(3):991 – 996
- Zwissler B, Kemming G, Habler O, et al. Inhaled prostacyclin (PGI₂) versus inhaled nitric oxide in adult respiratory distress syndrome. *Am J Respir Crit Care Med* 1996;154(6 Pt 1):1671 – 1677
- Differential Diagnosis**
- Goodman LR. Congestive heart failure and adult respiratory distress syndrome. New insights using computed tomography. *Radiol Clin North Am* 1996;34(1):33 – 46
- Ketai LH, Godwin JD. A new view of pulmonary edema and acute respiratory distress syndrome. *J Thorac Imaging* 1998;13(3):147 – 171
- Milne EN, Pistoletti M, Miniati M, Giuntini C. The radiologic distinction of cardiogenic and noncardiogenic edema. *AJR Am J Roentgenol* 1985;144(5):879 – 894
- Pistoletti M, Miniati M, Milne EN, Giuntini C. The chest roentgenogram in pulmonary edema. *Clin Chest Med* 1985;6(3):315 – 344
- Tomiyaama N, Müller NL, Johkoh T, et al. Acute respiratory distress syndrome and acute interstitial pneumonia: comparison of thin-section CT findings. *J Comput Assist Tomogr* 2001;25(1):28 – 33
- Complications**
- Pingleton SK. Complications of acute respiratory failure. *Am Rev Respir Dis* 1988;137(6):1463 – 1493
- Seidenfeld JJ, Pohl DF, Bell RC, Harris GD, Johanson WG Jr. Incidence, site, and outcome of infections in patients with the adult respiratory distress syndrome. *Am Rev Respir Dis* 1986;134(1):12 – 16
- Tocino I, Westcott JL. Barotrauma. *Radiol Clin North Am* 1996;34(1):59 – 81
- Tocino IM, Miller MH, Fairfax WR. Distribution of pneumothorax in the supine and semirecumbent critically ill adult. *AJR Am J Roentgenol* 1985;144(5):901 – 905
- Vieira SR, Puybasset L, Richecoeur J, et al. A lung computed tomographic assessment of positive end-expiratory pressure-induced lung overdistension. *Am J Respir Crit Care Med* 1998;158(5 Pt 1):1571 – 1577
- Winer-Muram HT, Rubin SA, Ellis JV, et al. Pneumonia and ARDS in patients receiving mechanical ventilation: diagnostic accuracy of chest radiography. *Radiology* 1993;188(2):479 – 485
- Winer-Muram HT, Steiner RM, Gurney JW, et al. Ventilator-associated pneumonia in patients with adult respiratory distress syndrome: CT evaluation. *Radiology* 1998;208(1):193 – 199
- Pneumonia**
- Nosocomial Pneumonia**
- Celis R, Torres A, Gatell JM, Almela M, Rodríguez-Roisin R, Agustí-Vidal A. Nosocomial pneumonia. A multivariate analysis of risk and prognosis. *Chest* 1988;93(2):318 – 324
- Lefcoe MS, Fox GA, Leasa DJ, Sparrow RK, McCormack DG. Accuracy of portable chest radiography in the critical care setting. Diagnosis of pneumonia based on quantitative cultures obtained from protected brush catheter. *Chest* 1994;105(3):885 – 887
- Lipchik RJ, Kuzo RS. Nosocomial pneumonia. *Radiol Clin North Am* 1996;34(1):47 – 58
- Lode HM, Schaberg T, Raffenberg M, Mauch H. Nosocomial pneumonia in the critical care unit. *Crit Care Clin* 1998;14(1):119 – 133
- Santos E, Talusan A, Brandstetter RD. Roentgenographic mimics of pneumonia in the critical care unit. *Crit Care Clin* 1998;14(1):91 – 104
- Aspiration Pneumonia**
- Landay MJ, Christensen EE, Bynum LJ. Pulmonary manifestations of acute aspiration of gastric contents. *AJR Am J Roentgenol* 1978;131(4):587 – 592
- Mendelsohn CL. The aspiration of stomach contents into the lungs during obstetric anesthesia. *Am J Obstet Gynecol* 1946;52:191 – 205
- Schwartz DJ, Wynne JW, Gibbs CP, Hood CI, Kuck EJ. The pulmonary consequences of aspiration of gastric contents at pH values greater than 2.5. *Am Rev Respir Dis* 1980;121(1):119 – 126
- Pneumonia during Mechanical Ventilation**
- Butler KL, Sinclair KE, Henderson VJ, et al. The chest radiograph in critically ill surgical patients is inaccurate in predicting ventilator-associated pneumonia. *Am Surg* 1999;65(9):805 – 809, discussion 809 – 810
- Chastre J, Fagon JY. Ventilator-associated pneumonia. *Am J Respir Crit Care Med* 2002;165(7):867 – 903
- Craven DE, Kunches LM, Kilinsky V, Lichtenberg DA, McCabe WR. Risk factors for pneumonia and fatality in patients receiving continuous mechanical ventilation. *Am Rev Respir Dis* 1986;133(5):792 – 796

- Fagon JY, Chastre J, Hance AJ, et al. Detection of nosocomial lung infection in ventilated patients. Use of a protected specimen brush and quantitative culture techniques in 147 patients. *Am Rev Respir Dis* 1988;138(1):110 – 116
- Fagon JY, Chastre J, Hance AJ, Domart Y, Trouillet JL, Gibert C. Evaluation of clinical judgment in the identification and treatment of nosocomial pneumonia in ventilated patients. *Chest* 1993;103(2):547 – 553
- Hahn U, Pereira P, Heininger A, Laniado M, Claussen CD. Value of CT in diagnosis of respirator-associated pneumonia. [Article in German] *Rofo* 1999;170(2):150 – 155
- Jiménez P, Torres A, Rodríguez-Roisin R, et al. Incidence and etiology of pneumonia acquired during mechanical ventilation. *Crit Care Med* 1989;17(9):882 – 885
- Johnson MM, Ely EW, Chiles C, et al. Radiographic assessment of hyperinflation: correlation with objective chest radiographic measurements and mechanical ventilator parameters. *Chest* 1998;113(6):1698 – 1704
- Meduri GU, Mauldin GL, Wunderink RG, et al. Causes of fever and pulmonary densities in patients with clinical manifestations of ventilator-associated pneumonia. *Chest* 1994;106(1):221 – 235
- Pugin J, Auckenthaler R, Mili N, Janssens JP, Lew PD, Suter PM. Diagnosis of ventilator-associated pneumonia by bacteriologic analysis of bronchoscopic and nonbronchoscopic “blind” bronchoalveolar lavage fluid. *Am Rev Respir Dis* 1991;143(5 Pt 1):1121 – 1129
- Winer-Muram HT, Jennings SG, Wunderink RG, Jones CB, Leeper KV Jr. Ventilator-associated *Pseudomonas aeruginosa* pneumonia: radiographic findings. *Radiology* 1995;195(1):247 – 252
- Winer-Muram HT, Steiner RM, Gurney JW, et al. Ventilator-associated pneumonia in patients with adult respiratory distress syndrome: CT evaluation. *Radiology* 1998;208(1):193 – 199
- Wunderink RG, Woldenberg LS, Zeiss J, Day CM, Ciemins J, Lacher DA. The radiologic diagnosis of autopsy-proven ventilator-associated pneumonia. *Chest* 1992;101(2):458 – 463
- Wunderink RG. Radiologic diagnosis of ventilator-associated pneumonia. *Chest* 2000;
- Zimmerman JE, Goodman LR, Shahvari MB. Effect of mechanical ventilation and positive end-expiratory pressure (PEEP) on chest radiograph. *AJR Am J Roentgenol* 1979;133(5):811 – 815
- ARDS and Pneumonia**
- Chastre J, Trouillet JL, Vuagnat A, et al. Nosocomial pneumonia in patients with acute respiratory distress syndrome. *Am J Respir Crit Care Med* 1998;157(4 Pt 1):1165 – 1172
- Sutherland KR, Steinberg KP, Maunder RJ, Milberg JA, Allen DL, Hudson LD. Pulmonary infection during the acute respiratory distress syndrome. *Am J Respir Crit Care Med* 1995;152(2):550 – 556
- Winer-Muram HT, Rubin SA, Ellis JV, et al. Pneumonia and ARDS in patients receiving mechanical ventilation: diagnostic accuracy of chest radiography. *Radiology* 1993;188(2):479 – 485
- Winer-Muram HT, Steiner RM, Gurney JW, et al. Ventilator-associated pneumonia in patients with adult respiratory distress syndrome: CT evaluation. *Radiology* 1998;208(1):193 – 199
- Atelectasis**
- Ashizawa K, Hayashi K, Aso N, Minami K. Lobar atelectasis: diagnostic pitfalls on chest radiography. *Br J Radiol* 2001;74(877):89 – 97
- Marini JJ, Pierson DJ, Hudson LD. Acute lobar atelectasis: a prospective comparison of fiberoptic bronchoscopy and respiratory therapy. *Am Rev Respir Dis* 1979;119(6):971 – 978
- Shevland JE, Hirleman MT, Hoang KA, Kealey GP. Lobar collapse in the surgical intensive care unit. *Br J Radiol* 1983;56(668):531 – 534
- Pneumothorax**
- Beres RA, Goodman LR. Pneumothorax: detection with upright versus decubitus radiography. *Radiology* 1993;186(1):19 – 22
- Chiles C, Ravin CE. Radiographic recognition of pneumothorax in the intensive care unit. *Crit Care Med* 1986;14(8):677 – 680
- Galanski M, Hartenauer U, Krumme B. X-Ray diagnosis of pneumothorax in intensive care units (author's trans). [Article in German] *Radiologe* 1981;21:459 – 462
- Gordon R. The deep sulcus sign. *Radiology* 1980;136(1):25 – 27
- Kurlander GJ, Helmen CH. Subpulmonary pneumothorax. *Am J Roentgenol Radium Ther Nucl Med* 1966;96(4):1019 – 1021
- Rowan KR, Kirkpatrick AW, Liu D, Forkheim KE, Mayo JR, Nicolaou S. Traumatic pneumothorax detection with thoracic US: correlation with chest radiography and CT—initial experience. *Radiology* 2002;225(1):210 – 214
- Sivak SL. Late appearance of pneumothorax after subclavian venipuncture. *Am J Med* 1986;80(2):323 – 324
- Tocino IM, Miller MH, Fairfax WR. Distribution of pneumothorax in the supine and semirecumbent critically ill adult. *AJR Am J Roentgenol* 1985;144(5):901 – 905
- Tocino IM, Miller MH, Frederick PR, Bahr AL, Thomas F. CT detection of occult pneumothorax in head trauma. *AJR Am J Roentgenol* 1984;143(5):987 – 990
- Ziter FMH Jr, Westcott JL. Supine subpulmonary pneumothorax. *AJR Am J Roentgenol* 1981;137(4):699 – 701
- Pleural Effusion**
- Patel MC, Flower CDR. Radiology in the management of pleural disease. *Eur Radiol* 1997;7(9):1454 – 1462
- Ruskin JA, Gurney JW, Thorsen MK, Goodman LR. Detection of pleural effusions on supine chest radiographs. *AJR Am J Roentgenol* 1987;148(4):681 – 683
- Schmidt O, Simon S, Schmitt R, et al. Volumetry of pleural effusion in multi-morbidity, postoperative patients of a surgical intensive care unit. Comparison of ultrasound diagnosis and thoracic bedside image. [Article in German] *Zentralbl Chir* 2000;125:375 – 379
- Acute Pulmonary Embolism**
- ACCP Consensus Committee on Pulmonary Embolism. American College of Chest Physicians. Opinions regarding the diagnosis and management of venous thromboembolic disease. *Chest* 1998;113(2):499 – 504
- Armstrong P, Wilson AG, Dee P, Hansell DM. *Imaging of Diseases of the Chest*. 3rd ed. London: Mosby; 2000: 405 – 430
- Bankier AA, Janata K, Fleischmann D, et al. Severity assessment of acute pulmonary embolism with spiral CT: evaluation of two modified angiographic scores and comparison with clinical data. *J Thorac Imaging* 1997;12(2):150 – 158
- Beigelman C, Chartrand-Lefebvre C, Howarth N, Grenier P. Pitfalls in diagnosis of pulmonary embolism with helical CT angiography. *AJR Am J Roentgenol* 1998;171(3):579 – 585
- Braunwald E, Isselbacher KJ, Petersdorfr RG, Wilson JD, Martin JB, Fauci AS. *Harrison's Principles of Internal Medicine*. 12th ed. New York: Mc Graw Hill; 1998
- Chunilal SD, Eikelboom JW, Attia J, et al. Does this patient have pulmonary embolism? *JAMA* 2003;290(21):2849 – 2858
- Coche E, Verschuren F, Hainaut P, Goncette L. Pulmonary embolism findings on chest radiographs and multislice spiral CT. *Eur Radiol* 2004;14(7):1241 – 1248
- Fleischmann D, Kontrus M, Bankier AA, Wiesmayr MN, Janata-Schwartzek K, Herold CJ. Spiral CT in acute pulmonary embolism. [Article in German] *Radiologe* 1996;36(6):489 – 495
- Fraser RS, Colman N, Müller N, Paré PD. *Fraser and Pare's Diagnosis of Diseases of the Chest*. Vol. III, 4th ed. Philadelphia: Saunders; 1999: 775 – 1835
- Frost SD, Brotman DJ, Michota FA. Rational use of D-dimer measurement to exclude acute venous thromboembolic disease. *Mayo Clin Proc* 2003;78(11):1385 – 1391
- Garg K, Sieler H, Welsh CH, Johnston RJ, Russ PD. Clinical validity of helical CT being interpreted as negative for pulmonary embolism: implications for patient treatment. *AJR Am J Roentgenol* 1999;172(6):1627 – 1631

