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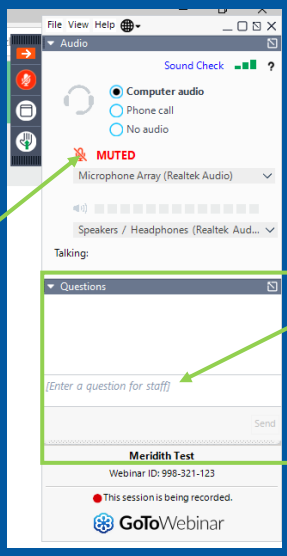

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

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How to Receive CME and MOC Points

LIVE VIRTUAL GRAND ROUNDS WEBINAR

ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

ABIM Board Certified physicians need to complete their MOC activities by December 31, 2021 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2022 for this activity.

4

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If you plan to claim MOC Points for this activity, you will be asked to: Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement.
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5

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ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

Week 21, 2021
Assessing for Eating Disorders: A Primer for Gastroenterologists
Monia E. Werlang, MD
May 27, 2021 at Noon Eastern

Week 22, 2021
Addressing Sexual Trauma and Abuse with GI Patient
Laurie A. Keefer, PhD
June 3, 2021 at Noon Eastern

Visit **gi.org/ACGVGR** to Register

6

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Disclosures:

Speaker:
Aasma Shaukat, MD, MPH, FACG
Scientific Advisor: Iterative Scopes Inc., Freenome, Inc.

Moderator:
Linda Rabeneck, MD, MPH, MACG
Dr. Rabeneck, faculty for this educational event, has no relevant financial relationship(s) with ineligible companies to disclose.

*All of the relevant financial relationships listed for these individuals have been mitigated.

7

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ACG Clinical Guidelines:
Colorectal Cancer Screening 2021

Aasma Shaukat, MD, MPH, FACG
GI Section Chief, Minneapolis VAMC
Professor of Medicine, University of Minnesota

8

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Outline

Review new evidence and recommendations for:

- ❖Age to initiate screening
- ❖Screening in those with a family history
- ❖Quality indicators for colonoscopy
- ❖Organized screening
- ❖Special considerations

9

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USPSTF Recommendations 2016

Population	Adults aged 50 to 75 y	Adults aged 76 to 85 y
Recommendation	Screen for colorectal cancer starting at age 50 y. Grade: A	The decision to screen for colorectal cancer is an individual one. Grade: C

Screening Tests	There are numerous screening tests to detect early-stage colorectal cancer, including stool-based tests (gFOBT, FIT, and FIT-DNA), direct visualization tests (flexible sigmoidoscopy, alone or combined with FIT; colonoscopy; and CT colonography), and serology tests (*SEPT9* DNA test). The USPSTF found no head-to-head studies demonstrating that any of these screening strategies are more effective than others, although they have varying levels of evidence supporting their effectiveness, as well as different strengths and limitations.

- gFOBT
- FIT
- FIT-DNA
- Flex Sig
- Flex Sig +FIT
- Colonoscopy
- CT colonography
- Sept9 DNA test

Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation Statement. JAMA. 2016; 315(23): 2564-2575

10

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ACS Guidelines 2018

- Qualified recommendation to lower screening age to 45
- Rising incidence of rectal cancer in <50
- Based on modelling studies using MISCAN and SimCRC

Wolf AMD et al. Colorectal cancer screening for average-risk adults: 2018 guideline update from the American Cancer Society. Cancer 2018. https://doi.org/10.3322/caac.21457

11

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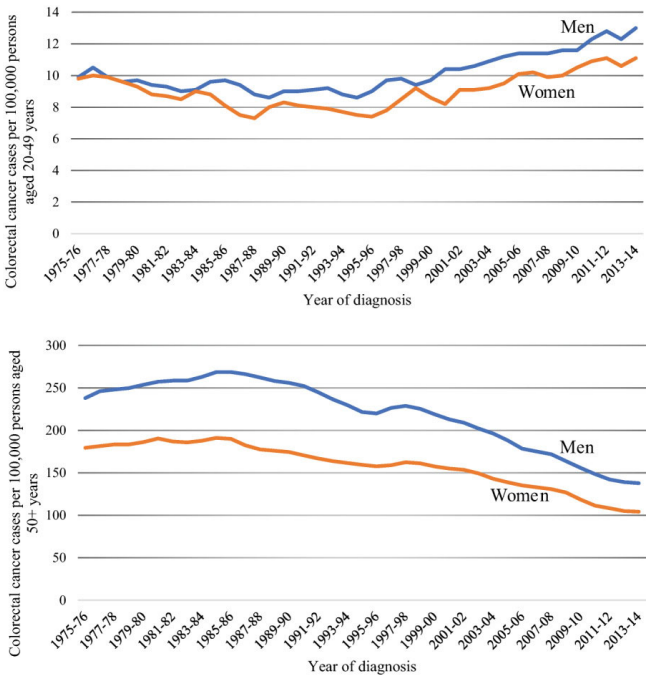
CRC Incidence



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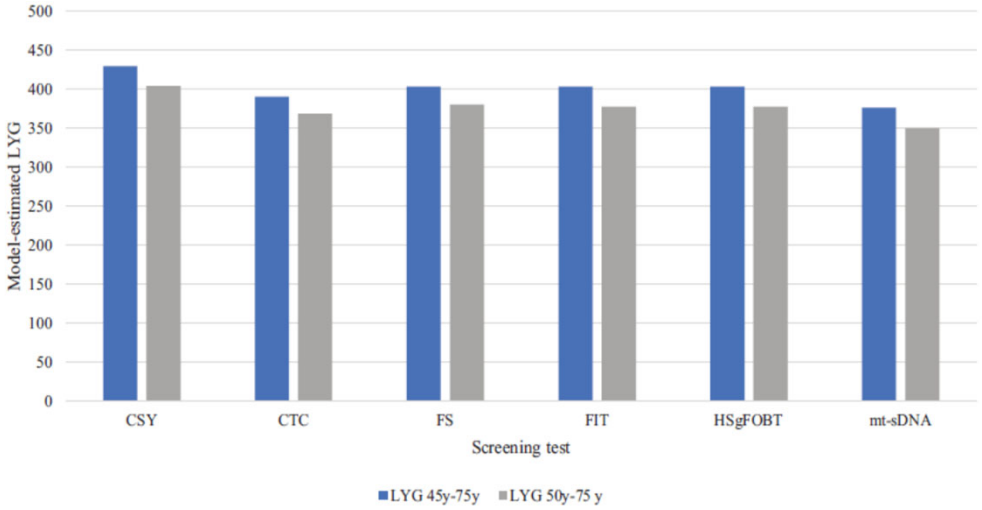
Model estimated Life Years Gained per 1000 screened



