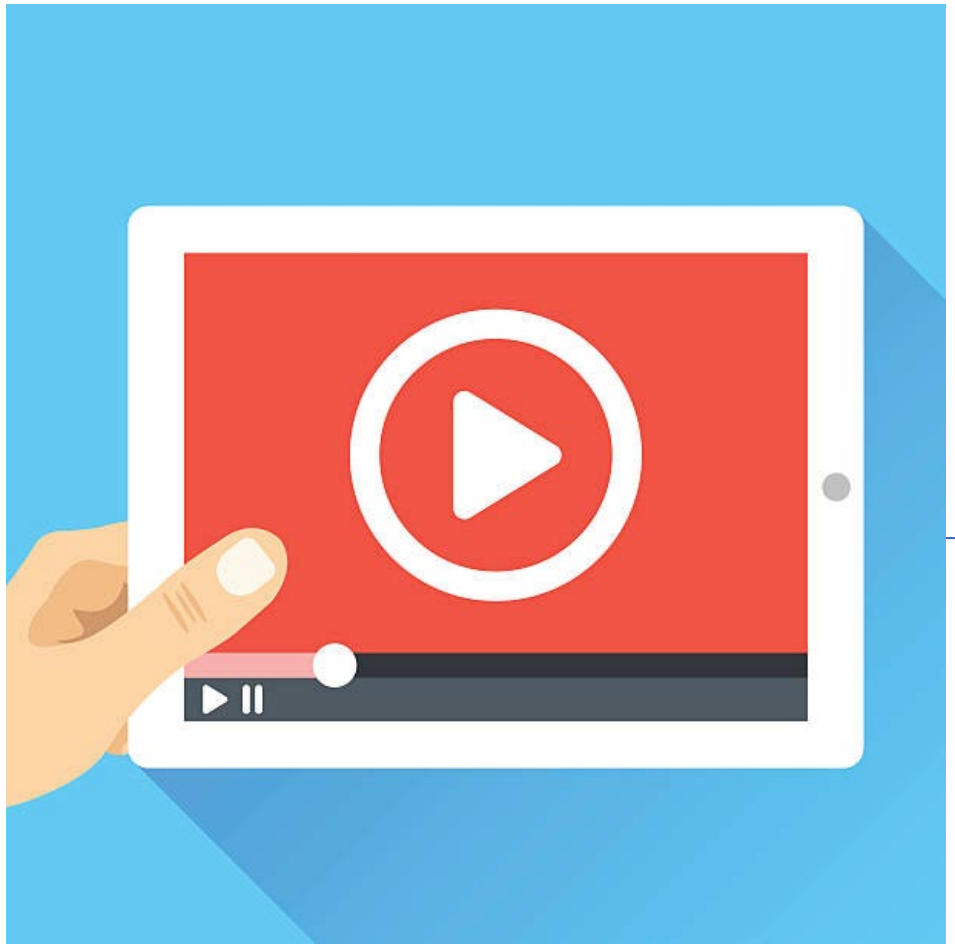


Colon & Rectum
SSDI
Effective 2018 dx and forward

Presented by Lori Somers, RN

SHRI Video Training Series | Iowa Cancer Registry

August 2024

Grade

- Clinical
- Pathological
- Post Therapy Clin (yc)
- Post Therapy Path (yp)

Grade manual: https://www.naaccr.org/wp-content/uploads/2022/10/Grade-Coding-Instructions-and-Tables-v3.pdf?v=1701379300

Grade Clinical #3843

Note 1: Cannot be blank

Note 2: Highest grade from primary tumor assessed during clinical time frame

Note 3: If multiple tumors with different grades abstracted as one primary, code highest grade

Note 4: Code 9 Unknown:

>Grade from primary site not documented

>Clinical workup not done (incidental finding during surgery for other condition)

