Colorectal cancer: Screening and management in the primary care setting

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Outline

- Introduction
- Screening modalities and guidelines
- Developments in diagnosis and management
- Summary

Introduction

- Lifetime risk of CRC is 5-6 % globally
- Locally, approximately >1500 new cases of CRC are diagnosed yearly
- Affects approximately 45 out of every 100,000 people here, 2nd most common cancer in both gender
- 2nd most common cancer death in men, 3rd most common cancer death in women (2011-2015)
- 90% cases over age 50 yrs

Ten most common cancers affecting men & women (2017 - 2021)

Men	No. of cases	Women	No. of cases
Prostate	6,912	Breast	12,735
Colon & rectum	6,697	Colorectal & rectum	5,542
Lung	5,567	Lung	3,388
Lymphoid neoplasms	2,986	Corpus uteri (uterus)	3,133
Liver	2,984	Lymphoid neoplasms	2,221
Non-melanoma skin	2,136	Ovary & fallopian tube	1,855
Kidney	1,734	Non-melanoma skin	1,713
Stomach	1,684	Thyroid	1,666
Myeloid neoplasms	1,430	Pancreas	1,187
Pancreas	1,417	Stomach	1,111
		Cervix uteri	1,106

(Source: Singapore Cancer Registry Annual Report 2021)

Statistics at a glance, 2022

	Males	Females	Both sexes
Population	3 110 785	2 832 766	5 943 551
Incidence*			
Number of new cancer cases	13 342	11 908	25 250
Age-standardized incidence rate	235.9	231.0	231.1
Risk of developing cancer before the age of 75 years (cum. risk %)	23.7	22.1	22.9
Top 3 leading cancers (ranked by cases)**	Colorectum Prostate Lung	Breast Colorectum Lung	Colorectum Breast Lung
Mortality*			
Number of cancer deaths	7 659	5 618	13 277
Age-standardized mortality rate	131.4	92.9	110.8
Risk of dying from cancer before the age of 75 years (cum. risk %)	12.9	9.2	11.1
Top 3 leading cancers (ranked by deaths)**	Lung Colorectum Liver	Breast Colorectum Lung	Lung Colorectum Liver
Prevalence*			
5-year prevalent cases	38 587	41 956	80 543

Source: World Health Organisation

Risk factors

- Age >50
- Ethnicity
  - Locally, the Chinese have a higher risk of CRC
  - For the Malay population, there has been a strong increase in CRC incidence over time, with incidence rates closer to those for the Chinese population in more recent years
- Hereditary CRC syndromes
- Family History
- IBD - Ulcerative Colitis
- Sedentary lifestyle and obesity, insulin resistance, diabetes
- Dietary Habits
  - Alcohol, smoking, red meat (WHO carcinogen Grp 2A), processed meat (WHO carcinogen Grp 1)
- Drugs
  - Current users of HRT are at a lower risk of colorectal cancer, although this protection disappears within 5 years of stopping HRT.
  - Aspirin and NSAIDs are known to reduce the risk of colorectal cancer. However, it is premature to recommend the routine use of these drugs for this purpose

Symptoms and signs

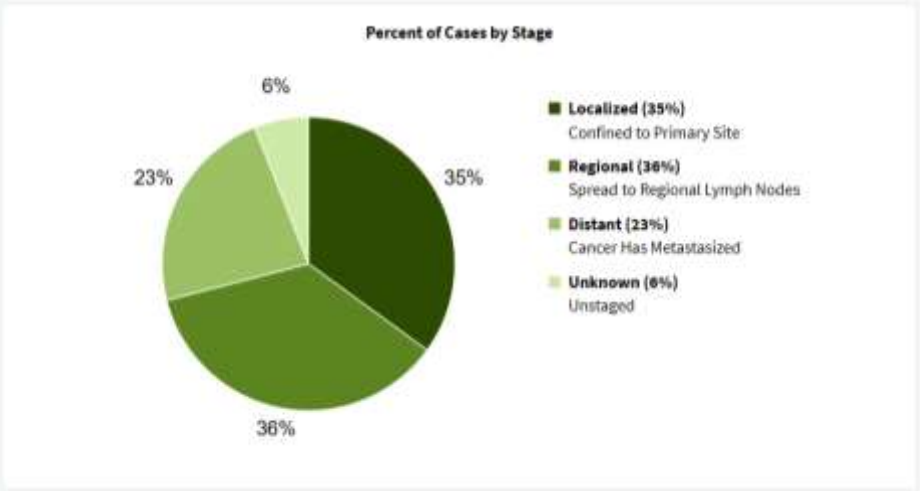
- There are no symptoms in the majority of patients with early stage colon cancer and these patients are diagnosed as a result of screening
- Recent changes in bowel habit (most common)
    - Diarrhoea/Constipation, changes in stool caliber
- Rectal bleeding
- Abdominal Pain, tenesmus, bloating
- LOA, LOW
- Symptoms related to anemia
- Physical examination showing cachexia, palpable supraclavicular LNs, palpable abdominal masses, DRE with rectal mass

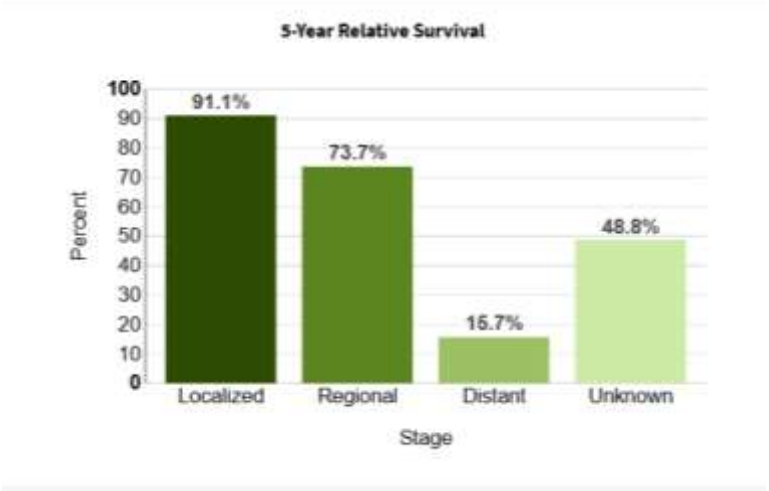
Screening

Why Screen?

- Diagnosis and staging has direct implications on survival

Percent of cases and relative survival by stage at diagnosis: Colorectal Cancer 2014-2020





Source: National Cancer Institute, Surveillance, Epidemiology and End Results Program (SEER), United States

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5- and 10-year disease-free survival (DFS) according to posttreatment pathologic (yp) stage and tumor regression grade (TRG) at resection after neoadjuvant chemoradiotherapy in the German Rectal Cancer Study Group (CAO/ARO/AIO-94) trial

