# **Pediatric Manual**

## **Appendix 1: Pediatric Data Collection System**

Effective with Cases diagnosed 1/1/2024 and Forward

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Version 1.2

Editors: Jennifer Ruhl, MSHCA, RHIT, CCS, CTR, NCI SEER Angela Costantini, CTR, Cincinnati Children's Hospital Nicola Schussler, IMS Sumit Gupta, PhD A. Lindsay Frazier, MD Joanne Aitken, PhD, Australian Childhood Cancer Registry Danny Youlden, Australian Childhood Cancer Registry The North American Association of Central Cancer Registries (NAACCR) gratefully acknowledges the dedicated work of the 2022-2023 NAACCR *Pediatric Site-Specific Data Item (SSDI)* Work Group.

Jennifer Ruhl, MSHCA, RHIT, CCS, CTR (NCI SEER) (co-chair) Angela Costantini, BA, CTR (Cincinnati Children's Hospital) (co-chair) Melissa Alvarado, MPH, CTR (NPCR) Mary Brant, BS, CTR (California Cancer Registry) Joyce Chin, CTR (Dana-Farber Cancer Institute) Roger Chui, (Kentucky Cancer Registry) Tracy Deck, MSN, MBA, RN-BC, CTR (Johns Hopkins All Children's Hospital) Gonçalo Forjaz, DVM, MSc, CTR (Westat) Sheila Fukumura, CTR (Manitoba Cancer Registry) Daisy Gray, CTR (Kentucky Cancer Registry) Catherine Gunn, CTR (Legacy Cancer Institute and Legacy Randall's Children's Hospital) Jim Hofferkamp, BA, CTR (NAACCR) Michele Hoskins, BA, CTR (Kentucky Cancer Registry) Suzanne Humphrey, BS, CTR (UCHealth - University of Colorado Hospital) Kristy Hurst, RHIT, CTR (Children's Mercy Hospital) Anita Jones Deanna Lamb, BA, CTR (Pediatric registrar) Fernanda Silva Michels, MSc, PhD, CTR (NAACCR) Richard Moldwin, M.D., Ph.D (College of American Pathologists) Loria Pollack, MD, MPH (Centers for Disease Control and Prevention, NPCR Georgette M. Santilli, BS, CTR (Dana-Farber Cancer Institute, Boston) Ingrid Stendhal, BAS CTR (Dana-Farber Cancer Institute) Cindi Vandendaele, RHIT, CTR (Children's Mercy Hospital)

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- Suzanne Adams, BS, CTR (IMS)
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- Carmela Groves, CTR (Westat)
- Chuck May, BS (IMS)
- Nicola Schussler, BS (IMS)

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### **Pediatric Data Collection System**

The Pediatric Data Collection System (DCS) has been developed to collect Pediatric staging and site-specific data item (SSDI) information. The staging elements collected are based on the *Toronto Childhood Cancer Staging Guidelines, Version 2, along* with additional data items for surveillance purposes. The pediatric data collection system also allows for expansion to develop further staging information that is not covered in the Toronto Guidelines.

This new data collection system is patterned after SEER's Extent of Disease data collection system, which has been in use since the 1970's and had a major update in 2018, and the SSDI manual, which was developed in 2018. This data collection system will allow the following:

- Permitting staging of the most comprehensive set of patients
- Reporting and monitoring trends in cancer incidence and outcomes
- Supporting and promoting research for pediatric cancers
- Enabling and ensuring ongoing continuity of staging trends over time reflecting the combination of clinical and pathologic information

The Pediatric DCS applies to ages 00-39 (for some histologies all ages) and specific primary site/histology combinations (see <u>1132: Pediatric ID</u> for a complete listing). This covers Pediatric and Adolescence/Young Adult (AYA) patients. Additional primary site/histology combinations may be added in the future.

The Pediatric DCS uses all information available in the medical record; in other words, it is a combination of the most precise clinical and pathological documentation of the extent of disease.

There are 4 main data items in the Pediatric DCS, each of which is discussed in detail.

- 1. Pediatric Primary Tumor
- 2. Pediatric Regional Nodes
- 3. Pediatric Mets
- 4. Applicable SSDIs (Schema-dependent)

This manual is effective for all cases diagnosed 1/1/2024 and after.

Send questions, suggestions, and corrections to:

<u>Ask a SEER Registrar</u> Choose subject: Pediatric

### Introduction to the Toronto Childhood Cancer Staging System

Staging for specific pediatric cases will be implemented in the US for the first time in 2024, based on the *Toronto Childhood Cancer Staging Guidelines, Version 2*. Below is a brief introduction of what are the Toronto Childhood Cancer Staging Guidelines are and how they are used.

"A consensus meeting was convened in 2014 by the Union for International Cancer Control (UICC), the Dana-Farber Cancer Institute and the Hospital for Sick Children, Toronto to address the lack of consistent information on childhood cancer stage in population registries.<sup>1</sup> For each of a subset of the major childhood cancer diagnostic groups/subgroups, the meeting reviewed all disease-specific cancer staging systems currently in use and recommended the one most suitable for use by population-based cancer registries. The recommended staging systems are listed as the Toronto Paediatric Cancer Stage Guidelines.

The Guidelines recommended disease-specific staging systems for Acute Lymphoblastic Leukemia, Hodgkin lymphoma, Non-Hodgkin lymphoma, Ependymomas, Astrocytoma, Medulloblastoma, Neuroblastoma, Retinoblastoma, Renal Tumors, Hepatoblastoma, Malignant Bone Tumors, Rhabdomyosarcoma, Non-Rhabdomyosarcoma soft tissue sarcomas, Germ Cell Tumors (Ovary and Testicular).

The Guidelines were successfully tested in practice for their feasibility and validity.<sup>3</sup> They are endorsed by the UICC TNM Prognostic Factors project, the European Network of Cancer Registries (ENCR), the Group for Cancer Epidemiology and Registration in Latin Language Countries (GRELL) and the African Network of Cancer Registries (ANCR) and published in the UICC TNM Classification of Malignant Tumours 8th Edition." <sup>1, 2, 3</sup>

- Aitken JF, Youlden D, O'Neill L, Gupta S, Frazier AL, eds. Childhood cancer staging for population registries according to the Toronto Childhood Cancer Stage Guidelines – Version 2. Cancer Council Queensland and Cancer Australia: Brisbane, Australia; 2021.
- Gupta S, Aitken JF, Bartels U, Brierley J, Dolendo M, Friedrich P, Fuentes-Alabi S, Garrido CP, Gatta G, Gospodarowicz M, Gross T, Howard SC, et al. Paediatric cancer stage in population-based cancer registries: the Toronto consensus principles and guidelines. *The Lancet Oncology* 2016;**17**: e163-72.
- Gupta S, Aitken J, Bartels U, Bhakta N, Bucurenci M, Brierley JD, De Camargo B, Chokunonga E, Clymer J, Coza D, Fraser C, Fuentes-Alabi S, et al. Development of paediatric non-stage prognosticator guidelines for populationbased cancer registries and updates to the 2014 Toronto Paediatric Cancer Stage Guidelines. Lancet Oncol 2020;21: e444-e51.

The Toronto Childhood Cancer Stage Guidelines can be found at <u>http://www.iacr.com.fr/8index.php?option=com\_content&view=article&id=153&Itemid=657</u>.

In 2020, the US National Cancer Institute (NCI) launched the Childhood Cancer Data Initiative (CCDI). A key component of this initiative is the development and maintenance of the National Childhood Cancer Registry (NCCR), a public health surveillance data resource whose primary goal is to gather data from every child, adolescent, and young adult diagnosed with a childhood cancer ultimately to better understand the causes, outcomes, effective treatments, and later effects of cancer among children, adolescents, and young adults in the US. Part of the NCCR project included adopting the Toronto Staging Guidelines and implementing new data items to get the Toronto Stage and other relevant clinical factors. Data collected will be comparable with international data and provide information to assess the burden of pediatric cancers worldwide.

### **General Coding Instructions for Pediatric Data Items**

The Pediatric Data Collection System has three data items: Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets. This data collection system is new for the cancer registry field in the US and Canada and applies to individuals mostly between the ages of 00-39 and is applicable for select primary site/histology combinations for 2024.

• Every combination of primary site and histology will be accounted for in a Pediatric Schema. Those primary site/histology combinations not defined by the *Toronto Childhood Cancer Staging Guidelines, Version 2*, will be grouped into an "other" schema, which will not require any additional input from the registrar.

### Do not use this system for any cases diagnosed prior to 1/1/2024.

Note: ALWAYS check site-specific Pediatric 2024 schemas for exceptions and/or additional information.

#### **General Guidelines**

- 1. Pediatric schemas apply to ages 00-39 and specific primary site/histology combinations. Many of the pediatric schemas are based primarily on histology.
  - a. There are some histologies that will apply to all ages (e.g., Neuroblastoma, Retinoblastoma).
  - b. The software will determine which cases will go into a specific Pediatric Schema.
- 2. For ALL sites, the Pediatric DCS is based on a combined clinical and operative/pathological assessment. Gross observations at surgery are particularly important when all malignant tissue cannot be or was not removed.
  - a. In the event of a discrepancy between pathology and operative reports concerning excised tissue, priority is given to the pathology report.
- 3. Pediatric DCS should include all information available within **four months of diagnosis** in the absence of disease progression or upon completion **of surgery(ies)** in the first course of treatment, whichever is longer.
- 4. Information for Pediatric DCS from a surgical resection **after neoadjuvant treatment may be used**, but **ONLY** if the extent of disease is greater than the pre-treatment clinical findings.
  - a. Exception: For the schemas where Pediatric Primary tumor is based on surgical resection only, findings from a surgical resection post-neoadjuvant therapy can be used.
- 5. Disease progression, including metastatic involvement, known to have developed after the initial stage workup, should be excluded when coding the Pediatric fields.
- 6. Autopsy reports are used in coding Pediatric just as are pathology reports, applying the same rules for inclusion and exclusion.
- 7. Death Certificate only (DCO) cases
  - a. Code the following for DCO's. If a data item has a default value (888 or 88), then code the default value
    - i) Pediatric Primary Tumor: 999 (unless default is 888)
    - ii) Pediatric Regional Nodes: 999 (unless default is 888)
    - iii) Pediatric Mets: 99 (unless default is 88)
- 8. Pediatric Schema-specific guidelines take precedence over general guidelines. Always read the information pertaining to a specific primary site or histology schema.

### **Ambiguous Terminology**

Most of the time, registrars will find definitive statements of extension/involvement; however, for those situations where extension/involvement is described with non-definitive (ambiguous) terminology, use the guidelines below to interpret and determine the appropriate assignment of Pediatric Primary Tumor, Pediatric Regional Nodes or Pediatric Mets.

Determination of the cancer stage is both a subjective and objective assessment by the physician(s) of how far the cancer has spread. When it is not possible to determine the extent of involvement because terminology is ambiguous, look at the documentation that the physician used to make informed decisions on how the patient is being treated. For example, assign the Pediatric fields based on extension/involvement when the patient was treated as though adjacent organs or nodes were involved.

Use the following lists to interpret the intent of the clinician ONLY when further documentation is not available and/or there is no specific statement of extension/involvement in the medical record. The clinician's definitions/descriptions and choice of therapy have priority over these lists because individual clinicians may use these terms differently.

**Note 1:** Terminology in the schema takes priority over this list. Some schemas interpret certain words as involvement, such as 'encasing' the carotid artery for a head and neck site or "abutment," "encases," or "encasement" for pancreas primaries.

Note 2: Use this list only for EOD 2018, Summary Stage 2018, or the Pediatric Data Collection System

*Note 3:* This is not the same list used for determining reportability as published in the SEER manual, Hematopoietic Manual or in Section 1 of the Standards for Oncology Registry Entry (STORE). This is not the same list of ambiguous terminology provided in the Solid Tumors Rules published and maintained by the SEER Program

### Use the following lists as a guide when no other information is available

Involved

Adherent	Incipient Invasion
Apparent(ly)	Induration
Appears to	Infringe/infringing
Comparable with	Into*
Compatible with	Intrude
Consistent with	Most likely
Contiguous/continuous with Encroaching upon*	Onto*
Extension to, into, onto, out onto	Overstep
Features of	Presumed
Fixation to a structure other than primary**	Probable
Fixed to another structure**	Protruding into (unless encapsulated)
Impending perforation of	Suspected
Impinging upon	Suspicious
Impose/imposing on	To*
	Up to

### Not involved

Abuts	Extension to without invasion/involvement of
Approaching	Kiss/kissing
Approximates	Matted (except for lymph nodes)
Attached	Possible
Cannot be excluded/ruled out	Questionable
Efface/effacing/effacement	Reaching
Encased/encasing	Rule out
Encompass(ed)	Suggests
Entrapped	Very close to
Equivocal	Worrisome

\* Interpret as involvement whether the description is clinical or operative/pathologic

\*\* Interpret as involvement of the other organ or tissue

## Pediatric Data Items

### 1132: Pediatric ID

Item Length: 5 NAACCR Item #: 1132 XML NAACCR ID: pediatricId NAACCR Alternate Name: None Active years: 2024+

### **Description**

The derived values in this data item link Site-Specific Data Items with the appropriate site/histology grouping and account for the combination of primary site and histologies that are being collected for Pediatric Cancers starting in 2024. The values for this data item are derived based on primary site and histology and are initially based on the Toronto Childhood Cancer Stage Guidelines. The derived values link Site-Specific Data Items with the appropriate site/histology grouping.

• For example, the Pediatric ID for a Neuroblastoma is 4a. This value links the Staging and Site-Specific Data Items associated with Neuroblastoma: 1185: Intl Neuroblastoma Risk Grp Stag Sys (INRGSS), 1186: n-MYC Amplification, and 1187: Intl Neuroblastoma Path Prog Class (INPC)

### **Rationale**

The purpose of the Pediatric ID is to link the appropriate Site-Specific Data Items and Pediatric Stage Data Items (Pediatric Primary Tumor, Pediatric Regional Nodes, Pediatric Mets) with the patient's primary site/histology. Each Site-Specific Data Item (SSDI) and definitions for the Pediatric Stage Data Items apply only to selected primary sites, histologies, and years of diagnosis.

### **Definition**

Beginning on January 1, 2024, registries will start collecting SSDIs that are for Pediatric Cancer patients only. The Pediatric IDs are based on the *Toronto Childhood Cancer Staging Guidelines, Version 2*.

