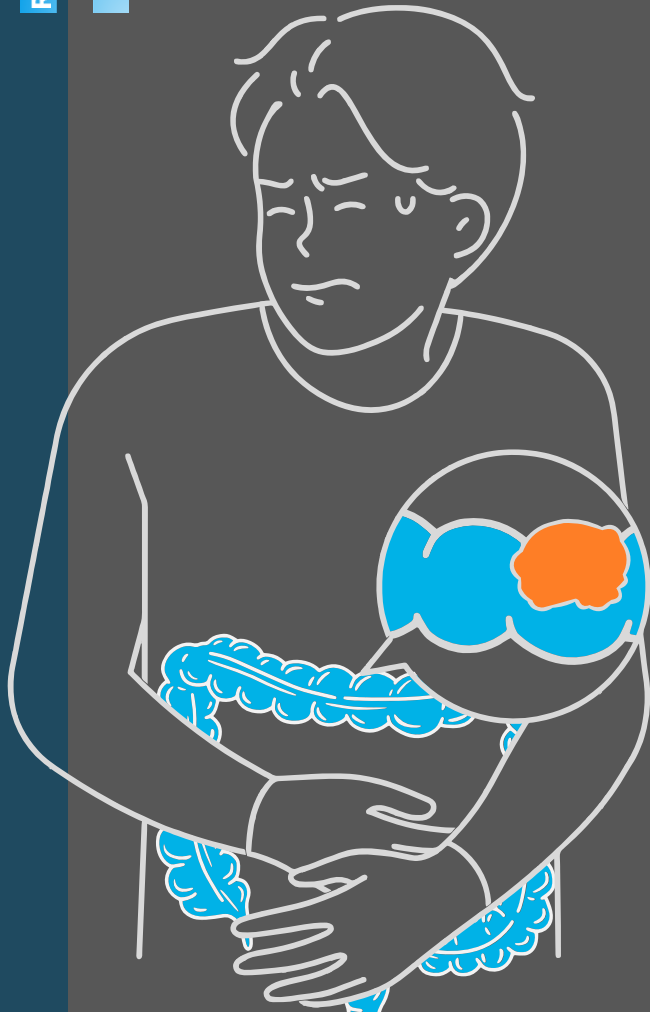


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REGION



Using **FIT** to select
patients with **CRC**
in a symptomatic
population





Fecal Immunochemical Testing (FIT)

Gastroenterology 2025;168:795–797

RESEARCH LETTERS

Use of Fecal Immunochemical Testing for Risk Stratification of Patients With Symptoms of Colorectal Cancer Referred for Diagnostic Colonoscopy



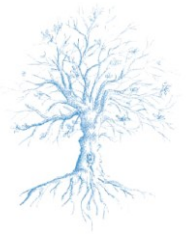
See editorial on page 651.

Fecal immunochemical testing (FIT) is widely used in colorectal cancer (CRC) screening among asymptomatic individuals across many countries with varying cutoff values to select patients for colonoscopy.¹ However, the implementation of FIT in symptomatic primary care patients is less prevalent among countries, most likely due to concerns about missed cancer diagnoses in these patients.² The United Kingdom has now implemented FIT with a threshold of 10 μg hemoglobin (Hb)/g to risk-stratify symptomatic patients for their urgent cancer pathway (UCP).³ In Denmark, there is deliberation about implementing FIT in the same manner, however, the countries differ in several relevant aspects (Supplementary Figure 1).