Wolf AMD et al. Colorectal cancer screening for average-risk adults: 2018 guideline update from the American Cancer Society. Cancer 2018. https://doi.org/10.3322/caac.21457

13

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Modeling supports starting AA at age 45

Model	Test Class	Scenario 1: Stable CRC Risk[a] White Females	Black Females	White Males	Black Males	Scenario 2: Increased CRC Risk[b] White Females	Black Females	White Males	Black Males
MISCAN	COL	50-75, 10	45-75, 10	50-75, 10	45-75, 10	45-75, 10	45-75, 10	45-75, 5	45-75, 10
	Stool	FIT 50-75, 1	FIT 45-75, 1	FIT 50-75, 1	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1	–	FIT 45-75, 1
	SIG	–	–	–	–	45-75, 5	45-75, 5	–	45-75, 5
	CTC	50-75, 5	45-75, 5	50-75, 5	45-75, 5	45-75, 5	45-75, 5	–	45-75, 5
SimCRC	COL	45-75, 15	45-75, 15	45-75, 15	45-75, 15	45-75, 10	45-75, 10	45-75, 10	45-75, 10
	Stool	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1	FIT 45-75, 1
	SIG	–	–	–	–	45-75, 5	45-75, 5	45-75, 5	45-75, 5
	CTC	45-75, 5	45-75, 5	45-75, 5	45-75, 5	45-75, 5	45-75, 5	45-75, 5	45-75, 5

Meester RGS et al. Optimizing colorectal cancer screening by race and sex: microsimulation analysis II to inform the American Society Colorectal cancer screening guideline. Cancer 2018 May 30

14

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Change in CRC Incidence (SEER)

CRC Rate/100k

	25-29	30-34	35-39	40-44	45-49	50-54
2000	1.7	4.1	7.6	14.7	27.7	52
2015	3.4	5.8	10.7	19.0	33.4	62
% ↑	50	30	29	23	17	16

15

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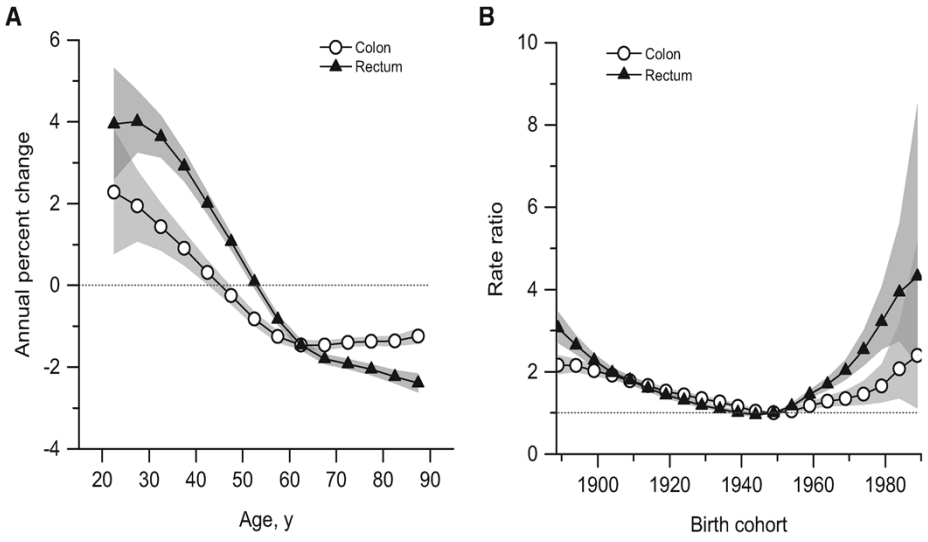
Birth cohort effect



J Natl Cancer Inst, Volume 109, Issue 8, August 2017, https://doi.org/10.1093/jnci/djw322

16

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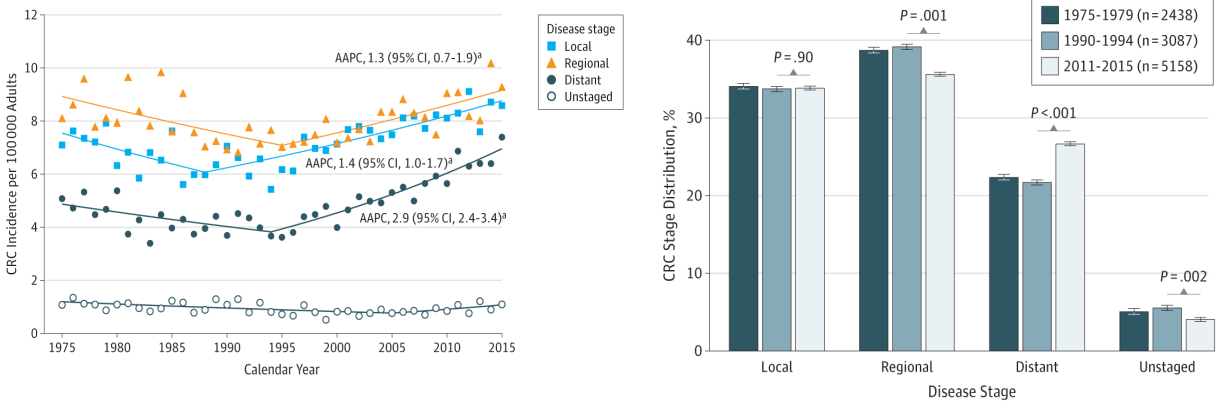
Increasing CRC incidence is a real trend: Incidence and stage at diagnosis 1995-2015



Meester RGS et al. JAMA. 2019;321(19):1933-1934.