### Pediatric ID Table

Pediatric ID/Name	Criteria	SSDIs
1a1: Acute Lymphoblastic	9811/3-9819/3 ,9837/3; <i>C000-C809</i>	1184: White Blood Cell Count
Leukemia (ALL)		
2a: Hodgkin Lymphoma	9650/3-9653/3, 9655/3, 9659/3, 9663/3:	3812: B Symptoms
	C000-C809	
2b2: NHL: Mature B-cell	9731/3, 9732/3, 9734/3: C000-C809	
neoplasms	9671/3, 9673/3, 9678/3-9680/3, 9688/3-	
	9691/3, 9695/3, 9698/3, 9699/3, 9735/3,	
	9737/3-9738/3, 9761/3-9762/3, 9765/3-	
	9766/3, 9769/3, 9823/3, 9970/3; <i>C000-</i>	
	C424, C470-C809	
2b3: NHL: Mature T-cell	9702/3, 9705/3, 9714/3-9717/3, 9724/3,	
and NK-cell neoplasms	9767/3-9768/3, 9827/3: C000-C424, C470-	
	C809	

Pediatric ID/Name	Criteria	SSDIs
2b4: NHL: NOS	9591/3: (includes all Schema	
	Discriminators): C000-C424, C470-C809	
2c: NHL: Burkitt	9687/3; C000-C424, C470-C809	
lymphoma		
3a: Ependymoma	9383, 9391-9394, 9396: <i>C710-C729 (All</i>	
	ages)	
3b: Astrocytomas	9380, 9384, 9400-9411, 9420-9424, 9440- 9442, 9445: <i>C700-C729</i>	3940: BRAF Mutational Analysis
3c1: Medulloblastoma	9470-9472, 9474-9478, 9480: <i>C700-C729</i> (All ages)	
3c2: Medulloblastoma: pNET	9473: C700-C729 (All ages)	
3c3: Medulloblastoma: Medulloepithelioma	9501-9504: C700-C729 (All ages)	
3c4: Medulloblastoma: Atypical teratoid/rhabdoid tumors	9508: C700-C729 (All ages)	
3e3: Medulloblastoma: Pineoblastoma	9362: C700-C729, C753 (All ages)	
4a: Neuroblastoma	9490/3, 9500/3: <i>C000-C809</i>	1185: Intl Neuroblastoma Risk
		Grp Stag Sys (INRGSS)
	All ages	1186: n-MYC Amplification
		1187: Intl Neuroblastoma Path
		Prog Class (INPC)
5: Retinoblastoma	9510/3-9514/3: C690-C699 (All ages)	1188: IRSS Stage for Eye-2
6a1: Renal Tumors:	8959/3, 8960/3: <i>C649, C659 (All ages)</i>	3801: Chromosome 1p: Loss of
Nephroblastoma		<u>Heterozygosity</u>
		1189: Chromosome 16q: Loss of
		<u>Heterozygosity</u>
		1190: Chromosome 1q Status
6a2: Renal Tumors:	8963/3: <i>C649 (All ages)</i>	3801: Chromosome 1p: Loss of
Rhabdoid Renal Tumor		Heterozygosity
		1189: Chromosome 16q: Loss of
		Heterozygosity
		1190: Chromosome 1q Status
6a3: Renal Tumors:	8964/3-8967/3: <i>C649, C659</i>	3801: Chromosome 1p: Loss of
Kidney Sarcomas		<u>Heterozygosity</u>
		1189: Chromosome 16q: Loss of
		<u>Heterozygosity</u>
		1190: Chromosome 1q Status
6a4: Renal Tumors:	9364/3: <i>C649 (All ages)</i>	3801: Chromosome 1p: Loss of
Ewing Sarcoma of Kidney		<u>Heterozygosity</u>
		1189: Chromosome 16q: Loss of
		<u>Heterozygosity</u>
		1190: Chromosome 1q Status
		1191: EWSR1-FLI1 fusion

Pediatric ID/Name	Criteria	SSDIs
6c: Renal Tumors:	8000/3-8005/3: <i>C649</i>	3801: Chromosome 1p: Loss of
Unspecified Malignant		<u>Heterozygosity</u>
Renal Tumors		1189: Chromosome 16q: Loss of
		Heterozygosity
		1190: Chromosome 1q Status
7a: Hepatoblastoma	8970/3: C220 (All ages)	1192: Pretext Clinical Staging
8a: Malignant Bone	9180/3-9187/3, 9191/3-9195/3, 9200/3:	
Tumors:	C400-C419, C760-C768, C809	
Osteosarcoma		
8b: Malignant Bone	9210/3, 9220/3-9221/3, 9230/3, 9240/3-	
Tumors: Chondrosarcoma	9243/3: C400-C419, C760-C768, C809	
8c: Malignant Bone	9260/3: C400-C419, C760-C768, C809	1191: EWSR1-FLI1 fusion
Tumors: Ewing	9363/3-9365/3: C400-C419	
8d: Malignant Bone	8810/3-8812/3, 8823/3, 8830/3, 9250/3,	
Tumors: Other specified	9261/3-9262/3, 9270/3-9275/3, 9280/3-	
·	9282/3, 9290/3, 9300/3-9302/3, 9310/3-	
	9312/3, 9320/3-9322/3, 9330/3, 9340/3-	
	9342/3, 9370/3-9372/3: C400-C419	
8e: Malignant Bone	8000/3-8005/3, 8800/3, 8801/3, 8803/3-	
Tumors: Unspecified	8805/3: <i>C400-C419</i>	
9a: Rhabdomyosarcoma	8900/3-8905/3, 8920/3, 8991/3: <i>C000-</i>	1193-FOXO1 Gene
	C809	Rearrangements
	8910/3, 8912/3: C000-C809 (All ages)	
9b: Non-Rhabdo-	8810/3, 8811/3, 8813/3-8815/3, 8821/3,	
myosarcoma:	8823/3, 8834/3-8835/3: <i>C000-C399, C440-</i>	
Fibrosarcomas	C768, C809	
	8820/3, 8822/3, 8824/3-8827/3, 9150/3,	
	9160/3, 9491/3, 9540/3-9571/3, 9580/3:	
	<i>C000-C809</i>	
9d: Non-Rhabdo-	8587/3, 8710/3-8713/3, 8806/3, 8831/3-	
myosarcoma:	8833/3, 8836/3, 8840/3-8842/3, 8850/3-	
Other specified	8858/3, 8860–8862, 8870, 8880, 8881,	
	8890-8898, 8921, 8982, 8990, 9040-9044,	
	9120–9125, 9130–9133, 9135, 9136, 9141,	
	9142, 9161, 9170–9175, 9231, 9251, 9252,	
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	8830/3: <i>C000-C399, C440-C768, C809</i>	
	8963/3: <i>C000-C639, C659-C699, C739-C768,</i>	
	C809	
	9180/3, 9210/3, 9220/3, 9240/3: <i>C490</i> -	
	C499	
	9260/3: <i>C000-C399, C470-C759</i>	
	9364/3: <i>C000-C399, C470-C639, C659-C699,</i>	
	C739-C768, C809	
	9365/3: <i>C000-C399, C470-C639, C659-C768,</i>	
	C809	

Pediatric ID/Name	Criteria	SSDIs
9e: Non-	8800/3-8805/3: <i>C000-C399, C440-C768</i>	
Rhabdomyosarcoma:		
Unspecified		
10c1: Testicular	9060/3-9065/3, 9070/3-9073/3, 9080/3-	3923: S Category Clinical
	9085/3, 9090/3-9091/3, 9100/3-9101/3:	3924: S Category Pathological
	C620-C629	
10c2: Ovarian	9060/3-9065/3, 9070/3-9073/3, 9080/3-	
	9085/3, 9090/3-9091/3, 9100/3-9101/3:	
	C569	
99999: Adult/non-	Remaining primary site/histology	
pediatric	combinations	

### **1133: Pediatric ID Version Current**

Item Length: 5 NAACCR Item #: 1133 XML NAACCR ID: pediatricIdVersionCurrent NAACCR Alternate Name: None Active years: 2024+

### Description

This item indicates the version of Pediatric component of the SEER Staging API used to assign the 2024 and later pediatric staging fields of Pediatric ID and Pediatric input fields. This data item is recorded the first time the Pediatric ID is determined and should be updated each time the related input fields are modified.

### Rationale

Over time, the definitions for the Pediatric ID and the input codes and instructions for other related Pediatric data items may change. This item identifies the correct interpretation of information recorded.

### Codes

Code	Description
0.3	BETA: 10/17/2022 – Kentucky Cancer Registry Only
0.4	BETA: 11/2/2022 – Kentucky Cancer Registry Only
0.5	BETA: 5/5/2023 – Kentucky Cancer Registry Only
1.0	10/16/2023 release

### Codes

Pediatric ID Version Current is a code with up to 2 digits, a decimal and then up to 2 more digits. (e.g., 1.5, 10.12). The first two digits represent the major version number; the second two digits represent minor version changes. The minimum allowable value would be "0.3". The maximum allowable value would be "99.99". Blanks would not be allowed.

This data item will be generated by registry software. No coding instructions are required.

### **1134: Pediatric ID Version Original**

Item Length: 5 NAACCR Item #: 1134 XML NAACCR ID:\_pediatricIdVersionOriginal NAACCR Alternate Name: None Active years: 2024+

### Description

This item indicates the version of Pediatric component of the SEER Staging API used to assign the 2024 and later pediatric staging fields of Pediatric ID and Pediatric input fields. This data item is recorded the first time the Pediatric ID is determined. This data item should not be updated each time the related input fields are modified.

#### Rationale

Over time, the definitions for the Pediatric ID and the input codes and instructions for other related Pediatric data items may change. This item identifies the correct interpretation of information recorded.

#### Codes

Code	Description
0.3	BETA: 10/17/2022 – Kentucky Cancer Registry Only
0.4	BETA: 11/2/2022 – Kentucky Cancer Registry Only
0.5	BETA: 5/5/2023 – Kentucky Cancer Registry Only
1.0	10/16/2023 release

Pediatric ID Version Current is a code with up to 5 digits, a decimal and then up to 2 more digits. (e.g., 1.5, 10.12). The first two digits represent the major version number related to diagnosis year; the second two digits represent minor version changes with the diagnosis years. The minimum allowable value would be "0.5". The maximum allowable value would be "99.99". Blanks would not be allowed.

This data item will be generated by registry software. No coding instructions are required.

### **1135: Toronto Version Number**

Item Length: 1 NAACCR Item #: 1135 XML NAACCR ID: torontoVersionNumber NAACCR Alternate Name: None Active years: 2024+

### Description

This item indicates the Toronto Staging Version number that the Pediatric staging is based on. This data item is recorded based on when the case is abstracted.

### Rationale

The Pediatric Staging API is based on the Toronto Staging System, so named because the definitions were first discussed at a meeting held in Toronto. Over time, the definitions will be revised, and the Pediatric staging API will be updated accordingly. This value captures the Toronto version which the current Pediatric Staging API is based on.

### Codes

Code	Description
1	First version of Toronto Staging (Pediatric Staging versions 0.3-0.5)
2	Second version of Toronto Staging (Pediatric Staging version 1.0 and later)

This data item will be generated by registry software. No coding instructions are required.

### **1136: Pediatric Primary Tumor**

Item Length: 3 NAACCR Item #: 1136 XML Parent-NAACCR ID: pediatricPrimaryTumor Active years: 2024+

### Description

Pediatric Primary Tumor is part of the Pediatric Staging data collection system and is used to classify contiguous growth (extension) of the primary tumor within the organ of origin or its direct extension into neighboring organs. See also Pediatric Regional Nodes [NAACCR Data item #1137], and Pediatric Mets [NAACCR Data item #1138]. Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Pediatric Primary Tumor is used to calculate Derived Pediatric T (when applicable) **[NAACCR Data item #1142].** Derivation will occur at the level of the central registry.

Code	Description	
000	In situ, intraepithelial, noninvasive, non-infiltrating	
	SCHEMA-SPECIFIC CODES WHERE NEEDED	
800	No evidence of primary tumor	
888	Not applicable	
999	Unknown; extension not stated	
	Primary tumor cannot be assessed	
	Not documented in patient record	
	Death Certificate Only	

See the most current version of <u>SEER\*RSA</u> (Pediatric tab) for rules and site-specific codes and coding structures.

### **Coding Instructions**

- 1. Assign the farthest documented contiguous involvement of the primary tumor. Code the farthest documented contiguous direct extension/involvement of tumor away from the primary site. If an involved organ or tissue is not specifically mentioned in the code descriptions, approximate the location from listed structures in the same anatomic area and assign the appropriate code based on that information. Pediatric Primary Tumor codes are hierarchical except for code 800.
- 2. **Pathological codes**. Some schemas have Pediatric extension/involvement codes that can only be used when there is a surgical resection.
- 3. Pathological findings take priority over clinical findings.
  - a. Assign the highest code representing the greatest extension/involvement pathologically (based on pathology report), when available
  - b. If there is no applicable pathology, assign the highest code representing the greatest extension/involvement clinically. Imaging takes precedence over physical examination
  - c. If extension/involvement is positive based on imaging and/or physical exam, but is confirmed to be negative on pathological exam, then code Pediatric Primary Tumor based on the pathological findings

- 4. **Neoadjuvant (preoperative) therapy**: If the patient receives neoadjuvant (preoperative) systemic therapy (chemotherapy, immunotherapy) or radiation therapy, code the clinical information if that is the farthest extension/involvement documented. If the post-neoadjuvant surgery shows more extensive disease, code the extension/involvement based on the post-neoadjuvant information. If the clinical and pathological information are the same, code the extension/involvement based on the clinical on the clinical information.
- 5. When multiple tumors are reported as a single primary, code the furthest direct extension/involvement from any tumor.
- 6. Code 800 when there is no evidence of the primary tumor (occult primary).
  - a. Use code 800 when clinically and/or pathologically there is no evidence of the primary tumor. This code does **not** apply to those cases where a biopsy removes all the tumor and there is no residual tumor on the surgical resection
- 7. When Pediatric Primary Tumor is coded 800, code Tumor Size to 000.
- 8. Code 999
  - a. Assign code 999 when there is no information on primary tumor extent
  - b. Code 999 is to be used by default for death certificate only (DCO) cases
- 9. Document choice of Pediatric Primary Tumor code in text. It is strongly recommended that the assessment of the primary tumor extension/involvement be documented, as well as the choice of the Pediatric Primary Tumor code in a related STAGE text field on the abstract. While primary tumor extension/involvement can be found in a variety of places, it's most found in a pathology and/or operative report.

### **1137: Pediatric Regional Nodes**

Item Length: 3 NAACCR Item #: 1137 XML Parent-NAACCR ID: pediatricRegionalNodes Active years: 2024+

### Description

Pediatric Regional Nodes is part of the Pediatric Staging data collection system and is used to classify the regional lymph nodes involved with cancer at the time of diagnosis. See also Pediatric Primary Tumor **[NAACCR Data item #1136]** and Pediatric Mets **[NAACCR Data item #1138]**. Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Pediatric Regional Nodes is used to calculate Derived Pediatric N (when applicable) **[NAACCR Data item #1143].** Derivation will occur at the level of the central registry.

See the most current version of <u>SEER*RSA</u> (Pediatric tab) for rules and site-s	pecific codes and coding structures.

Code	Description
000	No regional lymph node involvement
	SCHEMA-SPECIFIC CODES WHERE NEEDED
800	Regional lymph node(s), NOS
	Lymph node(s), NOS
888	Not applicable
999	Unknown; regional lymph node(s) not stated
	Regional lymph node(s) cannot be assessed
	Not documented in patient record
	Death Certificate Only

### **Coding Instructions**

- 1. **Record the specific involved regional lymph node chain(s) farthest from the primary site.** Regional lymph nodes are listed for each schema. Pediatric Regional Nodes are hierarchical, except for code 800.
  - a. Generally, the regional lymph nodes in the chain(s) closest to the primary site have lower codes, while nodes farther away from the primary or in farther lymph node chains have higher codes, although there are exceptions due to lymph drainage patterns.
  - b. If a lymph node chain is not listed, check the abstractor notes in <u>SEER\*RSA</u>, Appendix C of the <u>Hematopoietic</u> <u>Manual</u>, an anatomy textbook, ICD-O-3, or a medical dictionary for a synonym. If the lymph node chain or its synonym are not listed in regional lymph nodes, code the involved node(s) in Pediatric Mets.
    - **i. Tip for coding lymph nodes:** If not possible to determine if a lymph node is regional or distant, check the scheme for a site that is nearby.
  - c. Make sure your Pediatric Lymph Node code agrees with Regional Nodes Positive
    - i. If Regional Nodes Positive = 01-90, 95, 97, this indicates that regional lymph nodes are involved, and Pediatric Lymph Nodes should be coded appropriately

### 2. CLINICAL vs PATHOLOGICAL codes

- a. Some schemas have Pediatric regional node codes that are noted as "clinical assessment only" or "pathological assessment only.
  - i. Clinical assessment codes should be used only when there is a clinical work up and there is no surgical resection of the primary tumor or site. This includes physical exam, FNA, needle core biopsy, sentinel node biopsy, or lymph node excision.
    - 1. *Exception:* If patient has neoadjuvant therapy, and the clinical assessment is greater than the pathological assessment, then the clinical assessment code would take priority
  - ii. Pathological assessment codes can be used when there is a surgical resection of the primary tumor or site in conjunction with a FNA, Sentinel Lymph Node biopsy or lymph node dissection. The FNA or sentinel lymph node biopsy can be done during the clinical workup and then followed by a negative lymph node dissection
- 3. **Pathological findings take priority over clinical findings**: It is not necessary to biopsy every lymph node in the suspicious area to disprove involvement. See next section for coding instructions when neo-adjuvant therapy is administered.
  - a. Code the lymph node involvement at diagnosis pathologically (based on pathology report), when available.
  - b. If there is no applicable pathology, assign lymph node involvement based on clinical findings. Imaging takes precedence over physical examination.
  - c. If nodes are determined positive based on imaging and then confirmed to be negative on pathological exam, then code Pediatric Regional Nodes based on the negative pathological findings.