>Grade checked “not applicable” on CAP and no other info available

Note 5: Only one grade available unkn if clin or path, assume grade clinical

Grade Pathological #3844

Note 1: Cannot be blank

Note 2: Preferred grading system, generic categories do not apply. Code 9 if generic grade given for path. Do not use clinical grade in path grade. [see example in manual]

Note 3: Assign highest grade from primary tumor

Note 4: Multiple tumors with different grades, code highest grade

Grade Pathological #3844

Note 5: Use grade from clinical workup from primary tumor based on:

Behavior

- Tumor behavior for clin/path dx same and clinical grade highest
- Tumor behavior for clin is invasive, path is in situ

Surgical Resection

- Resection of primary tumor and no grade from surgical resection
- Resection done of primary tumor and no residual cancer

No Surgical Resection

- No surgery primary site, but positive confirmation of distant mets during clinical time frame

Grade Pathological #3844

Note 6: Code 9 (unknown):

- Grade from primary site is not documented
- Surgical resection done and grade from primary site not documented and no clinical grade
- Surgical resection is done and there is no residual cancer and there is no grade from the clinical work up
- No resection of the primary site (see exception in Note 5, Surgical resection, last bullet)
- Neo-adjuvant therapy is followed by a resection (see Grade Post Therapy Path (yp))
- Grade checked “not applicable” on CAP Protocol (if available) and no other grade information is available
- Clinical case only (see Grade Clinical)
- There is only one grade available and it cannot be determined if it is clinical, pathological, post therapy clinical or post therapy pathological

Grade Post Therapy Clin (yc) #1068

Note 1: Leave blank when

- No neoadjuvant therapy
- Clin or path case only
- Neoadjuvant therapy completed; no microscopic exam done prior to resection
- Only one grade and cannot determine if clinical, path, yc or yp

Note 2: Assign highest grade for microscopic sample of pri site following neoadjuvant therapy or primary systemic/radiation therapy

Note 3: Multiple tumors abstracted as one primary, code highest grade

Note 4: G4 includes anaplastic

Note 5: Code 9 (unknown)

- Microscopic exam after neoadjuvant therapy, and grade from pri site not documented
- Micro exam after neoadjuvant therapy and no residual cancer
- Grade checked not applicable on CAP

Grade Post Therapy Path (yp) #3845

Note 1: Leave blank when

- No neoadjuvant therapy
- Clin or path case only
- Neoadjuvant therapy completed; surgical resection not done
- Only one grade and cannot determine if clinical, path, yc or yp

Note 2: Generic grade note if not preferred grading system. See Example given.

Note 3: Assign highest grade from resected primary tumor assessed after completion of neoadjuvant therapy

Note 4: Multiple tumors abstracted as one primary, code highest grade

Note 5: G4 includes anaplastic

Please note TYPO note 2 for yp

- **Note 2:** There is a preferred grading system for this schema. If the post therapy clinical grade given uses the preferred grading system and the post therapy pathological grade does not use the preferred grading system, do not record the Grade Post Therapy Clin ~~(yp)~~ should be (yc) in the Grade Post Therapy Path (yp) field. Assign Grade Post Therapy Path (yp) 9.

- PER FORUM 11/3/2022: This was a typo and will not be corrected until v3.0

Grade Post Therapy Path (yp) #3845

Note 6: Use grade from post therapy CLINICAL workup of primary tumor based on:

Behavior

- Tumor behavior for yc and yp dx are same and yc is highest grade
- Tumor behavior for yc is invasive, tumor behavior yp in situ

Surgical Resection

- Resection done of primary tumor after neoadjuvant therapy and no grade documented from surgical resection
- Resection done of primary tumor after neoadjuvant therapy and no residual

Note 7: Code 9 (unknown) when

- Surg resection done after neoadjuvant therapy completed, no grade documented
- Surg resection done after neoadjuvant therapy and no residual cancer
- Grade checked not applicable on CAP

Colon: Grade Tables

Code	Description
1	G1: Well Diff
2	G2: Mod Diff
3	G3: Poorly Diff
4	G4: Undiff [includes anaplastic]
9	Grade cannot be assessed (GX); Unknown

#3820 CEA PreTX Lab Value
#3819 CEA PreTX Interpretation

- Take values from same lab test
- Physician statement can be used when no other info
- Record highest CEA prior to treatment or polypectomy

Example:

- Value: Pretreatment CEA 7 ng/ml. Code as 7.0
- Interpretation: Not documented. Code 3.