17

ACG Clinical Guidelines: Colorectal Cancer Screening 2021

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Aasma Shaukat, MD, MPH, FACG[1,2], Charles J. Kahi, MD, MSc, FACG[3-7], Carol A. Burke, MD, FACG[4], Linda Rabeneck, MD, MPH, MACG[5], Bryan G. Sauer, MD, MSc, FACG (GRADE Methodologist)[6] and Douglas K. Rex, MD, MACG[3]

1	We recommend colorectal cancer (CRC) screening in average-risk individuals between ages 50 and 75 yr to reduce incidence of advanced adenoma, CRC, and mortality from CRC
2	We suggest CRC screening in average-risk individuals between ages 45 and 49 yr to reduce incidence of advanced adenoma, CRC, and mortality from CRC
3	We suggest that a decision to continue screening beyond age 75 yr be individualized
4	We recommend colonoscopy and fecal immunochemical testing (FIT) as the primary screening modalities for CRC screening

1-step versus 2-step tests

ACG Clinical Guidelines: Colorectal Cancer Screening 2021, The American Journal of Gastroenterology: 2021;116 :458-479

18

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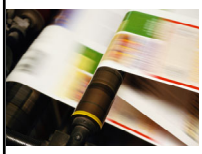

USPSTF Recommendations 2021

Recommendation	GRADE	
Screen average risk men and women 50-75	A	High certainty of substantial net benefit
Screen average risk men and women starting at age 45	B	Moderate certainty of moderate net benefit
Individualize decision to screen 76-85	C	Moderate certainty of small net benefit

Recommended screening strategies include

- High-sensitivity guaiac fecal occult blood test (HSgFOBT) or fecal immunochemical test (FIT) every year
- Stool DNA-FIT every 1 to 3 years
- Computed tomography colonography every 5 years
- Flexible sigmoidoscopy every 5 years
- Flexible sigmoidoscopy every 10 years + annual FIT
- Colonoscopy screening every 10 years

- Grade A or B recs are covered by Medicare
- Other payors follow Medicare

US Preventive Services Task Force. Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation Statement. *JAMA.* 2021;325(19):1965–1977

19

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USMSTF Guidelines on CRC Screening

Age 50 and older

- African Americans starting at age 45

SCREENING TESTS:

- Tier 1:
  - FIT—1 year
  - Colonoscopy—10 years
- Tier 2:
  - CTC—5 years
  - Flexible sigmoidoscopy—5-10 years
  - Stool-DNA test—3 years
- Tier 3:
  - Colon capsule—5 years
- Not recommended:
  - Septin 9 blood test

Undergoing revision

USMSTF. GIE 2017;86:18-33

20

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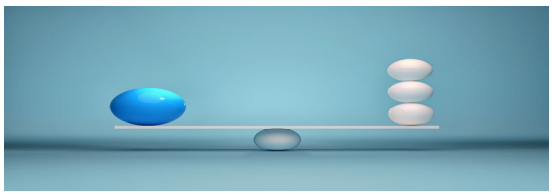
Benefits of earlier age at screening



- Reduce CRC incidence and mortality in younger group with rising incidence
- Bring people earlier to screening, boost 50-to-55-year-olds getting screened

- Harms
- Access
- Resources
- Disparities

Liang PS, Shaukat A et al. Potential Intended and Unintended Consequences of Recommending Initiation of Colorectal Cancer Screening at Age 45 Years. Gastroenterology. 2018 Aug 21. 10.1053/j.gastro.2018.08.019.
Imperiale TF, et al. Lowering the Starting Age for Colorectal Cancer Screening to 45 Years: Who Will Come…and Should They? Clin Gastroenterol Hepatol. 2018;16(10):1541-1544.

21

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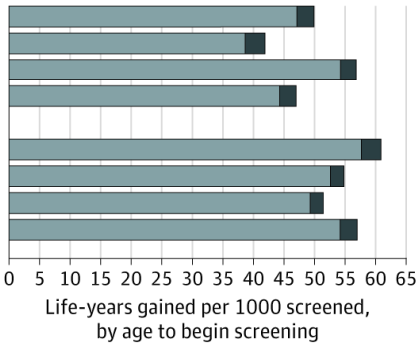
Benefits of earlier screening

B Benefit: Estimated No. of CRC cases averted per 1000 individuals screened[a]

Screening modality and frequency	Mean CRC cases averted if start screening[b]		Additional CRC cases averted if start screening at age 45 y
	At age 50 y	At age 45 y	
Stool tests			
FIT every year	47	50	3
HSgFOBT every year[c,d]	39	42	3
sDNA-FIT every year	54	57	3
sDNA-FIT every 3 y[d]	44	47	3
Direct visualization tests			
COL every 10 y	58	61	3
CT colonography every 5 y	53	55	2
Flexible SIG every 5 y	49	51	2
Flexible SIG every 10 y plus FIT every year	54	57	3



US Preventive Services Task Force. Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2021;325(19):1965–1977

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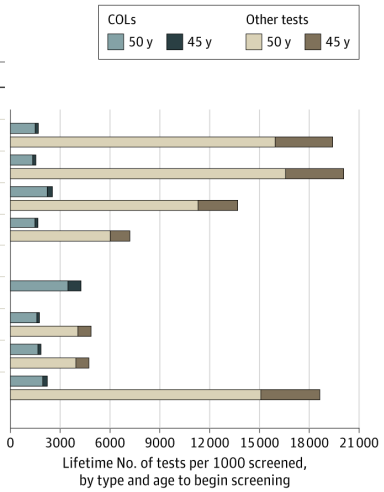
Harms