- Chaye B, Remy J, Remy-Jardin M. Non-traumatic thoracic emergencies: CT diagnosis of acute pulmonary embolism: the first 10 years. *Eur Radiol* 2002;12(8):1886 – 1905
- Hoffmann U, Schima W, Herold C. Pulmonary magnetic resonance angiography. *Eur Radiol* 1999;9(9):1745 – 1754
- Kavanagh EC, O'Hare A, Hargaden G, Murray JG. Risk of pulmonary embolism after negative MDCT pulmonary angiography findings. *AJR Am J Roentgenol* 2004;182(2):499 – 504
- Kuiper JW, Geleijns J, Matheijssen NAA, Teeuwisse W, Pattynama PM. Radiation exposure of multi-row detector spiral computed tomography of the pulmonary arteries: comparison with digital subtraction pulmonary angiography. *Eur Radiol* 2003;13(7):1496 – 1500
- Loud PA, Grossman ZD, Klippenstein DL, Ray CE. Combined CT venography and pulmonary angiography: a new diagnostic technique for suspected thromboembolic disease. *AJR Am J Roentgenol* 1998;170(4):951 – 954
- Miniati M, Monti S, Bauleo C, et al. A diagnostic strategy for pulmonary embolism based on standardised pretest probability and perfusion lung scanning: a management study. *Eur J Nucl Med Mol Imaging* 2003;30(11):1450 – 1456
- Miniati M, Monti S, Pratali L, et al. Value of transthoracic echocardiography in the diagnosis of pulmonary embolism: results of a prospective study in unselected patients. *Am J Med* 2001;110(7):528 – 535
- Miniati M, Prediletto R, Formichi B, et al. Accuracy of clinical assessment in the diagnosis of pulmonary embolism. *Am J Respir Crit Care Med* 1999;159(3):864 – 871
- Naidich DP, Müller NL, Zerhouni EA, Mc Guinness G. *Computed Tomography and Magnetic Resonance of the Thorax*. 3rd ed. Philadelphia: Lippincott-Raven; 1999: 622 – 642
- Oudkerk M, van Beek EJ, Wielopolski P, et al. Comparison of contrast-enhanced magnetic resonance angiography and conventional pulmonary angiography for the diagnosis of pulmonary embolism: a prospective study. *Lancet* 2002;359(9318):1643 – 1647
- Perrier A, Roy PM, Aujesky D, et al. Diagnosing pulmonary embolism in outpatients with clinical assessment, D-dimer measurement, venous ultrasound, and helical computed tomography: a multicenter management study. *Am J Med* 2004;116(5):291 – 299
- Remy-Jardin M, Mastora I, Remy J. Pulmonary embolus imaging with multislice CT. *Radiol Clin North Am* 2003;41(3):507 – 519
- Remy-Jardin M, Remy J, Spiral CT. Spiral CT angiography of the pulmonary circulation. *Radiology* 1999;212(3):615 – 636
- Remy-Jardin M, Tillie-Leblond I, Szapiro D, et al. CT angiography of pulmonary embolism in patients with underlying respiratory disease: impact of multislice CT on image quality and negative predictive value. *Eur Radiol* 2002;12(8):1971 – 1978
- Simon M, Chiang EE, Boiselle PM. Paddle-wheel multislice helical CT display of pulmonary vessels and other lung structures. *Radiol Clin North Am* 2003;41(3):617 – 626
- Wells PS, Anderson DR, Rodger M, et al. Derivation of a simple clinical model to categorize patients probability of pulmonary embolism: increasing the models utility with the SimpliRED D-dimer. *Thromb Haemost* 2000;83(3):416 – 420
- Wells PS, Anderson DR, Rodger M, et al. Evaluation of D-dimer in the diagnosis of suspected deep-vein thrombosis. *N Engl J Med* 2003;349(13):1227 – 1235
- Winer-Muram HT, Boone JM, Brown HL, Jennings SG, Mabie WC, Lombardo GT. Pulmonary embolism in pregnant patients: fetal radiation dose with helical CT. *Radiology* 2002;224(2):487 – 492
- Goodman LR. Imaging after Thoracotomy and Imaging after Cardiac Surgery. In: Goodman LR, Putman CE, eds. *Critical Care Imaging*. Philadelphia: Saunders; 1992
- Goodman LR. Postoperative chest radiograph: II. Alterations after major intrathoracic surgery. *AJR Am J Roentgenol* 1980;134(4):803 – 813
- Sheehan RE, Sheppard MN, Hansell DM. Retained intrathoracic surgical swab: CT appearances. *J Thorac Imaging* 2000;15(1):61 – 64

Pneumonectomy and Lobectomy

- Boiselle PM, Shepard JA, McCloud TC, Grillo HC, Wright CD. Post-pneumonectomy syndrome: another twist. *J Thorac Imaging* 1997;12(3):209 – 211
- Gruden JF, Campagna G, McGuinness G. The normal CT appearances of the second carina and bronchial stump after left upper lobectomy. *J Thorac Imaging* 2000;15(2):138 – 143
- Kakeda S, Kamada K, Aoki T, Watanabe H, Nakata H. Postsurgical change in the tracheal bifurcation angle after upper lobectomy: radiographic evaluation. *Acad Radiol* 2003;10(6):644 – 649
- Kim EA, Lee KS, Shim YM, et al. Radiographic and CT findings in complications following pulmonary resection. *Radiographics* 2002;22(1):67 – 86
- Seo JB, Lee KS, Choo SW, Shim YM, Primack SL. Neofissure after lobectomy of the right lung: radiographic and CT findings. *Radiology* 1996;201(2):475 – 479
- Shepard JA, Grillo HC, McCloud TC, Dedrick CG, Spizarny DL. Right-pneumonectomy syndrome: radiologic findings and CT correlation. *Radiology* 1986;161(3):661 – 664
- Tsukada G, Stark P. Postpneumonectomy complications. *AJR Am J Roentgenol* 1997;169(5):1363 – 1370
- Valji AM, Maziak DE, Shamji FM, Matzinger FR. Postpneumonectomy syndrome: recognition and management. *Chest* 1998;114(6):1766 – 1769
- Westcott JL, Volpe JP. Peripheral bronchopleural fistula: CT evaluation in 20 patients with pneumonia, empyema, or postoperative air leak. *Radiology* 1995;196(1):175 – 181

