

# Detection and Prevention of Colorectal Cancer

## Post DDW Highlights Course

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# Agenda

- U.S. Preventive Services Task Force and Multi-society task force guidelines
- Colonoscopy
  - Quality
  - Adherence/compliance

# CRC Screening

## U.S. Preventive Services Task Force

- Recommended strategies:
  - Fecal occult blood testing
    - Annual testing with high-sensitivity FOBT\*
  - Sigmoidoscopy every 5 years
    - With high-sensitivity FOBT every 3 years
  - Colonoscopy every 10 years
- Ages 50-75 years
  - 76-85 years: do not screen routinely
  - Older than 85 years: do not screen
- Insufficient evidence:
  - CT colonography
  - Fecal DNA testing

\*Hemoccult Sensa or FIT

# CRC Screening Guideline

American Cancer Society, U.S. Multi-Society Task Force, American College of Radiology

## Strategy

- Flexible sigmoidoscopy
- Colonoscopy
- DCBE
- CT colonography
- gFOBT or FIT
- sDNA

## Interval

5 years  
10 years  
5 years  
5 years  
1 year  
unknown

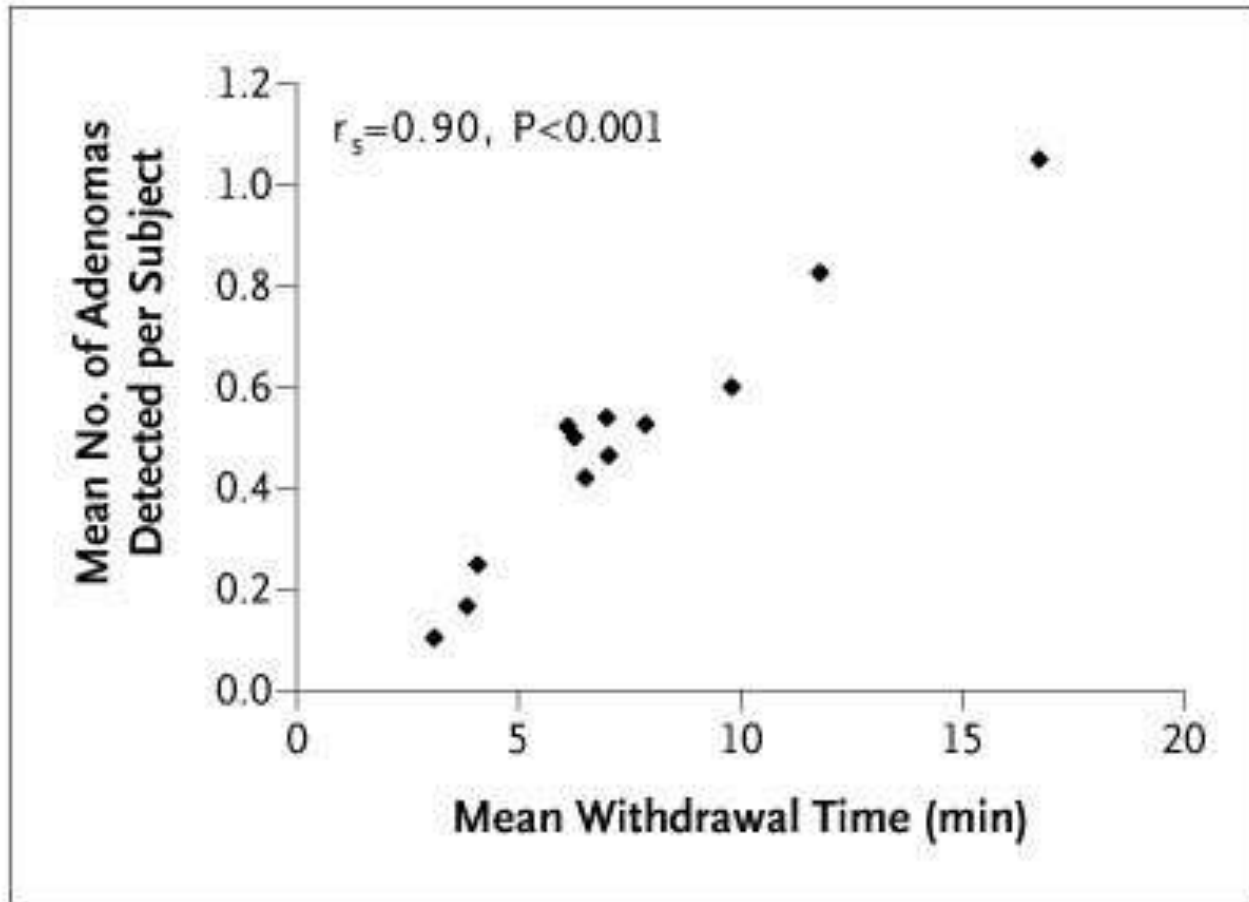
“Strong opinion that colon cancer prevention should be the primary goal of screening”