Timing Rule for CEA

SSDI Manual, General Guidelines

- Follow the below guidelines for recording laboratory values:
- All laboratory values must be done no earlier than approximately three months before diagnosis
- Only record test results obtained before any cancer-directed treatment is given (neoadjuvant therapy or surgical), unless instructions for a specific laboratory test state otherwise
- Record the highest laboratory value if multiple laboratory tests results are available, unless instructions for a specific laboratory test state otherwise

Site-specific: Code highest CEA (if multiple) prior to treatment or polypectomy.

Timing Rule for CEA

Site-specific: Code highest CEA (if multiple) prior to treatment or polypectomy.

https://www.naaccr.org/wp-content/uploads/2023/10/Site-Specific-Data-Item-SSDI-Manual_printed.pdf?v=1704311926

The following SSDIs record laboratory values. If the SSDI specific coding rules column is yes, then check the SSDI for additional coding instructions

Schema	SSDI#	SSDI	SSDI Specific Coding Rules
Colon and Rectum	3820	CEA Pretreatment Lab Value	Yes
Colon and Rectum	3819	CEA Pretreatment Interpretation	Yes

#3820 CEA PreTX Lab Value

Code	Description
0.0	0.0 nanograms/milliliter (ng/m) exactly
0.1-9999.9	0.1-9999.9 ng/ml Exact value to nearest tenth in ng/ml
XXXX.1	10,000 ng/ml or greater
XXXX.7	Test ordered, results not in chart
XXXX.8	Not applicable
XXXX.9	Not documented in med rec, not assessed or unknown if assessed

#3819 CEA PreTX Interpretation

Code	Description
0	CEA neg/normal; within normal limits
1	CEA pos/elevated
2	Borderline
3	Undetermined if pos or neg (normal values not avail AND no MD interpretation
7	Test ordered, results not in chart
8	Not applicable
9	Not documented in med rec, not assessed or unknown

Code 3 when CEA value documented in record, but no statement CEA is pos/neg/elevated/ normal

CEA Text Examples

2-14-23 CEA: 2645 (high)

3-17-23 CEA 0.50 (negative)

6-14-23 CEA 54 (<2.5)

7-4-23 CEA 18.35 (<2.5)

CEA Examples

Text	#3820 Value	#3819 Interpretation
2-14-22 CEA: 2645 (high)	2645.0	1
3-17-22 CEA 0.50 (negative)	0.5	0
6-14-22 CEA 54 (<2.5)	54.0	1
7-4-22 CEA 18.35 (<2.5)	18.4	1

CEA Example

H&P:

…… “Pre-op CEA elevated”

#3820 (Value): **XXXX.7** (ordered, results not in chart)

#3819 (Interpret): **1** (Note 1: Phys statement can be used when no info available)

#3934: Tumor Deposits

Note 1: Physician statement of tumor deposits can be used to code this item when no other info available

Note 2: Tumor Deposits = One or more satellite peritumoral nodules in pericolorectal adipose tissue of primary carcinoma w/o histologic evidence of residual LN in nodule.

- Tumor deposits may represent discontinuous spread, venous invasion w/extravascular spread or a totally replaced LN

Note 3: Record # of tumor deposits whether or not there are pos LNs.

Note 4: Record X9 if resection done, path report available and tumor deposits are not mentioned.

#3934: Tumor Deposits

Code	Description
00	No tumor deposits
01-99	1-99 Tumor deposits (TD) Exact number of TD
X1	100 or more Tumor Deposits
X2	Tumor Deposits identified; number unknown
X8	No applicable
X9	Not documented in record Cannot be determined by pathologist *Pathology report does not mention tumor deposits No surgical resection done Tumor Deposits not assessed

#3909 Perineural Invasion

Note 1: Physician statement of microscopically confirmed perineural invasion can be used when no other info available.

