



# TRAINING PROGRAM

## ABOUT THE COURSE DIRECTORS



**Dr. Perry J. Pickhardt**



**Dr. David H. Kim**

Dr. Pickhardt and Dr. Kim are faculty members in the Department of Radiology abdominal division at the University of Wisconsin Medical School. They have an active research interest in virtual colonoscopy (VC) and have published extensively in this area in regards to technique and the role of VC in colorectal cancer screening. Dr. Pickhardt was the primary investigator and lead author of the multi-center trial published in The New England Journal of Medicine that demonstrated VC's effectiveness compared against optical colonoscopy. Drs. Pickhardt and Kim direct the University of Wisconsin VC colorectal cancer screening program which has enrolled over 4,000 participants to date since April of 2004.

For course registration, contact:

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VIRTUAL COLONOSCOPY TRAINING

For course registration, contact:

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**DIRECTED BY:**

Director: **Perry J. Pickhardt, MD**

Co-Director: **David H. Kim, MD**

**DATE AND LOCATION:**

**October 5 - 6, 2007 at:**

**Warwick New York Hotel**

65 West 54th Street, NYC, New York 10019, USA

Tel: (212) 247 2700 Fax: (212) 247 2725

sales.ny@warwickhotels.com

**FOR HOTEL & TRAVEL:**

Please call **Barbara Caracciola** at **Pisa Brothers Travel Service**  
*Be sure to mention "VC Training"*

212-265-8420x250-phone

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## COURSE OBJECTIVES

At the conclusion of the course, a participant should:

- Be able to implement the various components of a complete VC examination to acquire high quality images
- Effectively detect polyps utilizing a primary 3D approach and characterize with 2D techniques on the Viatronix V3D colon platform
- Be aware of common pitfalls and problems associated with VC. Have completed 50 path-proven cases

## COURSE DESCRIPTION

This 1½ day course conducted by Drs. Pickhardt and Kim covers the effective application of 3D Virtual Colonoscopy (VC). The course emphasis is on VC screening using the 3D view for primary polyp detection (and 2D for confirmation), the same innovative techniques used in the multi-center clinical trial recently published in The New England Journal of Medicine. This course combines didactic presentations with significant hands-on experience with pathology-proven cases. You will learn to utilize the specific 3D tools and recognize pitfalls that will result in reduction of both reading times and false positives. Other topics include effective patient preparation, extracolonic CT findings, and reimbursement issues. Frequent question and answer sessions and one-on-one contact will allow for immediate feedback. By the conclusion of this course, you should know the essential components needed to run a successful VC screening program.

## EDUCATIONAL METHODS USED

- Didactic power point presentations by experienced faculty
- Interactive demonstration of actual VC cases and automated CO<sub>2</sub> delivery system
- Hands-on review of 50 path proven cases. Optical colonoscopic reports and endoscopic images are provided for direct correlation with VC. Specific written teaching points are provided.

## TARGET AUDIENCE

- Individuals interested in conducting colorectal cancer screening by high quality virtual colonoscopic (VC) examinations and interpretations. Target audience includes radiologists, gastroenterologists, and senior radiology technologists.



# COURSE SCHEDULE

## Day 1

8:00 - 8:30	Breakfast and Registration
8:30 - 8:45	Introduction and Overview
8:45 - 9:00	Colorectal Cancer: Rationale for screening
9:00 - 9:30	Published VC Trials: Where are we now?
9:30 - 10:30	VC Techniques (preparation, distention, etc.) Colonic Preparation Colonic Distention MDCT Protocol
10:30 - 11:00	Break
11:00 - 12:30	VC Interpretation: Primary 2D vs. 3D Helpful Interpretive tools Pitfalls in Interpretation
12:30 - 1:30	Lunch Break
1:30 - 1:45	Extracolonic Findings
1:45 - 2:45	Case Examples and "Knobology"
2:45 - 5:00	Hands-on Training (basic-to-intermediate)
6:00 - 9:00	Solo Training / Practice (optional)

**New Demonstration Session:**  
Practical Tips & Problem-Solving for CO<sub>2</sub> Colonic Distention

## Day 2

8:00 - 8:30	Breakfast
8:30 - 9:45	How to Build a VC Screening Program Prerequisites for set-up Diagnostic Algorithm Data Management Relationship with GI Reimbursement Issues The UW experience to date
9:45 - 10:00	The Future...
10:00 - 11:45	Hands-on Training (advanced)
11:45 - 12:00	Course Review