Lung Transplantation

- Collins J. Imaging of the chest after lung transplantation. *J Thorac Imaging* 2002;17(2):102 – 112
- Collins J, Kuhlman JE, Love RB. Acute, life-threatening complications of lung transplantation. *Radiographics* 1998;18(1):21 – 43, discussion 43 – 47
- Collins J, Müller NL, Kazerooni EA, Paciocco G. CT findings of pneumonia after lung transplantation. *AJR Am J Roentgenol* 2000;175(3):811 – 818
- Diederich S, Scadeng M, Dennis C, Steward S, Flower CD. Radiological findings in lung transplantation. [Article in German] *Rofo* 1994;161(6):475 – 483
- Engeler CE. Heart-lung and lung transplantation. *Radiol Clin North Am* 1995;33(3):559 – 580
- Erasmus JJ, McAdams HP, Tapson VF, Murray JG, Davis RD. Radiologic issues in lung transplantation for end-stage pulmonary disease. *AJR Am J Roentgenol* 1997;169(1):69 – 78
- Garg K, Zamora MR, Tuder R, Armstrong JD II, Lynch DA. Lung transplantation: indications, donor and recipient selection, and imaging of complications. *Radiographics* 1996;16(2):355 – 367
- Gotway MB, Dawn SK, Sellami D, et al. Acute rejection following lung transplantation: limitations in accuracy of thin-section CT for diagnosis. *Radiology* 2001;221(1):207 – 212
- Herman SJ. Radiologic assessment after lung transplantation. *Radiol Clin North Am* 1994;32(4):663 – 678
- Ko JP, Shepard JA, Sproule MW, et al. CT manifestations of respiratory syncytial virus infection in lung transplant recipients. *J Comput Assist Tomogr* 2000;24(2):235 – 241
- Ward S, Müller NL. Pulmonary complications following lung transplantation. *Clin Radiol* 2000;55(5):332 – 339

Imaging of Intensive Care Patients after Thoracic Surgery

Review Articles / Book Chapters

- Bhalla M. Noncardiac thoracic surgical procedures. Definitions, indications, and postoperative radiology. *Radiol Clin North Am* 1996;34(1):137 – 155

Cardiovascular Surgery

- Apter S, Amir G, Taler M, et al. Unexpected subdiaphragmatic findings on CT of the chest in septic patients after cardiac surgery. *Clin Radiol* 2002;57(4):287 – 291
- Gilkeson RC, Markowitz AH, Ciancibello L. Multisection CT evaluation of the reoperative cardiac surgery patient. *Radiographics* 2003;23 (Spec No):S3 – S17
- Henry DA. Radiologic evaluation of the patient after cardiac surgery. *Radiol Clin North Am* 1996;34(1):119 – 135
- Henry DA, Jolles H, Berberich JJ, Schmelzer V. The post-cardiac surgery chest radiograph: a clinically integrated approach. *J Thorac Imaging* 1989;4(3):20 – 41
- Hornick PI, Harris P, Cousins C, Taylor KM, Keogh BE. Assessment of the value of the immediate postoperative chest radiograph after cardiac operation. *Ann Thorac Surg* 1995;59(5):1150 – 1153, discussion 1153 – 1154
- Milot J, Perron J, Lacasse Y, Létourneau L, Cartier PC, Maltais F. Incidence and predictors of ARDS after cardiac surgery. *Chest* 2001;119(3):884 – 888

Mediastinitis / Sternal Dehiscence

- Bitkover CY, Cederlund K, Aberg B, Vaage J. Computed tomography of the sternum and mediastinum after median sternotomy. *Ann Thorac Surg* 1999;68(3):858 – 863
- Boiselle PM, Mansilla AV. A closer look at the midsternal stripe sign. *AJR Am J Roentgenol* 2002;178(4):945 – 948
- Boiselle PM, Mansilla AV, Fisher MS, McLoud TC. Wandering wires: frequency of sternal wire abnormalities in patients with sternal dehiscence. *AJR Am J Roentgenol* 1999;173(3):777 – 780
- Boiselle PM, Mansilla AV, White CS, Fisher MS. Sternal dehiscence in patients with and without mediastinitis. *J Thorac Imaging* 2001;16(2):106 – 110
- Hayward RH, Knight WL, Reiter CG. Sternal dehiscence. Early detection by radiography. *J Thorac Cardiovasc Surg* 1994;108(4):616 – 619
- Jolles H, Henry DA, Roberson JP, Cole TJ, Spratt JA. Mediastinitis following median sternotomy: CT findings. *Radiology* 1996;201(2):463 – 466
- Maddern IR, Goodman LR, Almassi GH, Haasler GB, McManus RP, Olinger GN. CT after reconstructive repair of the sternum and chest wall. *Radiology* 1993;186(3):665 – 670
- Misawa Y, Fuse K, Hasegawa T. Infectious mediastinitis after cardiac operations: computed tomographic findings. *Ann Thorac Surg* 1998;65(3):622 – 624
- Yamaguchi H, Yamauchi H, Yamada T, Ariyoshi T, Aikawa H, Kato Y. Diagnostic validity of computed tomography for mediastinitis after cardiac surgery. *Ann Thorac Cardiovasc Surg* 2001;7(2):94 – 98

Heart Transplantation

- Austin JHM, Schulman LL, Mastrobattista JD. Pulmonary infection after cardiac transplantation: clinical and radiologic correlations. *Radiology* 1989;172(1):259 – 265
- Janzen DL, Padley SPG, Adler BD, Müller NL. Acute pulmonary complications in immunocompromised non-AIDS patients: comparison of diagnostic accuracy of CT and chest radiography. *Clin Radiol* 1993;47(3):159 – 165
- Kay HR, Goodman LR, Teplick SK, Mundth ED. Use of computed tomography to assess mediastinal complications after median sternotomy. *Ann Thorac Surg* 1983;36(6):706 – 714
- Knisely BL, Mastey LA, Collins J, Kuhlman JE. Imaging of cardiac transplantation complications. *Radiographics* 1999;19(2):321 – 339, discussion 340 – 341
- Knollmann FD, Hummel M, Hetzer R, Felix R. CT of heart transplant recipients: spectrum of disease. *Radiographics* 2000;20(6):1637 – 1648
- Kuhlman JE. Thoracic imaging in heart transplantation. *J Thorac Imaging* 2002;17(2):113 – 121

Esophageal Surgery

- Anbari MM, Levine MS, Cohen RB, Rubesin SE, Laufer I, Rosato EF. Delayed leaks and fistulas after esophagogastrectomy: radiologic evaluation. *AJR Am J Roentgenol* 1993;160(6):1217 – 1220
- Gollub MJ, Bains MS. Barium sulfate: a new (old) contrast agent for diagnosis of postoperative esophageal leaks. *Radiology* 1997;202(2):360 – 362
- Levine MS, Fisher AR, Rubesin SE, Laufer I, Herlinger H, Rosato EF. Complications after total gastrectomy and esophagojejunostomy: radiologic evaluation. *AJR Am J Roentgenol* 1991;157(6):1189 – 1194
- Swanson JO, Levine MS, Redfern RO, Rubesin SE. Usefulness of high-density barium for detection of leaks after esophagogastrectomy, total gastrectomy, and total laryngectomy. *AJR Am J Roentgenol* 2003;181(2):415 – 420

Acute Abdomen in Intensive Care Patients

Acute Pancreatitis

Clinical Aspects

- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney LM, McPhee SJ, Papadakis MA, ed. *Current Medical Diagnosis and Treatment*. 41st ed. New York: McGraw-Hill; 2002
- Crass RA. Abdominal pain. In: Tierney LM, McPhee SJ, Papadakis MA, ed. *Current Medical Diagnosis and Treatment*. 41st ed. New York: McGraw-Hill; 2002

Review Articles

- Memel DS, Balfe DM, Semelka RC. The biliary tract. In: Lee JKT, Stanley RJ, Heiken JP, eds. *Computed Body Tomography with MRI Correlation*. 3rd ed. Philadelphia: Lippincott-Raven; 1998: 779 – 844
- Sternbach GL, Barkin SZ. Acute abdominal pain. In: Rosen P, Doris PE, Barkin RM, Barkin SZ, Markovchick VJ, ed. *Diagnostic Radiology in Emergency Medicine*. St. Louis: Mosby; 1992: 359 – 378

Pancreatitis

- Balthazar EJ, Freeny PC, vanSonnenberg E. Imaging and intervention in acute pancreatitis. *Radiology* 1994;193(2):297 – 306
- Balthazar EJ, Robinson DL, Megibow AJ, Ranson JH. Acute pancreatitis: value of CT in establishing prognosis. *Radiology* 1990;174(2):331 – 336
- Balthazar EJ. Acute pancreatitis: assessment of severity with clinical and CT evaluation. *Radiology* 2002;223(3):603 – 613
- Beger HG, Rau BM. Severe acute pancreatitis: clinical course and management. *World J Gastroenterol* 2007;13(38):5043 – 5051
- Bradley EL III. A clinically based classification system for acute pancreatitis. Summary of the International Symposium on Acute Pancreatitis, Atlanta, Ga, September 11 through 13, 1992. *Arch Surg* 1993;128(5):586 – 590
- Chen H, Li F, Sun JB, Jia JG. Abdominal compartment syndrome in patients with severe acute pancreatitis in early stage. *World J Gastroenterol* 2008;14(22):3541 – 3548
- De Sanctis JT, Lee MJ, Gazelle GS, et al. Prognostic indicators in acute pancreatitis: CT vs APACHE II. *Clin Radiol* 1997;52(11):842 – 848
- De Waele JJ, Delrue L, Hoste EA, De Vos M, Duyck P, Colardyn FA. Extrapancreatic inflammation on abdominal computed tomography as an early predictor of disease severity in acute pancreatitis: evaluation of a new scoring system. *Pancreas* 2007;34(2):185 – 190
- Garcea G, Gouda M, Hebbes C, et al. Predictors of severity and survival in acute pancreatitis: validation of the efficacy of early warning scores. *Pancreas* 2008;37(3):e54 – e61
- Jacobs JE, Birnbaum BA. Computed tomography evaluation of acute pancreatitis. *Semin Roentgenol* 2001;36(2):92 – 98