A Harms: Estimated lifetime number of complications (gastrointestinal and cardiovascular) of | **B** Burden: Estimated lifetime number of tests by type per 1000 individuals screened[a]

Screening modality and frequency		Mean estimate of lifetime No. of tests by type if start screening at age 50 y		Mean estimate of lifetime No. of tests by type if start screening at age 45 y		Additional tests if start screening at age 45 y by type	
		COLs	Other tests[e]	COLs	Other tests[e]	COLs	Other tests[e]
Stool te	Stool tests						
FIT ev	FIT every year	1496	15940	1682	19412	186	3472
HSgF	HSgFOBT every year[c,d]	1347	16577	1535	20077	188	3501
sDNA	sDNA-FIT every year	2221	11303	2531	13693	311	2390
sDNA	sDNA-FIT every 3 y[d]	1477	6006	1661	7194	184	1188
Direct v	Direct visualization tests						
COL e	COL every 10 y	3464	0	4248	0	784	No change
CT co	CT colonography every 5 y	1590	4056	1750	4859	161	803
Flexib	Flexible SIG every 5 y	1660	3946	1840	4723	179	777
Flexib	Flexible SIG every 10 y plus FIT every year	1953	15088	2224	18641	270	3553



US Preventive Services Task Force. Screening for Colorectal Cancer: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2021;325(19):1965–1977

23

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Screening test options

Table 2. Summary of performance characteristics for CRC screening tests

	Performance characteristics	Pros	Cons
Stool- and blood-based tests			
FIT[a]	79% sensitivity and 94% specificity for CRC	Noninvasive No risk of complications Can be done at home Programmatic screening possible	Positive results require colonoscopy Needs to be repeated annually Low sensitivity for advanced adenomas Does not detect serrated lesions
mtsDNA stool test	92% sensitivity and 87% specificity for CRC Long-term reduction in CRC incidence and mortality is unknown	Noninvasive No risk of complications Can be done at home Better sensitivity for advanced adenomas and large serrated lesions than FIT alone	Positive results require colonoscopy Repeat interval unknown but 3 years proposed More expensive than FIT alone Concern for overtesting and harms from a positive test and negative colonoscopy
Septin 9	48% sensitivity and 91% specificity for CRC Long-term reduction in CRC incidence and mortality is unknown	Minimally invasive No risk of complications Can be added to routine blood draw	Low sensitivity for CRC Repeat interval unknown Positive results require colonoscopy
Direct visualization tests			
Colonoscopy	100% detection rate for CRC. Reported incidence of PCCRC 3%–9% Long-term reduction in CRC incidence 31%–71% and CRC mortality 65%–88% from observational studies	Diagnostic and therapeutic Can detect cancers and precursor polyps Infrequent repeat interval (q10 years) possible	Operator dependent Requires bowel preparation and sedation Risk of complications 4–8 in 10,000
Flexible sigmoidoscopy	90%–100% sensitivity for distal colon CRC Long-term reduction in CRC incidence 21%; reduction in CRC mortality 26%	Less invasive than colonoscopy Low risk of complications	Positive results require colonoscopy Needs to be repeated every 5–10 years Requires enema preparation
CT colonography	90%–100% for CRC Variable sensitivity for polyps, poor sensitivity for flat lesions and sessile serrated lesions	Less invasive than colonoscopy Does not require sedation Lower risk of complications than colonoscopy	Positive results require colonoscopy Requires bowel preparation Followup may be required for extracolonic findings Limited availability of trained radiologists across the United States
colon capsule	81% sensitivity and 93% specificity for polyps ≥6 mm	Minimally invasive Does not require sedation Newer generation tests can be done at home	Requires bowel preparation Positive examinations require colonoscopy Repeat interval unknown

CRC, colorectal cancer; FIT, fecal immunochemical test; RCT, randomized controlled trial.
[a]At FIT cutoff of 20 μg/g of stool.

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24

Vir **Table 3. Select studies summarizing effectiveness of screening colonoscopy in reducing CRC incidence and mortality** .gi.org

	US 2009	Canada 2005	Germany 2014	Switzerland 2012	US (NHS) 2013	US 2013[b]	US (VHA) 2018	US (Kaiser Permanente) 2018
Design	Cohort	Case control	Case control	Cohort	Cohort	Case control	Case control	Case Control
N[a]	715	2,915[a]	6,332[a]	22,686	88,902[a]	980	24,820[a]	5,207
CRC incidence	0.52 (0.22–0.82)	0.69 (0.44–1.07)	0.09 (0.07–0.13)	0.31 (0.16–0.59)	NR	0.29 (0.15–0.58)	NR	NR
Relative risk reduction in CRC incidence	48%	31%	91%	69%	NR	71%	NR	NR
Proximal CRC incidence	NR	1.02 (0.72–1.45)	0.22 (0.14–0.33)	NR	NR	0.36 (0.16–0.80)	NR	NR
Relative risk reduction in proximal CRC incidence	NR	2% increase	78%	NR	NR	64%	NR	NR
CRC mortality	0.35 (0.0–1.06)	NR	NR	0.12 (0.01–0.93)	0.32 (0.24–0.45)	NR	0.30 (0.24–0.38)	0.33 (0.21–0.52)
Relative risk reduction in CRC mortality	65%	NR	NR	88%	68%	NR	70%	67%
Proximal CRC mortality	NR	NR	NR	NR	0.47 (0.29– 0.76)	NR	0.48 (0.35–0.66)	0.35 (0.18–0.65)
Relative risk reduction in proximal CRC mortality	NR	NR	NR	NR	53%	NR	52%	65%

CRC, colorectal cancer; NHS, Nurses Health study; NR, not reported; VHA, Veterans Health Administration.
[a]N is total for study and the screening colonoscopy cohort was a subgroup.
[b]Included late stage cancers (stage IIB and higher only).