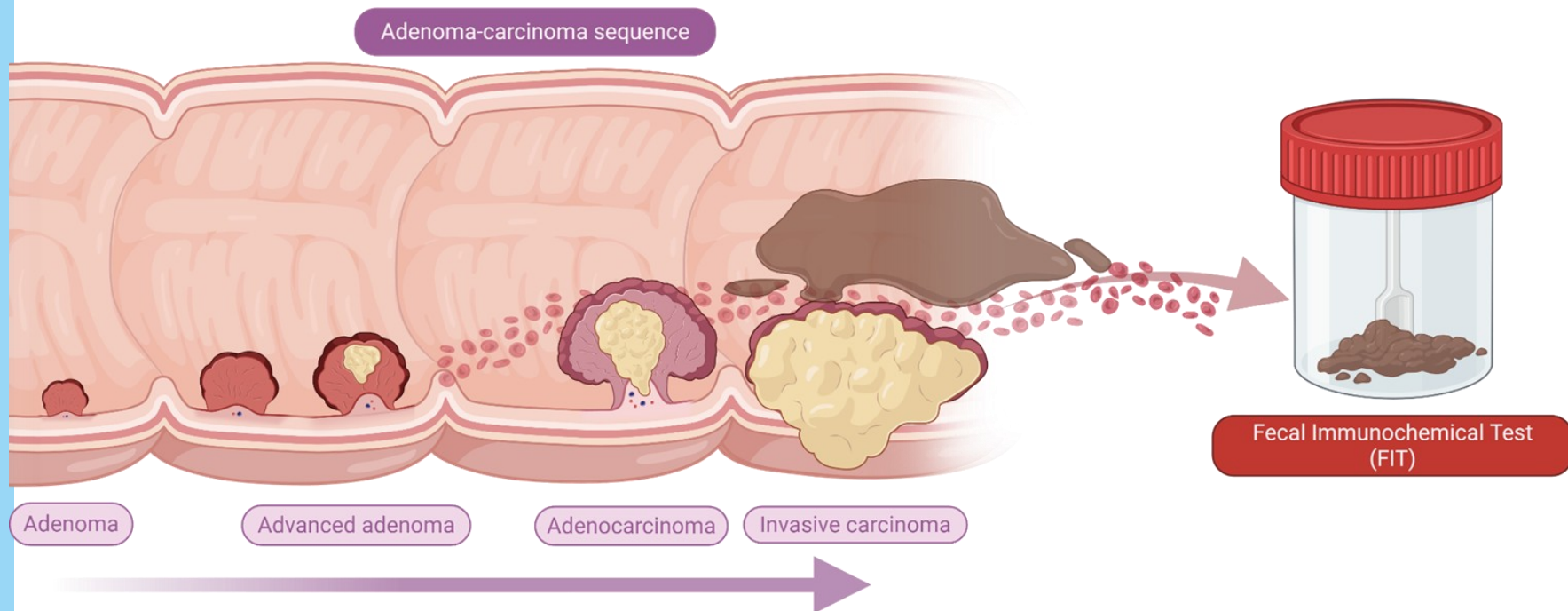
would decrease the CRC detection rate, missing 10 CRCs (13%). However, at this cutoff, only 23% of the cohort would be FIT-positive, meaning a 77% decrease in required colonoscopies. In this scenario, 19% of the patients examined would have CRC, compared with only 5% in the current Danish setting, where FIT is not used (Table 1).

The sensitivity and specificity for the different cutoff values of FIT found in the Danish cohort correspond with those found in a previously published meta-analysis and prior reports of FIT in symptomatic UCP patients in the United Kingdom, showing sensitivities between 0.87 and 0.94 and specificities between 0.75 and 0.87 using an FIT cutoff of 10 μg Hb/g.^{3,6,7} Yet, it is imperative to note that definitions for symptomatic patients differ across these studies, and there are variations in the national screening and symptomatic/UCP guidelines (Supplementary Figure 1).^{3,4,7} For example, across the United

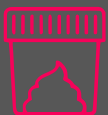
Mansvelders MSE, Kleif J, Andersen MR, Karstensen JG, Therkildsen C. Use of Fecal Immunochemical Testing for Risk Stratification of Patients With Symptoms of Colorectal Cancer Referred for Diagnostic Colonoscopy. *Gastroenterology*. 2025 Apr;168(4):795-797.e2. doi: 10.1053/j.gastro.2024.11.018. Epub 2024 Dec 12. PMID: 39672519.

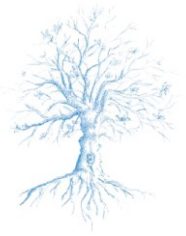


Fecal Immunochemical Testing (FIT)

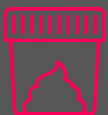
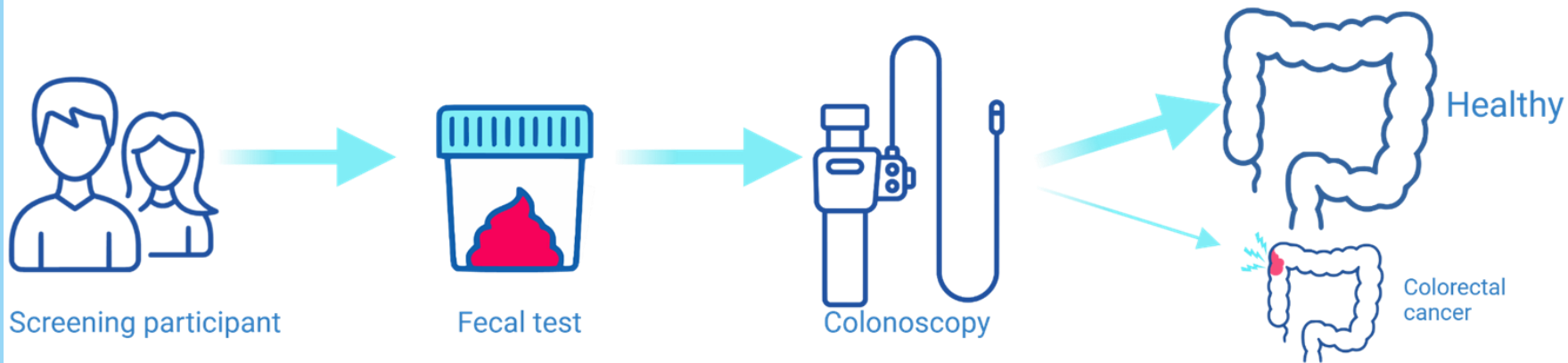