- Jeffrey R. Acute abdominal pain. Rule out acute pancreatitis. In: Jeffrey R, Ralls P, Leung AN, Brant-Zawadzki M, ed. *Emergency Imaging*. Philadelphia: Lippincott Williams & Wilkins; 1999:149 – 154
- Kim DH, Pickhardt PJ. Radiologic assessment of acute and chronic pancreatitis. *Surg Clin North Am* 2007;87(6):1341 – 1358, viii
- Knoepfli AS, Kinkel K, Berney T, Morel P, Becker CD, Poletti PA. Prospective study of 310 patients: can early CT predict the severity of acute pancreatitis? *Abdom Imaging* 2007;32(1):111 – 115
- Lecesne R, Taourel P, Bret PM, Atri M, Reinhold C. Acute pancreatitis: interobserver agreement and correlation of CT and MR cholangiopancreatography with outcome. *Radiology* 1999;211(3):727 – 735
- Meek K, de Virgilio C, Murrell Z, et al. Correlation between admission laboratory values, early abdominal computed tomography, and severe complications of gallstone pancreatitis. *Am J Surg* 2000;180(6):556 – 560
- Merkle EM, Görlich J. Imaging of acute pancreatitis. *Eur Radiol* 2002;12(8):1979 – 1992
- Pitchumoni CS, Patel NM, Shah P. Factors influencing mortality in acute pancreatitis: can we alter them? *J Clin Gastroenterol* 2005;39(9):798 – 814 [Review]
- Ueda T, Takeyama Y, Yasuda T, et al. Simple scoring system for the prediction of the prognosis of severe acute pancreatitis. *Surgery* 2007;141(1):51 – 58
- Yassa NA, Agostini JT, Ralls PW. Accuracy of CT in estimating extent of pancreatic necrosis. *Clin Imaging* 1997;21(6):407 – 410
- Cholecystitis**
- Bloom RA, Libson E, Lebensart PD, et al. The ultrasound spectrum of emphysematous cholecystitis. *J Clin Ultrasound* 1989;17(4):251 – 256
- Bouras G, Lunca S, Vix M, Marescaux J. A case of emphysematous cholecystitis managed by laparoscopic surgery. *JLS* 2005;9(4):478 – 480
- Fidler J, Paulson EK, Layfield L. CT evaluation of acute cholecystitis: findings and usefulness in diagnosis. *AJR Am J Roentgenol* 1996;166(5):1085 – 1088
- Hatzidakis AA, Prassopoulos P, Petinarakis I, et al. Acute cholecystitis in high-risk patients: percutaneous cholecystostomy vs conservative treatment. *Eur Radiol* 2002;12(7):1778 – 1784
- Laurila J, Syrjäälä H, Laurila PA, Saarnio J, Ala-Kokko TI. Acute acalculous cholecystitis in critically ill patients. *Acta Anaesthesiol Scand* 2004;48(8):986 – 991
- Marchal GJ, Casaer M, Baert AL, Goddeeris PG, Kerremans R, Fevery J. Gallbladder wall sonolucency in acute cholecystitis. *Radiology* 1979;133(2):429 – 433
- Mastoraki A, Mastoraki S, Kriaras I, Douka E, Geroulanos S. Complications involving gall bladder and biliary tract in cardiovascular surgery. *Hepatogastroenterology* 2008;55(85):1233 – 1237
- Ott DJ. Acalculous gallbladder disease: a controversial entity and imaging dilemma revisited. *Am J Gastroenterol* 1998;93(7):1181 – 1183
- Pelinka LE, Schmidhammer R, Hamid L, Mauritz W, Redl H. Acute acalculous cholecystitis after trauma: a prospective study. *J Trauma* 2003;55(2):323 – 329
- Ralls PW, Colletti PM, Lapin SA, et al. Real-time sonography in suspected acute cholecystitis. Prospective evaluation of primary and secondary signs. *Radiology* 1985;155(3):767 – 771
- Ralls P. Right upper quadrant pain. Rule out acute cholecystitis. In: Jeffrey R, Ralls P, Leung AN, Brant-Zawadzki M, eds. *Emergency Imaging*. Philadelphia: Lippincott Williams & Wilkins; 1999:119 – 132
- Simeone JF, Brink JA, Mueller PR, et al. The sonographic diagnosis of acute gangrenous cholecystitis: importance of the Murphy sign. *AJR Am J Roentgenol* 1989;152(2):289 – 290
- Soyer P, Brouland JP, Boudiaf M, et al. Color velocity imaging and power Doppler sonography of the gallbladder wall: a new look at sonographic diagnosis of acute cholecystitis. *AJR Am J Roentgenol* 1998;171(1):183 – 188
- Takada T, Yasuda H, Uchiyama K, Hasegawa H, Asagoe T, Shikata J. Pericholecystic abscess: classification of US findings to determine the proper therapy. *Radiology* 1989;172(3):693 – 697
- Theodorou P, Maurer CA, Spanholtz TA, et al. Acalculous cholecystitis in severely burned patients: incidence and predisposing factors. *Burns* 2009;35(3):405 – 411
- Uggowitz M, Kugler C, Schramayer G, et al. Sonography of acute cholecystitis: comparison of color and power Doppler sonography in detecting a hypervascularized gallbladder wall. *AJR Am J Roentgenol* 1997;168(3):707 – 712
- Cholangitis**
- Balthazar EJ, Birnbaum BA, Naidich M. Acute cholangitis: CT evaluation. *J Comput Assist Tomogr* 1993;17(2):283 – 289
- Gelbmann CM, Rümmele P, Wimmer M, et al. Ischemic-like cholangiopathy with secondary sclerosing cholangitis in critically ill patients. *Am J Gastroenterol* 2007;102(6):1221 – 1229
- Yoon KH, Ha HK, Lee JS, et al. Inflammatory pseudotumor of the liver in patients with recurrent pyogenic cholangitis: CT-histopathologic correlation. *Radiology* 1999;211(2):373 – 379
- Hepatic Abscess**
- Barreda R, Ros PR. Diagnostic imaging of liver abscess. *Crit Rev Diagn Imaging* 1992;33(1-2):29 – 58
- Mergo PJ, Ros PR. MR imaging of inflammatory disease of the liver. *Magn Reson Imaging Clin N Am* 1997;5(2):367 – 376
- Rajak CL, Gupta S, Jain S, Chawla Y, Gulati M, Suri S. Percutaneous treatment of liver abscesses: needle aspiration versus catheter drainage. *AJR Am J Roentgenol* 1998;170(4):1035 – 1039
- Terrier F, Becker CD, Triller JK. Morphologic aspects of hepatic abscesses at computed tomography and ultrasound. *Acta Radiol Diagn (Stockh)* 1983;24(2):129 – 137
- Hepatitis and Liver failure**
- Chawla Y, Sreedharan A, Dhiman RK, Jain S, Suri S. Portal hemodynamics in fulminant hepatic failure as assessed by duplex Doppler ultrasonography. *Dig Dis Sci* 2001;46(3):504 – 508
- Deasy NP, Wendon J, Meire HB, Sidhu PS. The value of serial Doppler ultrasound as a predictor of clinical outcome and the need for transplantation in fulminant and severe acute liver failure. *Br J Radiol* 1999;72(854):134 – 143
- Valls C, Andía E, Roca Y, Cos M, Figueras J. CT in hepatic cirrhosis and chronic hepatitis. *Semin Ultrasound CT MR* 2002;23(1):37 – 61
- Vascular Disorders of the Liver**
- Brancatelli G, Federle MP, Grazioli L, Golfieri R, Lencioni R. Large regenerative nodules in Budd-Chiari syndrome and other vascular disorders of the liver: CT and MR imaging findings with clinicopathologic correlation. *AJR Am J Roentgenol* 2002;178(4):877 – 883
- Murphy FB, Steinberg HV, Shires GT III, Martin LG, Bernardino ME. The Budd-Chiari syndrome: a review. *AJR Am J Roentgenol* 1986;147(1):9 – 15
- Complications and Interventions**
- Besselink MG, van Santvoort HC, Boermeester MA, et al; Dutch Acute Pancreatitis Study Group. Timing and impact of infections in acute pancreatitis. *Br J Surg* 2009;96(3):267 – 273
- Bradley EL III, Howard TJ, van Sonnenberg E, Fotoohi M. Intervention in necrotizing pancreatitis: an evidence-based review of surgical and percutaneous alternatives. *J Gastrointest Surg* 2008;12(4):634 – 639
- Bruennler T, Langgartner J, Lang S, et al. Percutaneous necrosectomy in patients with acute, necrotizing pancreatitis. *Eur Radiol* 2008;18(8):1604 – 1610
- Mortelé KJ, Girshman J, Szejnfeld D, et al. CT-guided percutaneous catheter drainage of acute necrotizing pancreatitis: clinical experience and observations in patients with sterile and infected necrosis. *AJR Am J Roentgenol* 2009;192(1):110 – 116

- Rocha FG, Benoit E, Zinner MJ, et al. Impact of radiologic intervention on mortality in necrotizing pancreatitis: the role of organ failure. *Arch Surg* 2009;144(3):261 – 265
- Segal D, Morteale KJ, Banks PA, Silverman SG. Acute necrotizing pancreatitis: role of CT-guided percutaneous catheter drainage. *Abdom Imaging* 2007;32(3):351 – 361
- Werner J, Büchler MW. Infectious complications in necrotizing pancreatitis. [Article in German] *Zentralbl Chir* 2007;132(5):433 – 437
- Wyncoll DL. The management of severe acute necrotising pancreatitis: an evidence-based review of the literature. *Intensive Care Med* 1999;25(2):146 – 156