# Colorectal Cancer Screening Quality Colonoscopy

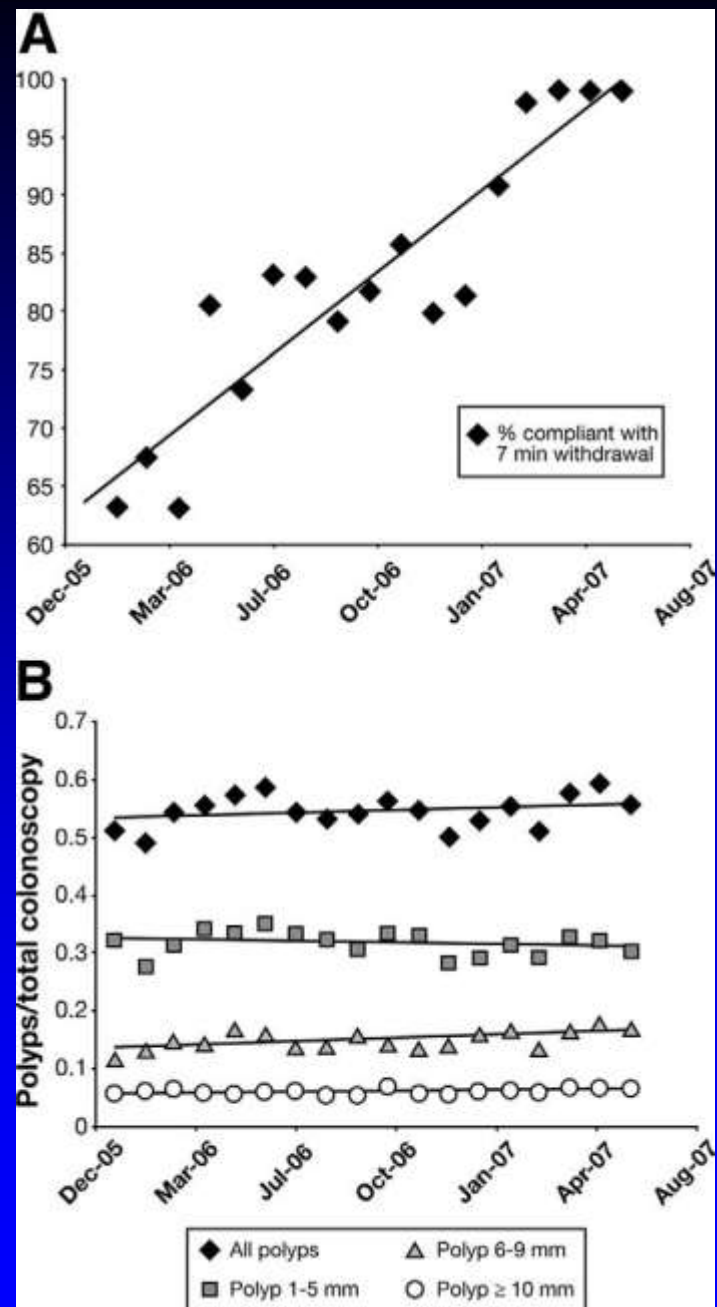
- Is colonoscopy withdrawal time a valid quality measure?
  - Withdrawal time associated with adenoma detection
  - Institution of a 7” withdrawal time was not associated with an increase in adenoma detection
- Is withdrawal time the cause or result of good endoscopy?