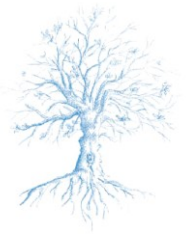
REGION





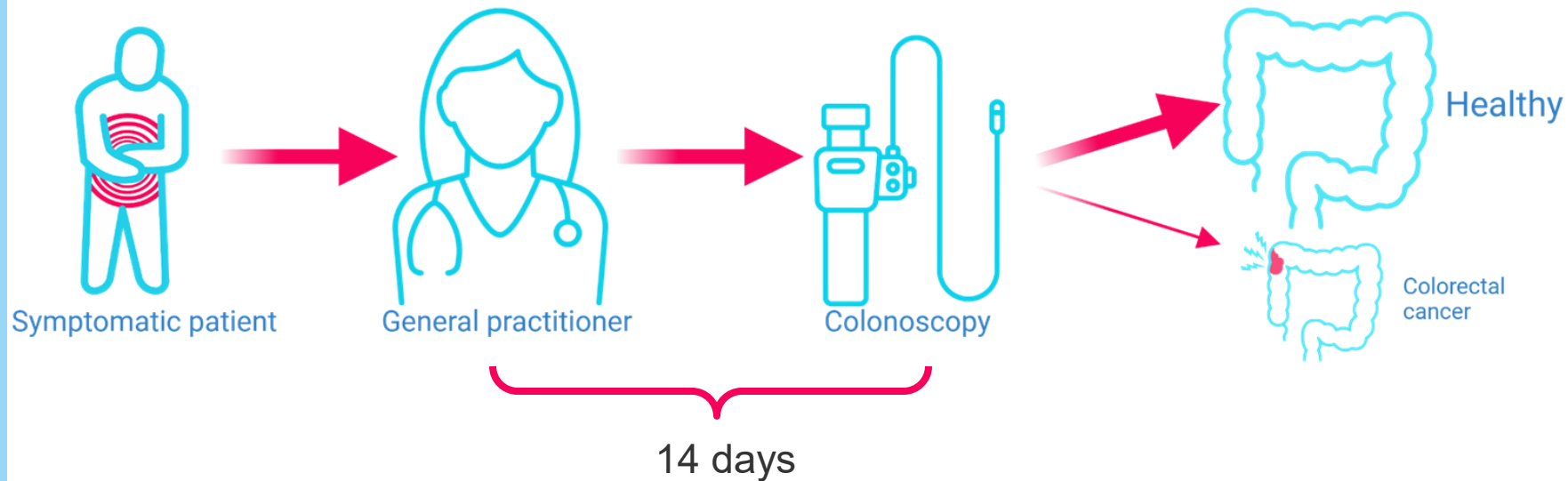
Screening for colorectal cancer with FIT