Urosepsis / Acute Renal Failure

- Book M, Lehmann LE, Schewe JC, Weber S, Stüber F. Urosepsis. Current therapy and diagnosis. *Urologe A*. 2005;44:413 – 422; Quiz 423 – 424
- Calandra T, Cohen J; International Sepsis Forum Definition of Infection in the ICU Consensus Conference. The international sepsis forum consensus conference on definitions of infection in the intensive care unit. *Crit Care Med* 2005;33(7):1538 – 1548
- Christoph F, Weikert S, Müller M, Miller K, Schrader M. How septic is urosepsis? Clinical course of infected hydronephrosis and therapeutic strategies. *World J Urol* 2005;23(4):243 – 247
- Marx G, Reinhart K. Urosepsis: from the intensive care viewpoint. *Int J Antimicrob Agents* 2008;31(Suppl 1):S79 – S84
- Shah K, Teng J, Shah H, Choe A, Darvish A, Newman D, Wiener D. Can bedside ultrasound assist in determining whether serum creatinine is elevated in cases of acute urinary retention? *J Emerg Med* 2009;[still E-pub]
- Soulen MC, Fishman EK, Goldman SM, Gatewood OMB. Bacterial renal infection: role of CT. *Radiology* 1989;171(3):703 – 707
- Wagenlehner FM, Pilatz A, Naber KG, Weidner W. Therapeutic challenges of urosepsis. *Eur J Clin Invest* 2008;38(Suppl 2):45 – 49

Acute Gastrointestinal Bleeding

- Farrell JJ, Friedman LS. Review article: the management of lower gastrointestinal bleeding. *Aliment Pharmacol Ther* 2005;21(11):1281 – 1298
- Nietsch H, Lotterer E, Fleig WE. Acute upper gastrointestinal hemorrhage. Diagnosis and management. [Article in German] *Internist (Berl)* 2003;44(5):519 – 528, 530 – 532
- Zuckerman GR, Prakash C. Acute lower intestinal bleeding. Part II: etiology, therapy, and outcomes. *Gastrointest Endosc* 1999;49(2):228 – 238

CT Angiography

- Anthony S, Milburn S, Uberoi R. Multi-detector CT: review of its use in acute GI haemorrhage. *Clin Radiol* 2007;62(10):938 – 949
- Burke SJ, Golzarian J, Weldon D, Sun S. Nonvariceal upper gastrointestinal bleeding. *Eur Radiol* 2007;17(7):1714 – 1726
- Duchesne J, Jacome T, Serou M, et al. CT-angiography for the detection of a lower gastrointestinal bleeding source. *Am Surg* 2005;71(5):392 – 397
- Ernst O, Bulois P, Saint-Drenant S, Leroy C, Paris JC, Sergent G. Helical CT in acute lower gastrointestinal bleeding. *Eur Radiol* 2003;13(1):114 – 117
- Ettorre GC, Francioso G, Garribba AP, Fracella MR, Greco A, Farchi G. Helical CT angiography in gastrointestinal bleeding of obscure origin. *AJR Am J Roentgenol* 1997;168(3):727 – 731
- Filippone A, Cianci R, Milano A, Valeriano S, Di Mizio V, Storto ML. Obscure gastrointestinal bleeding and small bowel pathology: comparison between wireless capsule endoscopy and multidetector-row CT enteroclysis. *Abdom Imaging* 2008;33(4):398 – 406
- Horton KM, Brooke Jeffrey R Jr, Federle MP, Fishman EK. Acute gastrointestinal bleeding: the potential role of 64 MDCT and 3 D imaging in the diagnosis. *Emerg Radiol* 2009
- Laing CJ, Tobias T, Rosenblum DI, Banker WL, Tseng L, Tamarkin SW. Acute gastrointestinal bleeding: emerging role of multidetector

- CT angiography and review of current imaging techniques. *Radiographics* 2007;27(4):1055 – 1070
- Rajan R, Dhar P, Praseedom RK, Sudhindran S, Moorthy S. Role of contrast CT in acute lower gastrointestinal bleeding. *Dig Surg* 2004;21(4):293 – 296
- Sabharwal R, Vladica P, Chou R, Law WP. Helical CT in the diagnosis of acute lower gastrointestinal haemorrhage. *Eur J Radiol* 2006;58(2):273 – 279

Angiography and Interventional Procedures

- Gady JS, Reynolds H, Blum A. Selective arterial embolization for control of lower gastrointestinal bleeding: recommendations for a clinical management pathway. *Curr Surg* 2003;60(3):344 – 347
- Karanicolas PJ, Colquhoun PH, Dahlke E, Guyatt GH. Mesenteric angiography for the localization and treatment of acute lower gastrointestinal bleeding. *Can J Surg* 2008;51(6):437 – 441
- Koval G, Benner KG, Rösch J, Kozak BE. Aggressive angiographic diagnosis in acute lower gastrointestinal hemorrhage. *Dig Dis Sci* 1987;32(3):248 – 253
- Padia SA, Geisinger MA, Newman JS, Pierce G, Obuchowski NA, Sands MJ. Effectiveness of coil embolization in angiographically detectable versus non-detectable sources of upper gastrointestinal hemorrhage. *J Vasc Interv Radiol* 2009;20(4):461 – 466
- Pomoni M, Sissopoulos A, Condilis N, et al. Lower gastrointestinal bleeding treated with transcatheter arterial embolization. Case report and review of the literature. *Ann Ital Chir* 2008;79(4):281 – 286
- Schürmann K, Bücken A, Jansen M, et al. Selective CT mesentericography in the diagnostics of obscure overt intestinal bleeding: preliminary results. [Article in German] *Rofo* 2002;174:444 – 451

Inflammatory Bowel Diseases

Pseudomembranous Enterocolitis

- Ang CW, Heyes G, Morrison P, Carr B. The acquisition and outcome of ICU-acquired Clostridium difficile infection in a single centre in the UK. *J Infect* 2008;57(6):435 – 440
- Bosseckert H. Antibiotic-associated diarrhea and pseudomembranous colitis. Treatment and prevention of recurrence. [Article in German] *Med Monatsschr Pharm* 2003;26(5):173 – 175
- Garey KW, Dao-Tran TK, Jiang ZD, Price MP, Gentry LO, Dupont HL. A clinical risk index for Clostridium difficile infection in hospitalised patients receiving broad-spectrum antibiotics. *J Hosp Infect* 2008;70(2):142 – 147
- Greenstein AJ, Byrn JC, Zhang LP, Swedish KA, Jahn AE, Divino CM. Risk factors for the development of fulminant Clostridium difficile colitis. *Surgery* 2008;143(5):623 – 629
- Krämer S, Bischoff SC. Therapeutic possibilities of probiotics in antibiotic-related diarrhea. [Article in German] *MMW Fortschr Med* 2006;148(35-36):28 – 30
- Lenzen-Grossimlinghaus R, Strohmeier G. Antibiotic-associated diarrhea. [Article in German] *Dtsch Med Wochenschr* 2003;128(9):437 – 439

Graft versus Host Disease

- Brodoefel H, Bethge W, Vogel M, et al. Early and late-onset acute GVHD following hematopoietic cell transplantation: CT features of gastrointestinal involvement with clinical and pathological correlation. *Eur J Radiol* 2010;73(3):594 – 600

Diverticulitis

- Ambrosetti P, Becker C, Terrier F. Colonic diverticulitis: impact of imaging on surgical management—a prospective study of 542 patients. *Eur Radiol* 2002;12(5):1145 – 1149
- Ambrosetti P. Acute diverticulitis of the left colon: value of the initial CT and timing of elective colectomy. *J Gastrointest Surg* 2008;12(8):1318 – 1320
- Aschoff AJ. MDCT of the abdomen. *Eur Radiol* 2006;16(Suppl 7):M54 – M57