25

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Approach to Family History in CRC Screening

CRC Risk Group	Guideline Recommendations
Average Risk: No personal or FH of CRC neoplasia or 1 SDR w CRC	Start screening at 50, menu of options
Increased risk : 1 FDR ≥ age 60	Start screening earlier, menu of options
High Risk: 1 FDR <60 or >1 FDR	Start earlier, use colonoscopy, repeat more often
Very high risk - Hereditary syndromes	Start much earlier, use colonoscopy repeat much often

26

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Family History: New ACG Recommendations

Who	Modality	Age to start	Frequency
1 FDR<60 or ≥2 FDRs any age CRC or advanced adenoma or advanced SSA/P	Colonoscopy	40 or 10 years younger than earliest CRC	Q5 years
1 FDR>=60 with CRC or advanced adenoma	Any screening modality	Begin at age 40	Similar as for average risk
1 SDR at any age with CRC	Any screening modality	Similar as for average risk	Similar as for average risk

- Obtain clear documentation of histology of adenoma/polyp in FDR
- If histology information not available, assume the adenoma/polyp were not advanced
- Benefit of earlier screening likely highest in individuals <50
- After age 60 with 1 FDR with CRC, unlikely to have increased CRC risk

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27

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Quality of Colonoscopy should be measured

We recommend that all endoscopists performing screening colonoscopy should measure their individual cecal intubation rates (CIRs), adenoma detection rates (ADRs), and withdrawal times (WTs)

Indicator	Benchmark
ADR	Minimum 25%; aspirational target >=50%
WT	Minimum 6 min; 8-9 min optimal
CIR	95% for screening exams

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Measuring Quality of Colonoscopy

- **Endoscopist Report cards**
  - Individual physicians
  - Group average
  - Individuals de-identified
  - Individuals identified
  - Post them on the ASC wall
  - Publish online

Sample Report card

Endoscopist ID: 21314566	Time period: Q1 2021
Total number of colonoscopies performed	300
Total number of screening colonoscopies performed	100
Complete Colonoscopies (excluding cases due to poor prep)	295 (98%)
ADR (for screening colonoscopy)	31%
Withdrawal time (procedures where no polypectomy or biopsies performed)	8.2 min± 1.15 min
Number of Colonoscopies with inadequate bowel prep	5 (2%)

29

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Endoscopist report card

- 6 Endoscopists
- Quarterly report card on quality measures starting 2009
- Compared ADR and cecal intubation rate before and after intervention

	Before (95%CI)	After (95% CI)	P-value
ADR	44.7% (39.1%-50.4%)	53.9% (49.7%-58.1%)	0.013
Cecal intubation rate	95.6% (92.5%-97.5%)	98.1% (96.7%-99.0%)	0.027

Kahi CJ et al. Impact of a quarterly report card on colonoscopy quality measures. GIE 2013;77(6):925-31.

30

30

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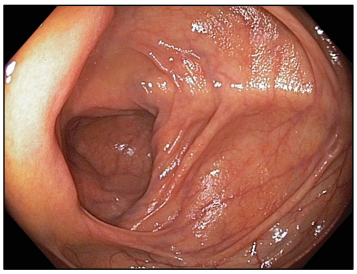
Improving Prep Quality



- Use split dose or same day prep
- Begin second dose 4-6 hours prior to colonoscopy
  - Finish prep at least 2 hours prior to colonoscopy
- Judge prep after all washing has been done
- Adequate prep should be achieved in at least 85% of cases
- If inadequate prep, repeat within 1 year

31

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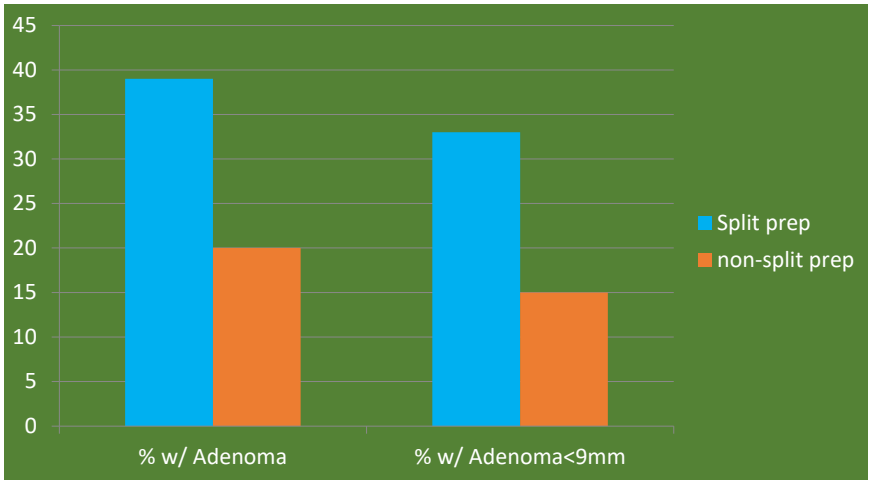
Split prep = Higher ADR



Cohen LB et al. Clinical trial: 2-L polyethylene glycol-based lavage solutions for colonoscopy preparation - a randomized, single-blind study of two formulations. Aliment Pharmacol Ther 2010; 32: 637-44

32

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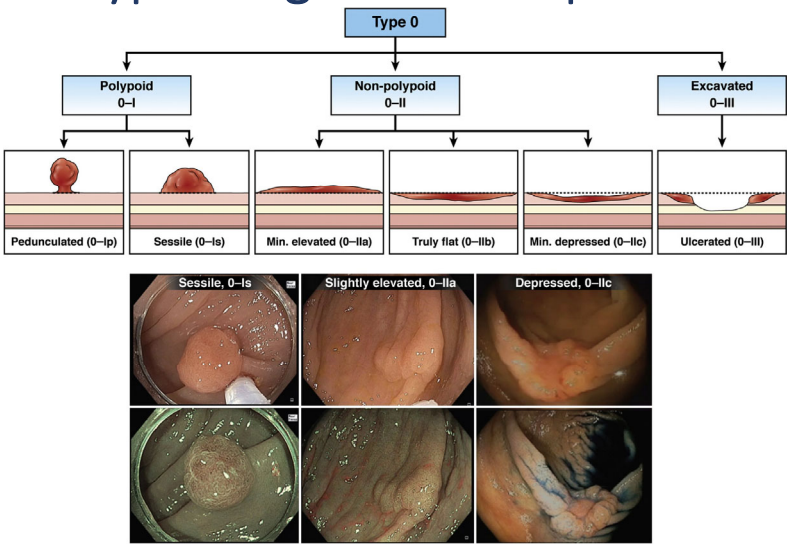
Polyp Recognition is important!



