

SCREENING COLONOSCOPY: QUALITY INDICATORS AND WORKFORCE DEVELOPMENT

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Disclosure

- No relevant financial relationships exist

Learning Objectives

- Identify quality indicators for colonoscopy
- Discuss capacity for screening colonoscopy
 - Nationally
 - University of California, Davis
- Discuss non-physician provider colonoscopy
 - Nationally/Internationally
 - University of California, Davis

Quality Indicators for Colonoscopy

- Preprocedure
 - Appropriate indication
 - Informed consent
 - Follow recommended post-polypectomy and post-cancer resection surveillance intervals
 - Follow recommended ulcerative colitis and Crohn's colitis surveillance intervals
 - Colonic preparation

Rex et al., Am J Gastroenterol 2006;101:873-885

Quality Indicators for Colonoscopy

- Intraprocedure
 - Cecal intubation rates: $\geq 90\%$ for all colonoscopies and $\geq 95\%$ for screening colonoscopies in healthy individuals
 - Detection of adenomas in asymptomatic individuals: $\geq 25\%$ for men and $\geq 15\%$ for women
 - Endoscope withdrawal time: ≥ 6 minute mean

Rex et al., Am J Gastroenterol 2006;101:873-885

Quality Indicators for Colonoscopy

- Postprocedure
 - Incidence of perforation: ≤ 1 in 500 for all colonoscopies and ≤ 1 in 1000 for screening colonoscopies
 - Incidence of post-polypectomy bleeding: overall $< 1\%$
 - Post-polypectomy bleeding should be managed nonoperatively in $> 90\%$ of cases

Rex et al., Am J Gastroenterol 2006;101:873-885

Capacity for Screening Colonoscopy

- Colonoscopy is the final common pathway for all CRC screening strategies: increased compliance with any and all strategies will inevitably lead to increased demand for colonoscopy

Capacity for Screening Colonoscopy

- Current workforce for performing colonoscopies is almost exclusively MD's (i.e., gastroenterologists, general surgeons, primary care physicians)
- Between 1992 and 2002 new MD's entering practice increased 27% (Sansbury et al. 2003)
- Decrease in gastroenterology fellowship positions in recent years by 30% in response to recommendations by the Gastroenterology Leadership Council in the mid-1990's (Rex & Lieberman 2001)
 - Recommendations made before:
 - USPSTF/other organizations endorsed CRC screening
 - Medicare reimbursement of CRC screening procedures
 - Anticipated shift in population age with the arrival of "baby boomers"
 - ? Universal Healthcare

Capacity for Screening Colonoscopy

- National studies
 - Brown et al., 2003: 2000 4 million total colonoscopies
 - Compliance of 70%: 1.2-4.8 million additional colonoscopies
 - Seeffe et al., 2004: 2002 14.2 million total colonoscopies
 - 2002 70.1 million people at average risk for CRC, 41.8 million unscreened
 - Compliance of 100%: 1-41.8 million additional colonoscopies
 - Predicted time to screen all unscreened with 63% increase in colonoscopies performed by provider: 2-5 years
 - Vijan et al, 2004: 2003 1.69 million screening colonoscopies
 - compliance of 70%: 2.21-7.72 million total colonoscopies
 - Even with 50% increase in capacity would need 1360-13,110 additional gastroenterologists

Capacity for Screening Colonoscopy

- University of California, Davis
 - 2006: estimated 575 managed care patient waiting for procedures, an additional 250 patients being referred out to local private gastroenterology practices every month
 - Currently: ?????
 - 3rd next available procedure and consult appointment approx 7-8 weeks

Workforce Development

- Increase GI fellowship positions
- Train non-specialty MD's (i.e., surgeons, primary care physicians)
 - Phillips et al. 2009:
 - Between 2001-2005 26.5% MD's are general internists or family practice
 - Medical students: 2% and 4.9% are interested in general internal medicine and family medicine respectively
 - Salsberg et al. 2008
 - Between 2002-2006 residents in training who will potentially practice primary care dropped from 28.1% to 23.8%
- Train non-physician providers (NPP, specifically nurse practitioners and physician assistants)
 - NP: 125,000 practicing, 5000-6000 new every year
 - PA: 80,000 eligible to practice