*Exception*: Assign code 800, "Regional lymph node(s), NOS or Lymph node(s), NOS" only when there is lymph node involvement, but no available information regarding the specific node(s) involved.

- 4. **Neoadjuvant (preoperative) therapy:** If the patient receives neoadjuvant (preoperative) systemic therapy (chemotherapy, immunotherapy) or radiation therapy, code the clinical information if that is the most extensive lymph node involvement documented. If the post-neoadjuvant surgery shows more extensive lymph node involvement, code the regional nodes based on the post-neoadjuvant information. If the clinical and pathological information are the same, code regional lymph nodes based on the clinical information.
- 5. **Terms meaning lymph node involvement:** For solid tumors, the terms "fixed" or "matted" and "mass in the hilum, mediastinum, retroperitoneum, and/or mesentery" (with no specific information as to tissue involved) are recorded as involvement of lymph nodes.
  - a. Other terms, such as "palpable," "enlarged," "visible swelling," "shotty," or "lymphadenopathy" should be ignored for solid tumors, unless there is a statement of involvement by the clinician, or the patient was treated as though regional nodes were involved.

**Example**: Enlarged renal hilar nodes found on CT, positive for cancer. Record as involvement of lymph nodes.

b. The terms "homolateral," "ipsilateral," and "same side" are used interchangeably.

6. Accessible lymph nodes: For "accessible" lymph nodes that can be observed, palpated, or examined without instruments, such as the regional nodes for the breast, oral cavity, salivary gland, skin, thyroid, and other organs, look for some description of the regional lymph nodes. A statement such as "remainder of examination negative" is sufficient to code 000 negative regional lymph nodes.

*Note*: If there is mention of a clinical evaluation but no mention of positive lymph nodes, assign code 000.

- 7. Inaccessible lymph nodes: For certain primary sites, regional lymph nodes are not easily examined by palpation, observation, physical examination, or other clinical methods. These are lymph nodes within body cavities that in most situations cannot be palpated, making them inaccessible. Bladder, colon, corpus uteri, esophagus, kidney, liver, lung, ovary, prostate, and stomach are examples of inaccessible sites (this is not an all-inclusive list). When Pediatric Primary Tumor is low stage/Localized and standard treatment is done, it is sufficient to code 000 for negative regional lymph nodes.
- 8. Code Pediatric Regional Nodes 000 (negative) instead of 999 (unknown) when **ALL** three of the following conditions are met:
  - a. There is no mention of regional lymph node involvement in the physical examination, pre-treatment diagnostic testing, or surgical exploration
  - b. The patient has localized disease
  - c. The patient receives what would be the standard treatment to the primary site (treatment appropriate to the stage of disease as determined by the physician), or patient is offered usual treatment but refuses it

These guidelines apply only to localized cancers. Assign code 999 when there is reasonable doubt that the tumor is localized.

**Example**: When there is evidence that a testis cancer has extended to the vas deferens, (regional disease) and regional lymph node involvement is not mentioned, it would be correct to code 999 for unknown lymph node involvement in the absence of any specific information regarding regional nodes.

- 9. **Direct tumor extension/involvement into lymph node:** If direct extension/involvement of the primary tumor into a regional lymph node is shown, code the involved node(s) in Pediatric Regional Nodes.
- 10. Code 800. Use code 800 for the following situations:
  - a. Lymph node assignment for the Pediatric schema is based on location (specifically listed lymph nodes) and the only documentation available is that lymph nodes are involved
  - b. Lymph node assignment for the Pediatric is based on number and/or size and the only documentation available is that lymph nodes are involved
  - c. Statement of "regional lymph nodes involved," with no further information on location, number and/or size.
  - d. Unidentified nodes included with the resected primary site
    - i. Nodes may be identified in the operative or pathology report (including the final diagnosis), microscopic or gross description
  - e. Lymph nodes which are not specified as regional or distant should be assumed to be regional nodes
- 11. Code 999

- a. Assign code 999 when there is no information on regional lymph node involvement and the primary tumor is not localized
- b. Code 999 is to be used by default for death certificate only (DCO) cases
- 12. Document choice of Pediatric Regional Nodes code in text. It is strongly recommended that the positive and negative assessment of regional lymph node(s) be documented, as well as the choice of the Pediatric Regional Nodes code in a related STAGE text field on the abstract. Information on regional node status can be found on physical exam, scans, and pathology reports.

### 1138: Pediatric Mets

Item Length: 2 NAACCR Item #: 1138 XML Parent-NAACCR ID: pediatricMets Active years: 2024+

### Description

Pediatric Mets is part of the Pediatric Staging data collection system and is used to classify the distant site(s) of metastatic involvement at time of diagnosis. See also Pediatric Primary Tumor **[NAACCR Data item #1136]** and Pediatric Regional Nodes **[NAACCR Data item #1137]**. Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Pediatric Mets is used to calculate Derived Pediatric M (when applicable) [NAACCR Data item #1144]. Derivation will occur at the level of the central registry.

See the most current version of <u>SEER\*RSA</u> (Pediatric Staging tab) for rules and site-specific codes and coding structures.

Code	Description
00	No distant metastasis
	SCHEMA-SPECIFIC CODES WHERE NEEDED
70	Distant metastasis, NOS
88	Not applicable
99	Unknown; distant metastasis not stated
	Not documented in medical record
	Death Certificate Only

### **Coding Instructions**

- 1. Code Pediatric Mets 00 (negative) instead of 99 (unknown) when ALL three of the following conditions are met:
  - a. There is no mention of mets in the physical examination, pre-treatment diagnostic testing, or surgical exploration
  - b. The patient has localized disease
  - c. The patient receives what would be the standard treatment to the primary site (treatment appropriate to the stage of disease as determined by the physician), or patient is offered usual treatment but refuses it

These guidelines apply only to localized cancers. Assign code 99 when there is reasonable doubt that the tumor is localized and there is no mention of absence or presence of metastatic disease.

- **Note:** This instruction is different than what is given for AJCC, EOD, and Summary Stage, which all have instructions that a tumor is determined to have no metastatic disease unless proven otherwise. These have not changed
  - This means it will be possible to code a case as "no metastatic involvement" in AJCC, EOD, and Summary Stage, and code 99 for unknown in Pediatric Mets

5. Noncontiguous/Discontinuous or hematogenous metastases: Distant metastasis known at the time of diagnosis is coded in Pediatric Mets. In other words, when the patient was diagnosed, tumor had already spread indirectly (through vascular or lymph channels) to distant lymph nodes or to site(s) distant from the primary site. Refer to the individual schemas for detailed instructions.

### 6. Positive pathological findings take priority over clinical findings.

- a. Assign the highest applicable code for metastasis at diagnosis pathologically (based on pathology report), when available
  - i. Not every metastatic site may be biopsied; however, for purposes of coding this data item, each metastatic site, whether confirmed clinically or pathologically, should be included, which may mean that clinical evidence would take priority over pathological
- b. If there is no applicable pathology or the pathology does not show metastasis, code Pediatric Mets based on clinical findings. Imaging takes precedence over physical examination.
- 7. Not all possible metastatic sites are listed in each of the schemas. If there is confirmed metastasis of a site that is not listed, assign the highest code as described below.
  - b. For schemas that have only codes 10 (distant lymph nodes) and 70 (all other mets), code 70 is to be used for all mets (except distant lymph nodes only)
  - c. For schemas where there are additional codes, use the highest code before code 70 when mets are present that are not specified in any of the other codes. Code 70 in these cases should only be used when the only information is "distant metastasis, NOS," and there is no documentation regarding the specific metastases
    - i. For schemas where there are multiple distant site codes and the specific mets is not described, use the code that includes "other specific metastasis."
    - ii. There will be enough information to code the numerically lower, but more specific, Pediatric Mets code when the location of the metastases is documented in the chart or abstract.
- 8. Neoadjuvant (preoperative) therapy: If the patient receives neoadjuvant (preoperative) systemic therapy (chemotherapy, immunotherapy) or radiation therapy, code the clinical information description that identifies the most extensive metastasis. If the post-neoadjuvant surgery shows additional or more extensive metastasis, code Pediatric Mets based on the post-neoadjuvant information. If the clinical and pathological information are the same, code mets based on the clinical information.

### 9. Code 99

- a. Assign code 99 when there is no information on metastatic disease and the primary tumor is not localized OR
- b. Death Certificate only (DCO) case
- 10. Document choice of Pediatric Mets code in text. It is strongly recommended that the positive and negative assessment of distant lymph nodes and/or distant metastasis be documented, as well as the choice of the Pediatric Mets code in a related STAGE text field on the abstract. Information on distant mets can be found mostly in Physical Exam and Scans.

### 1142: Derived Pediatric T

Item Length: 3 NAACCR Item #: 1142 XML Parent-NAACCR ID: derivedPediatricT Active years: 2024+ New Data Item for Diagnosis Year 2024 and forward. Derived in Central registry only.

### Description

This item stores the derived Pediatric T value from Pediatric Primary Tumor **[NAACCR Data item #1136]** and other fields (when applicable). Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Derived Pediatric T can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### 1143: Derived Pediatric N

Item Length: 3 NAACCR Item #: 1143 XML Parent-NAACCR ID: derivedPediatricN Active years: 2024+

### New Data Item for Diagnosis Year 2024 and forward. Derived in Central registry only.

### Description

This item stores the derived Pediatric N value from Pediatric Regional Nodes **[NAACCR Data item #1137]** and other fields (when applicable). Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Derived Pediatric N can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### 1144: Derived Pediatric M

Item Length: 3 NAACCR Item #: 1144 XML Parent-NAACCR ID: derivedPediatricM Active years: 2024+

### New Data Item for Diagnosis Year 2024 and forward. Derived in Central registry only.

### Description

This item stores the derived Pediatric M value from Pediatric Mets **[NAACCR Data item #1138]** and other fields (when applicable). Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Derived Pediatric M can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### **1145: Derived Pediatric Stage Group**

Item Length: 3 NAACCR Item #: 1145 XML NAACCR ID: derivedPediatricStageGroup Active years: 2024+

Derived Pediatric Stage Group is derived using the Pediatric Stage Data Items (Derived Pediatric T [NAACCR Data item #1142], Derived Pediatric N [NAACCR Data item #1143] and Derived Pediatric M [NAACCR Data item #1144]) algorithm. Other data items may be included in the derivation process. Effective for cases diagnosed 1/1/2024 and forward.

### Rationale

Derived Pediatric Stage Group can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### 1146: Toronto T

Item Length: 3 Provisional NAACCR Item #: 1146 Provisional XML Parent-NAACCR ID: torontoT Active years: 2025+ New Data Item for Diagnosis Year 2025 and forward. Derived in Central registry only.

### Description

This item stores the Toronto T value derived from coded fields the Toronto Stage algorithm (when applicable). Effective for cases diagnosed 1/1/2025 and forward.

### Rationale

Toronto T can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### 1147: Toronto N

Item Length: 3 Provisional NAACCR Item #: 1147 Provisional XML Parent-NAACCR ID: torontoN Active years: 2025+

### New Data Item for Diagnosis Year 2025 and forward. Derived in Central registry only.

### Description

This item stores the Toronto N value derived from coded fields the Toronto Stage algorithm (when applicable). Effective for cases diagnosed 1/1/2025 and forward.

#### Rationale

Toronto N can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### 1148: Toronto M

Item Length: 3 Provisional NAACCR Item #: 1148 Provisional XML Parent-NAACCR ID: torontoM Active years: 2025+

### New Data Item for Diagnosis Year 2025 and forward. Derived in Central registry only.

### Description

This item stores the Toronto M value derived from coded fields the Toronto Stage algorithm (when applicable). Effective for cases diagnosed 1/1/2025 and forward.

### Rationale

Toronto M can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### 1149: Toronto Stage Group

Item Length: 3 Provisional NAACCR Item #: 1149 Provisional XML Parent-NAACCR ID: torontoStageGroup Active years: 2025+

Toronto Stage Group is derived using the Toronto Stage Data Items (Toronto T [NAACCR Data item #1146], Toronto N [NAACCR Data item #1147] and Toronto M [NAACCR Data item #1148]) algorithm. Other data items may be included in the derivation process. Effective for cases diagnosed 1/1/2025 and forward.

### Rationale

Toronto Stage Group can be used to evaluate disease spread at diagnosis, treatment patterns and outcomes over time.

### **Prognostic Factors General Instructions**

### **Timing for collection of SSDIs**

The SSDIs are to be collected during the initial diagnosis, work up, and first course of treatment.

### **Consult Reports**

If a report is sent out for consultation and the results are different than the original report, record the results from the consultation.

### **General Definitions and Format of SSDI Codes**

**Not applicable:** This code is to be used ONLY when the data item is relevant for the case and the standard setter does not require the data item. Not applicable codes ALWAYS end in an 8 but will differ depending on the length of the data item.

*Note*: "Not applicable" is not available for schema discriminators or data items which are required for staging.

### Examples:

- n-MYC amplification. This is a 1-digit field. "Not applicable" is 8
- White Blood Cell Count. This is a 7-digit field including the decimal point. "Not applicable" is XXXXX.8

### It is important to review each data item carefully to determine how the "not applicable" code is formatted.

**Unknown:** Unknown codes ALWAYS end in a 9 but will differ depending on the length of the data item. The unknown code includes

• Test/evaluation/assessment not done or UNKNOWN if done

### Examples:

- n-MYC amplification. This is a 1-digit field. "Unknown" is 9
- White Blood Cell Count. This is a 7-digit field including the decimal point. "Unknown" is XXXXX.9

"Cannot be determined" on the pathology report. For some data items, this is a selection box on the College of American Pathologists (CAP) protocol. "Cannot be determined" is primarily used when a tissue specimen is not adequate for testing.

• If the pathology report includes "cannot be determined," code unknown

"Not identified." For some data items, this is a selection box on the CAP protocol. This means that the pathologist has looked for it and it is not present. This is not the same thing as looking for it in the medical record and not finding it (this would be "not documented in the medical record")

- For some SSDIs, "not identified," may be a specific code description
- If the pathologist stated, "not identified," and the SSDI does not include a specific code for not identified, code to negative

### Death Certificate Only (DCOs) cases

For DCOs, the applicable SSDIs (except for applicable Schema Discriminators) may be blank.

• *Note*: This instruction is for central registries only.