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## FEATURED PUBLICATIONS BY DRS. PICKHARDT AND KIM

1. Pickhardt PJ, Hassan C, Laghi A, Zullo A, Kim DH, lafrate F, Morini S. Small and diminutive polyps detected at screening CT colonography: a decision analysis for referral. *AJR* (in press)
2. Pickhardt PJ, Lee AD, Taylor AJ, Michel SJ, Winter TC, Shadid A, Meiners RJ, Chase PJ, Hinshaw JL, Williams JG, Prout TM, Husain SH, Kim DH. Primary 2D versus primary 3D polyp detection at screening CT colonography. *AJR* (in press)
3. Deshpande KK, Summers RM, van Uitert RL, Franaszek M, Brown L, Dwyer AJ, Fletcher JG, Choi JR, Pickhardt PJ. Quality assessment for CT colonography: validation of automated measurement of colonic distention and residual fluid. *AJR* (in press)
4. Hanson ME, Pickhardt PJ, Kim DH, Pfau PR. Anatomic factors predictive of incomplete colonoscopy based on findings at CT colonography. *AJR* (in press)
5. Taylor SA, Tam E, Greenhalgh R, Sahni V, Ilangovan R, Burling D, Zhang J, Bassett P, Pickhardt PJ, Halligan S. CT colonography and computer assisted detection: Effect of false positives on reader specificity and reading efficiency in a low prevalence screening population. *Radiology* (in press)
6. Taylor SA, Charman S, Lefere P, McFarland B, Paulson E, Yee J, Aslam R, Barlow J, Gupta A, Kim DH, Miller C, Halligan S. CT Colonography (CTC): investigation of optimum reader paradigm using computer assisted detection (CAD) software. *Radiology* (in press)
7. Kim DH, Pickhardt PJ, Taylor AJ, Menias CO. Imaging evaluation of complications at optical colonoscopy. *Curr Probl Diagn Radiol* (in press)
8. Pickhardt PJ, Kim DH, Menias CO, Gopal DV, Arluk GM, Heise CP. Evaluation of submucosal lesions of the large intestine, part I: neoplastic causes. *Radiographics* 2007 (in press)
9. Pickhardt PJ, Kim DH, Menias CO, Gopal DV, Arluk GM, Heise CP. Evaluation of submucosal lesions of the large intestine, part II: non-neoplastic causes. *Radiographics* 2007 (in press)
10. Michel SJ, Pickhardt PJ, Kim DH, Taylor AJ. Effect of colonic distention technique on superiority of supine versus prone views at screening CT colonography. *Clin Imaging* (in press).
11. Petrick N, Haider M, Summers RM, Yeshwant S, Brown L, Iuliano EM, Louie A, Choi JR, Pickhardt PJ. CT colonography with computer-aided detection as a second reader: an observer performance study. *Radiology* (in press)
12. Pickhardt PJ. Screening CT colonography: how I do it. *AJR* (in press)
13. Pickhardt PJ. Colonic preparation at CT colonography: understanding the relative advantages and disadvantages of a non-cathartic approach. *Mayo Clin Proc* 2007;82:659-661
14. Kim DH, Pickhardt PJ, Hoff G, Kay CL. CT colonography for colorectal screening. *Endoscopy* 2007;39:545-549
15. Pickhardt PJ. Polyp detection at CT colonography: inadequate primary 3D endoluminal reference standard precludes meaningful comparison (letter). *Radiology* 2007;244:316-317
16. Kim DH, Pickhardt PJ. CT colonography: pertinent issues for the colorectal surgeon. *Semin Colon Rectal Surg* 2007;18:88-95

