

Quality Measures for Colonoscopy, CORI v4

Report total # colonoscopies in the defined period, the average age of patients undergoing those procedures, and the proportion of patients of each gender (including Unspecified). In all measures, unless noted otherwise, include only patients ≥ 18 years of age at time of procedure.

#1. SCREENING INTERVAL. For average risk patients ≥ 50 years of age with no abnormal findings on screening colonoscopy the recommended screening interval is 10 years.

a. Number of exams for average risk screening in patients ≥ 50 years of age

COUNT age ≥ 50 AND [(Indications \geq Average risk screening) NOT (Indications \geq any others besides average risk screening)];

b. Of these, number (%) excluded because of procedure, abnormal finding

COUNT [Procedure \geq Depth of insertion \geq Actually reached NOT in (cecum, terminal ileum)] OR [Procedure \geq Was the procedure completed? = 'No'] OR [Preprocedure \geq Prep results = 'Poor'] OR [Finding = Polyp AND (Diagnostics = Any)] OR [Finding = Polyp cluster AND (Diagnostics = Any)] OR [Finding IN (Fissure/Fistula, Melanosis, Mucosal Abnormality, Normal, Prior Surgery, Solitary Rectal Ulcer, Stricture/Stenosis, Tumor/Cancer, Other) AND Biopsy taken];

c. Of these, number (%) with recommendation > 10 years, = 10 years, < 10 years, or no documentation of recommended interval

For [a] MINUS [b]: COUNT EACH CATEGORY (> 10 , = 10, < 10 , not documented) FROM Assessment/Plan \geq Recommended next exam in.

d. Of those with < 10 years, number (%) with and without documentation of reason for not following guidelines

Not available in CORI v4 at this time.

#2. RISK ASSESSMENT. Preprocedure risk assessment is documented.

a. Proportion of cases with documentation of ASA class

COUNT total procedures in time period; of these COUNT Preprocedure > ASA Classification

b. Of these, percent with each ASA classification

FOR EACH value of "ASA Classification" in [a] COUNT

#3. ANTICOAGULATION PLAN. A management plan is documented for patients on oral anticoagulants.

a. Number (%) of cases with current use of oral anticoagulants documented (including none)

COUNT total procedures in time period; of these COUNT History > "Within the last 30 days..." = *any value*

b. Of all, number (%) of cases with current use of oral anticoagulants

FOR [a], COUNT History > "Coumadin" = 'Yes'

c. Of these, number (%) of cases with documentation of anticoagulation plan

FOR [b], COUNT "Anticoagulation plan" = *any value*

#4. SEDATION MEDICATIONS. Sedation medication(s) used and dosages are documented.

a. The denominator is the number of procedures performed during the time period.

COUNT total procedures in time period

b. Of these, number (%) of cases reporting sedation medications (including none)

FOR [a], COUNT Preprocedure > (ANY "Sedation Medication") OR "No sedation medications given" OR "Residual sedation from prior procedure present" OR Level of sedation = "General Anesthesia" OR "Managed by" IN ('Nurse Anesthetist', 'Anesthesiologist');

c. Count the total number of sedation medications documented in the procedures.

d. For each sedation drug documented, number (%) with dosage documented

FOR [b] AND ANY("Sedation Medication"); FOR EACH Medication: COUNT IF "Dose"

e. For each procedure where “No sedation medications given” and ANY “Sedation Medication” are both documented, then report “Error in sedation medication documentation in” + count of procedures were present + “procedures.”

#5. BOWEL PREP QUALITY. Quality of bowel prep is documented.

a. The denominator is the number of procedures performed during the time period.

COUNT total procedures in time period

b. Of these, number (%) of cases with documentation of adequacy of bowel prep

FOR [a], COUNT Preprocedure > "Prep results" = *any value*

c. Of these, number (%) with adequacy to detect polyps > 5 mm

FOR [b], COUNT "Prep results" in ('excellent', 'good', 'fair');

#6. DEPTH OF INSERTION.

6.a. Depth of insertion is documented.