Note 2: Code the presence or absence of perineural invasion by primary tumor as documented in path report

Note 3: Info on presence of perineural invasion can be taken from either biopsy or resection. **Absence can only be taken from surgical resection path report.**

Note 4: Code 9 if surgical resection done and no mention of PNI

#3909 Perineural Invasion

Code 0: only taken from resection path report

Code	Description
0	Perineural invasion not identified/not present
1	Perineural invasion identified/present {biopsy or resection}
8	Not applicable
9	Not documented in medical record *Path report **does not mention** perineural invasion Cannot be determined by pathologist Perineural invasion not assessed or unknown if assessed

#3823 Circumferential Resection Margin

Note 1: Physician statement can be used

Note 2: AJCC “CRM is distance in mm between deepest point of tumor invasion in primary cancer and the margin of resection in the retroperitoneum or mesentery”

Note 3: Coding surgery

- Colon primaries, surgery of pri site must be A300-A800
  - If surgery A000-A290, then CRM must be coded XX.7
- Rectal primaries, surgery of pri site must be A270, A300-A800
  - If surgery A000-A260, A280, then CRM must be XX.7

#3823 Circumferential Resection Margin

Note 4: Strong prognostic factor for local or systemic recurrence and survival after surgery

Note 5: CRM terms: circumferential radial margin, circumferential resection margin, mesenteric (mesocolon) (mesorectal) margin, radial margin, soft tissue margin. Per FORUM: mesenteric root also can be used.

#3823 Circumferential Resection Margin

Note 6: Record in mm to nearest tenth, distance between leading edge of tumor and nearest edge of dissected margin (not distal or proximal margin)

Examples:

- CRM is 2 mm = code 2.0
- CRM 2.78 mm = code 2.8

Note 7: If value recorded in cm, multiple x 10 to get mm

Example:

- CRM recoded as 0.2 cm. Multiple x10 and record 2.0 mm

#3823 Circumferential Resection Margin

Note 8: If margin is involved (positive), code 0.0. If margin <1 mm, and no specific measurement, code to 0.0.

Note 9: Code XX.2 (margins not assessed) ONLY when path/CAP checklist states “cannot be assessed or eval.”

#3823 Circumferential Resection Margin

Note 10: Exact measurement takes precedence over code 0.0 and those beginning with XX.

Example: CRM stated as 0.3 mm in final dx. Synoptic states radial margin involved by carcinoma. Code 0.3 mm instead of 0.0

#3823 Circumferential Resection Margin

Note 11: Code XX.9 when

- Checked ‘not applicable’ on CAP
- Path report describes only distal or prox margins or ‘margins NOS’
- Only specific statements of CRM collected in this data item. [may be in gross section]
- CRM not mentioned in record