The Paris endoscopic classification of superficial neoplastic lesions: esophagus, stomach, and colon. Gastrointest Endosc 2003;58:S3-43.
Shaukat A, Kaltenbach T, Dominitz JA, Robertson DJ, Anderson JC, Cruise M, Burke CA, Gupta S, Lieberman D, Syngal S, Rex DK. Endoscopic Recognition and Management Strategies for Malignant Colorectal Polyps: Recommendations of the US Multi-Society Task Force on Colorectal Cancer. Gastrointest Endosc. 2020 Nov;92(5):997-1015

33

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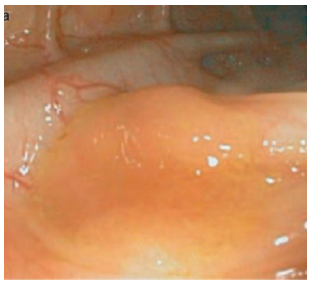
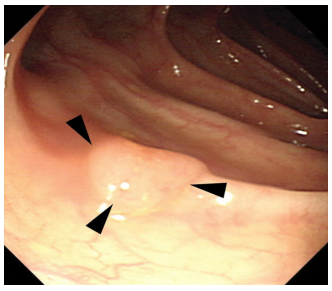
Polyp Recognition

- Endoscopic Features of easily missed polyps:
  - Right sided
  - Flat/sessile
  - Irregular borders
  - Covered by mucus





Huang CS et al. AJG 2011;106:229-40

34

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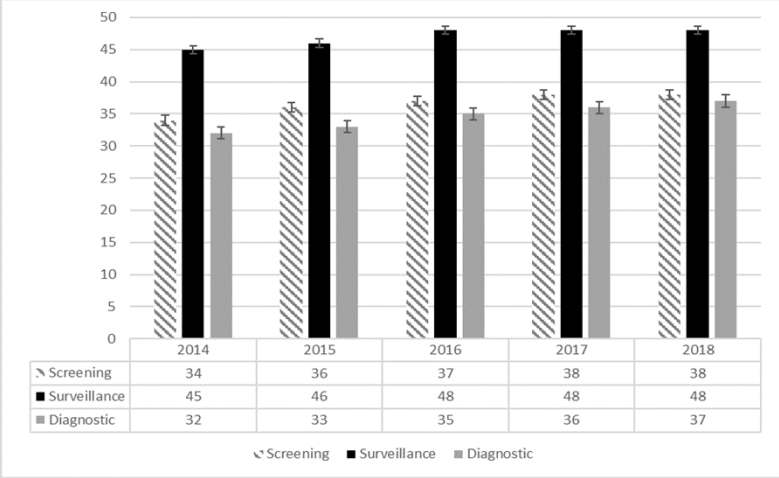
ADR Benchmarks from GIQUIC

- 2,646,833 colonoscopies were performed by 1,169 Endoscopists
- Adjusted to the US population, average ADR 39.08%
- Associated factors for ADR: Age, male, Withdrawal time



	2014	2015	2016	2017	2018
Screening	34	36	37	38	38
Surveillance	45	46	48	48	48
Diagnostic	32	33	35	36	37

Shaukat A, Holub J, Pike I, Pochapin M, Eisen G, Schmitt C, Greenwald D. Benchmarking adenoma detection rates for colonoscopy: Results from a US based registry. AJG accepted

35

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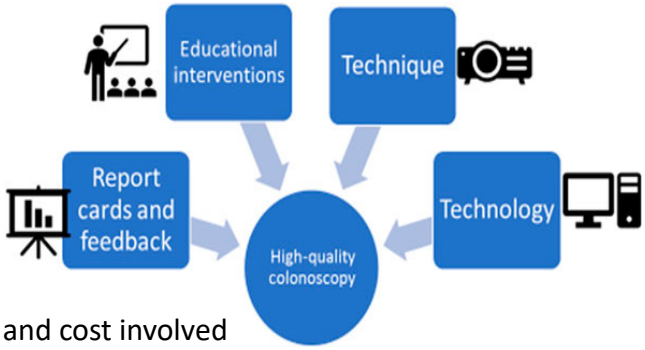
Summary

- Colonoscopy quality should be tracked and can be improved
- Good technique is essential
  - Careful segmental inspection
  - Look behind folds
  - Segmental and timed withdrawal
  - Look for flat lesions
  - Water exchange
- Technology can help but is no substitute
- Educational programs can help but effort and cost involved



May F, Shaukat A. State of the Science on Quality Indicators for Colonoscopy and How to Achieve Them. American Journal of Gastroenterology 2020;115(8):1183-1190,

36

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Organized screening and improving follow-up for 2-step tests

Summary	Recommendation strength
We recommend organized screening programs to improve adherence to CRC screening compared with opportunistic screening	Strong
We suggest the following strategies to improve adherence to screening: patient navigation, patient reminders, clinician interventions, provider recommendations and clinical decision support tools	Conditional
We suggest the following strategies to improve adherence to follow-up of a positive screening test: mail and phone reminders, patient navigation, and provider interventions	Conditional