### **Source Documents**

Source documents are suggested for some data items as the most likely sources of information.

- If no source document is suggested, use any information provided in the medical record
- If a pathology report is suggested that document includes
  - o Addenda or revisions to the report
  - Gross or microscopic description
  - Synoptic reports
  - CAP protocol provided by the pathologist

It is important to review each data item carefully to determine where the information can be found. For some data items, the information is based on imaging or some other type of clinical exam. Other data items are based on pathological findings from a surgical resection or molecular reports based on the tissue (usually added as an addendum to the pathology report).

### **Rounding Rules**

SSDIs follow the standard definitions for rounding. These general rules can be followed for most SSDIs where lab values or percentages are recorded. All SSDIs that have lab values, percentages or measurements are set up to record in the 10ths (one digit after the decimal point). If a lab value, percentage, or measurement is recorded in 100ths (two digits after the decimal point), then the last digit must be rounded.

The general rounding rules are:

- If digit is 0-4, round down
- If digit is 5-9, round up

# Example

- White Blood Cell Count is 85.25
  - Since the last digit is 5, round up and record 85.3
- White Blood Cell Count is 72.24
  - Since the last digit is 4, round down and record 72.2

# Recording values when "less than," "greater than," and "or least" are used

Record the value as **one less** than stated when a value is reported as "less than X," and as **one more** than stated when a value is reported as "more than X" or "at least." **One less** or **one more** may refer to a whole number (1), or a decimal (0.1), depending on the code structure of the field.

*Example 1:* White Blood Cell Count < (less than) 5. Record 4.9.

Example 2: White Blood Cell Counts > (greater than) 20. Record 20.1.

Example 3: White Blood Cell Counts at least 21. Record 21.1

### **General Rules for Recording Laboratory Values**

Laboratory values refer to any tests that are based on blood, urine, ascites, or spinal fluid. Most of these are based on blood.

Do not apply these rules to SSDIs that are based on tissue; see General Rules for Recording Tests Based on Solid Tissue.

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

### **General Rules for Entering Laboratory Values and Other Measurements**

Lab values and other measurements that are not integers (whole numbers) and are reported as continuous variables (not categories or ranges) will be recorded to a single decimal place with an explicit decimal point.

There must always be a numeral or the letter 'X' immediately before the decimal point and a numeral after the decimal point, which will be in the next-to-last character position in the field. The entered value must be right-justified in the field and padded with spaces to the left if necessary to fill the field.

Users' software will usually justify and pad the value automatically for the registrar.

In addition to the actual values, codes are defined for situations such as value unknown; test done but results not in chart; and other special cases. Sometimes codes will be provided for when a value is expressed as "at least" some value.

• These may be needed, for *example*, in the measurement of tumor size or thickness when the tumor has been transected and the actual size cannot be determined. These codes will begin with one or more 'X's.

When a value in the medical record does not provide the expected decimal digit, i.e., it is expressed as a whole number, then enter the value followed by a decimal point and a zero.

### Examples for a 6-Character Lab Value

Value in Record	Data Item Coded as
0.0	0.0
0	0.0
.1	0.1
11.0	11.0
11.1	11.1
11	11.0
111.1	111.1
1111.1	1111.1

### General Rules for Recording Tests Based on Solid Tissue

### **Priority Order for SSDIs**

- Addendums or amendments (corrections that are not incorporated into the initial synoptic report, results from molecular studies, and including CAP Cancer Protocol)
- Synoptic report (including CAP Cancer Protocol)
- Pathology report: final diagnosis
- Physician statement

For these SSDIs, a microscopic evaluation (tissue examination) is required.

• If no microscopic evaluation (biopsy, surgical resection), code the SSDI to the unknown value

# **General Rules versus SSDI specific rules**

• Unless instructions for a specific tissue test state otherwise, record the highest value (positive versus negative, or actual numerical value) obtained from any tissue-based examination (biopsy, surgical resection, bone marrow biopsy).

# Pediatric Stage Data Items and SSDIs by Pediatric ID

The next section contains the schema specific information for Pediatric Primary Tumor, Pediatric Regional Nodes, Pediatric Mets, and the applicable SSDIs.

### 1a1: Acute Lymphoblastic Leukemia

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C000-C809	9811-9819, 9837	0-39	3

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Acute Lymphoblastic Leukemia, Toronto Staging is based on the presence or absence of CNS Involvement, which is collected in Pediatric Mets.

### **1136: Pediatric Primary Tumor**

• Not applicable (code 888)

### **1137: Pediatric Regional Nodes**

• Not applicable (code 888)

### 1a1: Acute Lymphoblastic Leukemia

### 1138: Pediatric Mets

### **Coding Instructions and Codes**

**Note 1:** This field records the clinically or cytologically confirmed involvement of the Central Nervous System at diagnosis or during the initial workup of Acute Lymphoblastic Leukemia (ALL) in pediatric patients. CNS involvement at diagnosis or at relapse is a significant cause of treatment failure and treatment-related morbidity.

• Use the following resources to find information on CNS involvement: imaging, laboratory reports, CSF lactate dehydrogenase (LD, LDH) test

Note 2: Physician statement of CNS Involvement can be used to code this data item.

Note 3: Criteria for CNS Involvement

- Clinical signs of CNS involvement
  - o Radiologic evidence of intracranial, intradural mass
  - Cranial nerve palsy (e.g., facial weakness, ptosis), brain/eye involvement or hypothalamic syndrome
  - *Note*: Extra-ocular orbital masses, severe headaches, and eye swelling (in the absence of signs of cranial nerve involvement) are **not** sufficient to constitute clinical evidence of CNS involvement
- The presence of blasts in the cerebrospinal fluid (CSF)
  - Cytospin is used to determine the presence or absence of blasts in the CSF.
    - If Cytospin is not documented, then the presence of blasts cannot be determined. CNS involvement would be unknown (code 9) unless there are clinical statements of CNS Involvement OR the physician documents a CNS stage
  - o If Cytospin is documented and there is no mention of blasts, code blasts as absent
  - o If blasts are referred to as "occasional" or "seen" or similar wording, code blasts as present
- Red and white blood cell counts from the cerebrospinal fluid (RBC CSF and WBC CSF)
  - $\circ$   $\;$  Lumbar punctures are the most common way to collect this information
  - If RBC <1/ul, record as RBC = 0
  - If WBC <1/uL, record as WBC = 0

Code	Description	SS2018
10	CNS1	D
	<ul> <li>No clinical signs of CNS involvement AND</li> </ul>	
	No blasts in CSF	
20	CNS2	D
	<ul> <li>No clinical signs of CNS involvement AND blasts in CSF AND         <ul> <li>WBC &lt; 5/ul CSF</li> <li>OR</li> </ul> </li> </ul>	
	<ul> <li>No clinical signs of CNS involvement OR blasts in CSF AND         <ul> <li>WBC &gt;= 5/ul CSF and</li> <li>RBC &gt;= 10/ul CSF AND</li> <li>WBC/RBC in CSF &lt;= 2x WBC/RBC in blood</li> </ul> </li> </ul>	

Code	Description	SS2018
30	CNS3	D
	Clinical signs of CNS involvement	
	OR	
	<ul> <li>Blasts in CSF and WBC &gt;= 5/ul CSF AND EITHER</li> </ul>	
	<ul> <li>RBC &lt; 10/ul CSF OR</li> </ul>	
	<ul> <li>RBC &gt;= 10/ul CSF and WBC/RBC in CSF &gt; 2x WBC/RBC in blood</li> </ul>	
99	Unknown; distant metastasis not stated	D
	Not documented in medical record	
	Death Certificate Only	

# 1a1-Acute Lymphoblastic Leukemia

### 1184: White Blood Cell Count

Item Length: 7 NAACCR Item #: 1184 XML NAACCR ID: whiteBloodCellCount Active years: 2024+ Pediatric Schema(s): • 1a1: Acute Lymphoblastic Leukemia (ALL) Description

White Blood Cell Count (WBC) will record the actual lab value prior to treatment.

### Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024 diagnoses.

### **Additional Information**

Source documents: laboratory reports (white blood cell count)

### Measurements

• The measurement used for this data item is "cells/mm3", which is the same as "cells/uL". If your facility has a different measurement, here are examples of the conversions to cells/m3.

### Examples:

- Reported as 3650 cells/uL. Record as 3650.0
- Reported as 3.55 k/uL. Record as 3550.0 (multiple x 1000)
- Reported as 4.25 10<sup>3</sup>/uL. Record as 4250.0 (multiple x 1000)
- Reported as 6.35 K/mm<sup>3</sup>. Record as 6350.0 (multiple x 1000)

### **Notes**

### Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

### Note 2: Physician statement

• Physician statement of WBC (White Blood Cell Count) Pretreatment Lab Value can be used to code this data item when no other information is available.

### **Coding Guidelines**

- 1) Record the lab value of the highest WBC test result documented in the medical record **prior to treatment**. The lab value may be recorded in a lab report, history and physical, or clinical statement in the pathology report
- 2) Record to the nearest cells per microliter (cells/uL) the highest WBC lab value documented in the medical record **prior to treatment**
- 3) A known lab value takes priority over codes XXXXX.2-XXXXX.4
  - a. The lab value takes priority even if the physician documents the interpretation

- i. *Example:* Patient noted to have a WBC count of 12,000 cells/mm<sup>3</sup>. Physician notes that the value is elevated
- ii. Code 12,000 cells/mm<sup>3</sup> instead of XXXXX.4 (elevated)

Code	Description
0.0-	0.0-99999.9 microliter (cells/mm <sup>3</sup> )
99999.9	(Exact value to nearest tenth in (cells/mm <sup>3</sup> )
XXXXX.1	100,000 or greater (cells/mm <sup>3</sup> )
XXXXX.2	Lab value not available, physician states WBC is low
XXXXX.3	Lab value not available, physician states WBC is normal
XXXXX.4	Lab value not available, physician states WBC is elevated/high
XXXXX.7	Test ordered, results not in chart
XXXXX.8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of
	code XXXXX.8 may result in an edit error)
XXXXX.9	Not documented in medical record
	WBC (White Blood Cell Count) Pretreatment Lab Value not
	assessed or unknown if assessed
<blank></blank>	N/A - Diagnosis year is prior to 2024

### 2a: Hodgkin Lymphoma

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C000-C809	9650-9653, 9655, 9659, 9663	0-39	3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (<u>cancer.gov</u>)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Hodgkin Lymphoma, Toronto Staging is based on the *Ann Arbor Staging Classification* and is collected in Pediatric Primary Tumor

• Internationally, the Ann Arbor Stage is still used for Lymphomas. Ann Arbor Stage is very similar to the Lugano Stage that has been collected in the US since 2018. The major difference between the two is that Lugano Stage has bulky disease, and Ann Arbor does not (see Note 5 in Pediatric Primary Tumor)

### 2a: Hodgkin Lymphoma

### **1136: Pediatric Primary Tumor**

### **Coding Instructions and Codes**

Note 1: Lymphatic sites (nodal regions) are

- Lymph nodes (C770-C779)
- Waldeyer' s ring (tonsils) (C024, C090-C099, C111, C142)
- Spleen (C422)
- Thymus (C379)

**Note 2:** Use the AJCC definitions for lymph node regions (Chapter 79, Figure 79.1) to determine when single (code 100) or multiple (300-600) lymph node regions are involved. See also the Hematopoietic Manual, Appendix C, for definition of lymph node regions.

Note 3: Extralymphatic sites (extranodal regions) include all other sites (e.g., stomach, colon, lung, breast, nasopharynx).

**Note 4:** Any mention of the terms including fixed, matted, mass in the hilum, mediastinum, retroperitoneum, and/or mesentery, palpable, enlarged, shotty, lymphadenopathy are all regarded as involvement for lymphomas when determining appropriate code.

**Note 5:** For Hodgkin lymphoma, "Bulky disease" is defined as the ratio between the maximum diameter of the mediastinal mass and maximal intrathoracic diameter based on CT imaging in the Lugano classification. Bulk of other disease is defined as a mass greater than 10 cm. This is the only difference between Lugano Staging and Ann Arbor, which does not include "bulky disease."

• If there is mention of bulky disease without further involvement, code 300 or 400 for a nodal lymphoma and 400 for an extranodal lymphoma

**Note 6:** Clinical enlargement of the liver is not enough to indicate involvement. Involvement is indicated by diffuse uptake or mass lesion or abnormal liver function tests. Liver biopsy may be used to confirm equivocal involvement.

• Any involvement of liver (including primary liver lymphoma) is coded as 800

**Note 7:** Splenic involvement is based on splenomegaly and FDG-PET or CT scans that state diffuse update, solitary mass, miliary lesions, or enlargement of greater than 13 cm.

- A physician's statement of splenomegaly may be used
- FDG uptake in the spleen that is not diffuse is not enough to code as splenic involvement

**Note 8:** Lung involvement is indicated by pulmonary nodules or parenchymal involvement on FDG-PET or CT in the absence of other likely causes. Lung biopsy may be used to confirm equivocal involvement.

• Multifocal lung involvement is coded as 700 or 800 based on lung mets, code also "Mets at Dx-Lung" as 1

**Note 9:** Bone involvement (excluding bone marrow involvement, **see Note 11**) is indicated by avid lesions on FDG-PET. Bone biopsy may be used to confirm equivocal involvement.

• Bone involvement (except for bone primary lymphomas) is coded as 800. Code also "Mets at Dx-Bone" as 1. (see Note 11 on how to code bone marrow involvement)

**Note 10:** Central nervous system (CNS) involvement is often suspected due to symptoms and can be confirmed by plain radiology, CT scan, or MRI. Cerebrospinal fluid (CSF) examination by flow cytometry may be done. CNS involvement may be the result of soft tissue disease representing extension from bone metastasis or parenchymal brain disease.

• CNS involvement (except for CNS primary lymphomas) is coded as 800. Code also "Mets at Dx-Brain" as 1

• CSF involvement is coded as 800. Code also "Mets at Dx-Other" as 1

**Note 11:** Peripheral blood involvement is assessed by an aspiration or peripheral blood smear.

- Primary site is coded to bone marrow (C421): Do not code "Met at Dx-Other" as 1
  - In cases where peripheral blood smear is not performed, but a physician's clinical assessment indicates peripheral blood involvement, the physician's clinical assessment can be used
  - If **ONLY** the peripheral blood is involved, code 750
  - If there is peripheral blood involvement **WITH** other involvement
    - Do not code primary site to C421, code to lymph nodes or organs involved
    - Pediatric Primary Tumor will based on the involvement of the lymph nodes or organs

**Note 12:** Bone marrow involvement is assessed by an aspiration and bone marrow biopsy.

- Bone marrow involvement is coded as 800. Do not code to "Mets at Dx-Bone" as 1
  - If only involvement is bone marrow, code primary site to bone marrow (C421), Pediatric Primary Tumor 800. Do not code "Mets at Dx-Other" as 1
  - o If there is involvement of lymph nodes or organs AND bone marrow, code "Mets at Dx-Other" as 1
  - In cases where bone marrow biopsy/aspiration is not performed, but a physician's clinical assessment indicates bone marrow involvement, the physician's clinical assessment can be used

**Note 12:** See the data item *B symptoms* [NAACCR Data Item Number: #3812] to code the presence or absence of B symptoms.