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17. Pickhardt PJ, Hassan C, Laghi A, Zullo A, Kim DH, Morini S. Cost-effectiveness of colorectal cancer screening with CT colonography: The impact of not reporting diminutive lesions. *Cancer* 2007;109:2213-2221
18. Pickhardt PJ, Kim DH. CT colonography (virtual colonoscopy): a practical approach for population screening. *Radiol Clin North Am* 2007;45:361-375
19. Huang A, Roy DA, Summers RM, Franaszek M, Petrick N, Choi JR, Pickhardt PJ. Tenia coli-based circumferential localization system for CT colonography: feasibility study. *Radiology* 2007;243:551-560
20. Kim DH, Pickhardt PJ, Taylor AJ. Characteristics of advanced adenomas detected at CT colonography screening: implications for appropriate polyp size thresholds for polypectomy versus surveillance. *AJR* 2007;188:940-944
21. Pickhardt PJ. The natural history of colorectal polyps and masses: rediscovered truths from the barium enema era. *AJR* 2007;188:619-621
22. Vijan S, Hwang I, Inadomi J, Wong RKH, Choi JR, Napierkowski J, Koff JM, Pickhardt PJ. The cost-effectiveness of CT colonography in screening for colorectal neoplasia. *Am J Gastroenterol* 2007;102:380-390
23. Kim DH, Pickhardt PJ, Hinshaw JL, Taylor AJ, Mukherjee R, Pfau PR. Prospective blinded trial comparing 45-ml and 90-ml doses of oral sodium phosphate for bowel preparation prior to CT colonography. *J Comput Assist Tomogr* 2007;31:53-58
24. O'Connor SD, Summers RM, Yao J, Pickhardt PJ, Choi JR. CT Colonography with computer-aided polyp detection: volume and attenuation thresholds to reduce ileocecal valve false positives. *Radiology* 2006;241:426-432
25. Pickhardt PJ. Utilization of the double-contrast barium enema in the early era of screening CT colonography (letter). *AJR* 2006;187:W661
26. Pickhardt PJ, Kim DH, Taylor AJ, Gopal DV, Weber SM, Heise CP. Extracolonic tumors of the gastrointestinal tract detected incidentally at screening CT colonography. *Dis Colon Rectum* 2006;50:1-8
27. Pickhardt PJ, Taylor AJ, Kim DH, Reichelderfer M, Gopal DV, Pfau PR. Screening for colorectal neoplasia with CT colonography: initial experience from the first year of coverage by third-party payers. *Radiology* 2006;241:417-425
28. Yeshwant SC, Summers RM, Yao J, Brickman D, Choi JR, Pickhardt PJ. Linear and volumetric measurement of polyps in CT colonography. *Radiology* 2006;241:802-811
29. Sanford MS, Pickhardt PJ. Diagnostic performance of primary 3-dimensional computed tomography colonography in the setting of colonic diverticular disease. *Clin Gastroenterol Hepatol* 2006;4:1039-1047
30. Pickhardt PJ, Lehman VT, Winter TC, Taylor AJ. Comparison of polyp volume versus linear size measurement at CT colonography: implications for noninvasive surveillance of unresected colorectal lesions. *AJR* 2006;186:1605-1610
31. Shinnars TJ, Pickhardt PJ, Taylor AJ, Jones DA, Olsen CH. Patient-controlled room air insufflation versus automated carbon dioxide delivery for CT colonography. *AJR* 2006;186:1491-1496
32. Pickhardt PJ, Taylor AJ, Gopal DV. Surface visualization at 3D endoluminal CT colonography: degree of coverage and implications for polyp detection. *Gastroenterology* 2006;130:1582-1587

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33. Pickhardt PJ. The incidence of colonic perforation at CT colonography: review of the existing data and the implications for screening of asymptomatic adults. *Radiology* 2006;239:313-316
34. Lee AD, Pickhardt PJ, Gopal DV, Taylor AJ. Venous malformations mimicking multiple mucosal polyps at screening CT colonography. *AJR* 2006;186:1113-1115
35. Franaszek M, Summers RM, Pickhardt PJ, Choi JR. Hybrid segmentation of colon filled with air and opacified fluid for CT colonography. *IEEE Trans Med Imaging* 2006;25:358-368
36. Pickhardt PJ, Taylor AJ. Extracolonic findings identified in asymptomatic adults at screening CT colonography. *AJR* 2006;186:718-728
37. Pickhardt PJ. High-magnification chromoscopic colonoscopy: caution needs to be exercised before changing screening policy (reply). *AJR* 2006;186:577-578
38. Prout TM, Taylor AJ, Pickhardt PJ. Inverted appendiceal stumps simulating large pedunculated polyps at screening CT colonography. *AJR* 2006;186:535-538
39. O'Connor SD, Summers RM, Yao J, Choi JR, Pickhardt PJ. Oral contrast adherence to polyps on CT colonography. *J Comput Assist Tomogr* 2006;30:51-57
40. Pickhardt PJ. Virtual colonoscopy: issues related to primary screening. *Eur Radiol* 2005;15[Suppl 4]:D133-D137
41. Summers RM, Yao J, Pickhardt PJ, Franaszek M, Bitter I, Brickman D, Krishna V, Choi JR. Computed tomographic virtual colonoscopy computer-aided polyp detection in a screening population. *Gastroenterology* 2005;129:1832-1844
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43. Pickhardt PJ. Virtual colonoscopy for primary screening: the future is now. *Minerva Chir* 2005;60:139-150
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45. Pickhardt PJ, Choi JR. Adenomatous polyp obscured by small-caliber rectal catheter at CT colonography: a rare diagnostic pitfall. *AJR* 2005;184:1581-1583
46. Pickhardt PJ, Taylor AJ, Johnson GL, Fleming LA, Jones DA, Pfau PR, Reichelderfer M. Building a CT colonography program: necessary ingredients for reimbursement and clinical success. *Radiology* 2005;235:17-20
47. Pickhardt PJ, Halberg R, Taylor AJ, Durkee BY, Fine J, Lee FT, Weichert JP. Micro-computed tomography colonography for polyp detection in an in vivo mouse tumor model. *Proc Natl Acad Sci* 2005;102:3419-3422
48. Lordanescu G, Pickhardt PJ, Choi JR, Summers RM. Automated seed placement for colon segmentation in CT colonography. *Acad Radiol* 2005;12:182-190