ACG Clinical Guidelines: Colorectal Cancer Screening 2021, The American Journal of Gastroenterology: 2021;116 :458-479

37

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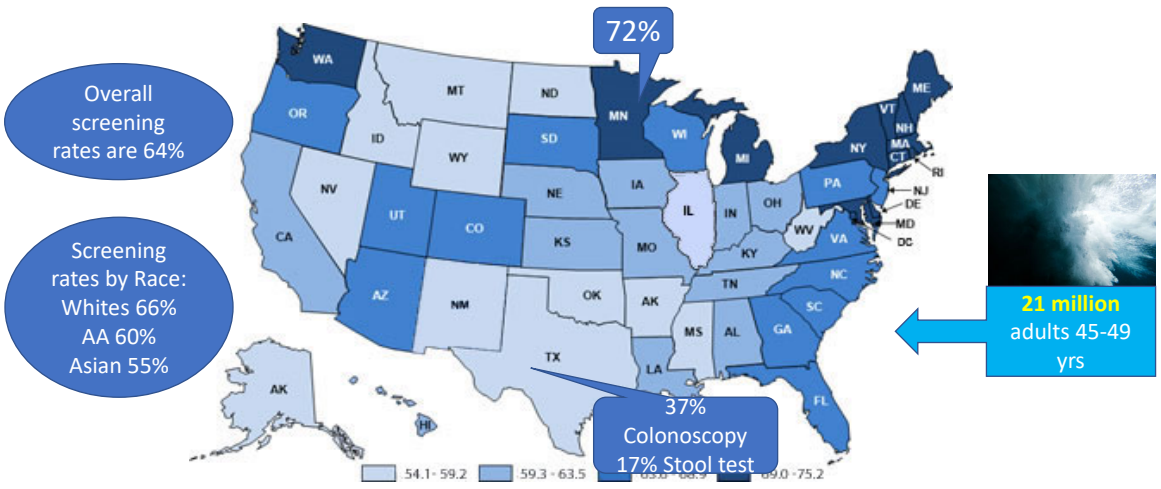
Percentage of Adults Aged 50–75 Years Up-to-Date with CRC Screening, by State

Behavioral Risk Factor Surveillance System, United States, 2016



38

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Fecal Immunochemical Test (FIT)

- One sample
- No dietary/medication restrictions
- Higher adherence
- Higher sensitivity and specificity

39

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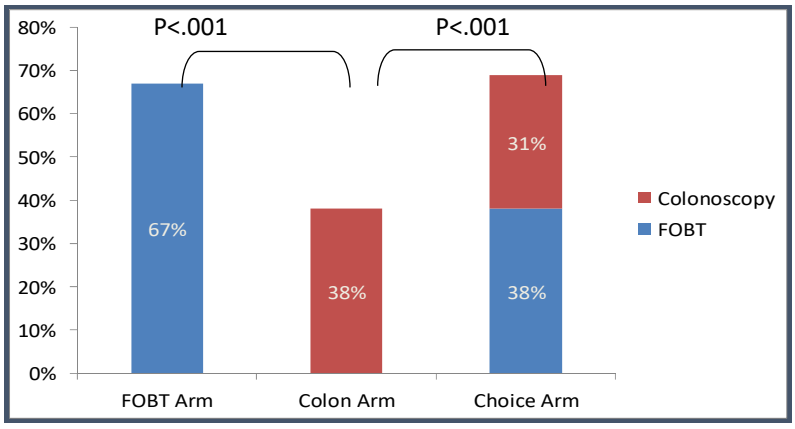
Choice Can Improve Adherence

- 997 screen eligible participants in WA/CA
- Cluster randomized to FOBT, Colonoscopy or Choice
- Overall screening 58% at 1 year



Inadomi, et al. *Arch Intern Med* 2012;172:575-82.

40

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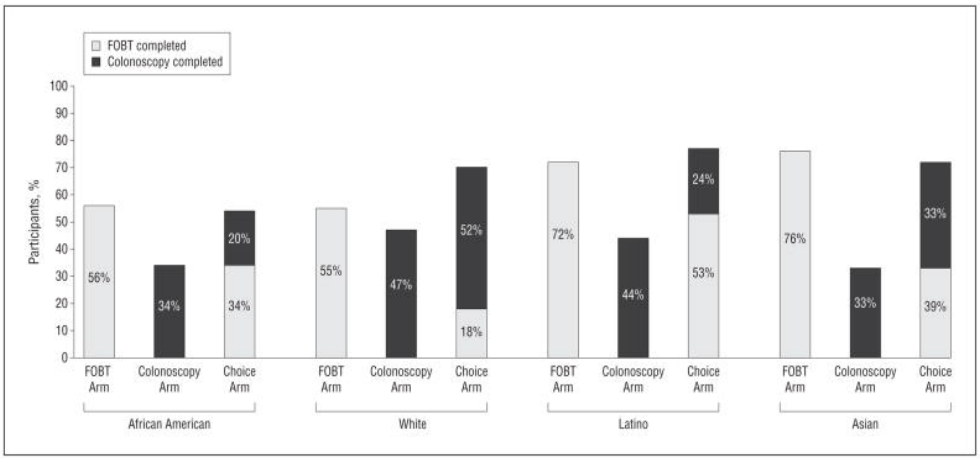
Preference Varies by Race/Ethnicity



- Rates of screening were lower in minorities
- Minorities more likely to adhere to FOBT while whites more likely to adhere to colonoscopy

Inadomi, et al. *Arch Intern Med* 2012;172:575-82.