NPP as Lower Endoscopists: What We Know

- NPP (including RN's) sigmoidoscopy
 - >30 years
 - Studies comparing NPP and MD performed sigmoidoscopies
- NPP colonoscopy
 - Several years: ? How long
 - Sansbury et al. 2003: <1% MD's performing colonoscopies supervise a NPP who also performed colonoscopy
 - Seefe et al. 2004: 5.3% respondents would consider using NPP's to perform colonoscopy
 - Adams et al. 2004: 6/125 VA's have PA's performing colonoscopies
 - Johns Hopkins University

NPP as Lower Endoscopists: What We Know

- NPP colonoscopy cont.

- Koornstra et al. 2009

*p<0.005

	Adenoma/adv neoplasia %	Cecal intub rates %	Complications %	Pt satisfaction 1-10
RN's n=300	23.3	90.7	0.33	8.5
GI fellow N=150	20.7	79.3*	0.67	8.3
GI attending N=150	24.0	99.3	0	8.5

NPP as Lower Endoscopists: What We Know

- NPP colonoscopy cont.

- Limoges-Gonzalez et al. 2008

*p<0.05

	Adenoma/Advanced neoplasia %	Cecal intubation rates %	Complications %	Patient satisfaction 0-100	Withdrawal times minutes
NP N=50	42*	100	0	5.9*	8.5
GI attending N=100	17	99	0	8.6	8.3

NPP as Lower Endoscopists: What We Know

- NPP colonoscopy cont.

- Maslekar et al. 2009

*includes sigmoidoscopy and colonoscopy subjects

** entonox/midazolam and fentanyl

	Overall pt satisfaction* 1-100 @dc/@24 hr	Pain scores on sedation: inhalation/IV**	Cecal intub rates %	Time to cecum/total procedure time
GI-MD's n=151	96/95	12/34	94.5	14/21
GI-NE n=110	95/95	18/28	96	12/19
GI-NME n=71	97/98	16/32	93.5	16.8/21

NPP Colonoscopy: Hurdles to Overcome

- Acceptance

- GI MD colleagues: competence vs. turf war

- ASGE 2002 "the medical literature supports" the use of NPP "for screening sigmoidoscopy only"...it is unclear at this time whether patients needs and demand for endoscopy merit" NPP "performing procedures other than screening flexible sigmoidoscopy"

- BSG 2008

- Referring providers

- GI nurses/associates

- SGNA has no formal position statement

- Patients

NPP Colonoscopy: Hurdles to Overcome

- Scope of practice (NP)

- BRN position statements

State BRN position statement regarding NP performed colonoscopy	Number	States
Approve	14	AK, CA, DC, FL, IL, MA, MD, MO, NC, ND, NV, OR, RI, WI
Prohibit	8	AL, AR, CO, CT, NH, NY, OK, SC
No advisory opinion available/Decision tree	26	AZ, DE, GA, HI, ID, IA, IN, KY, LA, ME, MI, MN, NE, NJ, NM, OH, PA, SD, TN, TX, UT, VA, VT, WA, WV, WY
Non-responder	3	KS, MS, MT

NPP Colonoscopy: Hurdles to Overcome

- Prescribing of controlled substances

- Reimbursement

- Self pay
 - Commercial payor
 - State payor
 - Federal payor

- Learning curve

- Conscious sedation
 - Intubation to cecum
 - Pathology identification
 - Therapeutic interventions

University of California, Davis NP Performed Screening Colonoscopy Program

- Training (Gastroenterology Core Curriculum; endorsed by AASLD, ACG, AGA, ASGE)
 - Supervising MD board certified gastroenterologist
 - 140 supervised colonoscopies
 - 40 snare polypectomies
- Current statistics
 - Over 2500 screening colonoscopies (>3800 sigmoidoscopies)
 - No complications
 - 2008 annualized professional fees collected: >\$300,000

- [How the Medical Home Increases CRC Screen Rates.ppt](#)