INPLASY

Should Bariatric Surgery Candidates Be Screened for Colorectal Cancer? A Systematic Review

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Kayaalp, B; Karagul, S; Kayaalp, C.

Corresponding author:
Servet Karagul

servetkaragul@hotmail.com

Author Affiliation:
Istanbul Atlas University.

ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 March 2026 and was last updated on 21 March 2026.

INTRODUCTION

Review question / Objective The aim of this systematic review is to evaluate the place and necessity of screening colonoscopy before weight-loss surgery under the light of published articles.

Rationale Obesity is a well-established risk factor for colorectal cancer (CRC), with multiple biological mechanisms such as chronic inflammation, insulin resistance, and altered gut microbiota contributing to carcinogenesis. Bariatric surgery is increasingly performed worldwide as an effective treatment for severe obesity. However, there is currently no consensus or guideline recommending routine colorectal cancer screening in bariatric surgery candidates.

The preoperative period offers a unique opportunity for comprehensive health evaluation, including cancer screening. Given the overlap between obesity-related risk factors and CRC, undiagnosed colorectal neoplasia may be present in this population. Furthermore, anatomical and physiological changes after bariatric surgery may delay diagnosis or complicate future endoscopic access.

This systematic review aims to evaluate the current evidence regarding the necessity and clinical value of preoperative colonoscopy in bariatric surgery candidates, and to determine whether screening should be recommended in selected or all patients.

Condition being studied The condition being studied is colorectal cancer (CRC) and colorectal adenomatous polyps in patients undergoing bariatric surgery. CRC is one of the most common malignancies worldwide and a leading cause of cancer-related mortality.

Obesity has been identified as an independent risk factor for CRC, particularly due to visceral adiposity, metabolic syndrome, and chronic inflammatory processes. Bariatric surgery candidates often present with multiple risk factors,

including insulin resistance, dyslipidemia, and pro-inflammatory states.

This review focuses on the detection of colorectal neoplasia through preoperative colonoscopy in bariatric surgery candidates, evaluating the prevalence and clinical significance of these findings.

METHODS

Search strategy A systematic literature search will be conducted in PubMed (MEDLINE) and Google Scholar databases without restriction on publication date. The search will include combinations of the following keywords in titles and abstracts:

(bariatric OR "bariatric surgery" OR sleeve OR "gastric bypass") AND (colonoscopy OR "colorectal cancer" OR "colorectal neoplasia")

Two independent reviewers will perform the search and screen titles and abstracts. Reference lists of included studies will also be manually reviewed to identify additional relevant articles.

Only studies published in peer-reviewed journals will be considered. The search strategy will follow PRISMA guidelines.

Participant or population The population will include adult patients who are candidates for bariatric surgery, regardless of age, gender, or specific bariatric procedure type.

Intervention The intervention of interest is preoperative screening colonoscopy performed before bariatric surgery.

Comparator No comparator group is required. The study aims to evaluate the prevalence of colorectal neoplasia detected during preoperative colonoscopy.

Study designs to be included Cohort studies (prospective or retrospective) reporting outcomes of preoperative colonoscopy in bariatric surgery candidates will be included. Case reports, reviews, editorials, and studies without original data will be excluded.

Eligibility criteria
Inclusion criteria:
- Studies including bariatric surgery candidates undergoing preoperative colonoscopy
- Studies reporting colorectal cancer or adenoma detection rates
- Cohort studies with extractable data

Exclusion criteria:
- Studies without colonoscopy data
- Postoperative screening studies
- Case reports, reviews, and non-original data
- Studies lacking sufficient outcome data.

Information sources The primary sources will include PubMed (MEDLINE) and Google Scholar. Additionally, reference lists of included articles will be screened manually for relevant studies. No grey literature or trial registries will be included.

Main outcome(s) The primary outcomes are:
- Prevalence of colorectal cancer (CRC)
- Prevalence of adenomatous polyps detected during preoperative colonoscopy

Outcomes will be reported as proportions (%) of total screened patients.

Additional outcome(s) Additional outcomes include:
- Age distribution of patients with detected CRC
- Gender differences in detection rates
- Association between age and colorectal neoplasia prevalence.

Data management Data will be extracted and recorded using Microsoft Excel. Extracted variables will include sample size, patient demographics, BMI, colonoscopy findings, and histopathological results.

Two reviewers will independently extract data, and discrepancies will be resolved through discussion.

Quality assessment / Risk of bias analysis The methodological quality of included studies will be assessed using appropriate tools for cohort studies, such as the Newcastle-Ottawa Scale (NOS).

Studies will be evaluated based on selection, comparability, and outcome assessment domains.

Strategy of data synthesis Descriptive statistics will be used to summarize study characteristics. The prevalence of CRC and adenomas will be calculated as proportions.

If appropriate, a meta-analysis of proportions will be performed using a random-effects model. Statistical analysis will be conducted using MedCalc software.

Subgroup analysis Subgroup analyses will be performed based on:
- Age groups (e.g., <45 vs ≥45)
- Gender
- Geographic location of studies.

Sensitivity analysis Sensitivity analyses will be conducted by excluding studies with high risk of bias or small sample sizes to evaluate the robustness of the results.

Language restriction No language restriction will be applied.

Country(ies) involved Turkey.

Other relevant information This systematic review will follow PRISMA guidelines. The study aims to provide clinical guidance for bariatric surgeons regarding the necessity of preoperative colorectal cancer screening.

Keywords bariatric surgery; colonoscopy; colorectal cancer; screening; obesity; adenoma.

Dissemination plans The results of this systematic review will be submitted to a peer-reviewed journal and presented at national and international surgical congresses.

Contributions of each author

Author 1 - Basak Kayaalp - Basak Kayaalp design the study, perform literature review, data extraction, analysis.
Email: kayaalpbasak@outlook.com
Author 2 - Servet Karagul - Servet Karagul perform data extraction, analysis, and draft the manuscript.
Email: servet.karagul@atlas.edu.tr
Author 3 - Cuneyt Kayaalp - Cuneyt Kayaalp design the study, perform literature review, data extraction, analysis, and draft the manuscript.
Email: cuneytkayaalp@hotmail.com