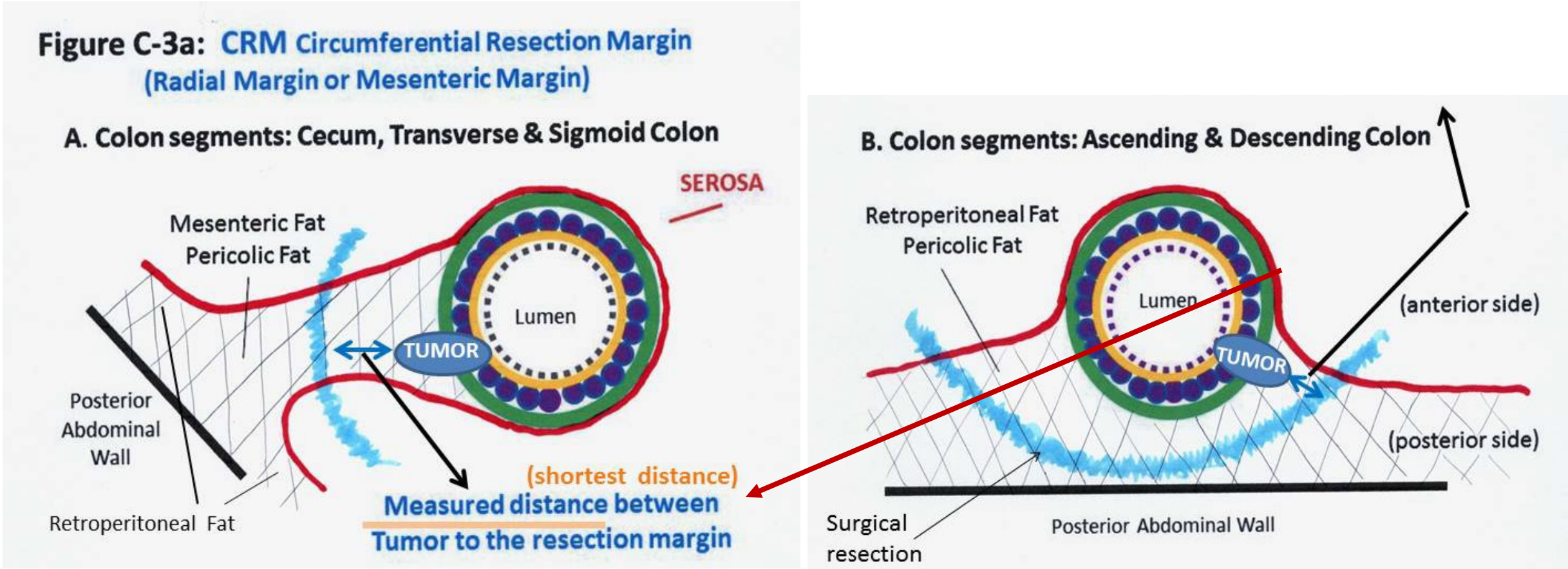


Figure C-3a: CRM Circumferential Resection Margin
(Radial Margin or Mesenteric Margin)
A. Colon segments: Cecum, Transverse & Sigmoid Colon
SEROSA
Mesenteric Fat
Pericolic Fat
Lumen
TUMOR
Posterior
Abdominal
Wall
Retroperitoneal Fat
(shortest distance)
Measured distance between
Tumor to the resection margin
B. Colon segments: Ascending & Descending Colon
Retroperitoneal Fat
Pericolic Fat
Lumen
TUMOR
(anterior side)
(posterior side)
Surgical
resection
Posterior Abdominal Wall

#3823 Circum Resec Margin

Code	Description
0.0	Circumferential resection margin (CRM) pos. Margin IS involved with tumor. Described as less than 1 mm.
0.1-99.9	Distance of tumor from margin: 0.1-99.9 mm Exact size to nearest tenth of mm
XX.0	100 mm or greater
XX.1	Margins clear, distance from tumor not stated. CRM or radial margin neg, NOS. No residual tumor
XX.2	Margins cannot be assessed

**ONLY when path/CAP states margin cannot be assessed

#3823 Circum Resec Margin

Code	Description
XX.3	Described as ‘at least’ 1 mm
XX.4	Described as ‘at least’ 2 mm
XX.5	Described as ‘at least’ 3 mm
XX.6	Described as ‘greater than’ 3 mm
XX.7	No resection of primary site
XX.8	Not applicable
XX.9	Not documented in medical record; CRM not assessed. Checked “not applicable” on CAP checklist.