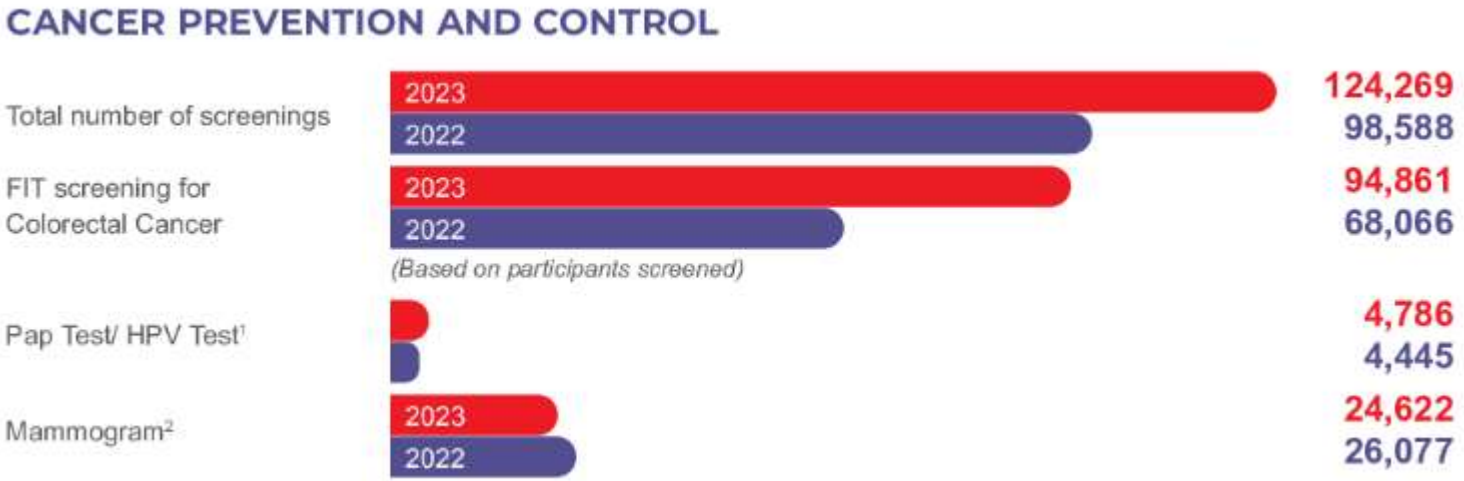
yp category	5-year DFS (%)	10-year DFS (%)
ypT		
T0	86	90
T1	95	95
T2	81	78
T3	65	66
T4	42	40
ypN		
N0	85	84
N1	65	59
N2	18	28
TRG	**5-year DFS (%)**	**10-year DFS (%)**
4	86	90
2-3	75	74
0-1	63	63

Five-tier system for TRG. Complete regression = TRG 4; intermediate regression = TRG 2-3; poor or no regression = TRG 0-1.

Data from: Rödel C, Martus P, Papadoupolos T, et al. Prognostic significance of tumor regression after preoperative chemoradiotherapy for rectal cancer. J Clin Oncol 2005; 23:8688 and Fokas E, Liersch T, Fietkau R, et al. Tumor regression grading after preoperative chemoradiotherapy for locally advanced rectal carcinoma revisited: updated results of the CAO/ARO/AIO-94 trial. J Clin Oncol 2014; 32:1554.

Source: uptodate

Local adoption rate for CRC screening



Source: Singapore Cancer Society

Local recommendations – Health Promotion Board

- Recommend annual stool FIT from age 50 and above
- For individuals at increased risk or high risk, screening by colonoscopy is also indicated.

Average risk group

Risk Group	Onset (Age)	Frequency of colonoscopy screening
Asymptomatic or family history limited to non-first degree relatives	50 yrs	Every 5 to 10 years

TABLE 3. Terms and Definitions[a]

Term	Definition
Average risk for CRC	Absence of inflammatory bowel disease, family history of CRC, hereditary syndrome associated with increased risk, serrated polyposis syndrome, personal history of CRC
Normal colonoscopy	A colonoscopy where no adenoma, SSP, TSA, HP ≥10 mm, or CRC is found
Low-risk adenoma	1–2 nonadvanced adenomas <10 mm in size
Advanced adenoma	1 or more of the following findings: • Adenoma ≥10 mm in size • Adenoma with tubulovillous/villous histology • Adenoma with high-grade dysplasia
Advanced neoplasia	1 or more of the following findings: • Adenoma ≥10 mm in size • Adenoma with tubulovillous/villous histology • Adenoma with high-grade dysplasia • CRC
High-risk adenoma	1 or more of the following findings: • Advanced neoplasia • 3 or more adenomas
Adequate ADR	ADR ≥30% in men and ≥20% in women
Adequate bowel preparation	Bowel preparation adequate for visualization of polyps >5 mm in size
Complete examination	Complete colonoscopy to cecum, with photo documentation of cecal landmarks, such as the appendiceal orifice, terminal ileum, or ileocecal valve
High-quality examination	Examination complete to cecum with adequate bowel preparation performed by colonoscopist with adequate adenoma detection rate and attention to complete polyp excision

[a]We propose moving forward that rather than using categories such as "high-risk adenoma" or "low-risk adenoma," that research articles specify the individual criteria being captured by the category (eg, use 1–2 adenomas <10 mm instead of the term *low-risk adenoma*) because evidence supporting level of risk for various criteria are constantly evolving.

Gastro 2020. Recommendations for Follow-Up After Colonoscopy and Polypectomy: A Consensus Update by the US Multi-Society Task Force on Colorectal Cancer

Local recommendations – Health Promotion Board

Increased risk group

Risk Group	Onset (Age)	Frequency of colonoscopy screening
Colorectal cancer in first degree relative (parent, sibling) age 60 yrs or younger or two or more first degree relatives	10 yrs prior to youngest case in the family or age 40 yrs, whichever is earlier	Every 5 years
Colorectal cancer in first degree relative over the age of 60 yrs	50 years	Every 5 to 10 years
Personal history of colorectal polyps	Follow post-polypectomy surveillance guidance	
Personal history of colorectal malignancy	One year after resection	Every 1 to 3 years
Personal history of ovarian or endometrial cancer	After resection	

Local recommendations – Health Promotion Board

High risk group

Risk Group	Onset (Age)	Frequency of colonoscopy screening
Family history of familial adenomatous polyposis	10 to 12 years (from puberty)	Annually*
Family history of hereditary non-polyposis colorectal cancer (Lynch Syndrome)	20 to 25 yrs	Every 1 to 2 years
Inflammatory Bowel Disease a. Left-sided colitis	From 15th yr of diagnosis	Every 1 to 2 years
Inflammatory Bowel Disease b. Pan-colitis	From 8th yr of diagnosis	Every 1 to 2 years

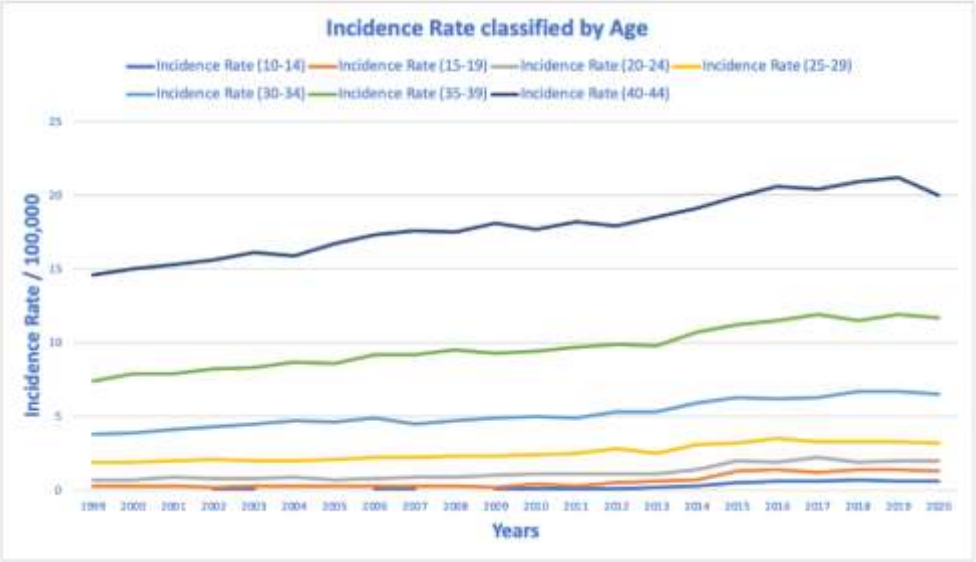
Latest screening guidelines

ACG Clinical Guidelines: Colorectal Cancer Screening 2021

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	Strong	Moderate
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	Conditional	Very low
3	We suggest that a decision to continue screening beyond age 75 yr be individualized	Conditional	Very low

Updates on starting age – a push towards 45?