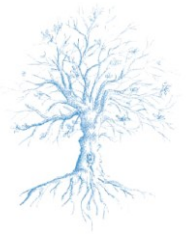




Kræftpakkeforløb

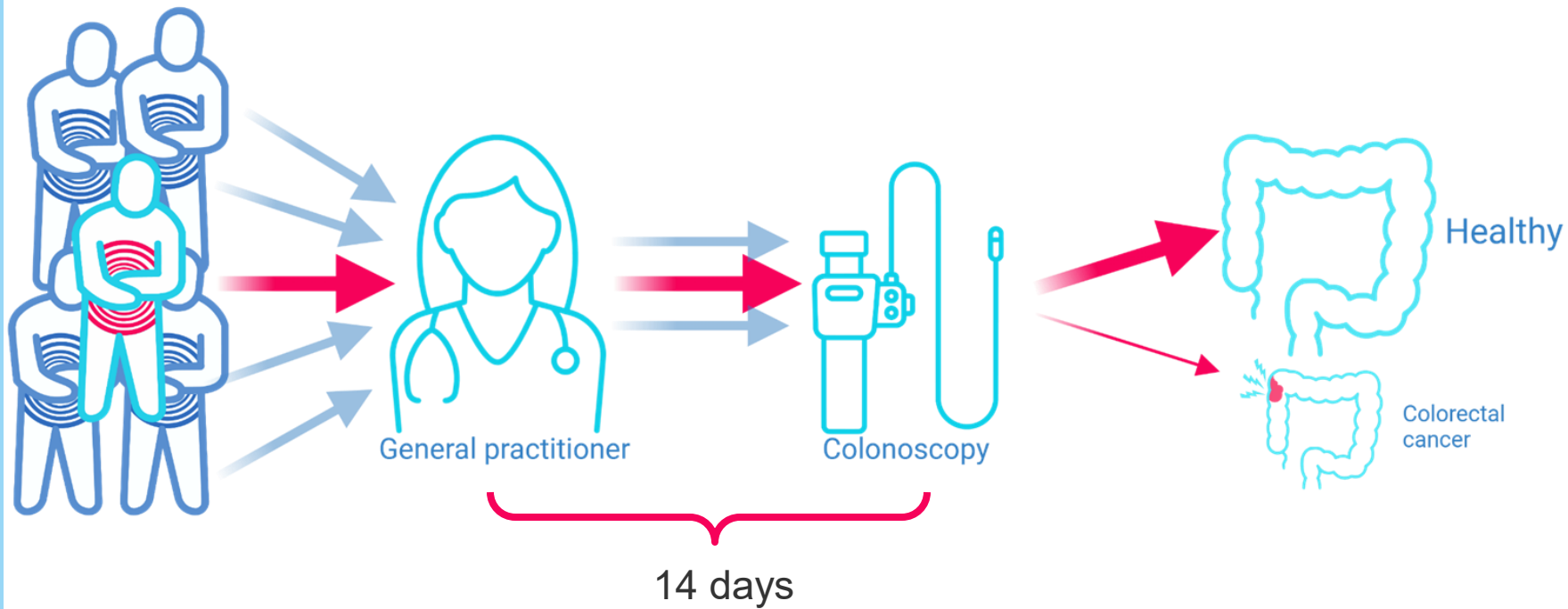
Danish urgent cancer pathway (UCP) for colorectal cancer

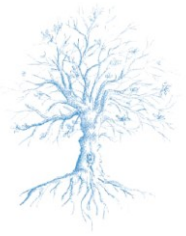




Kræftpakkeforløb

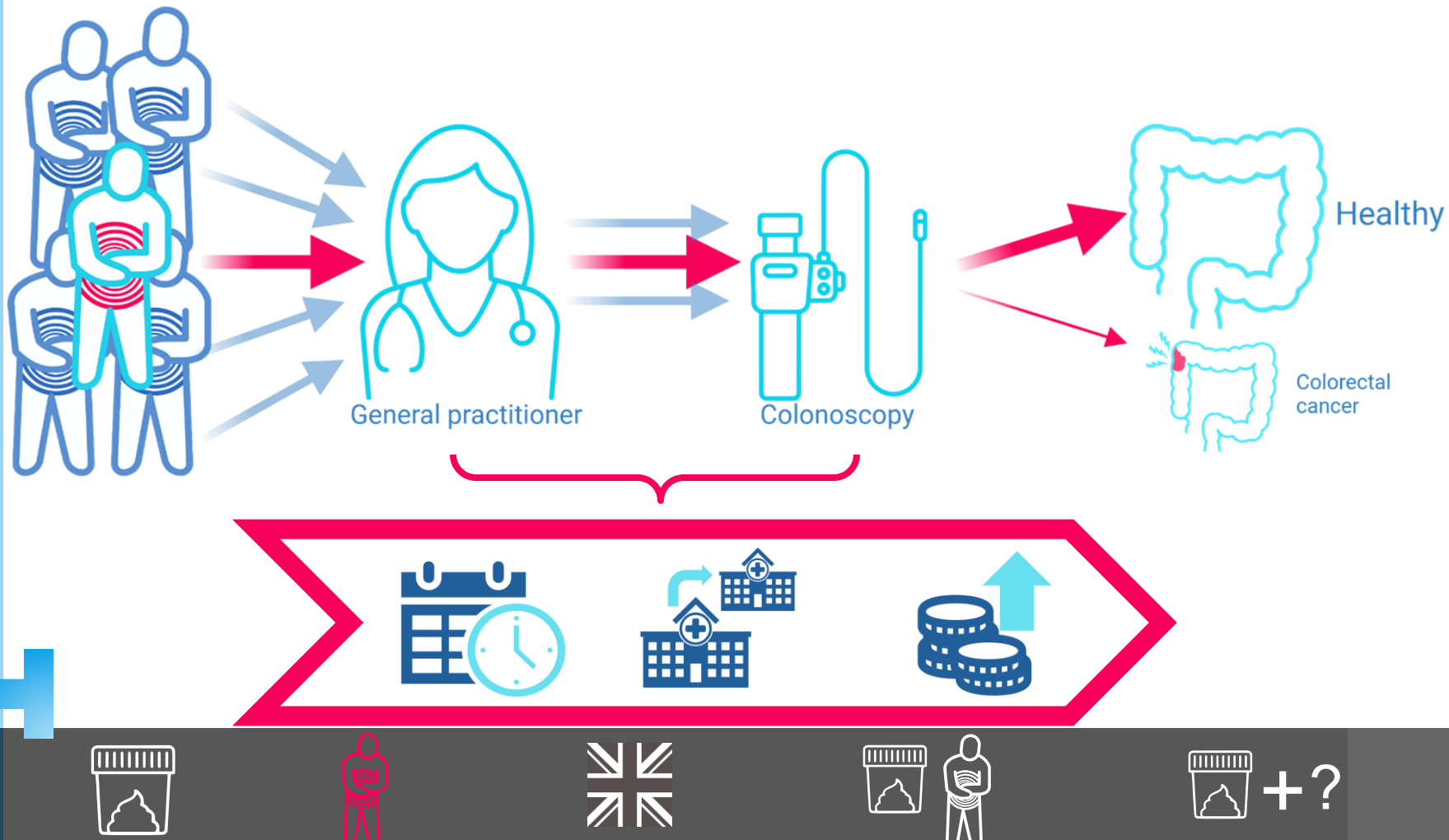
Danish urgent cancer pathway (UCP) for colorectal cancer