FORUM SAYS:

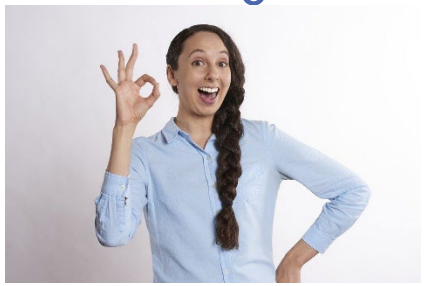
Neoadjuvant example: Pt had pos colon biopsy. Neoadjuvant therapy followed by resection. Resection CRM was neg after neoadjuvant therapy. Can you use CRM? **Yes. Manual does not state this has to be prior to neoadjuvant therapy. {JRUHL}**

- http://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018/87099-crm-neoadjuvant-tx

Note 5: Only specific statements about CRM are collected in this data item

Code if you find these terms:

- Circumferential radial margin
- Circumferential resection margin
- Mesenteric (mesocolon) (mesorectal) margin
- Radial margin
- Soft tissue margin



Do *NOT* code if these are the only terms found:

- Distal margin
- Proximal margin
- Margins, NOS
- All margins negative
- Resection margins

Note 6-7:
CRM SSDI is recorded in millimeters

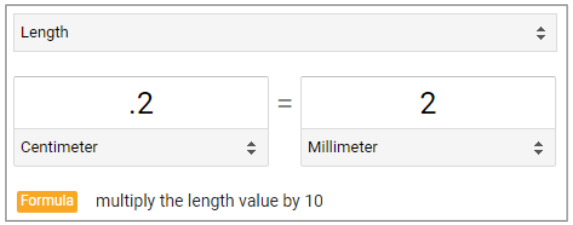
- Record in millimeters (mm) to the nearest tenth
  - If CRM = 2mm then
    - SSDI code = 2.0
  - If CRM = 2.78mm then
    - SSDI code = 2.8

If given in centimeters (cm)

- Multiply by 10 *or* move your decimal right one
- If CRM = 0.2 cm then

$$0.2\ cm \times 10 = 2.0\ mm$$

0.2 cm	0.2.	2.0 mm



*You can also google "cm to mm" and google will provide you with a conversion calculator

If CRM is given as a range

If you have a range, code 0.1 above the lowest number in the range stated (decimal field)

Example

Distance of invasive carcinoma from closest margin: 3-4 mm

Specified margin: Radial

Code SSDI as: 3.1 mm

http://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018/96150-ssdi-colon-and-rectum-circumferential-resection-margin-size

If CRM is given as "greater than"

If you have a "greater than" statement, you code 0.1 above the number provided

**If number is "greater than 3mm" use code XX.6

Example

Margins Examined: Proximal, Distal, Radial or Mesenteric

Distance of Tumor from Radial Margin: >1 cm from resection margin

Code SSDI as: 10.1 mm

SSDI manual pg. 23

http://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018/94152-crm-1mm-from-serosal-surface-1cm-from-resection-margin

If CRM is given as “less than”

If you have a “less than” statement, you code 0.1 below the number provided

Example

Margins Examined: Proximal, Distal, Radial or Mesenteric

Distance of Tumor from Radial Margin: <3 mm from resection margin

Code SSDI as: 2.9 mm

SSDI manual pg. 23

#3866 KRAS

Note 1: Physician statement of KRAS can be used to code this item when no other info avail

Note 2: KRAS = oncogene that mutates and causes normal cells to become cancerous, often present in colorectal cancer

Note 3: Next slide

Note 4: KRAS commonly done in metastatic setting

Note 5: Results from nodal or met tissue may be used for KRAS

Note 6: Record result from initial workup

Note 7: If KRAS pos, no mention of mutated codon, or not specific, code 4.

Note 3: There are 4 KRAS codons that are commonly mutated in colorectal cancers. This SSDI does not record the actual mutation, but instead records the codon or codon group that contains the mutation. If a specific KRAS mutation is reported, its codon may be identified from the following list of common KRAS mutations grouped by codon.