6.b. The cecum is reached unless there are documented reasons for not reaching this depth of insertion.

a. The denominator is the number of procedures performed during the time period.

COUNT total procedures in time period

b. Of these, number (%) of cases with documentation of depth reached

COUNT total procedures in time period; of these COUNT Procedure > Depth of Insertion > Actually reached = *any value*

c. Of these, subtract number with documentation of history, findings or indications that would prevent cecal intubation

FOR [b], COUNT Prep results = 'poor' OR (Finding = Mucosal abnormality AND Activity = Severe) OR Indication > Therapeutic Intervention in ('Dilation of Stricture', 'Polypectomy of known polyp') OR Procedure > Was the procedure complete? = No OR History > Surgical History in (Colostomy, Right hemicolectomy, Left hemicolectomy, Total colectomy, Segmental colectomy)

d. Of remainder, % where cecum reached ("Cecal intubation rate")

FOR [c] ([b] minus exclusions), COUNT "Depth reached" in ('cecum', 'terminal ileum');

e. For [d], number (%) with documentation by identification of anatomic landmarks; of same group, number (%) with photodocumentation

Not available at this time in CORI v4

#7. EXAMINATION TIME. Average examination time for endoscope withdrawal is ≥ 6 minutes for screening colonoscopies where no biopsies or polypectomies are performed.

a. Number of screening colonoscopies performed

COUNT [(Indications > Screening > Any) OR (Indications > Familial syndrome > Any)]
NOT [Indications > any others]

b. Of these, number (%) without intact colons, where cecum was not reached, or with biopsies or polypectomy performed

FOR [1] COUNT (History > Surgical History > GI, Lower > Any) OR Procedure > Depth of insertion > Actually reached NOT IN (cecum, terminal ileum) OR [Finding = Polyp AND (Diagnostics = Any)] OR [Finding = Polyp cluster AND (Diagnostics = Any)] OR [Finding IN (Fissure/Fistula, Melanosis, Mucosal Abnormality, Normal, Prior Surgery, Solitary Rectal Ulcer, Stricture/Stenosis, Tumor/Cancer, Other) AND Biopsy taken];

c. Of remainder, number (%) with withdrawal time documented

FOR [a] MINUS [b] COUNT Procedure > Time from cecum to scope removal = any value > 0

d. Of these, average withdrawal time

FOR [c] AVERAGE VALUE

e. Of these, proportion with withdrawal times < 6 minutes, 6-8 minutes and >8 minutes

FOR [3], CATEGORIZE INTO (<6, 6-8, >8) EACH VALUE OF Procedure > Time from cecum to scope removal (if > 0); COUNT each category.

#8. RECTAL BLEEDING. When rectal bleeding is present, type and extent of bleeding is documented.

a. Number of cases with indication of rectal bleeding

COUNT Indications > "Hematochezia";

b. Of these, percent of reports with type and extent of bleeding documented

FOR [a], COUNT Indications > Hematochezia detail> "type of bleeding" = *any value*

Note: This cannot be documented discretely in CORI v3, so these counts will be for CORI v4 only.

#9. POLYP DOCUMENTATION.

9 a. Details of polyps are documented.

9 b. Details of polyp removal and retrieval are documented.

a. Number of cases with finding of colonic polyps and total number of polyps

COUNT procedures WHERE Findings = Polyp; COUNT Findings = Polyp

b. Of these, number (%) of cases where ALL descriptors (location, size and morphology) are documented

FOR [a] (total number of polyps), COUNT if ["Location" = *any value* AND ("Max size" = *any value* OR "Diminutive polyp (<5 mm)" checked) AND "Type" = *any value*]

c-1. Of same group, number (%) removed.

FOR [a], (total number of polyps) COUNT if ("Polyp removed?" in ('Totally removed','Partially removed',' Removed piecemeal'))

c-2. Of these, number (%) where the polyp was retrieved

FOR [c-1], COUNT if ("Tissue retrieved?" = 'Yes')

c-3. Of same group, number (%) that were sent to pathology

FOR [c-2], COUNT if Current Pathology ID = *any present* (do not count # of pathology IDs)

d. For polyps removed, number (%) where completion of removal is documented.