- Individuals at average risk for CRC should initiate screening at age 45 years [1]
- According to a study presented at the 2024 Digestive Disease Week (May 18-21), CRC incidence has increased significantly among individuals younger than 45 years of age[2]



1: AGA Clinical Practice Update 2023 on Risk Stratification for Colorectal Cancer Screening and Post-Polypectomy Surveillance: Expert Review
2: Evolving trends in colorectal cancer incidence among young patients under 45: a 22-year analysis of CDC wonder database

ACG Clinical Guidelines: Colorectal Cancer Screening 2021

4	We recommend colonoscopy and fecal immunochemical testing (FIT) as the primary screening modalities for CRC screening	Strong	Low
5	We suggest consideration of the following screening tests for individuals unable or unwilling to undergo a colonoscopy or FIT: flexible sigmoidoscopy, multitarget stool DNA test, CT colonography, or colon capsule	Conditional	Very low
6	We suggest against Septin 9 for CRC screening	Conditional	Very low
7	We recommend that the following intervals should be followed for screening modalities: FIT every 1 yr; colonoscopy every 10 yr	Strong	Low
8	We suggest that the following intervals should be followed for screening modalities: multitarget stool DNA test every 3 yr; flexible sigmoidoscopy every 5–10 yr; CT colonography every 5 yr; colon capsule every 5 yr	Conditional	Very low
9	We suggest initiating CRC screening with a colonoscopy at age 40 or 10 yr before the youngest affected relative, whichever is earlier, for individuals with CRC or advanced polyp in 1 first-degree relative (FDR) at age <60 yr, or CRC or advanced polyp in ≥2 FDR at any age. We suggest interval colonoscopy every 5 yr	Conditional	Very low

ACPs are defined as any one of the following: (i) tubular adenoma ≥1 cm or any adenoma with villous features or high-grade dysplasia regardless of the size, (ii) sessile serrated polyp (SSP) ≥1 cm or SSP with cytologic dysplasia, or (iii) traditional serrated adenoma of any size. ACPs are the immediate precursors of CRC and are the critical target lesions for screening.

Screening intervals and options

Recommended Average-Risk Options for CRC Screening

Method	USPSTF[5]	USMSTF[4]	ACG[3]
Colonoscopy every 10 y	+	+	+
High-sensitivity gFOBT every 1 y	+	No comment	+
FIT every 1 y	+	+	+
MTsDNA every 1[5]–3[3,4] y	+	+	+
CT colonography every 5 y	+	+	+
Flexible sigmoidoscopy every 5–10 y	+	+	+
Capsule colonoscopy every 5 y	+	+	+
Septin 9	No comment	NR	NR

AA, advanced adenoma; ACG, American College of Gastroenterology; CT, computed tomography; NR, not recommended; USMSTF, US Multi-Society Task Force on Colorectal Cancer; USPSTF, US Preventive Services Task Force.

ACG Clinical Guidelines: Colorectal Cancer Screening 2021

Stool based tests

- FOBT uses a chemical indicator that shows a color change in the presence of blood, whereas FIT uses antibodies directed against human hemoglobin to detect blood in the stool
- FIT is considered a more accurate way to screen for blood in the stools as it only detects human blood from the lower GI tract
- FIT has supplanted FOBT worldwide, with greater patient adherence, no need for dietary or medication restrictions, and fewer test samples required
- Studies have shown that FIT has greater sensitivity for detecting CRC and advanced adenomas than both standard and high sensitivity FOBT with comparable specificity, but has no utility for serrated colorectal lesion detection.
- MTsDNA, known as Cologuard, includes an FIT, 2 DNA methylation markers (BMP3 and NDRG-4), an assessment of KRAS mutations, and a marker of total human DNA
- MTsDNA is approved only in average-risk adults aged 45–85 years.
- **Specificity for CRC for MTsDNA and FIT were 86.6% and 94.9% (P < .001), respectively[1]**

1: Imperiale TF, Ransohoff DF, Itzkowitz SH, et al. Multitarget stool DNA testing for colorectal-cancer screening. N Engl J Med 2014

Stool based tests

Stool- and blood-based tests		Advantages	Disadvantages
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

ACG Clinical Guidelines: Colorectal Cancer Screening 2021

FIT kits are available to the public and can be picked up at various partner distributors

Retailers and pharmacies:

Eu Yan Sang,
Guardian,
Unity,
Welcia-BHG

Polyclinics:

National University Polyclinics,
National Healthcare Group Polyclinics,
Singhealth Polyclinics

TCM Practitioners:

Singapore Thong Chai Medical Institution,
Tzu Chi Singapore

Others:

Alexandra Hospital,
Curasia Endoscopy Centre,
National University Health System (NUHS) Carehub,
NuHealth Medical Centre,
NUHS Primary Care Network,
NUH University Health Centre,
Ng Teng Fong General Hospital,
NTUC Health Family Medicine Clinic (Serangoon),
NuHealth Medical Centre,
St Luke's Community Clinic

Supporting Stakeholders:

Changi General Hospital,
Colorectal Practice,
SOG Health,
National Cancer Centre Singapore,
National University Cancer Institute Singapore,
Screen for Life,
Singapore General Hospital,
Tan Tock Seng Hospital

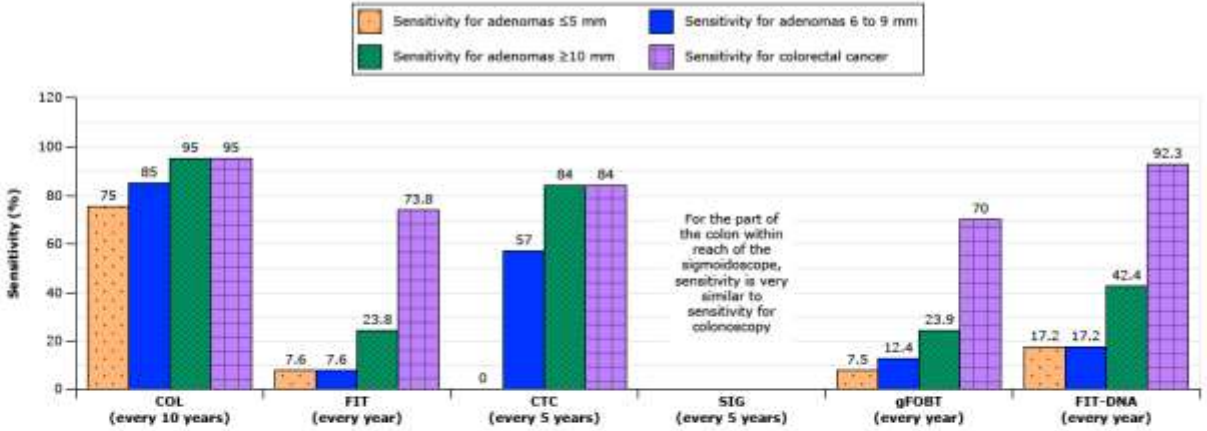
Source: Singapore Cancer Society

Direct visualization tests

		Advantages	Disadvantages
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

ACG Clinical Guidelines: Colorectal Cancer Screening 2021

Estimated sensitivity, specificity, and cancer-specific deaths averted for each colorectal cancer screening strategy



Test specificity	86	96.4	88	87	92.5	89.8
Colorectal cancer deaths averted per 1000 40-year-olds (n)*	22 to 24	20 to 23	16 to 24	16 to 21	20 to 23	21 to 24

Sensitivity, specificity, and cancer-specific deaths averted for each screening strategy.

COL: colonoscopy; FIT: fecal immunochemical test; CTC: computed tomography colonography; SIG: sigmoidoscopy; gFOBT: guaiac-based fecal occult blood test; FIT-DNA: multitargeted stool DNA test.