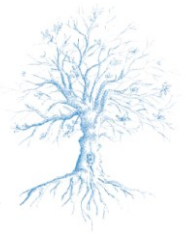




Kræftpakkeforløb

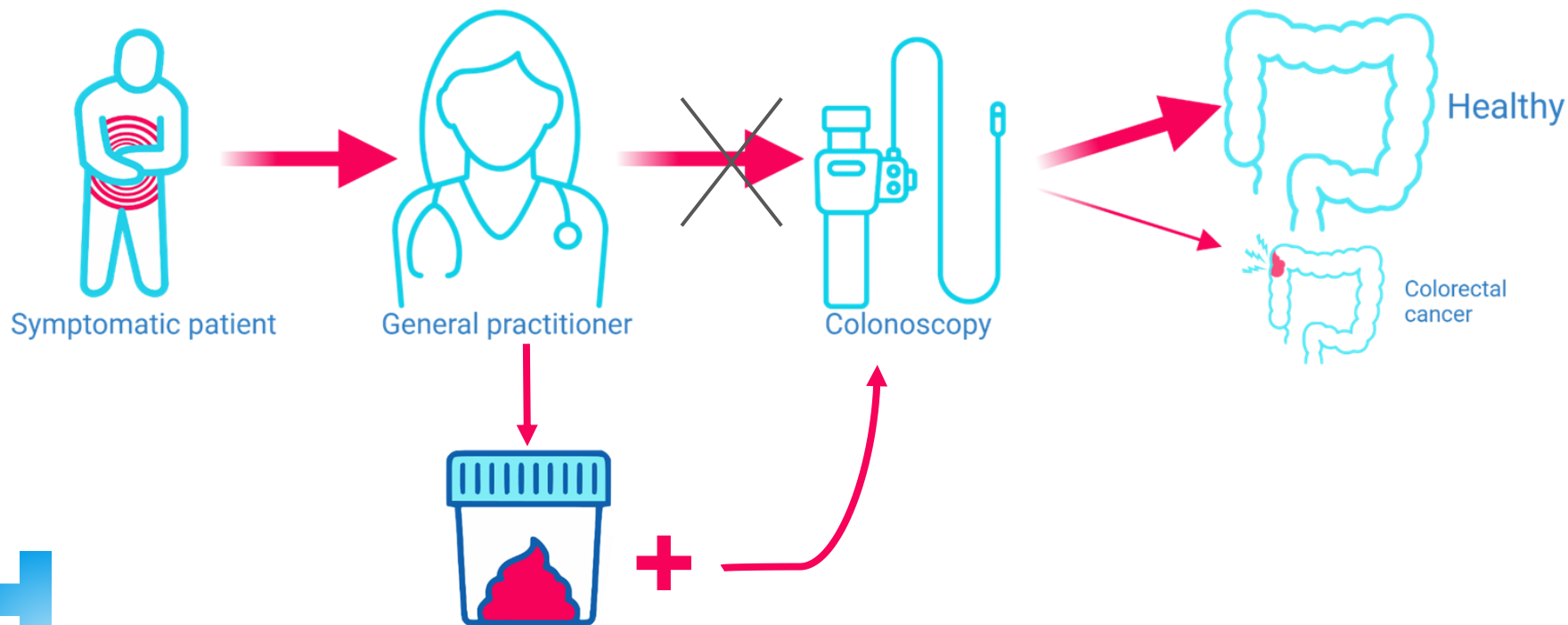
Danish urgent cancer pathway (UCP) for colorectal cancer



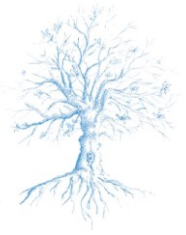


FIT in the Urgent Cancer Pathway in the UK

Tekst



+ ?