Code	Description	SS2018
100	Nodal lymphomas	L
	Single lymph node region involved	
	<ul> <li>Involvement of multiple nodal chains in the SAME lymph node region</li> </ul>	
200	Extranodal lymphomas	L
	Single extralymphatic site	
	<ul> <li>WITHOUT nodal involvement</li> </ul>	
	<ul> <li>Multifocal involvement (except multifocal lung involvement or any liver</li> </ul>	
	involvement, see code 800) of one extralymphatic organ/site	
	<ul> <li>WITHOUT nodal involvement (see code 400 for WITH nodal involvement)</li> </ul>	
300	Nodal lymphomas	RE
	Two or more lymph node regions involved	
	<ul> <li>SAME side of diaphragm</li> </ul>	
	WITH or WITHOUT bulky disease	
400	Nodal lymphomas	RE
	<ul> <li>Contiguous extralymphatic extension from nodal/lymphatic site</li> </ul>	
	<ul> <li>WITH or WITHOUT involvement of other nodal regions</li> </ul>	
	<ul> <li>on SAME side of diaphragm</li> </ul>	
	Extranodal lymphomas	
	<ul> <li>Localized involvement of a single extralymphatic organ/site</li> </ul>	
	<ul> <li>WITH involvement of its regional lymph node(s) OR</li> </ul>	
	<ul> <li>WITH involvement of other lymph node(s) on the SAME side of the disphragm</li> </ul>	
	diaphragm	
	WITH or WITHOUT bulky disease	

Code	Description	SS2018
575	Nodal and Extranodal lymphomas	D
	<ul> <li>Involvement of lymph node regions on BOTH sides of the diaphragm</li> </ul>	
	<ul> <li>WITHOUT or UNKNOWN spleen involvement</li> </ul>	
600	Nodal and Extranodal lymphomas	D
	<ul> <li>Involvement of lymph node regions on BOTH sides of the diaphragm WITH spleen</li> </ul>	
	involvement	
	<ul> <li>Includes involvement of lymph nodes ABOVE the diaphragm WITH spleen</li> </ul>	
	involvement	
700	Diffuse or disseminated involvement (except multifocal lung involvement or any liver	D
	involvement, see code 800) of ONE OR MORE extralymphatic organ(s)/site(s)	
	WITH or WITHOUT nodal involvement	
	Involvement of isolated extralymphatic organ in absence of involvement of adjacent	
	lymph nodes, but in conjunction with disease in distant sites	
	Multifocal involvement (except multifocal lung involvement or any liver involvement, see	
	code 800) of one extralymphatic organ/site	
	WITH nodal involvement	
	Noncontiguous extralymphatic organ involvement in conjunction with nodal disease (two	
	or more sites involved)	
750	Peripheral blood involvement ONLY	D
800	Diffuse or disseminated	D
	• Bone	_
	Central nervous system (CNS)	
	Any involvement of	
	Bone marrow	
	Cerebrospinal fluid (CSF)	
	• Liver	
	<ul> <li>Lung, multiple lesions (other than by direct extension in code 400)</li> </ul>	
	Peripheral blood involvement WITH other involvement	
	Distant metastasis, NOS	
999	Unknown; extension not stated	U
	Tumor cannot be assessed	-
	Not documented in medical record	
	Death Certificate Only	

# **1137: Pediatric Regional Nodes**

• Not applicable (code 888)

# 1138: Pediatric Mets

• Not applicable (code 88)

### 2a: Hodgkin Lymphoma

NAACCR Item #: 3812 XML Parent-NAACCR ID: Tumor-bSymptoms NAACCR Alternate Name: None Active years: 2018+ Schema(s):

- 00790: Lymphoma (excluding CLL/SLL) (2018+)
- 00795: Lymphoma-CLL/SLL (2018+)

# **Description**

B symptoms refer to systemic symptoms of fever, night sweats, and weight loss which can be associated with both Hodgkin lymphoma and some non-Hodgkin lymphomas. The presence of B symptoms is a prognostic factor for some lymphomas.

The stages of Hodgkin Lymphoma are classified as either A or B according to the absence or presence of defined constitutional symptoms. The stage group suffix for a patient without these systemic symptoms is "A," meaning absence of symptoms or asymptomatic; for *example*, Stage IIA. The stage group suffix for a patient with any of the symptoms listed below is "B," such as Stage IIIB. The symptoms are carefully defined.

- Fevers: Unexplained fever with temperature above 38 degrees centigrade or 100.4 degrees Fahrenheit.
- Night sweats: Drenching sweats (e.g., those that require change of bedclothes)
- Weight loss: Unexplained weight loss of more than 10% of the usual body weight in the 6 months prior to diagnosis.

Other symptoms, such as chills, pruritic, alcohol-induced pain, and fatigue, are not included in the A or B designation but are recorded in the medical record, as the reappearance of these symptoms may be a harbinger of recurrence. The designation A or B is not included in the revised staging of NHL in AJCC 8<sup>th</sup> edition, although clinicians are encouraged to record the presence of these symptoms in the medical record. The presence or absence of B symptoms may be collected in registries for both HL and NHL.

# **Rationale**

B symptoms is a Registry Data Collection Variable in AJCC. This data item was previously collected for Lymphomas, SSF #2.

# **Additional Information**

Source documents: patient history, progress notes, consultant notes, other statements in medical record

**Other names include** B symptoms fever, Palestine fever, hyperpyrexia, febrile response, sleep hyperhidrosis, nocturnal hyperhidrosis

### **Notes**

# Note 1: Physician statement

• Physician statement of B symptoms can be used to code this data item when no other information is available.

# Note 2: Defining B symptoms

- Each stage should be classified as either A or B according to the absence or presence of defined constitutional symptoms, such as
  - Fevers: Unexplained fever with temperature above 38 degrees C (100.4 F)

- Night sweats: Drenching sweats that require change of bedclothes
- Weight loss: Unexplained weight loss of more than 10% of the usual body weight in the six months prior to diagnosis

### Note 3: Conditions that are not B symptoms

• Pruritus alone does not qualify for B classification, nor does alcohol intolerance, fatigue, or a short, febrile illness associated with suspected infections.

### **Coding guidelines**

- Code 0 when there is no evidence of B symptoms present, per physician or physical exam
- Code 1 when the physician states the patient has B symptoms
- Code 9 when
  - No mention of B symptoms
  - $\circ$   $\;$  Not documented in the medical record  $\;$
  - B symptoms not evaluated (assessed)
  - Unknown if B symptoms evaluated (assessed)

Code	Description
0	No B symptoms (asymptomatic)
	Classified as "A" by physician when asymptomatic
1	Any B symptom(s)
	Night sweats (drenching)
	Unexplained fever (above 38 degrees C) (100.4 F)
	Unexplained weight loss (generally greater than 10% of body weight
	in the six months before admission)
	B symptoms, NOS
	Classified as "B" by physician when symptomatic
8	Not applicable: Information not collected for this case
	(If this item is required by your standard setter, use of code 8 will result in an edit error.)
9	Not documented in medical record
	B symptoms not assessed or unknown if assessed

# 2b2-2b4, 2c: Non-Hodgkin Lymphoma

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C000-C809	9591, 9671, 9673, 9678-9680, 9687-9691, 9695, 9698, 9699-9702,	0-39	3
	9705, 9714-9719, 9724, 9735, 9737-9738, 9761-9762, 9765-9768,		
	9769, 9823, 9827, 9970-9971		
C000-C809	9731-9732, 9734	0-39	3

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For non-Hodgkin Lymphoma, Toronto Staging is based on the *St. Jude/Murphy Staging System*, which is a pediatric staging system for non-Hodgkin lymphoma (NHL) and is collected in Pediatric Primary Tumor.

• The definitions for St Jude/Murphy Staging are different than the Lugano Staging or Ann Arbor, which has historically been used in the US to record Lymphoma stage

### 2b2-2b4, 2c: Non-Hodgkin Lymphoma

### **1136: Pediatric Primary Tumor**

### **Coding Instructions and Codes**

**Note 1:** Any mention of the terms including fixed, matted, mass in the hilum, mediastinum, retroperitoneum, and/or mesentery, palpable, enlarged, shotty, lymphadenopathy are all regarded as involvement for lymphomas when determining appropriate code.

**Note 2:** St. Jude/Murphy staging is based primarily on the primary site where certain primary sites or sites of involvement may only be assigned specific codes. The list below provides guidance on which codes to use based on the primary site and/or other involvement.

- Codes based on primary site
  - Abdomen (C239, C240-C249, C250-C259, C422, C493-C494, C480-C488, C649, C659, C669, C762, C772), then only code 400 may be assigned
  - o GI Tract (C160-C218, C260-C269), then only codes 200 or 400 may be assigned
  - Paraspinal or epidural sites (C470-C479), then only code 400 may be assigned
  - Primary intrathoracic tumors (mediastinal, hilar, pulmonary, pleural, or thymic) (C340-C349, C379, C381-C388, C771, then only code 400 may be assigned
- Codes based on involvement
  - Code 600 for liver involvement (including primary site C220)
  - o Code 800 for bone marrow (including primary site C421), or peripheral blood involvement
  - Code 800 for CNS involvement (including primary sites C700-C729)
- ALL sites except those noted above, codes 100, 300, 500-800, 999 may be assigned based on involvement

**Note 3:** Extensive disease (code 400) typically exhibits spread to para-aortic and retroperitoneal areas by implants and plaques in mesentery or peritoneum, or by direct infiltration of structures adjacent to the primary tumor. Ascites may be present, and complete resection of all gross tumour is not possible.

Note 4: Code 888 for histologies 9731, 9732, and 9734

• St Jude Staging is not applicable for Plasmacytomas (9731, 9734) and Plasma Cell Myeloma (9732)

Code	Description	Ped
		Stage
100	Involvement of a single extranodal/extralymphatic tumor mass or nodal/lymphatic area	I
	Excludes the following primary sites:	
	Abdomen (See code 400)	
	Bone marrow (See code 800)	
	CNS (See code 800)	
	GI Tract (See code 200)	
	Liver (See code 600)	
	Paraspinal or epidural sites (See code 400)	
	Primary intrathoracic tumors (See code 400)	
200	A completely resected primary gastrointestinal tract tumor (C160-C218, C260-C269)	Ш
	• WITH or WITHOUT involvement of associated mesenteric nodes only (for other	
	lymph node involvement, see code 400)	

Code	Description	Ped Stage
300	<ul> <li>Any of the following (excluding primary sites in codes 200, 400, 600, 800)</li> <li>A single extranodal/extralymphatic tumor with regional node involvement</li> <li>Two or more nodal/lymphatic areas on the SAME side (either above or below) of the diaphragm or</li> <li>Two or more single extranodal/extralymphatic tumors <ul> <li>WITH or WITHOUT regional node involvement AND</li> <li>On the SAME side (either above or below) of the diaphragm</li> </ul> </li> </ul>	II
400	<ul> <li>Any of the following         <ul> <li>Abdominal tumors                 <ul> <li>Includes extensive (unresectable) primary intraabdominal disease</li> </ul> </li> <li>Gastrointestinal tumors                     <ul> <li>WITH lymph node involvement other than mesenteric OR</li> <li>Unresectable gastrointestinal tract tumor</li> <li>Paraspinal or epidural tumors regardless of other tumor sites</li></ul></li></ul></li></ul>	111
500	<ul> <li>Extranodal/extralymphatic OR nodal/lymphatic tumors</li> <li>On BOTH sides (above and below the diaphragm)</li> </ul>	
600	Liver involvement, including primary site (C220) <ul> <li>WITH or WITHOUT lymph node involvement</li> </ul>	
800	<ul> <li>CNS involvement, including primary site (C700-C729)</li> <li>Single, multifocal, or multiple CNS tumors, or CNS tumor WITH lymph node involvement</li> <li>Cranial nerve palsy that cannot be explained by extradural lesions, OR</li> <li>Blasts morphologically identified in CSF</li> <li>In the absence of a CSF tumor mass and cranial nerve palsy, a CSF report is required to confirm or exclude CNS involvement</li> </ul>	IV
	<ul> <li>AND/OR</li> <li>Bone marrow involvement (including primary site bone marrow, C421)</li> <li>Peripheral blood involvement WITH or WITHOUT other involvement</li> </ul>	
888	Not applicable: histologies 9731, 9732, 9734	NA
999	Not documented in medical record St Jude Staging System not assessed Death certificate only	U

# 1137: Pediatric Regional Nodes

• Not applicable (code 888)

# 1138: Pediatric Mets

• Not applicable (code 88)

### 3a: Ependymoma

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C710-C729	9383, 9391-9394, 9396	All ages	0, 1, 3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (<u>cancer.gov</u>)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Ependymoma, Toronto Staging is based on the presence or absence of mets based on the *Chang M* definition for metastases within the CNS at diagnosis and is collected in Pediatric Mets.

• Pediatric Primary Tumor is collected for surveillance purposes

# 3a: Ependymoma 1136: Pediatric Primary Tumor

### **Coding Instructions and Codes**

**Note 1:** Pediatric Primary Tumor for Ependymomas is coded **only for single tumors confined to the primary site** (see code 150) or a **single** tumor crossing the midline without extension to adjacent structures (see code 250).

- Code 999 if there are multiple tumors in the brain
- The presence of multiple tumors is recorded in Pediatric Mets

Note 2: Benign (/0) or Borderline (/1) tumors are always coded to 050 regardless of size or extension to adjacent sites

Note 3: A midline shift is not the same thing as crosses/crossing the midline

• Code 150 if you have a single tumor confined to the primary site with a midline shift that is not extending into adjacent structures (see Note 4).

**Note 4:** Direct or contiguous extension to an adjacent site is collected in Pediatric Mets.

- If the only information available is extension to an adjacent site, code Pediatric Primary Tumor 999 and assign the appropriate Pediatric Mets code
- The following adjacent structures/sites are collected in Pediatric Mets (see code 25 for all except circulating cells in CSF (code 15))
  - Adjacent connective/soft tissue
  - Adjacent muscle
  - o Bone
  - Circulating cells in cerebral spinal fluid (CSF)
  - Major blood vessel(s)
  - Meninges (e.g., dura)
  - Multiple/multifocal tumors
  - Nerves (cranial, NOS)
  - Ventricular system

Code	Description	SS2018 T
050	Benign or borderline brain	В
150	<ul> <li>All sites</li> <li>Single tumor confined to the primary site with no invasion or seeding to other structures</li> </ul>	L
	Confined to site of origin, NOS Localized, NOS	
250	<ul> <li>Single tumor confined to the primary site that crosses/crossing the midline</li> <li>WITHOUT invasion of adjacent structures (see Note 4)</li> </ul>	RE
800	No evidence of primary tumor	U
999	Unknown; extension not stated Multiple tumors (See Note 1) Single tumor with extension to an adjacent site (see Note 4) Primary tumor cannot be assessed Not documented in medical record	U
	Death Certificate Only	

# 3a: Ependymoma

### **1137: Pediatric Regional Nodes**

• Not applicable (code 888)

### 1138: Pediatric Mets

# **Coding Instructions and Codes**

**Note 1:** Use code 70 when the only information is "distant metastasis, NOS," and there is no documentation regarding the specific metastases.

• If there are specific metastasis documented that are not listed in codes 15, 25, or 35, or 45, assign code 45 for "other specified distant metastasis."

Note 2: Code 00 for benign (behavior /0) and borderline (behavior /1) tumors.

Note 3: The following adjacent structures/sites, by direct or contiguous extension, are coded to 35.

- Adjacent connective/soft tissue
- Adjacent muscle
- Bone
- Circulating cells in cerebral spinal fluid (CSF)
- Major blood vessel(s)
- Meninges (e.g.; dura)
- Multiple/multifocal tumors
- Nerves (cranial, NOS)
- Ventricular system

**Note 4:** Leptomeningeal metastases, also known as carcinomatous meningitis and meningeal carcinomatosis, refers to the spread of malignant cells through the CSF space. These cells can originate from primary CNS tumors (e.g., in the form of drop metastases), as well as from distant tumors that have metastasized via hematogenous spread (code 35).