- Codon 12
  - Gly12Asp (GGT>GAT)
  - Gly12Val (GGT>GTT)
  - Gly12Cys (GGT>TGT)
  - Gly12Ser (GGT>AGT)
  - Gly12Ala (GGT>GCT)
  - Gly12 Arg (GGT>CGT)
  - Codon 12 mutation, not otherwise specified
- Codon 13
  - Gly13Asp (GGC>GAC)
  - Gly13Arg (GGC>CGC)
  - Gly13Cys (GGC>TGC)
  - Gly13Ala (GGC>GCC)
  - Gly13Val (GGC>GTC)
  - Codon 13 mutation, NOS
- Codon 61
  - Gln61Leu (CAA>CTA)
  - Gln61His (CAA>CAC)
  - Codon 61 mutation, NOS
- Codon 146
  - Ala146Thr (G436A) (GCA>ACA)
  - Codon 146 mutation, NOS

#3866 KRAS

0	Normal (wild type); neg for mutations
1	Abn (mutated) in codon(s) 12, 13, and/or 61
2	Abn (mutated) in codon 146 only
3	Abn (mutated) but not in codon(s) 12, 13, 61, 146
4	Abn (mutated), NOS, codon(s) not specified
7	Test ordered, not in chart
8	Not applicable
9	Not documented in med rec; KRAS not assessed or unknown if assessed

Per Forum

EXAMPLE: RESULTS: Pathogenic alteration is DETECTED in the KRAS gene.
Gene:KRAS
Exons Tested: ALL
Genomic Alteration(s): c.35G>T: p.G12V
Mutation Effect: MISSENSE
Allela Frequency :35%
Pathogenic: YES
NGS Interpretation A genomic alteration in the KRAS gene is detected (C.35G>T; p.G12V). This missense alteration has been previously reported (http://grch37-cancer.sanger.ac.uk/co...verview?id=520), and is expected to be pathogenic.

- Answer: This looks like a G12v, which is a Codon 12. Code 1.

http://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018/98522-creative-documentation-of-kras

KRAS & Neoadjuvant Therapy

Question: For colon and rectum, the SSDI field KRAS Note 5 states record the results from the initial workup((clinical and pathological workup). Please clarify if you code the KRAS after neoadjuvant therapy.

- **J. Ruhl**: I contacted some of the other SSDI work group members, and our ever faithful CAP representative responded. He presented several different scenarios that the SSDI work group will discuss, but overall, he felt that using KRAS data after neoadjuvant therapy is not reliable and should not be used. **So, if the KRAS is done after the neoadjuvant therapy, do not use it.**

https://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018/107008-ssdi-kras-neoadjuvant-therapy

#3890 Microsatellite Instability MSI

Note 1: Physician statement can be used to code this item

Note 2: Genetic test, useful prognostic marker for response to surgery and survival

Note 3: MSI primarily performed for invasive neoplasms. If non-invasive /2, code to 9 if no info available.

Note 4: Results from nodal or metastatic tissue may be used

Note 5: MSI usually done by immunology or genetic testing

See details of notes

Note 6: Testing for MMR usually done by IHC

See details of notes

Note 7: If both tests are done and one or both pos; code 2

Note 8: If all tests done are neg, code 0.

#3890 MSI

0	Microsatellite instability (MSI) stable; microsatellite stable (MSS; neg, NOS; AND/OR Mismatch repair (MMR) intact, no loss of nuclear expression of MMR proteins
1	MSI unstable low (MSI-L)
2	MSI unstable high (MSI-H) AND/OR MMR-D (loss of expression of one or more MMR proteins
8	Not applicable
9	Not documented in record; MSI indeterminate; MSI not assessed or unknown if assessed.

Examples

- MMR by IHC
  - 0 = MMR intact
  - 2 = MMR-D (loss of expression) (deficient)
  - 9 = not used when MMR studies done

- Mismatch repair protein markers MLH1, MSH2, MSH6, PMS2

Path report 2/14/2023: INTACT MISMATCH REPAIR PROTEINS: MLH-1: Positive staining representing intact mismatch repair proteins. PMS-2: Positive staining representing intact mismatch repair proteins. MSH-2: Positive staining representing intact mismatch repair proteins. MSH-6: Positive staining representing intact mismatch repair proteins. BRAFV600 E: Negative

MSI: 0

2/14/2023 MMR intact.