FIT in the Urgent Cancer Pathway in the UK



FIT cut-off UCP

50 ng Hb/mL

(= 10 μ g Hb/g)

→
x 12

↘
x 2

FIT cut-off screening in UK

600 ng Hb/mL

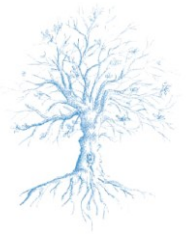


FIT cut-off screening in DK

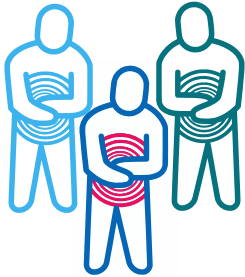
100 ng Hb/mL



+ ?



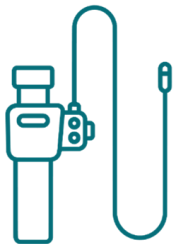
The Endoscopy IV project

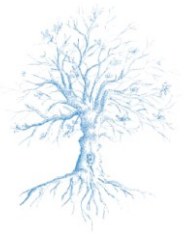


A multicenter prospective cohort of more than 1600 Danish patients form the CRC UCP

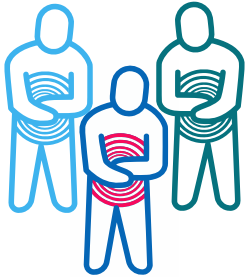


FIT and blood samples before colonoscopy

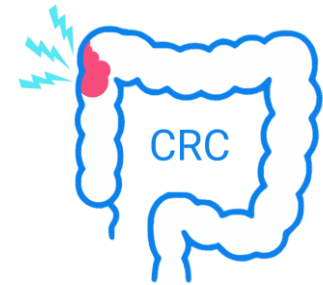




Results



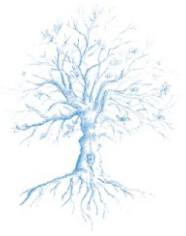
79/1600 were diagnosed with CRC
5%



Current Danish setting (*kræftpakkeforløb*)
All are referred directly to colonoscopy

Colonoscopy is the golden standard





Results



FIT cut-off

-

50ng Hb/mL

Selected for
colonoscopy

100 %

23 %

Number of
CRC cases
diagnosed

79

69

Sensitivity

100 %

87 %

Specificity

100 %

81 %

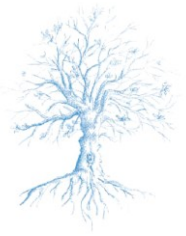
1240 colonoscopies
spared

78% reduction in
colonoscopies

13% of all CRC cases
would be missed



+ ?



