

Gastroenterology: Colorectal Cancer Risk – Rectal bleeding, or Positive Screening Test Order Set

Order Set: Conceptual Structure

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**Knowledge Based Systems (KBS)
Office of Informatics and Information Governance (OIIG)
Clinical Decision Support (CDS)**

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Gastroenterology: Colorectal Cancer Risk – Rectal bleeding, or Positive Screening Test Order Set: Order Set: Conceptual Structure

by Knowledge Based Systems (KBS), Office of Informatics and Information Governance (OIIG), and Clinical Decision Support (CDS)

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This and related content produced by Cognitive Medical Systems, Inc. licensed under the Apache License, Version 2.0 is available at: <https://bitbucket.org/cogmedsys/hl7-kas-examples>

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Preface

Table 1. Revision History

Date	Life Cycle Event
June 18, 2018	Published
May 18, 2018	Published
May 15, 2018	Reviewed
April 24, 2018	Created
April 24, 2018	Pre-published

Table 2. Clinical White Paper Contributors

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Table 3. Artifact Identifier

Domain	Artifact ID	Name
urn:va.gov:kbs:knart:artifact:r1	3789e116-ddf0-5a8e-9c98-265fba0b4f44	B24

Artifact Applicability

Table 4. Applicability Foci, Description and Codes

Focus	Description	Code System	Code	Value Set	Value Set Version
TargetUser	Primary Care Provider	SNOMED CT	453231000124104 Primary care provider (occupation)	N/A	N/A
PatientAgeGroup	Adult	SNOMED CT	133936004 Adult (person)	N/A	N/A
ClinicalFocus	Routine unless otherwise identified	SNOMED CT	50811001 Routine (qualifier value)	N/A	N/A
WorkflowSetting	Primary Care	SNOMED CT	5351000124100 Primary care clinic (environment)	N/A	N/A
ClinicalVenue	Outpatient	SNOMED CT	33022008 Hospital-based outpatient department (environment)	N/A	N/A
WorkflowTask	Colorectal Cancer Screening, Diagnostic Evaluation, or Surveillance			N/A	N/A

Models

Table 5. Model References

Referenced Model	Description
urn:solor.io:anf-model:1.0	VA Analysis Normal Form Model

Chapter 1. External Data Definitions

No externalData expression definitions and no trigger definitions are present.

Chapter 2. Expression Definitions

No expression definitions are present.

Chapter 3. Consults and Referrals

Referral Gastroenterology evaluate for colonoscopy (routine)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

statementType: Precoordinated Expression 385644000 |Requested (qualifier value)|

topic: Precoordinated Expression 183523005 |Referral to gastroenterology service (procedure)|

purpose[0]: Postcoordinated Expression [386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[73761001 |Colonoscopy (procedure)]

priority: Precoordinated Expression 50811001 |Routine (qualifier value)|

Chapter 4. Patient and Caregiver Education

Diagnostic Colonoscopy education (routine)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

statementType: Precoordinated Expression 385644000 |Requested (qualifier value)|

topic: Precoordinated Expression d34b8103-26df-49b8-92aa-cb5f592e9517 |Education about diagnostic colonoscopy (procedure)

priority: Precoordinated Expression 50811001 |Routine (qualifier value)|

Bowel prep for colonoscopy education (routine)

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

statementType: Precoordinated Expression 385644000 |Requested (qualifier value)|

topic: Precoordinated Expression f165e620-5c1d-4289-b327-d41b4cf3eaac |Education about bowel prep for colonoscopy (procedure)

priority: Precoordinated Expression 50811001 |Routine (qualifier value)|

Chapter 5. Tabular List

Terminology Service Request (TSR) Mappings

Table 5.1. Terminology Versions

Name	Identifier	Version
SNOMED CT	2.16.840.1.113883.6.96	United States Edition 20180301