# Interval Cancers

## Endoscopist Factors



- Adherence to 7" withdrawal time
  - Increased from 65% to 100%
- # polyps detected per colonoscopy
  - No significant increase



# CRC Screening Quality

## Gupta et al. #284

- Aim: examine impact of endoscopist and withdrawal time on interval cancer
- Setting: single center (Mayo Rochester)
- Subjects: 10,136 patients with CRC
- Measurements:
  - CRC after colonoscopy
    - 90 days to 3 years after colonoscopy (missed neoplasia)
    - 3 to 5 years after colonoscopy (protective effect of colonoscopy)

# CRC Screening Quality

## Gupta et al. #284

- No lesion was seen or treated in the colonic segment during preceding colonoscopy
  - 90 days-3 years: 100 patients truly missed neoplasia
  - 3-5 years: 55 patients possibly missed neoplasia
- Variation in miss rates
  - 0-7.9% truly missed
  - 0-7.7% possibly missed

# CRC Screening Quality

## Gupta et al. #284

- Association between withdrawal time and truly missed neoplasia
  - $R = -0.03$  (95% CI: -0.32, +0.27)
- Summary
  - Large variation between endoscopist miss rates
  - No association between miss and withdrawal time
- Conclusion
  - Some endoscopists detect lesions better than others irrespective of withdrawal time

# CRC Screening Quality

## Kaminski et al. M1331

- Aim: determine whether a CQI program could improve adenoma detection rates
- Setting: national colonoscopy-based CRC screening program in Poland
- Intervention: provider profiling / feedback
- Measurements:
  - Adenoma detection rates by provider

# CRC Screening Quality

## Kaminski et al. M1331

- Results
  - 41 endoscopists, 45,644 colonoscopies/4 years
  - ADR
    - Year 1: 14.1%
    - Year 2: 15.6%
    - Year 3: 17.7%
    - Year 4: 18.7%
  - “good endoscopists” = baseline ADR  $\geq 10\%$ 
    - ADR 20% achieved by 46.7%
  - “bad endoscopists” = baseline ADR  $< 10\%$ 
    - ADR 20% achieved by 0

# CRC Screening Quality

## Bretagne et al. M1296

- Aim: observe variance in yield of colonoscopy for +FOBT among endoscopists
- Setting: 18 endoscopists in French province
- Measures:
  - Detection rates for cancer, adenomas
  - Stratified by adenoma size and round of screening

# CRC Screening Quality

## Bretagne et al. M1296

- Cancer detection: 7% - 17.8%
- Adenoma detection:
  - Any 6-48%
  - $\geq 2$  adenomas 4.9-24.4%
  - $\geq 3$  adenomas 2.8-13.3%
  - $\geq 10$ mm adenoma 8.2-30.4%
- Multivariable analysis
  - Endoscopist, patient age and gender
    - Predictive of adenomas, not cancer detection
  - Colonoscopy volume, endoscopist age not predictive

# CRC Screening Quality

- Withdrawal time is a marker of a good endoscopist
  - Not the reason endoscopists find polyps
- Withdrawal time would not be a valid performance measure
  - Ensuring “adequate” withdrawal time does not ensure adequate screening
- Other factors related to the endoscopist influence the quality of colonoscopy

# Colonoscopy Quality

## Spiegel, Chan, Talley, Cohen #212

- Aim: to develop and test an intervention to improve bowel preparation quality
- Setting: single-center VA
- Intervention: educational booklet based on knowledge, attitude and belief barriers to preparation and colonoscopy
- Measurements:
  - Bowel preparation quality (7-point Likert)
  - Before and after implementation of intervention

# Getting Ready for Your Colonoscopy

"One and Done"

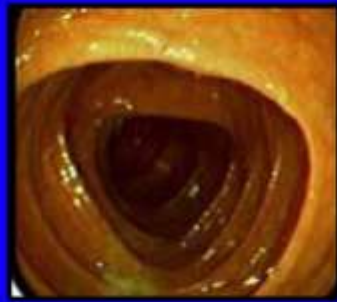
Let's do This Once and Do it Right!

Inside, you will find:

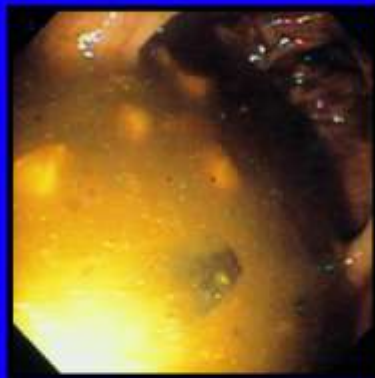
- Instructions on how to prepare
- More information about your colonoscopy
- Answers to commonly asked questions

## Imagine This:

Think of it this way: a clean colon is like driving on a country road on a sunny day. A dirty colon is like driving in a snow storm.



When your colon is clean, doing the colonoscopy is like driving on a country road on a sunny day. It's easy to see and easy to drive.