- Chintapalli KN, Chopra S, Ghiatas AA, Esola CC, Fields SF, Dodd GD III. Diverticulitis versus colon cancer: differentiation with helical CT findings. *Radiology* 1999;210(2):429 – 435
- Ferstl FJ, Obert R, Cordes M. CT of acute left-sided colonic diverticulitis and its differential diagnoses. [Article in German] *Radiologie* 2005;45(7):597 – 607
- Floch MH, Bina I. The natural history of diverticulitis: fact and theory. *J Clin Gastroenterol* 2004; 38(5, Suppl 1):S2 – S7
- Floch MH; NDSG. Symptom severity and disease activity indices for diverticulitis. *J Clin Gastroenterol* 2008;42(10):1135 – 1136
- Horton KM, Corl FM, Fishman EK. CT evaluation of the colon: inflammatory disease. *Radiographics* 2000;20(2):399 – 418
- Jang HJ, Lim HK, Lee SJ, Lee WJ, Kim EY, Kim SH. Acute diverticulitis of the cecum and ascending colon: the value of thin-section helical CT findings in excluding colonic carcinoma. *AJR Am J Roentgenol* 2000;174(5):1397 – 1402
- Kaiser AM, Jiang JK, Lake JP, et al. The management of complicated diverticulitis and the role of computed tomography. *Am J Gastroenterol* 2005;100(4):910 – 917
- Katz DS, Yam B, Hines JJ, Mazzie JP, Lane MJ, Abbas MA. Uncommon and unusual gastrointestinal causes of the acute abdomen: computed tomographic diagnosis. *Semin Ultrasound CT MR* 2008;29(5):386 – 398
- Kirbaş I, Yildirim E, Harman A, Başaran O. Perforated ileal diverticulitis: CT findings. *Diagn Interv Radiol* 2007;13(4):188 – 189
- Laméris W, van Randen A, Bipat S, Bossuyt PM, Boermeester MA, Stoker J. Graded compression ultrasonography and computed tomography in acute colonic diverticulitis: meta-analysis of test accuracy. *Eur Radiol* 2008;18(11):2498 – 2511
- Lawrimore T, Rhea JT. Computed tomography evaluation of diverticulitis. *J Intensive Care Med* 2004;19(4):194 – 204
- Lohrmann C, Ghanem N, Pache G, Makowiec F, Kotter E, Langer M. CT in acute perforated sigmoid diverticulitis. *Eur J Radiol* 2005;56(1):78 – 83
- McCafferty MH, Roth L, Jordan J. Current management of diverticulitis. *Am Surg* 2008;74(11):1041 – 1049
- Padidar AM, Jeffrey RB Jr, Mindelzun RE, Dolph JF. Differentiating sigmoid diverticulitis from carcinoma on CT scans: mesenteric inflammation suggests diverticulitis. *AJR Am J Roentgenol* 1994;163(1):81 – 83
- Rotert H, Nöldge G, Encke J, Richter GM, Dux M. The value of CT for the diagnosis of acute diverticulitis. [Article in German] *Radiologie* 2003;43(1):51 – 58
- Sarma D, Longo WE; NDSG. Diagnostic imaging for diverticulitis. *J Clin Gastroenterol* 2008;42(10):1139 – 1141
- Sheth AA, Longo W, Floch MH. Diverticular disease and diverticulitis. *Am J Gastroenterol* 2008;103(6):1550 – 1556
- Shyung LR, Lin SC, Shih SC, Kao CR, Chou SY. Decision making in right-sided diverticulitis. *World J Gastroenterol* 2003;9(3):606 – 608
- Singh B, May K, Coltart I, Moore NR, Cunningham C. The long-term results of percutaneous drainage of diverticular abscess. *Ann R Coll Surg Engl* 2008;90(4):297 – 301
- Urban BA, Fishman EK. Targeted helical CT of the acute abdomen: appendicitis, diverticulitis, and small bowel obstruction. *Semin Ultrasound CT MR* 2000;21(1):20 – 39
- Zissin R, Hertz M, Osadchy A, Even-Sapir E, Gayer G. Abdominal CT findings in nontraumatic colorectal perforation. *Eur J Radiol* 2008;65(1):125 – 132
- Ernst S, Luther B, Zimmermann N, et al. Current diagnosis and therapy of non-occlusive mesenteric ischemia. [Article in German] *Rofo* 2003;175:515 – 523
- Gore RM, Yaghamai V, Thakrar KH, et al. Imaging in intestinal ischemic disorders. *Radiol Clin North Am* 2008;46(5):845 – 875, v
- Izbicki JR, Schneider CG, Kastl S. Partial ischemia. Occlusive and non-occlusive mesenteric ischemia, ischemic colitis, systemic lupus erythematosus. [Article in German] *Chirurg* 2003;74(5):413 – 418
- Neri E, Sassi C, Massetti M, et al. Nonocclusive intestinal ischemia in patients with acute aortic dissection. *J Vasc Surg* 2002;36(4):738 – 745
- Paterno F, Longo WE. The etiology and pathogenesis of vascular disorders of the intestine. *Radiol Clin North Am* 2008;46(5):877 – 885, v
- Rha SE, Ha HK, Lee SH, et al. CT and MR imaging findings of bowel ischemia from various primary causes. *Radiographics* 2000;20(1):29 – 42
- Schütz A, Eichinger W, Breuer M, Gansera B, Kemkes BM. Acute mesenteric ischemia after open heart surgery. *Angiology* 1998;49(4):267 – 273
- Segatto E, Mortelé KJ, Ji H, Wiesner W, Ros PR. Acute small bowel ischemia: CT imaging findings. *Semin Ultrasound CT MR* 2003;24(5):364 – 376
- Taourel P, Aufort S, Merigeaud S, Doyon FC, Hoquet MD, Delabrousse E. Imaging of ischemic colitis. *Radiol Clin North Am* 2008;46(5):909 – 924, vi
- Wiesner W, Steinbrich W. Stellenwert der Computertomographie bei der Diagnostik der akuten Darmischämie. *Radiologie up2date* 2004;1:75 – 89
- Yasuhara H. Acute mesenteric ischemia: the challenge of gastroenterology. *Surg Today* 2005;35(3):185 – 195

Imaging of Intensive Care Patients after Abdominal Surgery

Review Articles / Book Chapters

- Gore RM, Levine MS, Laufer I, Eds. *Textbook of Gastrointestinal Radiology*. Philadelphia: Saunders; 1994
- Halpert RD, Feczko PJ. *The Requisites. Gastrointestinal Radiology*: St. Louis: Mosby; 1999
- Krestin GP, Choyke PL. *Acute Abdomen*. Stuttgart: Thieme; 1996

Abdominal Drainage

- Benzer H, Buchardi H, Larsen R, Suter PM, Eds. *Intensivmedizin*. 7th ed. Berlin: Springer; 1994: 42
- Benzer H, Buchardi H, Larsen R, Suter PM, Eds. *Intensivmedizin*. 7th ed. Berlin: Springer; 1994: 112
- Durst J, Rohen JW. *Chirurgische Operationslehre*. Stuttgart: Schattauer; 1996: 353, 543
- Felix R, Lüning M, eds. *Komplexe bildgebende Diagnostik*. Stuttgart: Thieme; 1989: 265
- Vogel H. *Postoperative Röntgenmorphologie*. Landsberg: ecomed; 1986: 90

Postoperative Complications

Postoperative Bleeding

- Miyamoto N, Kodama Y, Endo H, Shimizu T, Miyasaka K. Hepatic artery embolization for postoperative hemorrhage in upper abdominal surgery. *Abdom Imaging* 2003;28(3):347 – 353

Postoperative Sepsis

- Barkhausen J, Stöblen F, Dominguez-Fernandez E, Henseke P, Müller RD. Impact of CT in patients with sepsis of unknown origin. *Acta Radiol* 1999;40(5):552 – 555
- McDowell RK, Dawson SL. Evaluation of the abdomen in sepsis of unknown origin. *Radiol Clin North Am* 1996;34(1):177 – 190

Acute Intestinal Ischemia

- Berland T, Oldenburg WA. Acute mesenteric ischemia. *Curr Gastroenterol Rep* 2008;10(3):341 – 346
- Betzler M. Surgical technical guidelines in intestinal ischemia. [Article in German] *Chirurg* 1998;69(1):1 – 7
- Bradbury MS, Kavanagh PV, Bechtold RE, et al. Mesenteric venous thrombosis: diagnosis and noninvasive imaging. *Radiographics* 2002;22(3):527 – 541
- Brophy CM. Gastrointestinal vascular and ischemic syndromes. *Curr Opin Gen Surg* 1993;225 – 231