Code	Description	SS2018 M
00	No visible disease on imaging (MRI brain and spine) beyond primary site of	None
	disease	
	AND no tumor cells into the cerebrospinal fluid (CSF)	
15	Tumor cells in the CSF	D
	<ul> <li>Circulating cells in cerebral spinal fluid (CSF)</li> </ul>	

Code	Description	SS2018 M
25	Intracranial spread beyond a single lesion	D
	All sites	
	<ul> <li>Bone (skull) (see code 45 for other bone involvement)</li> </ul>	
	Major blood vessel(s)	
	Meninges (e.g., dura)	
	Multiple/multifocal tumors	
	Nerves (cranial, NOS)	
	Tumor invades or encroaches upon ventricular system	
	Brain tumors (C700, C710-C719)	
	Anterior cranial fossa	
	Brain stem	
	Cerebellum	
	Cerebrum (cerebral hemisphere)	
	Contralateral hemisphere	
	Hypothalamus	
	Middle cranial fossa	
	Pallium	
	Posterior cranial fossa	
	Suprasellar brain	
	Tapetum	
	Thalamus	
	CNS tumors (C701, C709, C720-C729)	
	Adjacent connective tissue	
	Adjacent muscle	
	<ul> <li>Brain for cranial nerve tumor(s)</li> </ul>	
	<ul> <li>Sphenoid and frontal sinuses(skull)</li> </ul>	
	Pineal Gland (C753)	
	Adjacent connective/soft tissue	
	Cavernous sinus	
	Infratentorial and central brain	
35	Visible metastasis in spine OR	D
	Visible metastasis in cervicomedullary (junction)	
	Metastasis within CNS and CSF pathways	
	Carcinomatous meningitis	
	Drop metastasis	
	Leptomeningeal metastases	
	Meningeal carcinomatosis	

Code	Description	SS2018 M
45	Extra-neural metastasis	D
	All Sites	
	<ul> <li>Blood</li> <li>Bone (other than skull) (see code 25 for skull)</li> <li>Bone marrow</li> <li>Carcinomatosis</li> <li>Distant lymph nodes, NOS</li> <li>Further contiguous extension</li> <li>Other specified metastasis</li> </ul>	
	Brain tumors (C700, C710-C719)	
	<ul> <li>Nasal cavity</li> <li>Nasopharynx</li> <li>Other direct extension outside CNS</li> <li>Posterior pharynx</li> </ul>	
	CNS tumors (C701, C709, C720-729) • Eye	
70	Distant metastasis, NOS	D
99	Unknown; distant metastasis not stated Not documented in medical record	None
	Death Certificate Only	

### **3b: Astrocytoma**

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C700-C729	9380, 9384, 9400-9411, 9420-9424, 9440-9442, 9445	0-39	0, 1, 3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (<u>cancer.gov</u>)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Astrocytoma, Toronto Staging is based on the presence or absence of mets and is collected in Pediatric Mets.

• Pediatric Primary Tumor is collected for surveillance purposes

### **3b: Astrocytoma**

### **1136: Pediatric Primary Tumor**

### **Coding Instructions and Codes**

**Note 1:** The tentorium cerebelli is an extension of the dura mater that separates the cerebellum from the inferior portion of the occipital lobes. The location of the tumor above or below the tentorium can help in determining the type of tumor; also, most adult brain tumors are supratentorial, and most pediatric brain tumors are infratentorial. In the following list, note that ICD-O-3 codes C710 and C719 include both supratentorial and infratentorial subsites.

- The following subsites are Infratentorial
  - All subsites for codes C716-C717
  - Hypothalamus (C710)
  - Pallium (C710)
  - Posterior cranial fossa (C719)
  - Thalamus (C710)
- The following subsites are **Supratentorial** 
  - All subsites for codes C711-C715
  - o Primary site C710 (excluding hypothalamus, pallium, thalamus)
  - Anterior cranial fossa (C719)
  - Corpus callosum (C718)
  - Middle cranial fossa (C719)
  - Tapetum (C718)
  - Suprasellar (C719)

**Note 2:** Benign (/0) or Borderline (/1) tumors are **always coded to 050** regardless of size or extension to adjacent sites.

Note 3: A midline shift is not the same thing as crossing the midline (code 500).

Documentation must state "crosses the midline"

Note 4: Discontiguous spread, or "drop metastasis" are coded in Pediatric Mets.

Code	Code Description	
		T
050	Benign or borderline brain tumor	В
100	Brain (C700, C710-C719) Infratentorial tumor confined to Brain stem or meninges of brain stem (one side) Medulla oblongata Midbrain (mesencephalon) Pons Cerebellum or meninges of cerebellum (one side or midline) Lateral lobes Median lobe of cerebellum Vermis Hypothalamus Pallium Thalamus	L
	Infratentorial tumor <ul> <li>Both cerebellum and brain stem involved with tumor on one side</li> </ul> <li>Supratentorial tumor confined to <ul> <li>Cerebral hemisphere (cerebrum) or meninges of cerebral hemisphere (one side)</li> <li>Frontal lobe</li> <li>Occipital lobe</li> <li>Parietal lobe</li> <li>Temporal lobe</li> </ul> </li>	
	Confined to ventricles Tumor invades or encroaches upon ventricular system Confined to brain, NOS Confined to meninges, NOS	
200	CNS Other (C701, C709, C720-C729) Confined to tissue or site of origin Localized, NOS	L

Code	Description	SS2018
		Т
500	Brain (C700, C710-C719)	RE
	Tumor crosses the midline	
	Tumor invades	
	Bone (skull) (see code 700 for other bone involvement)	
	Contralateral hemisphere	
	Corpus callosum (including splenium)	
	Major blood vessel(s)	
	Meninges (e.g., dura)	
	<ul> <li>Nerves (cranial, NOS)</li> <li>Spinal cord/canal</li> </ul>	
	Supratentorial tumor extends infratentorially to involve	
	Brain stem	
	Cerebellum	
	Hypothalamus	
	Pallium	
	Posterior cranial fossa	
	Thalamus	
	Infratentorial tumor extends supratentorially to involve	
	Anterior cranial fossa	
	Cerebrum (cerebral hemisphere) (excluding hypothalamus, pallium, thalamus)	
	(see code 100 for hypothalamus, pallium, thalamus)	
	Middle cranial fossa	
	Suprasellar brain	
	Tapetum	
600	CNS Other (C701, C709, C720-C729)	RE
	Adjacent connective/soft tissue	
	Adjacent muscle	
	Bone (skull) (see code 700 for other bone involvement)	
	Brain for cranial nerve tumor(s) (see code 700 for sites other than cranial nerve tumors)	
	Major blood vessel(s)	
	Meningeal tumor infiltrates nerve	
	Nerve tumor infiltrates meninges (dura)	
	Sphenoid and frontal sinuses (skull)	

# Pediatric Manual, Appendix 1: Pediatric Data Collection System, Version 1.2, 2025

Code	Description	SS2018
		Т
700	Brain (C700, C710-C719)	D
	Circulating cells in cerebral spinal fluid (CSF)	
	Bone other than Skull (see code 500 for skull)	
	Nasal cavity	
	Nasopharynx	
	Other direct extension outside CNS	
	Posterior pharynx	
	Further contiguous extension	
750	CNS Other (C701, C709, C720-C729)	D
	Bone other than skull (see code 400 for skull) Brain except for cranial nerve tumor(s) (see code 600 for cranial nerve tumors) Eye	
	Further contiguous extension	
800	No evidence of primary tumor	U
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

# **1137: Pediatric Regional Nodes**

• Not applicable (code 888)

### **3b: Astrocytoma**

### 1138: Pediatric Mets

### **Coding Instructions and Codes**

### Note 1: Code 00 for benign (behavior /0) and borderline (behavior /1) tumors.

**Note 2:** Leptomeningeal metastases, also known as carcinomatous meningitis and meningeal carcinomatosis, refers to the spread of malignant cells through the CSF space. These cells can originate from primary CNS tumors (e.g., in the form of drop metastases), as well as from distant tumors that have metastasized via hematogenous spread (code 70).

Code	Description	SS2018 M
00	No distant metastasis	None
10	Distant lymph node(s)	D
70	Metastasis within CNS and CSF pathways	D
	Carcinomatous meningitis	
	Drop metastasis	
	Leptomeningeal metastases	
	Meningeal carcinomatosis	
	Metastasis outside the CNS	
	Extra-neural metastasis	
	Carcinomatosis	
	Distant metastasis WITH or WITHOUT distant lymph node(s)	
	Distant metastasis, NOS	
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

### **3b: Astrocytoma**

Item Length: 1 NAACCR Item #: 3940 XML Parent-NAACCR ID: Tumor-brafMutationalAnalysis Active years: 2021+ Schema(s):

• 00200: Colon and Rectum (2018+)

### **Description**

The BRAF oncoprotein is involved in transmitting cell growth and proliferation signals from KRAS and NRAS. The BRAF V600E mutation is associated with poorer prognosis and predicts lack of response to anti-EGFR therapies.

"BRAF V600E is a specific mutation (change) in the BRAF gene, which makes a protein that is involved in sending signals in cells and in cell growth. This BRAF gene mutation is found in colorectal cancer. It may increase the growth and spread of cancer cells. Checking for this BRAF mutation in tumor tissue may help to plan cancer treatment. BRAF (V600E) kinase inhibitor RO5185426 blocks certain proteins made by the mutated BRAF gene, which may help keep cancer cells from growing." (NCI Dictionary of Cancer Terms <u>https://www.cancer.gov/publications/dictionaries/cancer-terms</u>)

The most common testing methods for BRAF are

- Direct Sanger sequencing
- High-resolution melting analysis
- Pyrosequencing
- PCR, allele-specific hybridization
- Real-time PCR

The most common BRAF mutations is BRAF V600E (c.1799T>A) mutation.

### **Rationale**

BRAF mutational analysis is recommended in clinical guidelines for patients with Astrocytoma as a prognostic marker and factor in determining appropriate therapy. It is a new data **item for cases diagnosed 1/1/2021+.** 

#### **Additional Information**

Source documents: pathology report, clinical laboratory report

#### **Notes**

#### Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

#### Note 2: Physician Statement

• Physician statement of BRAF can be used to code this data item when no other information is available.

### Note 3: Applicable stages

• BRAF may be recorded for all stages; however, it is primarily performed for patients with metastatic disease. If information is not available, code 9.

### Note 4: Results from nodal or metastatic tissue

• Results from nodal or metastatic tissue may be used for BRAF.

### Note 5: Neoadjuvant Therapy

- Record the assay from tumor specimens prior to neoadjuvant therapy.
- If neoadjuvant therapy is given and there are no BRAF results from pre-treatment specimens, report the findings from post-treatment specimens.

### **Coding guidelines**

- 1) Code 0 when BRAF negative/wild type/not detected
- 2) Code 1, 2 or 3 when BRAF identified/detected
- 3) Code 4 for when BRAF identified, mutation not known
- 4) Code 9 when
  - a. Insufficient amount of tissue available to perform test
  - b. Test done and documented to be equivocal
  - c. No microscopic confirmation of tumor
  - d. BRAF mutational analysis not ordered or not done, or unknown if ordered or done

Code	Description
0	Normal
	BRAF negative, BRAF wild type
	Negative for (somatic) mutations, no alterations, no (somatic) mutations identified, not present,
	not detected
1	Abnormal (mutated)/detected: BRAF V600E (c.1799T>A) mutation
2	Abnormal (mutated)/detected, but not BRAF V600E (c.1799T>A) mutation
3	Abnormal (mutated)/detected, KIAA1549-BRAF
4	Abnormal (mutated), BRAF, NOS
7	Test ordered, results not in chart
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 8 may result in an edit error.)
9	Not documented in medical record
	BRAF not assessed or unknown if assessed
<blank></blank>	Must be blank if diagnosis year is before 2024

### 3c1-3c4, 3e: Medulloblastoma

Stage-Manual.pdf)

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C700-C729	9470-9472, 9474-9478, 9480, 9501-9504, 9508	All ages	0, 1, 3
C700-C729, C753	9362	All ages	0, 1, 3

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (<u>IACR Paediatric Cancer Stage Guidelines</u>)
   SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u>
- (cancer.gov)
   SEER Summary Stage Manual-2018: Codes and Coding Instructions (seer.cancer.gov/tools/ssm/2018-Summary-

**Note 2:** For Medulloblastoma, Toronto Staging is based on the presence or absence of mets based on the *Chang M* definition for metastases within the CNS at diagnosis and is collected in Pediatric Mets.

• Pediatric Primary Tumor is collected for surveillance purposes

### 3c1-3c4, 3e: Medulloblastoma

### **1136: Pediatric Primary Tumor**

### **Coding Instructions and Codes**

**Note 1:** Pediatric Primary Tumor for Medulloblastoma is coded **only for single tumors confined to the primary site** (see code 150) or a **single** tumor crossing the midline without extension to adjacent structures (see code 250).

- Code 999 if there are multiple tumors in the brain
- The presence of multiple tumors is recorded in Pediatric Mets

Note 2: Benign (/0) or Borderline (/1) tumors are always coded to 050 regardless of size or extension to adjacent sites

Note 3: A midline shift is not the same thing as crossing the midline

- Documentation must state "crosses/crossing the midline"
- Code 150 if you have a single tumor confined to the primary site with a midline shift that is not extending into adjacent structures (see Note 4).

Note 4: Direct or contiguous extension to an adjacent site is collected in Pediatric Mets.

- If the only information available is extension to an adjacent site, code Pediatric Primary Tumor 999 and assign the appropriate Pediatric Mets code
- The following are collected in Pediatric Mets (see code 25 for all except circulating cells in CSF (code 15))
  - Adjacent connective/soft tissue
  - o Adjacent muscle
  - o Bone
  - o Circulating cells in cerebral spinal fluid (CSF)
  - Major blood vessel(s)
  - Meninges (e.g., dura)
  - Multiple/multifocal tumors
  - Nerves (cranial, NOS)
  - Ventricular system

Code	Description	SS2018 T
050	Benign or borderline brain	В
150	<ul> <li>All sites</li> <li>Single tumor confined to the primary site with no invasion or seeding to other structures</li> </ul>	L
	Confined to site of origin, NOS Localized, NOS	
250	<ul> <li>Single tumor confined to the primary site that crosses/crossing the midline</li> <li>WITHOUT invasion of adjacent structures (see Note 4)</li> </ul>	RE
800	No evidence of primary tumor	U
999	Unknown; extension not stated Multiple tumors (See Note 1) Single tumor with extension to an adjacent site (see Note 4) Primary tumor cannot be assessed Not documented in medical record	U
	Death Certificate Only	

### 3c1-3c4, 3e: Medulloblastoma

### **1137: Pediatric Regional Nodes**

• Not applicable (code 888)

### 1138: Pediatric Mets

### **Coding Instructions and Codes**

**Note 1:** Use code 70 when the only information is "distant metastasis, NOS," and there is no documentation regarding the specific metastases.

• If there are specific metastasis documented that are not listed in codes 15, 25, or 35, or 45, assign code 45 for "other specified distant metastasis."

Note 2: Code 00 for benign (behavior /0) and borderline (behavior /1) tumors.

Note 3: The following adjacent structures/sites, by direct or contiguous extension, are coded to 35.