Results



FIT cut-off

-

<35ng Hb/mL

Selected for
colonoscopy

100 %

26 %

Number of
CRC cases
diagnosed

79

71

1181 colonoscopies
spared

74% reduction in
colonoscopies

10% of all CRC cases
would be missed

Sensitivity

100 %

90 %

Specificity

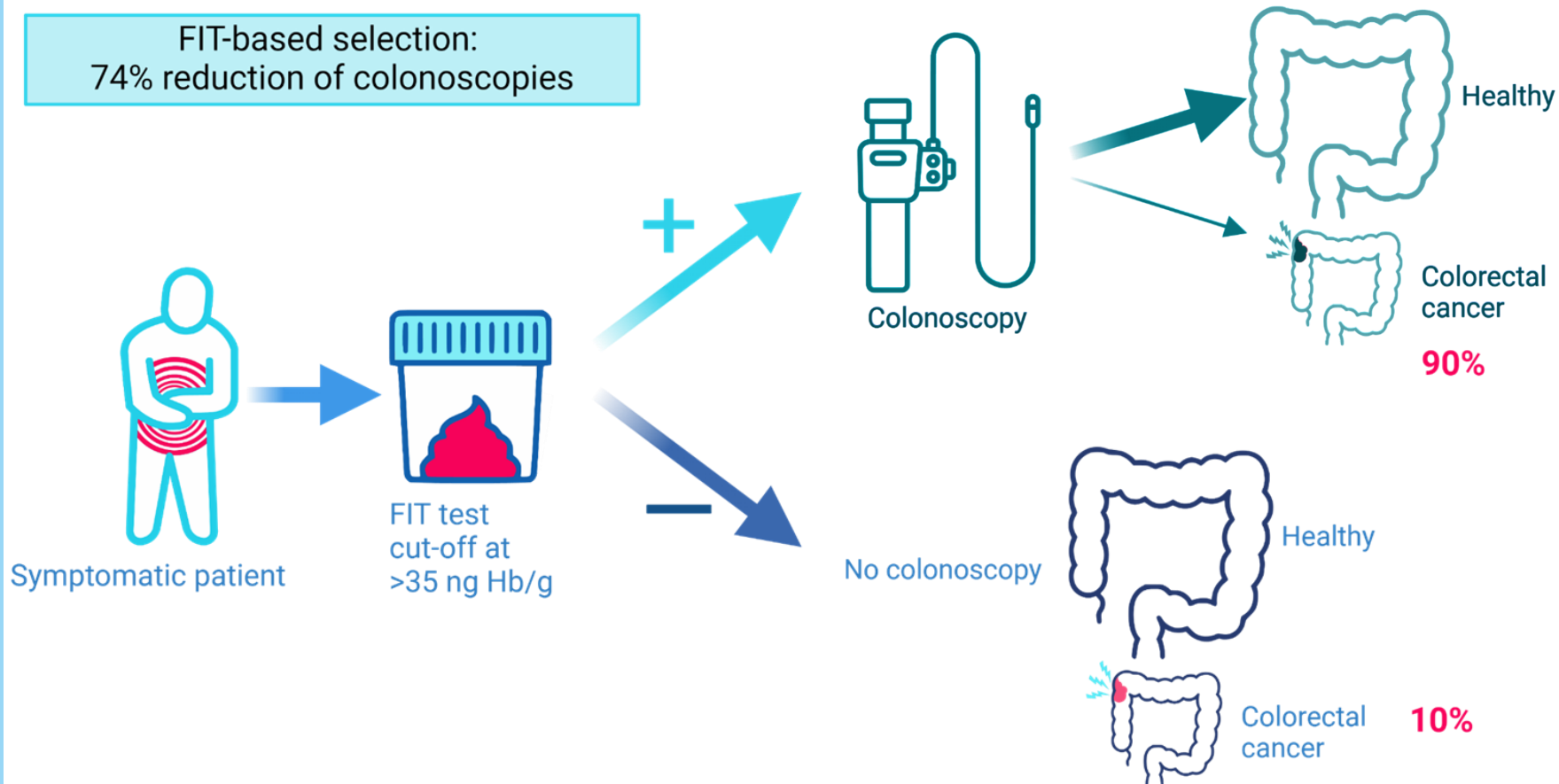
100 %

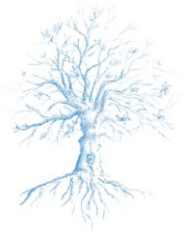
77 %





FIT-based selection:
74% reduction of colonoscopies





Data collection



Fecal- & blood-based biomarkers



Symptoms



Demographic patient data
Age
Gender

Algorithm

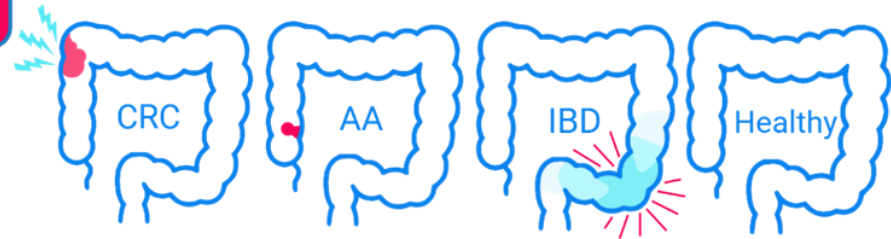


AI

Colonoscopy referral

Priority

Post-poned

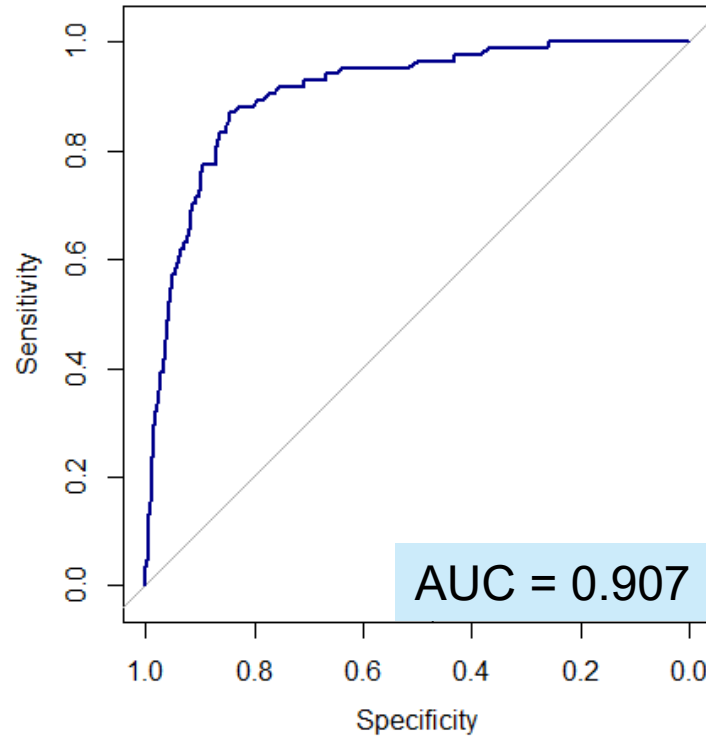


Assessment for other cancers

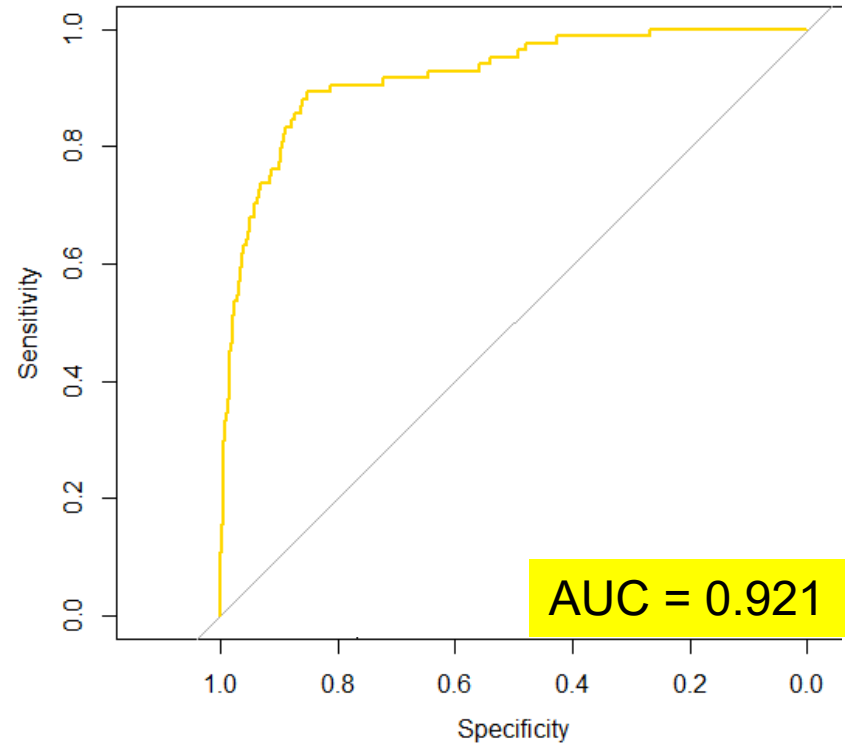




ROC Curve CRC: Age, sex & FIT

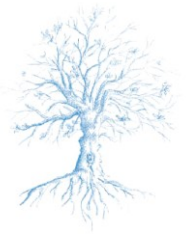


ROC CRC: stepwise, with symptoms



- FIT
- age
- sex
- IL-8
- hsCRP
- CA72-4
- CEA
- FER
- HE4





Recap

REGION



FIT is widely used to select patients for colonoscopy in screening for CRC. It is also applicable in the UCP.



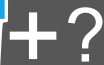
In the current Danish UCP there is no colonoscopy selection. This puts great strain on the hospitals. All CRC cases are found