- Merrell RC. The abdomen as source of sepsis in critically ill patients. *Crit Care Clin* 1995;11(2):255 – 272
- Velmahos GC, Kamel E, Berne TV, et al. Abdominal computed tomography for the diagnosis of intra-abdominal sepsis in critically injured patients: fishing in murky waters. *Arch Surg* 1999;134(8):831 – 836, discussion 836 – 838
- Peritonitis**
- Baker SR. Imaging of pneumoperitoneum. *Abdom Imaging* 1996;21(5):413 – 414
- Earls JP, Dachman AH, Colon E, Garrett MG, Molloy M. Prevalence and duration of postoperative pneumoperitoneum: sensitivity of CT vs. left lateral decubitus radiography. *AJR Am J Roentgenol* 1993;161(4):781 – 785
- Gayer G, Jonas T, Apter S, Amitai M, Shabtai M, Hertz M. Postoperative pneumoperitoneum as detected by CT: prevalence, duration, and relevant factors affecting its possible significance. *Abdom Imaging* 2000;25(3):301 – 305
- O'Connor AR, Coakley FV, Meng MV, Eberhardt SC. Imaging of retained surgical sponges in the abdomen and pelvis. *AJR Am J Roentgenol* 2003;180(2):481 – 489
- Stapakis JC, Thickman D. Diagnosis of pneumoperitoneum: abdominal CT vs. upright chest film. *J Comput Assist Tomogr* 1992;16(5):713 – 716
- Abscess**
- Freed KS, Lo JY, Baker JA, et al. Predictive model for the diagnosis of intraabdominal abscess. *Acad Radiol* 1998;5(7):473 – 479
- Gazelle GS, Mueller PR. Abdominal abscess. Imaging and intervention. *Radiol Clin North Am* 1994;32(5):913 – 932
- Gervais DA, Ho CH, O'Neill MJ, et al. Recurrent abdominal and pelvic abscesses: incidence, results of repeated percutaneous drainage, and underlying causes in 956 drainages. *AJR Am J Roentgenol* 2004;182(2):463 – 466
- Harisinghani MG, Gervais DA, Hahn PF, et al. CT-guided transgluteal drainage of deep pelvic abscesses: indications, technique, procedure-related complications, and clinical outcome. *Radiographics* 2002;22(6):1353 – 1367
- Krumenacker JH, Panicek DM, Ginsberg MS, Bach AM, Hilton S, Schwartz LH. CT in searching for abscess after abdominal or pelvic surgery in patients with neoplasia: do abdomen and pelvis both need to be scanned? *J Comput Assist Tomogr* 1997;21(4):652 – 655
- Lal NR, Kazerouni EA, Bree RL. Development and implementation of an appropriateness guideline for use of CT in cases of suspected intraabdominal abscess. *Acad Radiol* 2000;7(9):711 – 716
- Postoperative Bowel Obstruction**
- Frager DH, Baer JW, Rothpearl A, Bossart PA. Distinction between postoperative ileus and mechanical small-bowel obstruction: value of CT compared with clinical and other radiographic findings. *AJR Am J Roentgenol* 1995;164(4):891 – 894
- Ha HK, Shin BS, Lee SI, et al. Usefulness of CT in patients with intestinal obstruction who have undergone abdominal surgery for malignancy. *AJR Am J Roentgenol* 1998;171(6):1587 – 1593
- Kammen BF, Levine MS, Rubesin SE, Laufer I. Adynamic ileus after caesarean section mimicking intestinal obstruction: findings on abdominal radiographs. *Br J Radiol* 2000;73(873):951 – 955
- Resnick J, Greenwald DA, Brandt LJ. Delayed gastric emptying and postoperative ileus after nongastric abdominal surgery: part I. *Am J Gastroenterol* 1997;92(5):751 – 762
- Resnick J, Greenwald DA, Brandt LJ. Delayed gastric emptying and postoperative ileus after nongastric abdominal surgery: part II. *Am J Gastroenterol* 1997;92(6):934 – 940
- Schuster TG, Montie JE. Postoperative ileus after abdominal surgery. *Urology* 2002;59(4):465 – 471
- Small Bowel Obstruction**
- Bischof TP. Erbrechen. In: Krestin GP, ed. *Akutes Abdomen*. Stuttgart: Thieme; 1994:128 – 143
- Bischof TP. Obstipation. In: Krestin GP, ed. *Akutes Abdomen*. Stuttgart: Thieme; 1994:144 – 155
- DiSantis DJ, Ralls PW, Balfe DM, et al. The patient with suspected small bowel obstruction: imaging strategies. *American College of Radiology. ACR Appropriateness Criteria. Radiology* 2000;215(Suppl):121 – 124
- Herlinger H, Rubesin SE, Norris JB. Small bowel obstruction. In: Gore R, Levine MS, ed. *Textbook of Gastrointestinal Radiology*, Vol. 1. Philadelphia: Saunders; 2000: 815 – 837
- Lappas JC, Reyes BL, Maglinte DD. Abdominal radiography findings in small-bowel obstruction: relevance to triage for additional diagnostic imaging. *AJR Am J Roentgenol* 2001;176(1):167 – 174
- Maglinte DD, Kelvin FM, Rowe MG, Bender GN, Rouch DM. Small-bowel obstruction: optimizing radiologic investigation and non-surgical management. *Radiology* 2001;218(1):39 – 46
- Miller G, Boman J, Shrier I, Gordon PH. Etiology of small bowel obstruction. *Am J Surg* 2000;180(1):33 – 36
- Small Bowel Feces Sign**
- Balthazar EJ. George W. Holmes Lecture. CT of small-bowel obstruction. *AJR Am J Roentgenol* 1994;162(2):255 – 261
- Burkill G, Bell J, Healy J. Small bowel obstruction: the role of computed tomography in its diagnosis and management with reference to other imaging modalities. *Eur Radiol* 2001;11(8):1405 – 1422
- Maglinte DD, Reyes BL, Harmon BH, et al. Reliability and role of plain film radiography and CT in the diagnosis of small-bowel obstruction. *AJR Am J Roentgenol* 1996;167(6):1451 – 1455
- Mayo-Smith WW, Wittenberg J, Bennett GL, Gervais DA, Gazelle GS, Mueller PR. The CT small bowel faeces sign: description and clinical significance. *Clin Radiol* 1995;50(11):765 – 767
- Taourel PG, Fabre JM, Pradel JA, Seneterre EJ, Megibow AJ, Bruel JM. Value of CT in the diagnosis and management of patients with suspected acute small-bowel obstruction. *AJR Am J Roentgenol* 1995;165(5):1187 – 1192
- Traub SJ, Hoffman RS, Nelson LS. Body packing—the internal concealment of illicit drugs. *N Engl J Med* 2003;349(26):2519 – 2526
- Strangulated Bowel Obstruction**
- Balthazar EJ, Birnbaum BA, Megibow AJ, Gordon RB, Whelan CA, Hulnick DH. Closed-loop and strangulating intestinal obstruction: CT signs. *Radiology* 1992;185(3):769 – 775
- Zalcman M, Van Gansbeke D, Lalmand B, Braudé P, Closset J, Struyven J. Delayed enhancement of the bowel wall: a new CT sign of small bowel strangulation. *J Comput Assist Tomogr* 1996;20(3):379 – 381
- Ha HK, Kim JS, Lee MS, et al. Differentiation of simple and strangulated small-bowel obstructions: usefulness of known CT criteria. *Radiology* 1997;204(2):507 – 512
- Furukawa A, Yamasaki M, Furuichi K, et al. Helical CT in the diagnosis of small bowel obstruction. *Radiographics* 2001;21(2):341 – 355
- Complications of Specific Operations**
- After Gastric Surgery**
- Kim KW, Choi BI, Han JK, et al. Postoperative anatomic and pathologic findings at CT following gastrectomy. *Radiographics* 2002;22(2):323 – 336
- Kim HC, Han JK, Kim KW, et al. Afferent loop obstruction after gastric cancer surgery: helical CT findings. *Abdom Imaging* 2003;28(5):624 – 630
- Pavone P, Laghi A, Catalano C, et al. CT of Nissen's fundoplication. *Abdom Imaging* 1997;22(5):457 – 460
- Smith C, Deziel DJ, Kubicka RA. Evaluation of the postoperative stomach and duodenum. *Radiographics* 1994;14(1):67 – 86
- After Pancreatic Surgery**
- Bluemke DA, Abrams RA, Yeo CJ, Cameron JL, Fishman EK. Recurrent pancreatic adenocarcinoma: spiral CT evaluation following the Whipple procedure. *Radiographics* 1997;17(2):303 – 313

- Coombs RJ, Zeiss J, Howard JM, Thomford NR, Merrick HW. CT of the abdomen after the Whipple procedure: value in depicting postoperative anatomy, surgical complications, and tumor recurrence. *AJR Am J Roentgenol* 1990;154(5):1011 – 1014
- Freed KS, Paulson EK, Frederick MG, Keogan MT, Pappas TN. Abdomen after a Puestow procedure: postoperative CT appearance, complications, and potential pitfalls. *Radiology* 1997;203(3):790 – 794
- Furukawa H, Kosuge T, Shimada K, Yamamoto J, Ushio K. Helical CT of the abdomen after pancreaticoduodenectomy: usefulness for detecting postoperative complications. *Hepatogastroenterology* 1997;44(15):849 – 855
- Gervais DA, Fernandez-del Castillo C, O'Neill MJ, Hahn PF, Mueller PR. Complications after pancreatoduodenectomy: imaging and imaging-guided interventional procedures. *Radiographics* 2001;21(3):673 – 690
- Johnson PT, Curry CA, Urban BA, Fishman EK. Spiral CT following the Whipple procedure: distinguishing normal postoperative findings from complications. *J Comput Assist Tomogr* 2002;26(6):956 – 961
- Mortelé KJ, Lemmerling M, de Hemptinne B, De Vos M, De Bock G, Kunnen M. Postoperative findings following the Whipple procedure: determination of prevalence and morphologic abdominal CT features. *Eur Radiol* 2000;10(1):123 – 128
- Sohn TA, Yeo CJ, Cameron JL, et al. Pancreaticoduodenectomy: role of interventional radiologists in managing patients and complications. *J Gastrointest Surg* 2003;7(2):209 – 219
- After Intestinal Surgery**
- Alfisher MM, Scholz FJ, Roberts PL, Counihan T. Radiology of ileal pouch-anal anastomosis: normal findings, examination pitfalls, and complications. *Radiographics* 1997;17(1):81 – 98, discussion 98 – 99
- Blachar A, Federle MP. Gastrointestinal complications of laparoscopic roux-en-Y gastric bypass surgery in patients who are morbidly obese: findings on radiography and CT. *AJR Am J Roentgenol* 2002;179(6):1437 – 1442
- Daly B, Sukumar SA, Krebs TL, Wong JJ, Flowers JL. Nonbiliary laparoscopic gastrointestinal surgery: role of CT in diagnosis and management of complication. *AJR Am J Roentgenol* 1996;167(2):455 – 459
- Seggerman RE, Chen MY, Waters GS, Ott DJ. Pictorial essay. Radiology of ileal pouch–anal anastomosis surgery. *AJR Am J Roentgenol* 2003;180(4):999 – 1002
- After Liver Transplantation**
- Dinkel HP, Moll R, Gassel HJ, et al. Helical CT cholangiography for the detection and localization of bile duct leakage. *AJR Am J Roentgenol* 1999;173(3):613 – 617
- Håkansson K, Leander P, Ekberg O, Håkansson HO. MR imaging of upper abdomen following cholecystectomy. Normal and abnormal findings. *Acta Radiol* 2001;42(2):181 – 186
- Kapoor V, Baron RL, Peterson MS. Bile leaks after surgery. *AJR Am J Roentgenol* 2004;182(2):451 – 458
- Letourneau JG, Steely JW, Crass JR, Goldberg ME, Grage T, Day DL. Upper abdomen: CT findings following partial hepatectomy. *Radiology* 1988;166(1 Pt 1):139 – 141
- Millitz K, Mootte DJ, Sparrow RK, Girotti MJ, Holliday RL, McLarty TD. Pneumoperitoneum after laparoscopic cholecystectomy: frequency and duration as seen on upright chest radiographs. *AJR Am J Roentgenol* 1994;163(4):837 – 839
- Slanetz PJ, Boland GW, Mueller PR. Imaging and interventional radiology in laparoscopic injuries to the gallbladder and biliary system. *Radiology* 1996;201(3):595 – 603
- Stockberger SM Jr, Johnson MS. Spiral CT cholangiography in complex bile duct injuries after laparoscopic cholecystectomy. *J Vasc Interv Radiol* 1997;8(2):249 – 252
- Van Beers BE, Lacrosse M, Trigaux JP, de Cannière L, De Ronde T, Pringot J. Noninvasive imaging of the biliary tree before or after laparoscopic cholecystectomy: use of three-dimensional spiral CT cholangiography. *AJR Am J Roentgenol* 1994;162(6):1331 – 1335
- vanSonnenberg E, D'Agostino HB, Easter DW, et al. Complications of laparoscopic cholecystectomy: coordinated radiologic and surgical management in 21 patients. *Radiology* 1993;188(2):399 – 404
- Vazquez JL, Thorsen MK, Dodds WJ, et al. Evaluation and treatment of intraabdominal bilomas. *AJR Am J Roentgenol* 1985;144(5):933 – 938
- Ward EM. Imaging after laparoscopic cholecystectomy. *Gastroenterol Clin North Am* 1995;24(2):239 – 257
- Wright TB, Bertino RB, Bishop AF, et al. Complications of laparoscopic cholecystectomy and their interventional radiologic management. *Radiographics* 1993;13(1):119 – 128