* Assumes screening from ages 50 to 75 years, including 100% adherence, complete follow-up without delay, and appropriate surveillance. Ranges reflect results from 3 models.

Data from:

1. *Zauber A, Knudsen A, Rutter CM, et al. Evaluating the Benefits and Harms of Colorectal Cancer Screening Strategies: A Collaborative Modeling Approach. AHRQ Publication No. 14-05203-EF-2. Rockville, MD: Agency for Healthcare Research and Quality; October 2015.*
2. *Knudsen AB, Zauber AG, Rutter CM, et al. Estimation of Benefits, Burden, and Harms of Colorectal Cancer Screening Strategies: Modeling Study for the US Preventive Services Task Force. JAMA 2016; 315:2595.*

Blood/Liquid biopsies

- Epi proColon 2.0 (methylated Septin 9 - shed by colorectal cancer cells into the bloodstream) is FDA approved to be used to screen adults 50 years or older at average risk for colorectal cancer who have been offered and have a history of not completing colorectal cancer screening using a stool test or a direct visualization test
- Cell free DNA blood-based test (Shield, Guardant Health) is approved for screening adults ages 45 and older who are at average risk for the disease.
- Analyses plasma DNA for certain changes including the presence of harmful gene variants
- In an average-risk screening population, this cfDNA blood-based test had 83% sensitivity for colorectal cancer, 90% specificity for advanced neoplasia, and 13% sensitivity for advanced precancerous lesions[1]
- **Blood-based tests have not yet been incorporated into clinical guidelines for first-line colorectal cancer screening**

1: NEJM 2024. A Cell-free DNA Blood-Based Test for Colorectal Cancer Screening

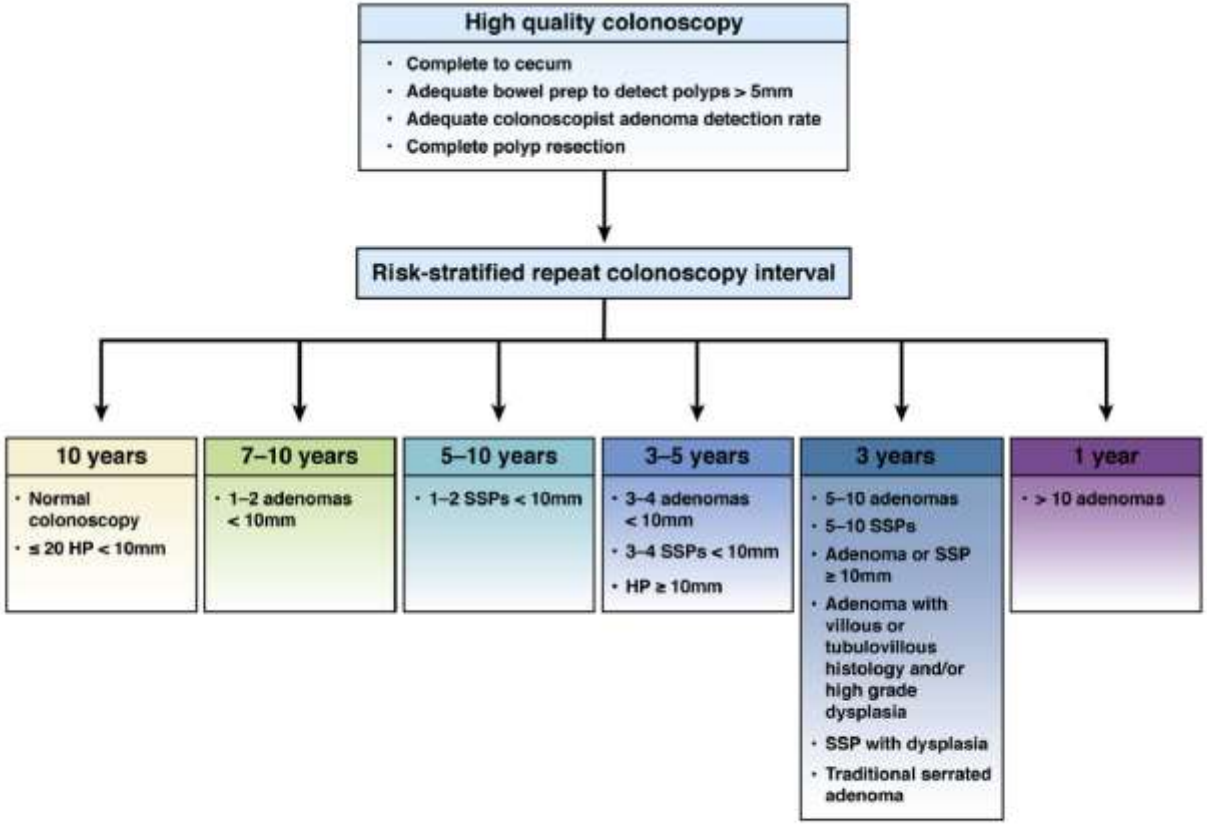


Figure 1. Recommendations for follow-up after colonoscopy and polypectomy. Recommendations for post-colonoscopy follow-up in average risk adults are depicted. After high-quality colonoscopy defined by examination complete to cecum adequate to detect polyps >5 mm, performed by a colonoscopist with adequate ADR with complete polyp resection, risk-stratified repeat colonoscopy intervals are provided. SSP, sessile serrated polyp/sessile serrated adenoma/sessile serrated lesion.

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Gastro 2020. Recommendations for Follow-Up After Colonoscopy and Polypectomy: A Consensus Update by the US Multi-Society Task Force on Colorectal Cancer

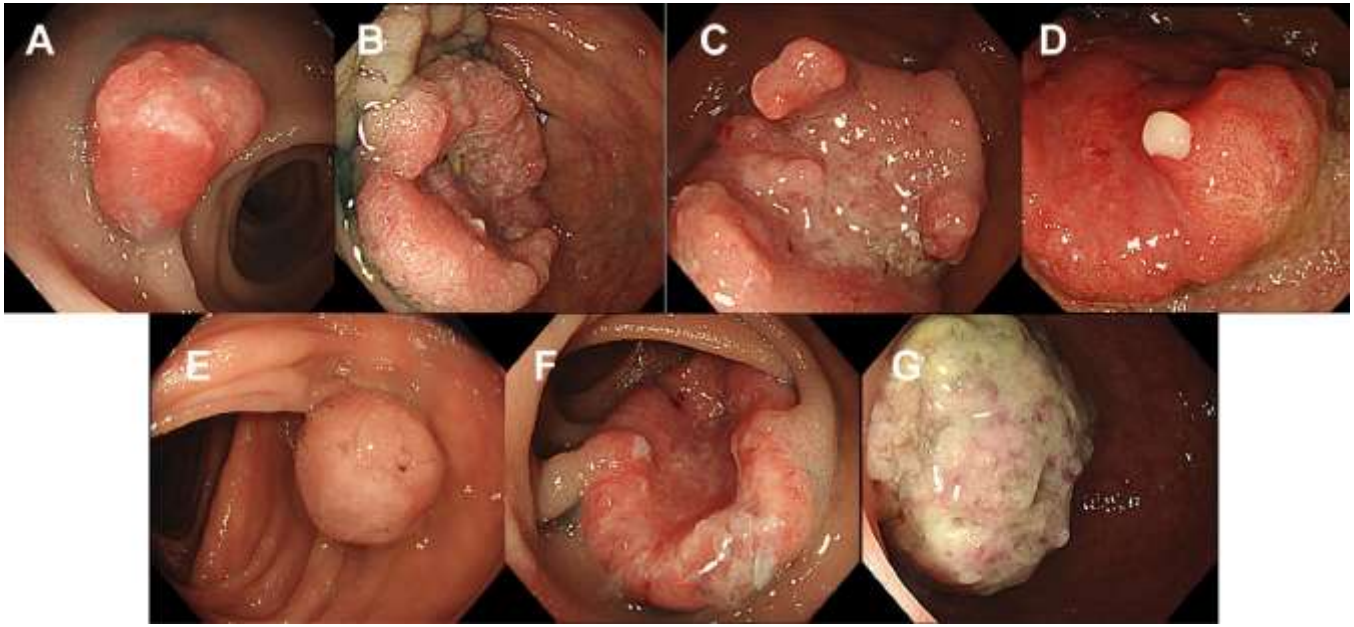
Developments in diagnosis and management