Table 5.2. Terminology References

System	Code	Display Text ^a	References ^b
SNOMED CT	133936004 Adult (person)	Adult	1
SNOMED CT	183523005 Referral to gastroenterology service (procedure)	Precoordinated Expression	1
SNOMED CT	33022008 Hospital-based outpatient department (environment)	Outpatient	1
SNOMED CT	385644000 Requested (qualifier value)	Precoordinated Expression	3
SNOMED CT	453231000124104 Primary care provider (occupation)	Primary Care Provider	1
SNOMED CT	50811001 Routine (qualifier value)	Precoordinated Expression	4
SNOMED CT	5351000124100 Primary care clinic (environment)	Primary Care	1
SNOMED CT	[386053000 Evaluation procedure (procedure)] ->(363702006 Has focus (attribute))->[73761001 Colonoscopy (procedure)]	Postcoordinated Expression	1
SNOMED CT	d34b8103-26df-49b8-92aa-cb5f592e9517 Education about diagnostic colonoscopy (procedure)	Precoordinated Expression	1
SNOMED CT	f165e620-5c1d-4289-b327-d41b4cf3eaac Education about bowel prep for colonoscopy (procedure)	Precoordinated Expression	1

^aIf a code is used multiple times in the KNART, only the display text of the first instance is shown.

^bCount of the number of times the given code system and code pair is used in the KNART.

Chapter 6. Behavior Symbols

Table 6.1. Group Organizational Behavior

Symbol	Name	Definition
#	Sentence Group	A group of related alternative actions is a sentence group if the item referenced by the action is the same in all the actions, and each action simply constitutes a different variation on how to specify the details for that item. For example, two actions that could be in a SentenceGroup are "aspirin, 500 mg, 2 times per day" and "aspirin, 300 mg, 3 times per day". In both cases, aspirin is the item referenced by the action, and the two actions represent two different options for how aspirin might be ordered for the patient. Note that a SentenceGroup would almost always have an associated selection behavior of "AtMostOne", unless it's a required action, in which case, it would be "ExactlyOne".
#	Logical Group	A group with this behavior logically groups its sub-elements, and may be shown as a visual group to the end user, but it is not required to do so.
➤	Visual Group	Any group marked with this behavior should be displayed as a visual group to the end user.

Table 6.2. Group Selection Behavior

Symbol	Name	Definition
#	Any	Any number of the items in the group may be chosen, from zero to all.
#	All	All the items in the group must be selected as a single unit.
#	AllOrNone	All the items in the group are meant to be chosen as a single unit: either all must be selected by the end user, or none may be selected.
#	ExactlyOne	The end user must choose one and only one of the selectable items in the group. The user may not choose none of the items in the group.
⬠	AtMostOne	The end user may choose zero or at most one of the items in the group.
✱	OneOrMore	The end user must choose a minimum of one, and as many additional as desired.

Table 6.3. Required Behavior

Symbol	Name	Definition
◆	Must	An action with this behavior must be included in the actions processed by the end user; the end user may not choose not to include this action.
◇	Could	An action with this behavior may be included in the set of actions processed by the end user.

Symbol	Name	Definition
➤	MustUnlessDocumented	An action with this behavior must be included in the set of actions processed by the end user, unless the end user provides documentation as to why the action was not included.

Table 6.4. Precheck Behavior

Symbol	Name	Definition
▲	Yes	An action with this behavior is one of the most frequent actions that is, or should be, included by an end user, for the particular context in which the action occurs. The system displaying the action to the end user should consider "pre-checking" such an action as a convenience for the user.
#	No	An action with this behavior is one of the less frequent actions included by the end user, for the particular context in which the action occurs. The system displaying the actions to the end user would typically not "pre-check" such an action.

Table 6.5. Cardinality Behavior

Symbol	Name	Definition
◆	Single	An action with this behavior may only be completed once.
❖	Multiple	An action with this behavior may be repeated multiple times.

Table 6.6. Item Flags

Symbol	Name	Definition
☞	fillIn	This item, in a list entry, allows the user to enter a fill in value that is not present in the set of presented choices.

Table 6.7. Read Only Behavior

Symbol	Name	Definition
#	true	For a particular action or action group, specifies whether the elements are read only.

Appendix A. References

This appendix contains the list of related resources and supporting documents used in creating this KNART.