- Adjacent connective/soft tissue
- Adjacent muscle
- Bone
- Circulating cells in cerebral spinal fluid (CSF)
- Major blood vessel(s)
- Meninges (e.g.; dura)
- Multiple/multifocal tumors
- Nerves (cranial, NOS)
- Ventricular system

**Note 4:** Leptomeningeal metastases, also known as carcinomatous meningitis and meningeal carcinomatosis, refers to the spread of malignant cells through the CSF space. These cells can originate from primary CNS tumors (e.g., in the form of drop metastases), as well as from distant tumors that have metastasized via hematogenous spread (code 35).

Code	Description	SS2018 M
00	No visible disease on imaging (MRI brain and spine) beyond primary site of disease	None
	AND no tumor cells into the cerebrospinal fluid (CSF)	
15	Tumor cells in the CSF	D
	Circulating cells in cerebral spinal fluid (CSF)	

Code	Description	SS2018 M
25	Intracranial spread beyond a single lesion	D
	All sites	
	<ul> <li>Bone (skull) (see code 45 for other bone involvement)</li> </ul>	
	<ul> <li>Major blood vessel(s)</li> </ul>	
	Meninges (e.g., dura)	
	Multiple/multifocal tumors	
	Nerves (cranial, NOS)	
	<ul> <li>Tumor invades or encroaches upon ventricular system</li> </ul>	
	Brain tumors (C700, C710-C719)	
	Anterior cranial fossa	
	Brain stem	
	Cerebellum	
	Cerebrum (cerebral hemisphere)	
	Contralateral hemisphere	
	Hypothalamus	
	Middle cranial fossa	
	Pallium	
	Posterior cranial fossa	
	Suprasellar brain	
	Tapetum	
	Thalamus	
	CNS tumors (C701, C709, C720-C729)	
	Adjacent connective tissue	
	Adjacent muscle	
	<ul> <li>Brain for cranial nerve tumor(s)</li> </ul>	
	<ul> <li>Sphenoid and frontal sinuses(skull)</li> </ul>	
	Pineal Gland (C753)	
	Adjacent connective/soft tissue	
	Cavernous sinus	
	Infratentorial and central brain	
35	Visible metastasis in spine OR	D
-	Visible metastasis in cervicomedullary (junction)	
	, , ,	
	Metastasis within CNS and CSF pathways	
	Carcinomatous meningitis	
	Drop metastasis	
	Leptomeningeal metastases	
	Meningeal carcinomatosis	

Code	Description	SS2018 M
45	Extra-neural metastasis	D
	All Sites	
	<ul> <li>Blood</li> <li>Bone (other than skull) (see code 25 for skull)</li> <li>Bone marrow</li> <li>Carcinomatosis</li> <li>Distant lymph nodes, NOS</li> <li>Further contiguous extension</li> <li>Other specified metastasis</li> </ul>	
	Brain tumors (C700, C710-C719)	
	<ul> <li>Nasal cavity</li> <li>Nasopharynx</li> <li>Other direct extension outside CNS</li> <li>Posterior pharynx</li> </ul>	
	CNS tumors (C701, C709, C720-729) • Eye	
70	Distant metastasis, NOS	D
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

## **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C000-C699, C739-C750,	9490, 9500	All ages	3
C754-C809			
C700-C729, C751-C753	9490, 9500	All ages	0, 1, 3

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- Children's Oncology Group (<u>Newly Diagnosed with Neuroblastoma (childrensoncologygroup.org</u>))
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Neuroblastoma, there are two different staging systems collected.

- Toronto Staging uses the International Neuroblastoma Risk Group Staging System (INRGSS) and records the stage group only. This is a clinical evaluation only based on image defined risk factors. This information will be collected in <u>1185: Intl Neuroblastoma Risk Grp Stag Sys (INRGSS)</u>
- The Children's Oncology Group (COG) use the *International Neuroblastoma Staging System (INSS),* which is based on surgical resection and is defined by stage group
  - Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets will be collected for surveillance purposes based on surgical resection and will derive the INSS Stage Group

## **1136: Pediatric Primary Tumor**

## **Coding Instructions and Codes**

**Note 1:** This field is based on surgical resection of the primary site only WITH or WITHOUT neoadjuvant therapy.

- Code 100 (localized tumor) OR 300 (regional tumor) if a procedure removes the entire tumor (i.e.; surgical resection, excisional biopsy)
- Code 200 (localized tumor) OR 400 (regional tumor) if a procedure does not remove the entire tumor (i.e.; incomplete, partial), or it's not clear if the entire tumor was removed
- Code 600 if the tumor cannot be surgically removed or the tumor crosses the spine (one side of the body to the other side)
- Code 999 if there was no surgical removal of the tumor, or there was a clinical work up only

**Note 2:** Use the following resources to determine if a tumor is localized, regional, or distant (further contiguous extension).

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 T
100	Localized tumor confined to one side of the body and one area	L
	Tumor completely surgically resected	
	Localized, NOS	
200	Localized tumor confined to one side of the body, greater than one area	L
	<ul> <li>Incomplete/partial surgical resection done OR unknown if complete surgical resection done</li> </ul>	
	Unable to resect tumor	
300		RE
300	Regional tumor confined to one side of the body and one area	KE
400	Tumor completely surgically resected Regional tumor confined to one side of the body, greater than one area	RE
400	<ul> <li>Incomplete/partial surgical resection done OR unknown if complete surgical resection</li> </ul>	
	done	
	Unable to resect tumor	
600	Tumor starts in or crosses the vertical midline (spine) of the body	D
	Cannot be removed surgically	
700	Further contiguous extension	D
800	No evidence of primary tumor	U
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Surgical resection not done/recommended	
	Unknown if surgery done	
	Clinical workup only	
	Death Certificate Only	

## **1137: Pediatric Regional Nodes**

### **Coding Instructions and Codes**

**Note 1:** This field is based on clinical and/or pathological information WITH or WITHOUT neoadjuvant therapy.

Note 2: Code only regional nodes, and nodes, NOS in this field. Distant nodes are coded in Pediatric Mets.

Note 3: Use the following resources to determine if involved lymph nodes are regional or distant.

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
100	Ipsilateral regional lymph nodes involved	RN
300	Contralateral or bilateral regional lymph nodes involved	RN
800	Regional lymph node(s), NOS Lymph node(s), NOS	RN
	Unknown if ipsilateral, contralateral or bilateral	
888	Not applicable: Primary site C420-C424, C700-C729, C751-C753, C760-C809	NA
999	Unknown; regional lymph node(s) not stated Regional lymph node(s) cannot be assessed Not documented in medical record	U
	Death Certificate Only	

# 1138: Pediatric Mets

# **Coding Instructions and Codes**

**Note:** Use the following resources to determine if involved lymph nodes are distant or if involved organs are metastatic.

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 M
00	No distant metastasis	None
10	Distant lymph node(s), NOS	D
20	Skin WITH or WITHOUT distant lymph nodes	D
30	Liver	D
	WITH or WITHOUT distant lymph nodes or skin	
40	Bone marrow	D
	WITH or WITHOUT distant lymph nodes, skin, or liver	
50	Bone	D
	WITH or WITHOUT distant lymph nodes, skin, liver, bone marrow	
70	Other specified metastasis excluding skin, liver, bone marrow, bone	D
	Carcinomatosis	
	Distant metastasis WITH or WITHOUT distant lymph node(s)	
	Distant metastasis, NOS	
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

1185: Intl Neuroblastoma Risk Grp Stag Sys (INRGSS)

Item Length: 1 NAACCR Item #: 1185 XML NAACCR ID: inrgss Active years: TBD Schema(s):

• 4a: Neuroblastoma

## Description

International Neuroblastoma Risk Group Staging System (INRGSS) for Neuroblastoma is defined based on clinical work up and image-defined risk factors.

The INRGSS is a clinically based staging system and is able to be utilized for every single neuroblastoma tumor as it is based on the clinical work up and image-defined risk factors

- Primary source of information for this data item is imaging
- Do not code any staging information from results of surgical resection in this data item

*Note*: There is a different staging system available for patients who have surgery (International Neuroblastoma Staging System (INSS)) which is collected in Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets

### Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

# **Additional Information:**

Source documents: imaging

Other names: INRG

#### **Notes**

# Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

# Note 2: Image-Defined Risk Factors

- Image-Defined Risk Factors in Neuroblastic Tumors: Staging requires assessment of whether patients have none, or one or more of the image-defined risk factors (IDRF). These IDRF's are based on imaging prior to any surgical resection or other treatment.
- Ipsilateral tumor extension within two body compartments
  - o Neck-chest, chest-abdomen, abdomen-pelvis
- Neck
  - o Tumor encasing carotid and/or vertebral artery and/or internal jugular vein
  - Tumor extending to base of skull
  - o Tumor compressing the trachea
- Cervico-thoracic junction

- Tumor encasing brachial plexus roots
- o Tumor encasing subclavian vessels and/or vertebral and/or carotid artery
- Tumor compressing the trachea
- Thorax
  - Tumor encasing the aorta and/or major branches
  - Tumor compressing the trachea and/or principal bronchi
  - o Lower mediastinal tumor, infiltrating the costovertebral junction between T9 and T12
- Thoraco-abdominal
  - Tumor encasing the aorta and/or vena cava
- Abdomen, pelvis
  - $\circ$  Tumor infiltrating the porta hepatis and/or the hepatoduodenal ligament
  - o Tumor encasing branches of the superior mesenteric artery at the mesenteric root
  - o Tumor encasing the origin of the coeliac axis, and/or of the superior mesenteric artery
  - Tumor invading one or both renal pedicles
  - Tumor encasing the aorta and/or vena cava
  - Tumor encasing the iliac vessels
  - Pelvic tumor crossing sciatic notch
- Intraspinal tumor extension whatever the location provided that
  - More than one third of the spinal canal in the axial plane is invaded and/or the perimedullary leptomeningeal spaces are not visible and/or the spinal cord signal is abnormal
- Infiltration of adjacent organs/structures
  - Pericardium, diaphragm, kidney, liver, duodeno-pancreatic block, and mesentery

# Note 4: Ascites and pleural effusion

• Ascites and/or a pleural effusion, even with malignant cells, do not constitute metastatic disease unless they are remote from the body compartment of the primary tumor.

# Note 5: Lymph node involvement

- Regional lymph node involvement does not factor into staging
- **Code 3** for non-regional lymph node involvement (distant lymph nodes)

Code	Description
1	Stage L1
	<ul> <li>Localized tumor that does not involve any vital structures</li> </ul>
	<ul> <li>Tumor confined within one body compartment (i.e., neck, chest, abdomen, or pelvis)</li> </ul>
	<ul> <li>No evidence of image-defined risk factors (IDRF's)</li> </ul>
	<ul> <li>Intraspinal tumor extension that does not fulfil the criteria for an IDRF is consistent with stage (L1)</li> </ul>
2	Stage L2
	<ul> <li>Locoregional tumor with evidence of image-defined risk factors (IDRF's)</li> </ul>
	• Tumor ipsilaterally contiguous within body compartments (i.e., a left sided
	abdominal tumor with left-sided lung, bone, or pleura involvement)
	<ul> <li>Non-contiguous disease would be coded as M (e.g., left sided abdominal</li> </ul>
	tumor with right-sided lung, bone, or pleura)
3	Stage M
	<ul> <li>Distant metastatic disease (see Stage MS for patients less than 18 months)</li> </ul>
	Noncontiguous disease
	Distant lymph node involvement

Code	Description		
4	Stage MS		
	• For patients less than 18 months only (547 days) metastatic disease confined to		
	o Bone marrow		
	<ul> <li>MIBG scintigraphy must be negative in bone and bone marrow</li> </ul>		
	o Skin		
	o Liver		
8	Not applicable: Information not collected for this case		
	(If this information is required by your standard setter, use of code 8 may result in an edit		
	error)		
9	Not documented in medical record		
	International Neuroblastoma Risk Group Staging System not assessed		
	Death certificate only		
<blank></blank>	N/A - Diagnosis year is prior to 2024		

# 1186: n-MYC Amplification

Item Length: 1 NAACCR Item #: 1186 XML NAACCR ID: nMycAmplification Active years: TBD Pediatric Schema(s):

• 4a: Neuroblastoma

# Description

n-MYC Amplification is a gene that normally regulates cell growth. Studies have shown that n-MYC amplification is an indicator of poor prognosis and increased risk of unfavorable outcomes in patients with neuroblastoma.

This field indicates the n-MYC status of a neuroblastoma tumor after a pathologic specimen is obtained.

# Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

# **Additional Information:**

Source documents: molecular pathology report (may be addendum to original pathology report)

For further information, refer to the **Neuroblastoma** cancer protocol published by the College of American Pathologists.

# <u>Notes</u>

# Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

# Note 2: Physician statement

• Physician statement of n-MYC can be used to code this data item when no other information is available.

Code	Description	
0	Not amplified/negative	
1	Amplified/positive	
2	Gain	
7	Test ordered, results not in chart	
8	Not applicable: Information not collected for this case	
	(If this information is required by your standard setter, use of code 8 may result in an edit error)	
9	Not documented in medical record	
	Cannot be determined by pathologist	
	Not applicable (secondary to previous chemotherapy)	
	n-MYC not assessed or unknown if assessed	
<blank></blank>	N/A - Diagnosis year is prior to 2024	

# 1187: Intl Neuroblastoma Path Prog Class (INPC)

Item Length: 1

NAACCR Item #: 1187

**Alternate name:** International Neuroblastoma Pathology Prognostic Classification (INPC), Shimada Classification, Unfavorable histology, or Favorable histology **XML NAACCR ID:** inpc

Active years: TBD

Pediatric Schema(s):

• 4a: Neuroblastoma

# Description

The International Neuroblastoma Pathology Prognostic Classification (INPC) categorizes neuroblastomas as favorable or unfavorable histologies based on the following factors: age, neuroblastic maturation, Schwannian stromal content, Mitosis-kayorrhexis index (MKI), and degree of differentiation (grade).

The International Neuroblastoma Pathology Prognostic Classification (INPC) (unfavorable versus favorable histology) is a biologically relevant classification based on morphologic features of neuroblastic tumors which has prognostic indications. It is based on the following criteria

- Age
- Neuroblastic maturation
- Schwannian stromal content
- Mitosis-kayorrhexis index (MKI)
- Degree of differentiation (grade)

# Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

# **Additional Information:**

Source documents: pathology report

For further information, refer to the **Neuroblastoma** cancer protocol published by the College of American Pathologists.

# <u>Notes</u>

# Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

# Note 2: Physician statement

• Physician statement of unfavorable vs favorable histology can be used to code this data item when no other information is available, provided there is information that the results are from a biopsy or surgical resection without neoadjuvant therapy.

# Note 3: Neoadjuvant Therapy

- The INPC results are to be coded based on either biopsy or surgical resection (without neoadjuvant therapy).
- Code 9 if the only results are from a post neoadjuvant surgical resection

Code	Description
0	Unfavorable
1	Favorable
7	Test ordered, results not in chart
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 8 may result in an edit error)
9	Not documented in medical record
	Cannot be determined by pathologist
	International Neuroblastoma Pathology Prognostic Classification (INPC) not assessed or unknown if
	assessed
	INPC assessed only at post neoadjuvant surgical resection
<blank></blank>	N/A - Diagnosis year is prior to 2024

# **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C690-C699	9510-9514	All ages	3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Retinoblastoma, Toronto Staging is based on the *International Retinoblastoma Staging System (IRSS)* and records the stage group only.

• Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets will be collected for surveillance purposes and will derive the IRSS Stage Group

### 1136: Pediatric Primary Tumor

#### **Coding Instructions and Codes**

**Note 1:** If there are bilateral retinoblastomas (both eyes involved), record the stage of the eye with the more advanced/higher stage in this data item.