Note: For CORI v4, this is 100% since documentation of removal includes documentation of completion of removal.

e-1. Of cases with finding of colonic polyp and polyp NOT removed, number (%) where biopsy is performed

FOR [a] MINUS [c-1], COUNT if ("Biopsy without cautery" checked OR "Biopsy with cautery" checked)

e-2. Of these, number (%) with tattoo placed

FOR [d-1]., COUNT if "Placement of tattoo" checked

Note: Documentation of placement of tattoo is not available for CORI v3

#10. ADENOMA DETECTION RATE. Adenoma detection rate in first time screening exams can be determined.

a. Number of first time screening colonoscopies

COUNT [Indications>.Screening (no prior pathology) > Any OR Indications>Familial Syndrome > Any] NOT [Indications> any others]; MINUS procedures where the patient has had a prior colonoscopy

b. Of these, the number (%) with detection of adenomatous polyps.

FOR [a], COUNT procedures where any of the following is found: [(Postprocedure> Pathology> Result in ('Adenoma', 'Adenocarcinoma', 'Carcinoma')) OR [No documentation of pathology results AND (Findings > Polyp > "Size (mm)" > '9')]

#11. COMPLICATIONS. Intra- and immediate postprocedural complications (to include serious events such as perforation or bleeding requiring intervention) and interventions are documented.

a. Stratify procedures by screening vs. non-screening

COUNT as 'screening' [Indications>.Screening (no prior pathology) > Any OR Indications>Familial Syndrome > Any] NOT [Indications> any others]

COUNT as 'non-screening' all others

b. Of these, number (%) of all cases with documentation of intra- or immediate postprocedure complications

COUNT Intervent/Events> “Were there any unplanned events?” = 'No' OR ["Were there any unplanned events?" = Yes AND any complication is checked AND ("Interventions required = 'No' OR ("Interventions required?" = 'Yes' AND any intervention is checked))]

STRATIFY by screening vs non-screening.

c. Of these, number (%) of cases where perforation or bleeding requiring intervention during endoscopy or immediate post-endoscopy period are documented

FOR [b] COUNT if [(“Bleeding” checked OR “Perforation” checked)AND ("Interventions required?" = 'Yes')] OR “Death” checked

STRATIFY by screening vs non-screening.

#12. FOLLOWUP. Recommendations for followup colonoscopy are documented.

a. The denominator is the number of procedures performed during the time period.

COUNT total procedures in time period

b. Of these, number (%) of procedures where recommended next exam is documented.

FOR [a], COUNT if (Assessment/Plan > "Recommended next exam in..." = any value > 0) OR (Postprocedure > "Based on pathology. recommended next exam in" = any value > 0)

#13. PATHOLOGY. Review of pathology report OR results of pathology reports are documented.

a. Number of cases with pathology sent to lab

COUNT procedures where COUNT (Postprocedure > Pathology > ("Path ID")) >=1

b. Of these, number (%) with review of pathology documented OR pathology results documented as addendum to report

For [a] COUNT if ["Results" = *any value* OR "Modifier" = *any value* OR "Comments" = *any value* in any row with "Path ID" = *any value*] OR any pathology documents imported as text or formatted report.

#14. SURVEILLANCE INTERVAL (no new pathology). For post-polypectomy patients undergoing surveillance colonoscopy, if no new polyps are discovered, the recommended surveillance interval is 5-10 years.

1. Number with surveillance exam for prior polypectomy with no new polyps found

COUNT ([Indications > Surveillance of > Adenomatous Polyps] NOT [Indications > *any other*]) NOT [Findings IN (Polyp, Polyp cluster)];

2. Of these, number (%) excluded because of history, procedure, or abnormal findings

COUNT [(Indications > "Hereditary Nonpolyposis Colorectal Cancer") OR (Procedure > Depth of insertion/Actually reached not in (cecum, terminal ileum)) OR (Procedure > "Was the procedure completed?" = 'No') OR (Preprocedure > "Prep results" = 'Poor') OR (Findings in (Tumor/Cancer OR Mucosal abnormality/Colitis/IBS))]