List of References

Related Resources

[CCWP] *Gastroenterology: Colorectal Cancer Risk Clinical Content White Paper*

[CSD] *Gastroenterology: Colorectal Cancer Risk – Rectal bleeding, or Positive Screening Test Order Set Conceptual Structure Document*

[KVRpt] *Gastroenterology: Colorectal Cancer Risk – Rectal bleeding, or Positive Screening Test Order Set KNART Validation Report*

Supporting Evidence

[Giardiello 2014] Giardiello FM, Allen JJ, Axilbund JE, et al. Guidelines on genetic evaluation and management of Lynch syndrome: a consensus statement by the US Multi-Society Task Force on colorectal cancer. *Am J Gastroenterol*. 2014 Aug;109(8):1159-79. (link [<https://doi.org/10.1038/ajg.2014.186>])

[Johnson 2014] Johnson DA, Barkun AN, Cohen LB, et al; US Multi-Society Task Force on Colorectal Cancer. Optimizing adequacy of bowel cleansing for colonoscopy: recommendations from the US multi-society task force on colorectal cancer. *Gastroenterology*. 2014;147(4):903-924. (link [<https://doi.org/10.1053/j.gastro.2014.07.002>])

[Levin 2008] Levin B, Lieberman DA, McFarland B, et al; American Cancer Society Colorectal Cancer Advisory Group; US Multi-Society Task Force; American College of Radiology Colon Cancer Committee. Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from the American Cancer Society, the US Multi-Society Task Force on Colorectal Cancer, and the American College of Radiology. *CA Cancer J Clin*. 2008;58(3):130-160. (link [<https://doi.org/10.3322/CA.2007.0018>])

[Lieberman 2012] Lieberman DA, Rex DK, Winawer SJ, Giardiello FM, Johnson DA, Levin TR. Guidelines for colonoscopy surveillance after screening and polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer. *Gastroenterology*. 2012;143(3):844-857. (link [<https://doi.org/10.1053/j.gastro.2012.06.001>])

[NCHPCP 2017a] National Center for Health Promotion and Disease Prevention. Get Recommended Screening Tests and Immunizations for Men. National Center for Health Promotion and Disease Prevention website. https://www.prevention.va.gov/Healthy_Living/Get_Recommended_Screening_Tests_and_Immunizations_for_Men.asp. Accessed August 25, 2017. (link [https://www.prevention.va.gov/Healthy_Living/Get_Recommended_Screening_Tests_and_Immunizations_for_Men.asp])

[NCHPDP 2017b] National Center for Health Promotion and Disease Prevention. Get Recommended Screening Tests and Immunizations for Women. National Center for Health Promotion and Disease Prevention website. https://www.prevention.va.gov/Healthy_Living/Get_Recommended_Screening_Tests_and_Immunizations_for_Women.asp. Accessed August 25,

2017. (link [https://www.prevention.va.gov/Healthy_Living/Get_Recommended_Screening_Tests_and_Immunizations_for_Women.asp])
- [Rex 2017] Rex DK, Boland CR, Dominitz JA, et al. Colorectal cancer screening: recommendations for physicians and patients from the U.S. Multi-Society Task Force on Colorectal Cancer. *Gastroenterology*. 2017;153(1):307-323. (link [https://doi.org/10.1053/j.gastro.2017.05.013])
- [Shaukat 2013] Shaukat A, Mongin SJ, Geisser MS, et al. Long-term mortality after screening for colorectal cancer. *N Engl J Med*. 2013;369(12):1106-1114. (link [https://doi.org/10.1056/NEJMoa1300720])
- [VA 2017] U.S. Department of Veterans Affairs. Colorectal cancer screening/surveillance (CRCS/S): reminder system. CRCS-S CR F2F 20171018 KGALPIN.pptx. PowerPoint (Jason Dominitz, MD, email communication, November 2, 2017). (link [Email Communication])
- [USPSTF 2016] U.S. Preventive Services Task Force. Final Recommendation Statement: Colorectal Cancer: Screening. U.S. Preventive Services Task Force website. <https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/colorectal-cancer-screening2>. Reviewed June 2016. (link [https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/colorectal-cancer-screening2])