#3940 BRAF

Note 1: Effective for dx years 2021+ (leave blank for 2018-2020)

Note 2: MD statement of BRAF may be used

Note 3: Primarily performed for patients with mets

Note 4: Oncogene that can mutate causing normal cells to become cancerous

- Most common mutation: BRAF V600E (c.1799T>A) mutation

Note 5: Most common testing methods: Direct Sanger sequencing, High-resolution melting analysis, Pyrosequencing, real-time PCR.

Note 6: Results from nodal or metastatic tissue may be used for BRAF

#3940 BRAF

Note 7: If BRAF pos, no mention of codon or mutated not specific, code 4

Note 8: If neoadjuvant therapy given, record assay from tumor specimen prior to neoadjuvant therapy

- If neoadjuvant therapy given, and no BRAF results from pre-treatment specimens, reporting findings from post-treatment specimens

Note 9: Code 9 when insufficient tissue available to perform test, no microscopic confirmation of tumor, BRAF not ordered, not done or unknown

#3940 BRAF

0	Normal, BRAF Neg, BRAF wild type Neg for somatic mutations
1	Abnormal (mutated)/detected: BRAF V600E (c.1799T>A) mutation
2	Abnormal (mutated)/detected:, but not BRAF V600E (c.1799T>A) mutation
4	Abnormal (mutated), NOS
7	Test ordered, results not in chart
8	Not applicable
9	Not documented in med record, BRAF not assessed or unknown if assessed
<blank>	N/A – Diagnosis year is prior to 2021

#3941 NRAS

Note 1: Effective for dx years 2021+ (leave blank for 2018-2020)

Note 2: MD statement of NRAS can be used

Note 3: NRAS primarily performed for patients with mets

Note 4: NRAS is an oncogene that when mutates can cause normal cells to become cancerous, often present in colorectal cancer

#3941 NRAS

Note 5: There are 3 NRAS codons commonly mutated in colorectal cancer. Record codon or group that contains mutation.

- Codon 12
  - Gly12Asp (GGT>GAT)
  - Gly12Val (GGT>GTT)
  - Gly12Cys (GGT>TGT)
  - Gly12Ser (GGT>AGT)
  - Gly12Ala (GGT>GCT)
  - Gly12Arg (GGT>CGT)
  - Codon 12 mutation, NOS
- Codon 13
  - Codon 13 mutation, NOS
- Codon 61
  - Gln61Lys (CAA>AAA)
  - Gln61Arg (CAA>CGA)
  - Codon 61 mutation, NOS

#3941 NRAS

Note 6: Results from nodal or metastatic tissue may be used for NRAS

Note 7: If pos NOS, code 4

Note 8: If neoadjuvant therapy given, record assay from specimen prior to neoadjuvant therapy.

- If neoadjuvant therapy given and no NRAS from pre-treatment specimen, report findings from post-treatment specimens

Note 9: Code 9 when insufficient amount of tissue available, no microscopic confirmation of tumor, NRAS not ordered, not done, unknown if ordered

#3941 NRAS

0	Normal, NRAS negative; NRAS wild type Negative for somatic mutations, no alterations
1	Abnormal (mutated)/detected in codon(s) 12, 13, and/or 61
2	Abnormal (mutated)/detected, codon(s) specified but not in codon(s) 12, 13, or 61
4	Abnormal (mutated), NOS, codon(s) not specified
7	Test ordered, results not in chart
8	Not applicable
9	Not documented in medical record, NRAS not assessed or unknown if assessed
<blank>	N/A – Diagnosis year is prior to 2021

Homework

SSDI and Grade cases on SEER*Edu

- https://educate.fredhutch.org/Identity/Account/Login
- Training | Coding – CEs
- Select DX 2021-2024 EOD, SS, Grade, SSDI Mashup Up
  - Colon and rectum 01-05
  - Colon and rectum 06-10

Questions

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