Artificial Intelligence

- Artificial intelligence (AI) is increasingly used to improve adenoma detection during colonoscopy
- Adenoma detection rate (ADR) is the most commonly used marker of colonoscopy quality and is defined as the proportion of individuals undergoing a complete colonoscopy who had 1 adenoma detected and removed
- Every 1% increase in ADR predicts a 3% decrease in in the risk of post colonoscopy CRC (PCCRC)
- Although colonoscopy could theoretically confer substantial protection against cancer development through the removal of all precancerous lesions, PCCRC remains common, with an estimated incidence of 1 per 1000 patient-years
- Recent systemic review and meta-analysis showed that AI-assisted colonoscopy significantly improved adenoma detection but not sessile serrated lesion detection irrespective of endoscopist experience, system type, or healthcare setting[1]

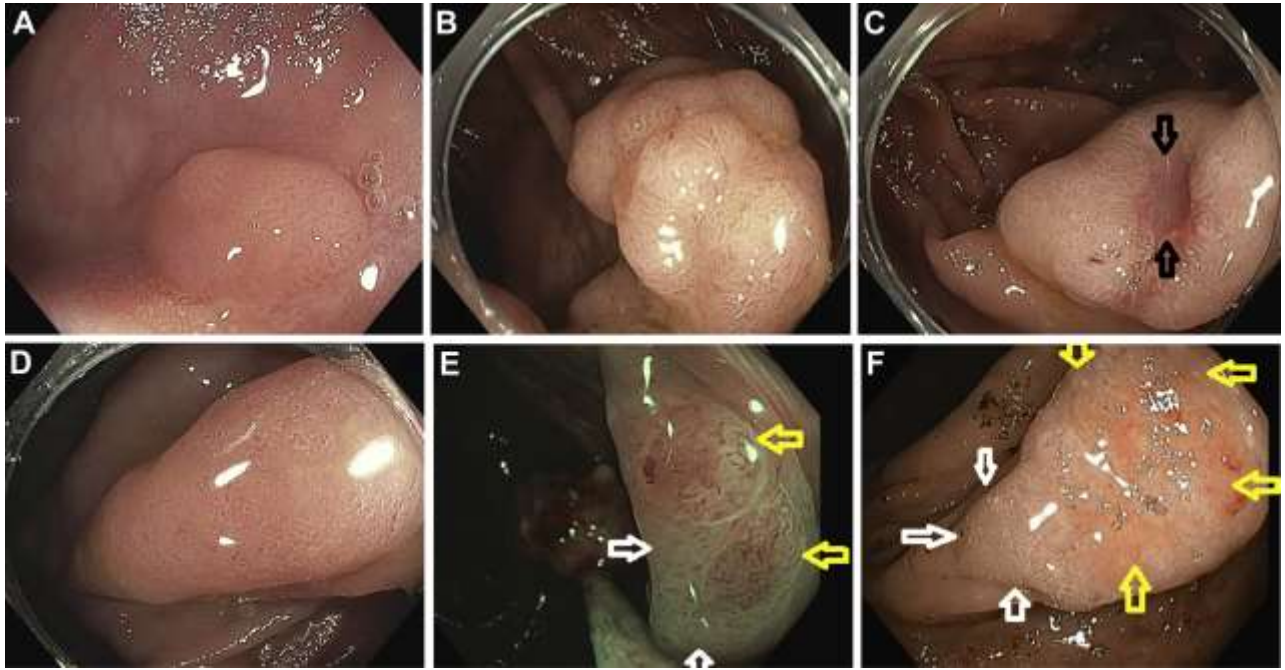
1: Use of artificial intelligence improves colonoscopy performance in adenoma detection: a systematic review and meta-analysis, 2024 GASTROINTESTINAL ENDOSCOPY

Improving diagnosis – distinguishing malignant vs pre-malignant polyps/lesions



AGA 2022 Endoscopic Scoring System for T2 Invasion in Colorectal Cancer

Improving diagnosis – distinguishing malignant vs pre-malignant polyps/lesions

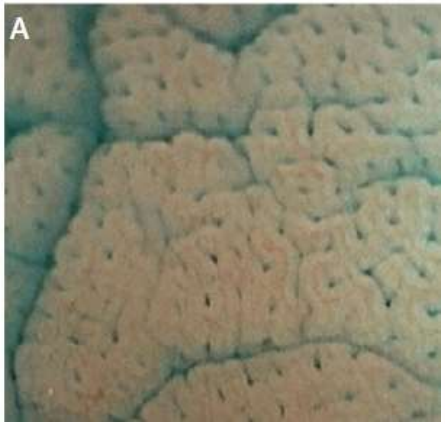


AGA 2017 Colorectal Cancer Screening: Recommendations for Physicians and Patients From the U.S. Multi-Society Task Force on Colorectal Cancer

Advancement in endoscopic diagnosis of malignancy

- Image-enhanced endoscopy (IEE) has moved from the niche practice of expert endoscopists to mainstream clinical practice.
- IEE enhances mucosal surface and microvascular patterns to facilitate diagnostic evaluation.
- The use of optical magnification with magnifying or dual-focus endoscopy can enable the endoscopist to visualise microsurface and microvascular patterns more clearly, providing further information for classification of polyps.

Gastro 2020 Endoscopic Removal of Colorectal Lesions—Recommendations by the US Multi-Society Task Force on Colorectal Cancer



Gastroenterology Hepatology 2019 Endoscopic microanatomy of the normal gastrointestinal mucosa with narrow band technology and magnification

SMJ 2022 Clinical guidance on endoscopic management of colonic polyps in Singapore.