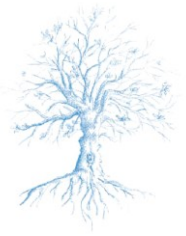
In the UCP in the UK, FIT with cut-off of 50ng Hb/mL is used to select for colonoscopy referral



FIT with cut-off of 50ng Hb/mL would lead to missing 13% of CRCs while reducing colonoscopies by 78%. FIT of <35ng Hb/mL still misses 10%



FIT could be aided by addition of other parameters. Blood values, medical and demographic data is being used to build an AI tool to triage UCP patients for colonoscopy



Thank you

Articles referenced:

- Mansvelders MSE, Kleif J, Andersen MR, Karstensen JG, Therkildsen C. Use of Fecal Immunochemical Testing for Risk Stratification of Patients With Symptoms of Colorectal Cancer Referred for Diagnostic Colonoscopy. *Gastroenterology*. 2025 Apr;168(4):795-797.e2. doi: 10.1053/j.gastro.2024.11.018. Epub 2024 Dec 12. PMID: 39672519.
- Petersen MM, et al. *Cancers (Basel)*. 2020 Sep 12;12(9):2610.
- Monahan KJ, Davies MM, et al. *Gut* 2022;71:1939–1962
- Uebel L, et al. *Cancers (Basel)*. 2023 Sep 28;15(19):4778.
- Booth R, et al. *Lancet Reg Health Eur*. 2022 Oct 3;23:100518.
- Pin-Vieito N, et al. *Gut*. 2022 May;71(5):950-960.