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49. Pickhardt PJ. CT colonography (virtual colonoscopy) for primary colorectal screening: challenges facing clinical implementation. *Abdom Imaging* 2005;30:1-4
50. Summers RM, Franaszek M, Miller MT, Pickhardt PJ, Choi JR, Schindler WR. Computer-aided detection of polyps in oral contrast-enhanced CT colonography. *AJR* 2005;184:105-108
51. Pickhardt PJ. CT colonography without catharsis: the ultimate study or useful additional option? (letter) *Gastroenterology* 2005;128:521-522
52. Pickhardt PJ. Limitations of virtual colonoscopy (reply). *Ann Int Med* 2005; 142:155
53. Pickhardt PJ. Differential diagnosis of polypoid lesions seen at CT colonography (virtual colonoscopy). *Radiographics* 2004;24:1535-1559
54. Pickhardt PJ, Choi JR, Nugent PA, Schindler WR. The effect of diagnostic confidence on the probability of optical colonoscopic confirmation for potential polyps detected at CT colonography: prospective assessment in 1339 asymptomatic adults. *AJR* 2004;183:1661-1665
55. Pickhardt PJ, Nugent PA, Mysliwiec PA, Choi JR, Schindler WR. Location of adenomas missed at optical colonoscopy. *Ann Intern Med* 2004;141:352-359
56. Pickhardt PJ, Nugent PA, Choi JR, Schindler WR. Flat colorectal lesions in asymptomatic adults: implications for screening with CT virtual colonoscopy. *AJR* 2004;183:1343-1347
57. Pickhardt PJ, Choi JR, Hwang I, Schindler WR. Nonadenomatous polyps at CT colonography: prevalence, size distribution, and detection rates. *Radiology* 2004;232:784-790
58. Pickhardt PJ. Translucency rendering in 3D endoluminal CT colonography: A useful tool for increasing polyp specificity and decreasing interpretation time. *AJR* 2004;183:429-436
59. Pickhardt PJ. Virtual colonoscopy for primary colorectal screening: the road to implementation. *Decisions in Imaging Economics* 2004;17:27-30
60. Pickhardt PJ. Virtual colonoscopy (letter). *JAMA* 2004;292:431
61. Ferrucci J, Barish M, Choi R, Dachman A, Fenlon H, Glick S, Laghi A, Macari M, Morrin M, Paulson E, Pickhardt PJ, Soto J, Yee J, Zalis M; Working Group on Virtual Colonoscopy. Virtual colonoscopy (letter). *JAMA* 2004;292:431-432
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63. Pickhardt PJ. Virtual colonoscopy to screen for colorectal cancer (reply). *N Engl J Med* 2004;350:1148-1150
64. Pickhardt PJ, Choi JR, Hwang I, Butler JA, Puckett ML, Hildebrandt HA, Wong RK, Nugent PA, Mysliwiec PA, Schindler WR. CT virtual colonoscopy to screen for colorectal neoplasia in asymptomatic adults. *N Engl J Med* 2003;349:2191-2200
65. Pickhardt PJ. By-patient performance characteristics for CT colonography: importance of polyp size threshold data (letter). *Radiology* 2003; 229:291-293
66. Pickhardt PJ. Three-dimensional endoluminal CT colonography (virtual colonoscopy): comparison of three commercially available systems. *AJR* 2003;181:1599-1606
67. Pickhardt PJ, Choi JR. Electronic cleansing and stool tagging in CT colonography: advantages and pitfalls encountered with primary three-dimensional evaluation. *AJR* 2003;181:799-805



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## SIGN UP FORM

First Name \_\_\_\_\_

Last Name \_\_\_\_\_

Title \_\_\_\_\_

Phone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

E-Mail Address (required): \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_

State / Province: \_\_\_\_\_

Zipcode: \_\_\_\_\_

Affiliated With (Medical facility): \_\_\_\_\_

Desired interest for attending: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Do you have any special needs or accomodation requirements  
(i.e., vision, mobility, hearing, dietary)?

If so, please describe below: \_\_\_\_\_

\_\_\_\_\_