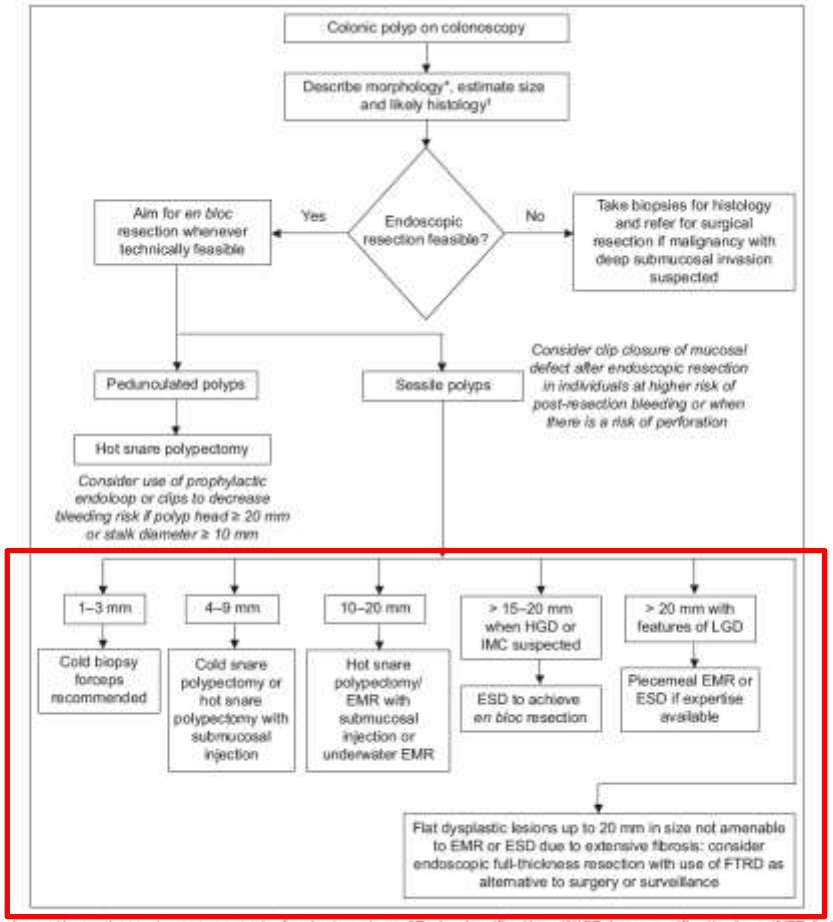


Fig. 1 Flowchart shows the endoscopic management of colonic polyps. *Paris classification. †NICE (no magnification) or JNET (with magnification) classifications. EMR: endoscopic mucosal resection; ESD: endoscopic submucosal dissection; HGD: high-grade dysplasia; IMC: intramucosal cancer; LGD: low-grade dysplasia; FTRD: full-thickness resection device; JNET: Japan NBI Expert Team; NICE: NBI International Colorectal Endoscopic

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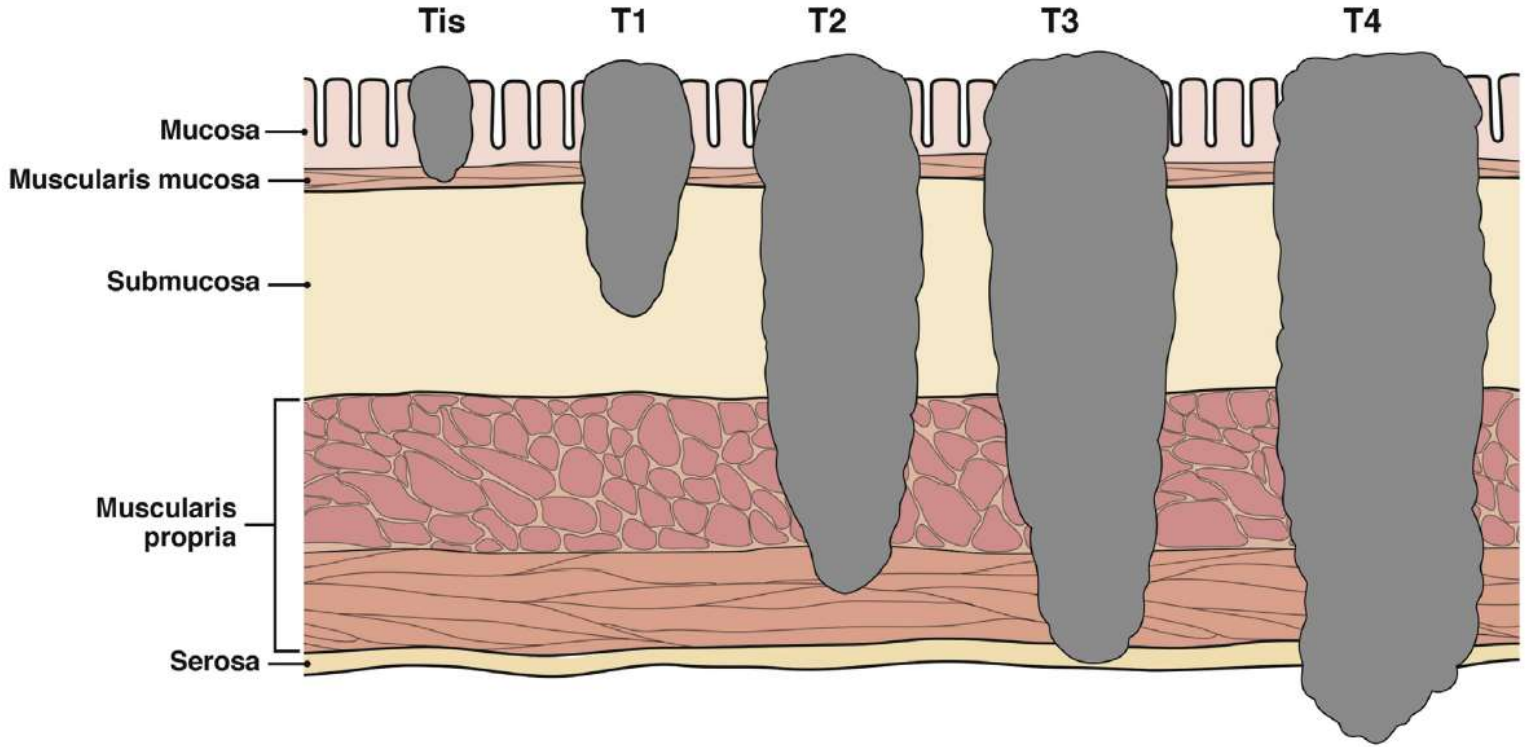


Figure 1. Cancer depth and AJCC classification.

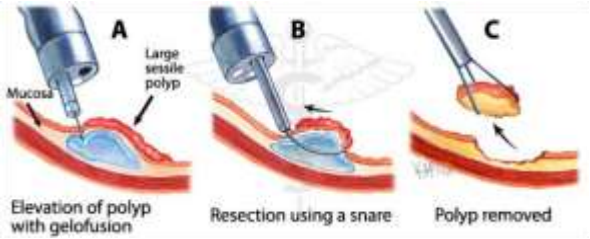
Endoscopic Recognition and Management Strategies for Malignant Colorectal Polyps: Recommendations of the US Multi-Society Task Force on Colorectal Cancer

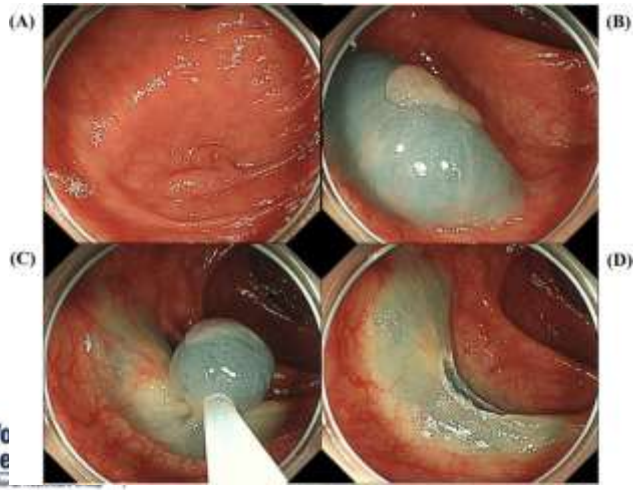
Endoscopic management options

- T2 CRC and above – surgery with adjuvant/neo-adjuvant chemo-RT
- Endoscopic resection of T1 CRC is accepted as adequate oncological treatment if lymph-node metastasis risk of the resected lesion is low.
- Strict resection and histological criteria to stage
- Traditional techniques – endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD)
- Endoscopic Full Thickness Resection (EFTR) and Endoscopic Intermuscular Dissection (EID) provides a full submucosal layer
- However, EFTR has size limits, and EID is limited to rectal lesions
- ESD has no size limits and provides optimal control of lateral margins; it may, however, have limitations with vertical resection margins