When your colon is dirty, doing the colonoscopy is like driving on a winter road in a snow storm. It is hard to see and hard to drive.

## What is a "Clear Liquid"?

- As you get ready for your colonoscopy, you must only drink clear liquids.
- A liquid is "clear" if you can read something through it. Use this simple test to figure out what you can drink, and what you cannot drink.



This is orange juice. It's not clear, because you can't read newspaper print through it. Don't drink this.



This is pineapple juice. It's also not clear. Don't drink this.



This is apple juice. You can read newspaper print right through it. You can drink this.

## What Foods are NOT OK to Eat?



No fruits - Not OK



No vegetables - Not OK



No soups with vegetables,  
noodles, rice, meat or  
other chunks of food -  
Not OK



No milk and dairy  
products - Not OK



No breads, grains, rice,  
cereals - Not OK



No meats - Not OK

## How do You Know When Your Prep is Working?

- The stool coming out should look like the stuff you are eating and drinking - clear and without many particles.
- You know you're done when the stool coming out is yellow, light, liquid, and clear - like urine.

### Here's a Guide:



# One Day Before Your Colonoscopy

Time of Day

What you Eat

What you Drink

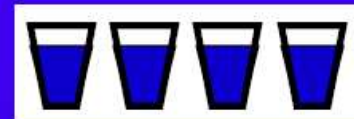
Morning



Clear liquid diet for breakfast. No solid food.



Drink at least 4 tall glasses of clear liquids



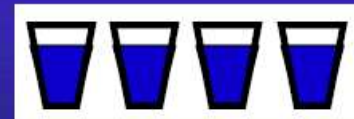
Afternoon



Clear liquid diet for lunch. No solid food.



Drink at least 4 tall glasses of clear liquids



Evening



Clear liquid diet for dinner. No solid food. Take prep medicine as directed.



Drink at least 4 tall glasses of clear liquids



# Colonoscopy Checklist

## Instructions:

Here's a checklist of things to do as you prepare for your colonoscopy. As you do each one, check it off the list by marking an "X" in each box. Make sure each box has been checked prior to coming in for your procedure.

## Before you Start

- Read the booklet carefully.
- Make sure you have your bowel prep kit. If not, call this number: 310-268-3256

## Two Days Before your Colonoscopy

- Eat breakfast - regular solid food okay.
- Eat lunch - regular solid food okay.
- Eat dinner - clear liquids only, no solid foods.
- Drink at least 6 tall glasses of clear liquids throughout the afternoon and evening.

## One Day Before your Colonoscopy

- Eat breakfast - clear liquids only, no solid foods.
- Eat lunch - clear liquids only, no solid foods.
- Eat dinner - clear liquids only, no solid foods.
- Take bowel prep in afternoon/evening as instructed.
- Drink at least 12 tall glasses of clear liquids throughout the day.

## Day of your Colonoscopy

- Drink 2 tall glasses of clear sports drink prior to your appointment.
- Report for your colonoscopy in the GI Endoscopy Suite, Building 500, 5<sup>th</sup> Floor East, Room 5239

# Colonoscopy Quality

## Spiegel, Chan, Talley, Cohen #212

- Results
  - Before intervention
    - 45% of patients had good prep ( $\geq 6$  of 7 on scale)
  - With intervention
    - 61% of patients had a good prep
  - Intervention still significant after adjustment for potential confounders
    - Age, gender, race, BMI, preparation type

# MD Adherence to CRC Screening

## Caro, Bolino T1365

- Aim: identify the frequency with which physicians adhere to their own recommendations
- Methods: anonymous survey
- Subjects: physicians  $\geq 50$  years of age
  - Spain, international conventions
  - Internists (72%); surgeons (18%); others

# MD Adherence to CRC Screening

## Caro, Bolino T1365

- Results:
  - 242 of 269 physicians completed survey
  - 41% were adherent to CRC screening
    - Colonoscopy: 70%
    - Barium enema: 10%
  - 59% were non-adherent to CRC screening
    - Major reasons:
      - Fear of procedure
      - Insufficient knowledge of guidelines
      - Lack of time

# Detection and Prevention of CRC

## Conclusions

- Quality
  - Withdrawal time is an insufficient measure of colonoscopy quality
  - Attempts to increase withdrawal time may not increase adenoma detection
  - Profiling is insufficient to improve quality
- Adherence
  - Procedure preparation can be improved with patient education
  - We can't expect patients to adhere to tests we ourselves are unwilling to pursue