Thoracic Imaging of the Pediatric Intensive Care Patient

Review Articles / Book Chapters

- Cleveland RH. A radiologic update on medical diseases of the newborn chest. *Pediatr Radiol* 1995;25(8):631 – 637
- Donnelly LF. *Fundamentals of Pediatric Radiology*. Philadelphia: Saunders; 2001
- Gibson AT, Steiner GM. Imaging the neonatal chest. *Clin Radiol* 1997;52(3):172 – 186
- Hedlund GL, Griscom NT, Cleveland RH, et al. Respiratory system. In: Kirks DR, Griscom NT, eds. *Practical Pediatric Imaging*. 3rd ed. Philadelphia: Lippincott-Raven; 1998
- Puig S, Hörmann M, Kuhle S, et al. Chest X-ray of the neonate. [Article in German] *Radiologe* 2000;40:43 – 51
- Puig S, Hörmann M, Sandström S, et al. Acute, atraumatic changes of the lower respiratory tract in the child in thoracic roentgen imaging. Recognition and appreciation of radiological changes. [Article in German] *Radiologe* 2002;42:153 – 161
- Swischuk LE. *Emergency Imaging of the Acutely Ill or Injured Child*. 3rd ed. Baltimore: Williams & Wilkins; 1994

Neuroradiology

- Barkovich AJ, Hajnal BL, Vigneron D, et al. Prediction of neuromotor outcome in perinatal asphyxia: evaluation of MR scoring systems. *AJNR Am J Neuroradiol* 1998;19(1):143 – 149
- Blankenberg FG, Loh NN, Bracci P, et al. Sonography, CT, and MR imaging: a prospective comparison of neonates with suspected intracranial ischemia and hemorrhage. *AJNR Am J Neuroradiol* 2000;21(1):213 – 218
- Bydder GM, Rutherford MA, Cowan FM. Diffusion-weighted imaging in neonates. *Childs Nerv Syst* 2001;17(4-5):190 – 194
- Roelants-van Rijn AM, Groenendaal F, Beek FJ, Eken P, van Haastert IC, de Vries LS. Parenchymal brain injury in the preterm infant: comparison of cranial ultrasound, MRI and neurodevelopmental outcome. *Neuropediatrics* 2001;32(2):80 – 89

Normal Thoracic Findings in Newborns

- Frush DP, et al. Imaging evaluation of the thymus and thymic disorders in children. In: Strife JL, Lucaya J, eds. *Pediatric Chest Imaging*. Berlin: Springer; 2001

Infantile Respiratory Distress Syndrome (IRDS)

- Donn SM, Dalton J. Surfactant replacement therapy in the neonate: beyond respiratory distress syndrome. *Respir. Care* 2009;54(9):1203–1208
- Swischuk LE, John SD. Immature lung problems: can our nomenclature be more specific? *AJR Am J Roentgenol* 1996;166(4):917 – 918

Meconium Aspiration Syndrome

- Gregory GA, Gooding CA, Phibbs RH, Tooley WH. Meconium aspiration in infants—a prospective study. *J Pediatr* 1974;85(6):848 – 852

Complications during or after Mechanical Ventilation

Pulmonary Interstitial Emphysema

Donnelly LF, Frush DP. Localized radiolucent chest lesions in neonates. Causes and differentiation. *AJR* 1999;172(6):1651 – 1658

Congenital Lung Diseases with Respiratory Failure at Birth

Congenital Lobar Emphysema

Stigers KB, Woodring JH, Kanga JF. The clinical and imaging spectrum of findings in patients with congenital lobar emphysema. *Pediatr Pulmonol* 1992;14(3):160 – 170

Acute Obstruction of the Upper Airways

Donnelly LF, Frush DP, Bisset GS III. The multiple presentations of foreign bodies in children. *AJR Am J Roentgenol* 1998;170(2):471 – 477

John SD, Swischuk LE. Stridor and upper airway obstruction in infants and children. *Radiographics* 1992;12(4):625 – 643, discussion 644

Kirse DJ, Roberson DW. Surgical management of retropharyngeal space infections in children. *Laryngoscope* 2001;111(8):1413 – 1422

Stone ME, Walner DL, Koch BL, Egelhoff JC, Myer CM. Correlation between computed tomography and surgical findings in retropharyngeal inflammatory processes in children. *Int J Pediatr Otorhinolaryngol* 1999;49(2):121 – 125

Asthma/Pneumomediastinum

Chalumeau M, Le Clainche L, Sayeg N, et al. Spontaneous pneumomediastinum in children. *Pediatr Pulmonol* 2001;31(1):67 – 75

Pneumonia

Donnelly LF, Klosterman LA. Pneumonia in children: decreased parenchymal contrast enhancement—CT sign of intense illness and impending cavitary necrosis. *Radiology* 1997;205(3):817 – 820

Donnelly LF, Klosterman LA. Cavitary necrosis complicating pneumonia in children: sequential findings on chest radiography. *AJR Am J Roentgenol* 1998;171(1):253 – 256

Donnelly LF. Maximizing the usefulness of imaging in children with community-acquired pneumonia. *AJR Am J Roentgenol* 1999;172(2):505 – 512

Markowitz RI, Kramer SS. The spectrum of pulmonary infection in the immunocompromised child. *Semin Roentgenol* 2000;35(2):171 – 180

Acute Abdomen in the Pediatric Intensive Care Patient

Review Articles / Book Chapters

Barr LL. Sonography in the infant with acute abdominal symptoms. *Semin Ultrasound CT MR* 1994;15(4):275 – 289

Grier D. Radiology of gastrointestinal emergencies. In: Carty H, ed. *Emergency Pediatric Radiology*. Berlin: Springer; 1999: 117 – 181

Petit P, Pracros J. Role of ultrasound in children with emergency gastrointestinal diseases. [Article in German] *J Radiol* 2001;82(6 Pt 2):764 – 778, discussion 779 – 780

Meconium Ileus

Docherty JC, Zaki A, Coutts JAP, Evans TJ, Carachi R. Meconium ileus: a review 1972-1990. *Br J Surg* 1992;79(6):571 – 573

Necrotizing Enterocolitis

Hörmann M, Pumberger W, Puig S, Kreuzer S, Metz VM. Necrotizing enterocolitis (NEC) in the newborn. [Article in German] *Radiologe* 2000;40(1):58 – 62

Kreft B, Dalhoff K, Sack K. Necrotizing enterocolitis: a historical and current review. [Article in German] *Med Klin (Munich)* 2000;95(8):435 – 441

Patton WL, Willmann JK, Lutz AM, Rencken IO, Gooding CA. Worsening enterocolitis in neonates: diagnosis by CT examination of urine after enteral administration of iohexol. *Pediatr Radiol* 1999;29(2):95 – 99

Malrotation and Volvulus

Ashley LM, Allen S, Teele RL. A normal sonogram does not exclude malrotation. *Pediatr Radiol* 2001;31(5):354 – 356

Bhat NA, Agarwala S, Mitra DK, Bhatnagar V. Duplications of the alimentary tract in children. *Trop Gastroenterol* 2001;22(1):33 – 35

Dilley AV, Pereira J, Shi EC, et al. The radiologist says malrotation: does the surgeon operate? *Pediatr Surg Int* 2000;16(1-2):45 – 49

Dufour D, Delaet MH, Dassonville M, Cadranet S, Perlmutter N. Mid-gut malrotation, the reliability of sonographic diagnosis. *Pediatr Radiol* 1992;22(1):21 – 23

Gastrointestinal Atresia and Stenosis

Lloyd-Still JD, Beno DW, Kimura RM. Cystic fibrosis colonopathy. *Curr Gastroenterol Rep* 1999;1(3):231 – 237

Sweeney B, Surana R, Puri P. Jejunoileal atresia and associated malformations: correlation with the timing of in utero insult. *J Pediatr Surg* 2001;36(5):774 – 776

Waldhausen JH, Sawin RS. Improved long-term outcome for patients with jejunoileal apple peel atresia. *J Pediatr Surg* 1997;32(9):1307 – 1309

Congenital Megacolon (Hirschsprung Disease)

Lall A, Gupta DK, Bajpai M. Neonatal Hirschsprung's disease. *Indian J Pediatr* 2000;67(8):583 – 588

Martucciello G, Ceccherini I, Lerone M, Jasonni V. Pathogenesis of Hirschsprung's disease. *J Pediatr Surg* 2000;35(7):1017 – 1025

Hypertrophic Pyloric Stenosis

Cohen HL, Zinn HL, Haller JO, Homel PJ, Stoane JM. Ultrasonography of pylorospasm: findings may simulate hypertrophic pyloric stenosis. *J Ultrasound Med* 1998;17(11):705 – 711

Lowe LH, Banks WJ, Shyr Y. Pyloric ratio: efficacy in the diagnosis of hypertrophic pyloric stenosis. *J Ultrasound Med* 1999;18(11):773 – 777

Sargent SK, Foote SL, Mooney DP, Shorter NA. The posterior approach to pyloric sonography. *Pediatr Radiol* 2000;30(4):256 – 257

Intussusception

DiFiore JW. Intussusception. *Semin Pediatr Surg* 1999;8(4):214 – 220

Rohrschneider W. Invagination. [Article in German] *Radiologe* 1997;37(6):446 – 453

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