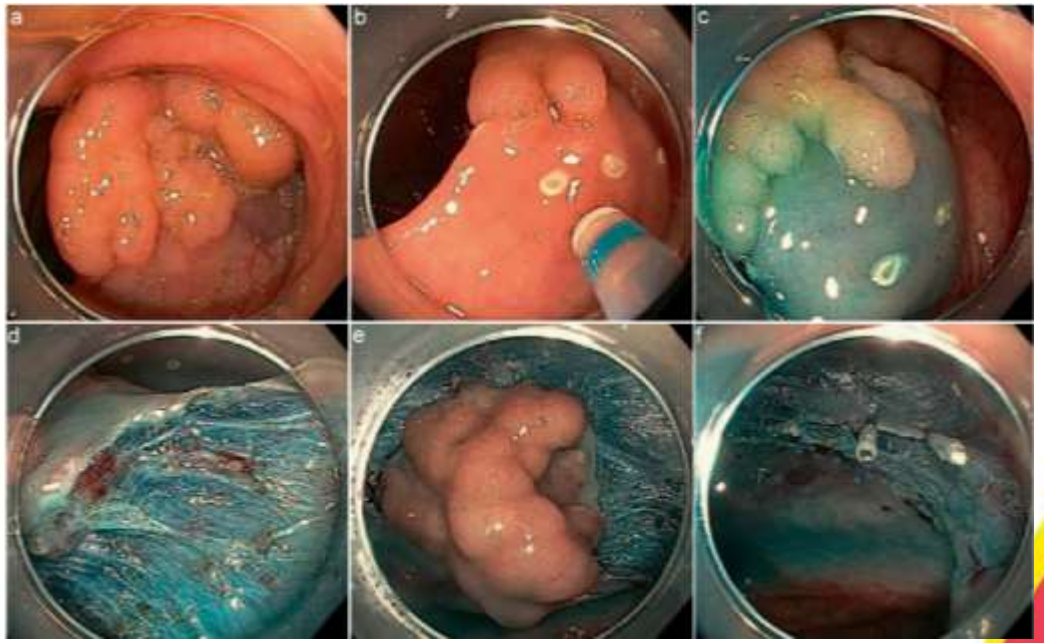
Endoscopic management of polyps/lesions

EMR



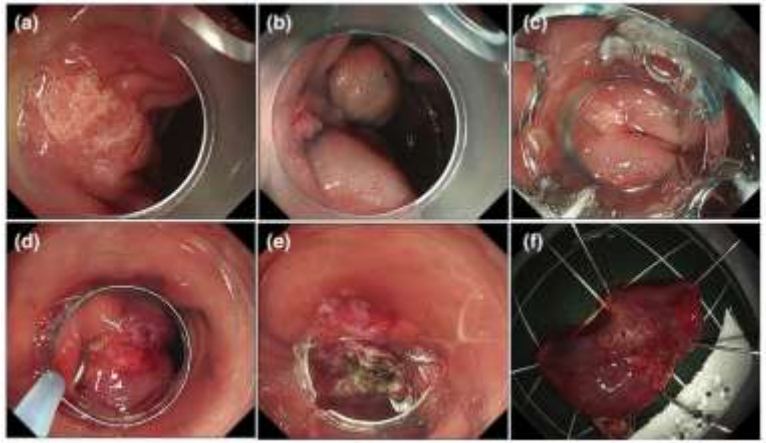


ESD



Endoscopic Full Thickness Resection (EFTR)

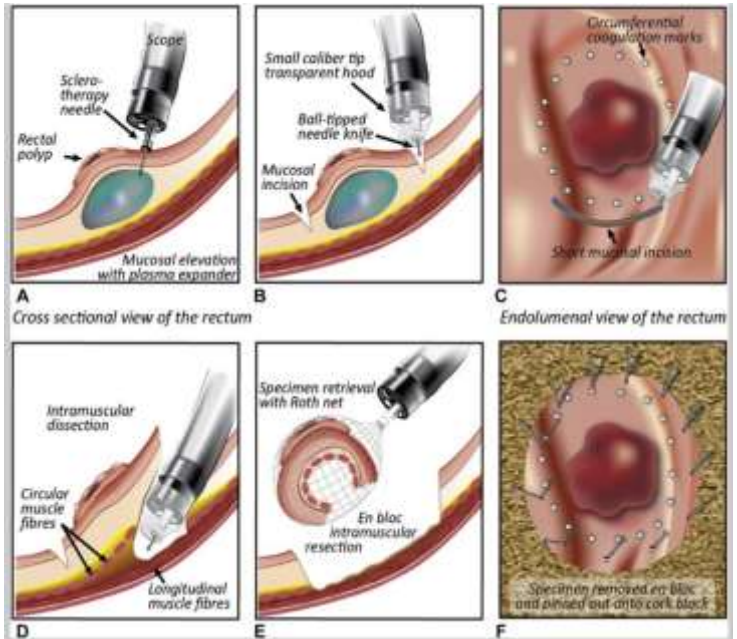
- EFTR provides an optimal specimen for evaluation of submucosal infiltration depth and vertical margin
- FTRD device has a limitation for the size of the resected specimen, and its use is restricted to smaller lesions up to 15–20 mm
- Data from the Netherlands on 132 primary resections of T1 CRC showed a curative resection rate of 60.8% after excluding deep submucosal invasion as risk factor



Over-the-scope clip-assisted endoscopic full-thickness resection has potential to treat complex nonampullary duodenal lesions: a single-center case series December 2021BMC Gastroenterology

Endoscopic Intermuscular Dissection (EID)

- This technique dissects the lesions between the outer longitudinal and the inner circular muscle layer
- Specimen includes the complete submucosal layer and allow an optimal histological assessment in cases of submucosal invasive cancer.
- In a study EID allowed a high R0 resection rate even for deeply invasive T1 rectal cancers (36/40 cases; 90%) and avoided rectal surgery in nearly half of the patients

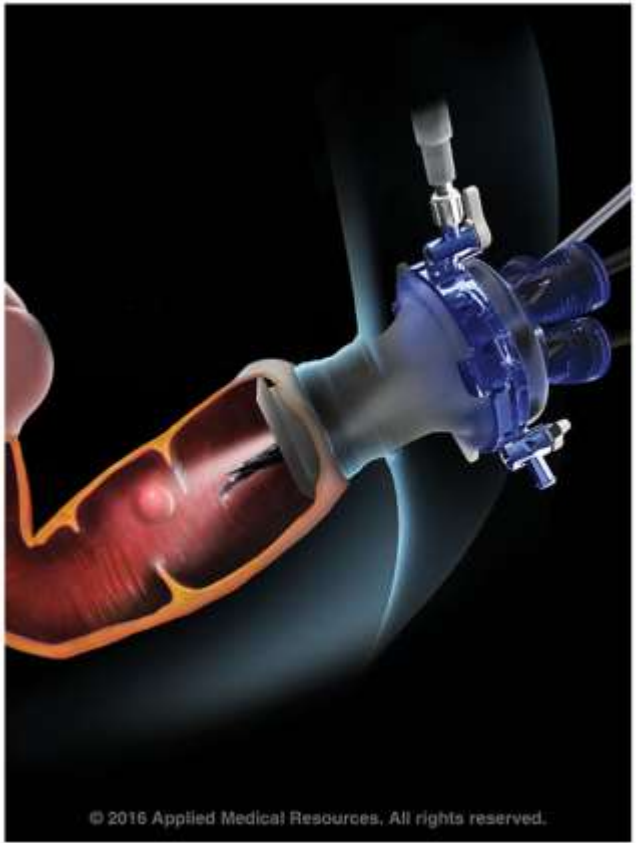


GIE 2022. Endoscopic intermuscular dissection with intermuscular tunneling for local resection of rectal cancer with deep submucosal invasion

Woodlands Health
National Healthcare Group
Better Health. With You.