3. Of these, number (%) with recommendation > suggested interval, = suggested interval, < suggested interval, or no documentation of recommended interval

FOR [1] MINUS [2] COUNT EACH CATEGORY (> 10, 5 - 10, < 5, not documented)
FROM Assessment/Plan > "Recommended next exam in:"

#15 SURVEILLANCE INTERVAL (following polypectomy). For patients undergoing polypectomy during a screening or post-polypectomy surveillance colonoscopy (and no history of HNPCC) the recommended surveillance interval is based on worst pathological finding from the current polyp(s), as follows

- 1-2 tubular adenomas of < 1 cm (5-10 years)
- 3-10 adenomas (3 years)
- >10 adenomas (<3 years)
- adenoma with villous features (3 years)
- adenoma \geq 1 cm (3 years)
- adenoma with high grade dysplasia (3 years)
- sessile adenoma \geq 2 cm, removed piecemeal (2-6 mos)
- hyperplastic polyp (10 years for screening, 5-10 years for surveillance)

1. Number of cases with polypectomy on screening or surveillance exam

COUNT [(Indications = Screening (*any*) OR "Adenomatous polyps"] NOT [Indications > *any others*]) AND [(Findings in (Polyp, Polyp Cluster)) AND (FOR ANY finding = Polyp then ("Polyp removed?" = 'Totally removed' OR 'Removed piecemeal') OR (FOR ANY finding = Polyp cluster, then "Polyp removed?" = 'Yes'))];

2. Of these, number (%) excluded because of history, procedure, abnormal findings, or if one or more polyps are partially removed

COUNT [(Indications > "Hereditary Nonpolyposis Colorectal Cancer") OR (Procedure > Depth of insertion/Actually reached not in (cecum, terminal ileum)) OR (Procedure > "Was the procedure completed?" = 'No') OR (Preprocedure > "Prep results" = 'Poor') OR (Findings in (Tumor/Cancer OR Mucosal abnormality/Colitis/IBS)) OR (Finding = Polyp AND "Polyp removed?" = 'partially removed']

3. Of remainder, number (%) with documentation of pathology for at least one polyp

FOR [1] MINUS [2], COUNT 1 IF ANY [Postprocedure > Finding in ('Polyp','Polyp cluster') AND Results in ('adenoma','hyperplasia')]

4. Of these, number (%) with documentation of recommended followup exam

FOR [2], COUNT (Postprocedure > "Based on pathology, next exam in:" if not null, else Assessment/Plan > "Recommended next exam in:")

5. Select the worst pathology for each procedure

FOR EACH procedure in [4], IF ANY Postprocedure > pathology > Finding like '%Polyp%' AND "Results" = 'Adenoma', AND Finding (for same polyp) > "type" = 'sessile' AND "Size (mm)" \geq 20 AND "Polyp removed" = 'removed piecemeal', then worst pathology is Type 1

ELSE IF COUNT (Postprocedure> pathology > Finding like '%Polyp%' AND "Results" = 'Adenoma') > 10, then worst pathology is Type 2
ELSE IF Postprocedure> pathology > Finding like '%Polyp%' AND "Results" = 'Adenoma' AND Modifier in ('villous','tubulovillous"), then worst pathology is Type 3
ELSE IF Postprocedure> pathology > Finding like '%Polyp%' AND "Results" = 'Adenoma' THEN worst pathology is Type 4
ELSE worst pathology is Type 5

6. Based on worst pathology, number (%) where recommended surveillance interval is appropriate.

For [4], COUNT [(type = 1 AND interval <= 6 months) OR (type = 2 AND interval <=3 years) OR (type = 3 AND interval between 2.5 and 3.5 years) OR (type = 4 AND interval between 4.5 and 10.5 years) OR (type = 5 AND Indications> Average Risk Screening (any) AND interval >= 9.5 years) OR (type = 5 AND Indications in ('Adenomatous polyps','Positive FH CRC','Positive FH Adenomatous Polyps' AND interval between 4.5 and 10.5 years)]