41

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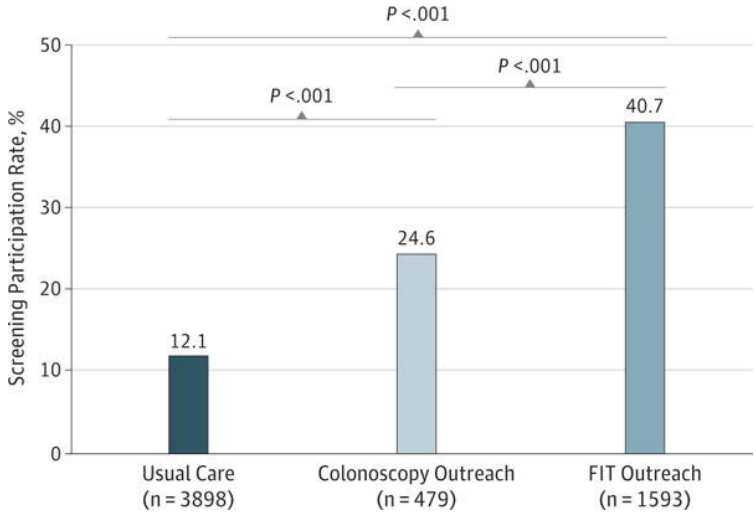
Outreach with Colonoscopy vs. FIT vs. usual care



Gupta et al. JAMA Internal Medicine 2013;173:1725-1732

42

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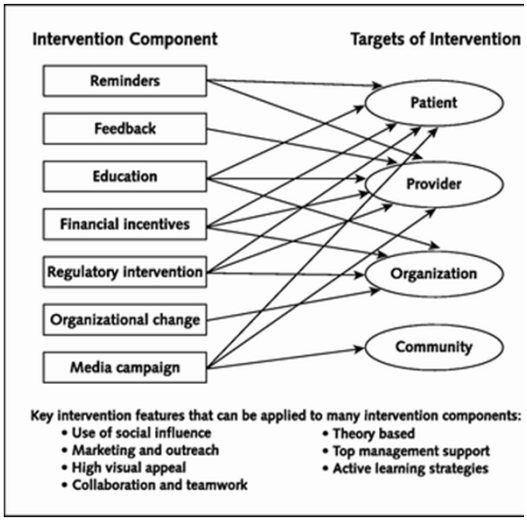
Improving Adherence



Stone EG, et al. Interventions That Increase Use of Adult Immunization and Cancer Screening Services: A Meta-Analysis. Ann Intern Med. 2002;136:641–651

43

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False positive stool DNA test

- 1050 patients with MT-DNA test
- 8 cancers over 4 years (1 CRC, 3 lung, 3 pancreatic, 1 bile duct)
- No difference in those that tested positive and negative

Study	Per-protocol	Calibrated, 90th percentile	Calibrated, 95th percentile	Cancer type	Smoking status	Alcohol use
"Specificity"	TN	FP	TN	Pancreas	Former	Never
"Specificity"	FP	TN	TN	Lung	Never	Occasional
"Specificity"	TN	TN	TN	Bile duct	Never	Never
"Specificity"	TN	FP	FP	Pancreas	Never	Daily
"Cutoff"	TN	TN	TN	Lung	Former	Occasional
"DeeP-C"	TN	TN	TN	Lung	Current	Never
"DeeP-C"	FP	FP	FP	Colorectal	Former	Never
"DeeP-C"	TN	TN	TN	Pancreas	Never	Never

percentile-calibrated cutoff methods
MT-sDNA, multi-target stool DNA; FP, false positive MT-sDNA test; TN, true negative MT sDNA test

Cotter TG et al. Long-term Follow-up of Patients Having False-Positive Multitarget Stool DNA Tests after Negative Screening Colonoscopy: The LONG-HAUL Cohort Study. *Cancer Epidemiol Biomarkers Prev*. 2017;26(4):614–621.

44

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False positive stool DNA test

- 1216 subjects w negative colonoscopy: 1011 negative stool DNA test (concordant); 205 positive stool DNA test (discordant)
- Median follow-up 5.3 years
- Concordant group: 11 (1.1%) Aerodigestive cancers: Lung (6), Pancreas (2), Liver, Head and neck (2)
- Discordant group: 5 (2.4%) Aerodigestive cancers (Colon, 2 Lung, Pancreas and Parotid)
- Risk ratio 2.2 (0.8-6.2; p=0.15)

- **Conclusion**: No work-up required for positive test after negative colonoscopy

Berger BM, Kisiel JB, Imperiale TF, Geenen DJ, Heigh RI, Mahoney DW, Hilsden RJ.
Clin Gastroenterol Hepatol. 2019 Aug 5. pii: S1542-3565(19)30846-8. doi: 10.1016/j.cgh.2019.07.057

45

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Towards Personalized Screening

- Individualized risk score for harboring advanced neoplasia
- Based on:
  - Non-Modifiable factors: Age, Gender, Race/ethnicity, family history
  - Modifiable factors: Smoking, BMI, ASA use, diet

Tao S et al. Development and validation of a scoring system to identify individuals at high risk for advanced colorectal neoplasms who should undergo colonoscopy screening. Clin Gastroenterol Hepatol. 2014;12:478-85
Cai QC et al. Derivation and validation of a prediction rule for estimating advanced colorectal neoplasm risk in average-risk Chinese. Am J Epidemiol. 2012 ;175(6):584-93
Kaminski MF et al. A score to estimate the likelihood of detecting advanced colorectal neoplasia at colonoscopy. Gut. 2014 ;63(7):1112-9
Shaukat A et al. Development and validation of a clinical score for predicting risk of adenoma at screening colonoscopy. Cancer Epidemiol Biomarkers Prev 2015;24:913-20

46

Take Home Points

- Average risk CRC screening beginning at age 45
- One-step versus 2-step screening tests
- Colonoscopy and FIT as primary screening modalities
- Track quality indicators for colonoscopy: ADT, WT CIR
- Organized screening approaches for adherence to screening and to follow up for 2-step tests
- False positive mtsDNA test does not need special follow-up
- Future: Personalized screening, expansion of noninvasive testing and higher adherence

47

Thank you!

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48

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Questions?

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Aasma Shaukat, MD, MPH, FACG

Moderator:
Linda Rabeneck, MD, MPH, MACG

49

50