Surgical advancements

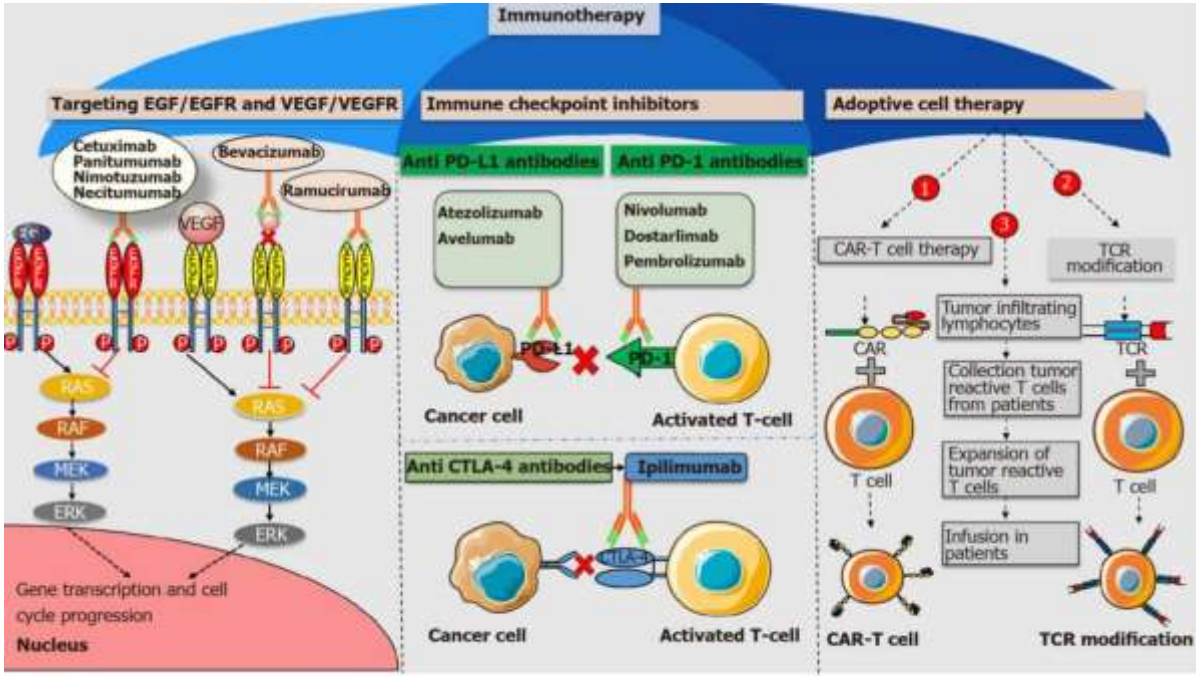
- Transanal minimally invasive surgery (TAMIS) is a technique that was originally devised as a hybrid between Transanal Endoscopic Microsurgery (TEM) and single-site laparoscopy for resection of rectal lesions.
- Most advantageous for mid- and distal-rectal lesions that are unable to be removed endoscopically, but should be used cautiously in the upper rectum, especially with full thickness resections
- TAMIS is generally viewed as an outpatient procedure and most patients are discharged on the day of surgery
- Can be used as a conclusive biopsy for indeterminate T staged lesions in patients who are hesitant to undergo major resection with the intent to follow through with definitive treatment for T1 lesions exhibiting adverse pathologic features and T2 lesions
- Can be used as palliative resection for T3 cancers in patients medically unfit or unwilling to undergo an oncologic resection. A TAMIS resection can confirm complete pathologic response after neoadjuvant chemotherapy and radiation.
- In experienced hands, results in the high-quality local excision of early rectal cancers with low rates of margin positivity and low recurrence rates
- Has an excellent morbidity profile with no long-term adverse effect on continence



Transanal minimally invasive surgery (TAMIS) platform consisting of a single incisional laparoscopic surgery (SILS) port and laparoscopic instruments.

Source: uptodate

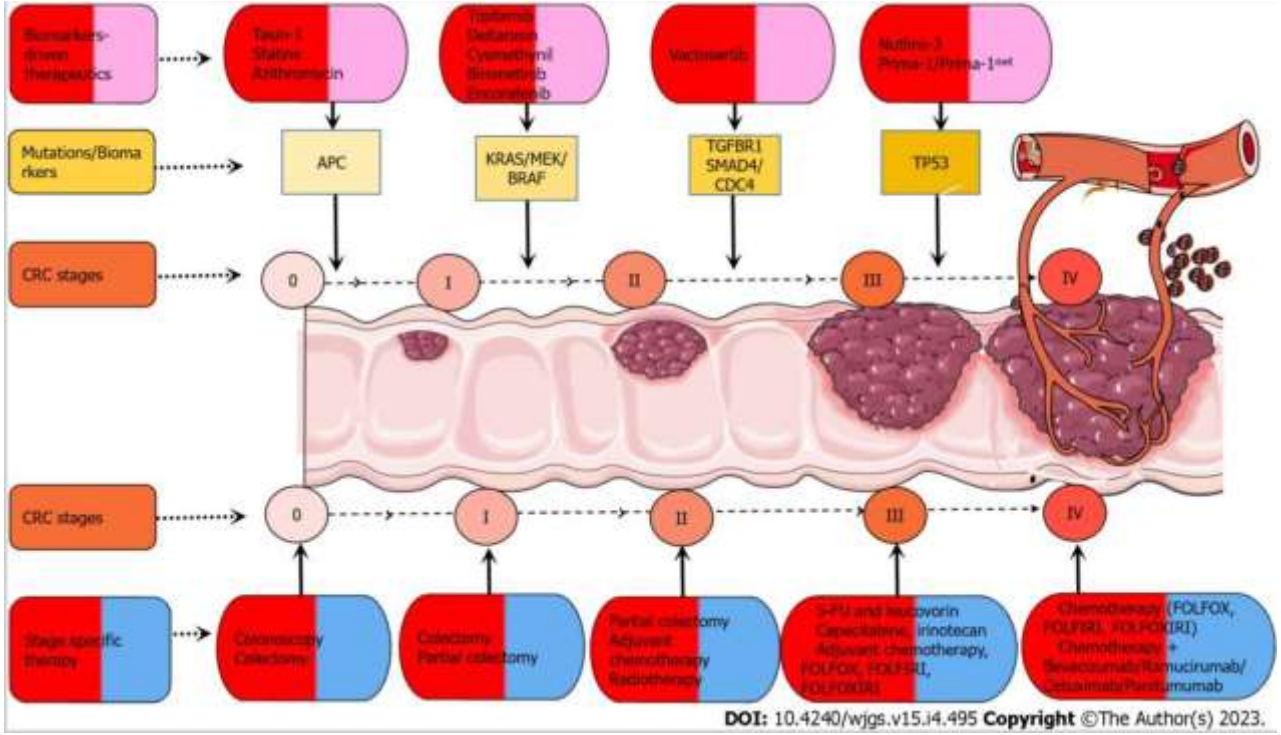
Target specific treatment: Immunotherapy



DOI: 10.4240/wjgs.v15.i4.495

Source: World J Gastrointest Surg. 2023. Current and emerging therapeutic approaches for colorectal cancer: A comprehensive review

Biomarker-driven therapeutics and cancer stage specific therapeutic strategies



DOI: 10.4240/wjgs.v15.i4.495

Source: World J Gastrointest Surg. 2023. Current and emerging therapeutic approaches for colorectal cancer: A comprehensive review

Summary

- Can consider earlier age of CRC screening – 45 (weak recommendation by guidelines)
- FIT is a good initial test, but if patients are suitable scope candidates, colonoscopy is an excellent option
- CT colonography is a reasonable option for patients who decline colonoscopy or FIT
- AI has improved polyp detection
    - Every 1% increase in ADR predicts a 3% decrease in in the risk of PCCRC
- Newer endoscopic and surgical management techniques for T1 cancers reduces morbidity and mortality of surgery
- New emerging approaches for treating CRC, including RNA interference, biomarker-driven therapy etc have shown promising results
- CRC therapy is becoming more individualized – results in lower morbidity, mortality, DFS and OS
- Ultimately – encourage CRC screening!

Thank you!
Qns?