• Code the eye with the lesser/lower stage in the data item <u>IRSS Stage for Eye-2</u> [NAACCR Data Item #1188]

**Note 2:** Pathological staging information from an enucleation always takes precedence over clinical staging, except in cases with neoadjuvant treatment where clinical disease is as extensive as or more extensive than disease at surgery.

Code	Description	SS2018 T
100	Intraocular tumor(s) WITHOUT any	L
	Local invasion	
	Focal choroidal invasion	
	Pre- or intralaminar involvement of the optic nerve head	
	Tumor confined to retina, NOS	
	Localized, NOS	· · ·
200	Intraocular tumor(s) WITH local invasion, NOS	L
	Choroid (concomitant focal invasion)	
	Pre- or intralaminar involvement of optic nerve head	
	Retinal detachment	
	Schlemm's canal	
	Stromal invasion iris	
	Subretinal seeding	
	Trabecular meshwork	
	Vitreous seeding	
300	Advanced intraocular tumor(s) WITH significant local invasion	L
	Anterior chamber	
	Aseptic orbital cellulitis	
	Buphthalmos	
	<ul> <li>Choroid (multiple foci, focal, full-thickness involvement)</li> </ul>	
	Ciliary body	
	Emissary channels	
	Hyphema AND/OR massive vitreous hemorrhage	
	• Iris	
	• Lens	
	Pars plana	
	Phthisis or pre-phthisis bulbi	
	Raised intraocular pressure with neovascularization	
	Retrolaminar invasion of optic nerve head	
	• Sclera	
	Zonules	
<u> </u>		<u> </u>

Code	Description	SS2018 T
400	Evidence of extraocular tumor	RE
	Tumor at transected end of optic nerve	
	Tumor in the meningeal spaces around optic nerve	
	Full-thickness invasion of sclera WITH invasion of	
	Adjacent adipose tissue	
	• Bone	
	Conjunctiva	
	Episcleral	
	Extraocular muscle	
	• Eyelids	
800	No evidence of primary tumor	U
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

# **1137: Pediatric Regional Nodes**

# **Coding Instructions and Codes**

Note 1: Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in Pediatric Mets.

Note 2: Code 800 if regional lymph nodes are involved, but there is no indication which ones are involved

Code	Description	SS2018 N
000	No regional lymph node involvement	None
300	Cervical, NOS	RN
	Mandibular, NOS	
	Submandibular (submaxillary)	
	Parotid, NOS	
	Infra-auricular	
	Preauricular	
800	Regional lymph node(s), NOS	RN
	Lymph nodes, NOS	
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

# 1138: Pediatric Mets

# **Coding Instructions and Codes**

**Note**: Code 50 does not include "trilateral retinoblastomas." The presence of "trilateral retinoblastomas" is coded in the data item Heritable Trait [NAACCR Data Item #3856].

Code	Description	SS2018 M
00	No distant metastasis	None
10	Distant lymph node(s), NOS	D
30	Distant metastasis to any organ EXCEPT CNS	D
	Carcinomatosis	
	Code 10 + 30	
50	CNS parenchyma	D
	Cerebrospinal fluid	
	Any combination of codes 10, 30 and 50	
70	Distant metastasis, NOS	D
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

# 1188: IRSS Stage for Eye-2

Item Length: 1 Provisional NAACCR Item #: 1188 Provisional XML Parent-NAACCR ID: irssStageForEye2 Active years: 2024+ Pediatric Schema(s):

• Retinoblastoma

# Description

Bilateral retinoblastoma is abstracted as a single primary regardless of timing, but there is no effective way to measure the different extent of diseases or stages for each eye beyond text. Currently, abstractors are required to enter the information of the most advanced eye in the staging data fields, losing all measurable data on the stage the less advanced eye.

This field allows the abstractor to enter the individual stages for each eye in cases of bilateral retinoblastoma at the time of diagnosis.

# Rationale

Even though staging information for only one retinoblastoma tumor can currently be captured in data form, abstractors are still required to put treatment information for bilaterally affected eyes into the treatment fields of the abstract. The ability to capture measurable staging data of the contralateral eye will provide substantiation of the treatment captured for both eyes in the abstract.

# **Additional Information**

Source documents: imaging, pathology report, clinician's statement

For further information, refer to the Retinoblastoma cancer protocol published by the College of American Pathologists.

# **Notes**

# Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

# Note 2: Bilateral retinoblastomas

- This data item records the stage of the second eye when there are bilateral retinoblastomas.
  - **Code 7** if only one eye is involved (unilateral retinoblastoma)
  - o Extension of one eye (unilateral retinoblastoma) is coded in Pediatric Primary Tumor
- If there are bilateral retinoblastomas, record the Stage Group of the lesser/lower stage in this data item (more advanced/higher stage is recorded in Pediatric Primary Tumor)
  - $\circ$  Do not record a stage (Stage 0-IV) in this data item if only one eye is involved

Code	Description
0	Stage 0
	Tumor confined to the globe
	Enucleation has not been performed
	<ul> <li>Patient treated conservatively with either focal therapies or chemotherapy</li> </ul>
1	Stage I
	<ul> <li>Enucleation with negative margins (R0)</li> </ul>
	Completely resected histologically
2	Stage II
	Enucleation with positive/microscopic residual tumor
3	Stage III
	Regional extension, involvement of
	o Orbit
	<ul> <li>Preauricular extension</li> </ul>
	<ul> <li>Cervical lymph node involvement</li> </ul>
4	Stage IV
	Distant metastatic disease
7	Not applicable: Only one eye is involved, and staging collected in Pediatric Primary Tumor, Pediatric
	Regional Nodes and Pediatric Mets
	Unilateral retinoblastoma
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 8 may result in an edit error.)
9	Not documented in medical record
	International Retinoblastoma Staging System (IRSS) not assessed or unknown if assessed
<blank></blank>	N/A - Diagnosis year is prior to 2024

# **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C649	8000-8005	00-39	3
C649, C659	8964-8967	00-39	3
C649, C659	8959, 8960	All ages	3
C649	8963, 9364	All ages	3

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Renal tumors, Toronto Staging is based on the *Wilms Tumor Staging System* and records the stage group only.

• Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets will be collected for surveillance purposes and will derive the Wilms Tumor Stage Group

Note 3: This staging system is not the same as the National Wilms Tumor Study Group (NWTS)

• Do not record stage information from the National Wilms Tumor Study Group (NWTS) in these data items

### **1136: Pediatric Primary Tumor**

### **Coding Instructions and Codes**

**Note 1:** Primary tumor evaluation is based on a surgical resection of the primary site only.

- Code 999 if there is no surgical resection of the primary site
- Do not use imaging findings to code this data item

Note 2: Codes are based on whether patient had neoadjuvant chemotherapy or surgery first

- If patient did not receive chemotherapy (or unknown if patient received chemotherapy) prior to surgery, see codes 100, 200, 300
- If patient did receive chemotherapy prior to surgery, see codes 110, 210, 310

Note 3: If there is bilateral disease, code the most advanced stage at diagnosis.

• Code 4 for Laterality [NAACCR # 410] data item

Code	Description	SS2018 T
100	No chemotherapy AND no biopsy prior to surgery (see code 300 if biopsy done prior to surgical resection)	L
	Tumor limited to kidney and completely resected	
	<ul> <li>Renal capsule intact, not penetrated by tumor</li> </ul>	
	<ul> <li>No tumor invasion of veins or lymphatics of renal sinus</li> </ul>	
	Confined (limited) to the kidney, NOS	
	Localized, NOS	
	WITH NEGATIVE or UNKNOWN margins (see code 300 if positive margins)	
110	Chemotherapy prior to surgery	L
	<ul> <li>Tumor limited to kidney and completely resected</li> </ul>	
	$\circ$ Renal capsule may be infiltrated by tumor, but tumor does not reach the outer	
	surface	
	<ul> <li>Tumor may protrude or bulge into the pelvic system or ureter, but does not</li> </ul>	
	infiltrate	
	<ul> <li>Vessels of renal sinus not involved</li> </ul>	
200	No chemotherapy AND no biopsy prior to surgery (see code 300 if biopsy done prior to surgical	RE
	resection)	
	<ul> <li>Tumor extends beyond kidney but completely resected</li> </ul>	
	<ul> <li>Tumor penetrates renal capsule</li> </ul>	
	<ul> <li>Tumor in lymphatics or veins of renal sinus</li> </ul>	
	<ul> <li>Tumor in renal vein with margin not involved</li> </ul>	
	WITH NEGATIVE or UNKNOWN margins (see code 300 if positive margins)	
210	Chemotherapy prior to surgery	RE
	<ul> <li>Tumor extends beyond kidney but completely resected</li> </ul>	
	<ul> <li>Tumor penetrates renal capsule into perirenal fat</li> </ul>	
	$\circ$ Tumor infiltrates the renal sinus and/or invades blood and lymphatic vessels	
	outside renal parenchyma but is completely resected	
	<ul> <li>Tumor infiltrates adjacent organs or vena cava but is completely resected</li> </ul>	

Code	Description	SS2018 T
300	No chemotherapy prior to surgery	RE
	<ul> <li>Residual tumor confined to abdomen</li> </ul>	
	<ul> <li>Peritoneal contamination or tumor implant</li> </ul>	
	<ul> <li>Tumor spillage (rupture) of any degree occurring before or during surgery</li> </ul>	
	<ul> <li>Gross residual tumor in abdomen</li> </ul>	
	WITH POSITIVE margins (includes localized tumor with positive margins)	
	OR	
	Biopsy of tumor (including fine-needle aspiration) prior to surgical resection of kidney	
310	Chemotherapy prior to surgery	RE
	<ul> <li>Incomplete resection of the tumor (gross or microscopic extension beyond the</li> </ul>	
	resection margins)	
	<ul> <li>Necrotic tumor or chemotherapy-induced changes</li> </ul>	
	<ul> <li>Tumor rupture before or intraoperatively</li> </ul>	
	<ul> <li>Tumor has penetrated the peritoneal surface</li> </ul>	
	<ul> <li>Tumor thrombi present at resection margins</li> </ul>	
	<ul> <li>Surgical biopsy prior to resection (does not include needle biopsy)</li> </ul>	
800	No evidence of primary tumor	U
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	No surgical resection of the primary site	
	Death certificate only	

# **1137: Pediatric Regional Nodes**

### **Coding Instructions and Codes**

**Note 1:** Regional lymph node evaluation is based on microscopic evaluation (FNA, biopsy, sentinel lymph node biopsy, lymph node dissection) only.

- Code 999 if there is no microscopic evaluation of regional lymph nodes
- Do not use imaging findings to code this data item

Note 2: Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in Pediatric Mets.

Note 3: Regional lymph nodes are defined as those in the vicinity of the primary tumor.

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
300	Aortic, NOS	RN
	Lateral (lumbar)	
	Para-aortic	
	Periaortic	
	Preaortic	
	Retroaortic	
	Caval, NOS	
	Interaortocaval	
	Paracaval	
	Pericaval	
	Precaval	
	Retrocaval	
	Renal hilar	
	Retroperitoneal, NOS	
800	Regional lymph node(s), NOS	RN
	Lymph node(s), NOS	
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	No microscopic evaluation of regional lymph nodes	
	Death Certificate Only	

# 1138: Pediatric Mets

# **Coding Instructions and Codes**

**Note:** The presence of mets can be based on imaging and/or microscopic evaluation.

Code	Description	SS2018 M
00	No distant metastasis	NONE
10	Distant lymph node(s), NOS	D
70	Extension to	D
	<ul> <li>Adrenal gland         <ul> <li>Ipsilateral, noncontiguous</li> <li>Contralateral</li> </ul> </li> <li>Contralateral kidney</li> <li>Contralateral ureter</li> <li>Liver</li> <li>Spleen</li> </ul>	
	Carcinomatosis	
	Distant metastasis WITH or WITHOUT distant lymph node(s)	
	Distant metastasis, NOS	
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

#### 3801: Chromosome 1p: Loss of Heterozygosity

Item Length: 1 NAACCR Item #: 3801 XML NAACCR ID: chromosome1pLossHeterozygosity Active years: 2024+ Pediatric Schema(s):

- 6a1: Renal Tumors: Nephroblastoma
- 6a2: Renal Tumors: Rhabdoid Renal Tumor
- 6a3: Renal Tumors: Kidney Sarcomas
- 6a4: Renal Tumors: Ewing Sarcoma of Kidney
- 6c: Renal Tumors: Unspecified

# Description

Chromosome 1p: Loss of Heterozygosity (LOH) refers to the loss of genetic material normally found on the short arm of one of the patient's two copies of chromosome 1. Occurs in approximately 5% of favorable histology (non-anaplastic) Wilm's tumor (FHWT) cells and has been shown to be associated with inferior relapse-free survival (RFS) and overall survival (OS) in patients with FH Wilm's tumor. This testing is commonly done in conjunction with Chromosome 1q: Loss of Heterozygosity (NAACCR ID: 1190) and Chromosome 16q: Loss of Heterozygosity (NAACCR ID: 1189).

This is a special molecular diagnostic test performed on tumor tissue to identify loss of genetic material normally found on the short arm of one of the patient's two copies of chromosome 1. A normal cell will contain two complete copies of each chromosome, one from each parent, and this normal state is termed heterozygous. Loss of heterozygosity (LOH) is an abnormal state reflecting loss of the whole arm of chromosome 1p following a chromosomal translocation event

#### Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

#### **Additional Information**

Source documents: molecular pathology report (may be addendum to original pathology report)

Other names include\_whole arm loss, gene deletion and allelic loss.

#### **Coding Instructions and Codes**

#### Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

#### Note 2: Physician statement

• Physician statement of Chromosome 1p deletion/LOH can be used to code this data item when no other information is available.

Code	Description
0	Chromosome 1p deletion/LOH not identified/not present/negative
1	Chromosome 1p deletion/LOH identified/present/positive
7	Test ordered, results not in chart
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 88 may result in an edit error.)
9	Not documented in medical record
	Cannot be determined by pathologist
	Chromosome 1p deletion/LOH not assessed or unknown if assessed
<blank></blank>	N/A - Diagnosis year is prior to 2024

#### 1189: Chromosome 16q: Loss of Heterozygosity

Item Length: 1 NAACCR Item #: 1189 XML NAACCR ID: chromosome16qLossHeterozygosity Active years: 2024+ Pediatric Schema(s):

- 6a1: Renal Tumors: Nephroblastoma
- 6a2: Renal Tumors: Rhabdoid Renal Tumor
- 6a3: Renal Tumors: Kidney Sarcomas
- 6a4: Renal Tumors: Ewing Sarcoma of Kidney
- 6c: Renal Tumors: Unspecified

# Description

Chromosome 16q: Loss of Heterozygosity (LOH) refers to the loss of genetic material normally found on the long arm of one of the patient's two copies of chromosome 16. Occurs in approximately 5% of favorable (non-anaplastic) histology Wilm's tumor (FHWT) cells and has been shown to be associated with inferior relapse-free survival (RFS) and overall survival (OS) in patients with FH Wilm's tumor. This testing is commonly done in conjunction with Chromosome 1p: Loss of Heterozygosity (NAACCR ID: 3801) and Chromosome 1q: Loss of Heterozygosity (NAACCR ID: 1190)

This is a special molecular diagnostic test performed on tumor tissue to identify loss of genetic material found on the long arm of one of the patient's two copies of chromosome 16. A normal cell will contain two complete copies of each chromosome, one from each parent, and this normal state is termed heterozygous. Loss of heterozygosity (LOH) is an abnormal state reflecting loss of the whole arm of chromosome 16q following a chromosomal translocation event

#### Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

#### **Additional Information**

Source documents: molecular pathology report (may be addendum to original pathology report)

Other names include\_whole arm loss, gene deletion and allelic loss.

# **Notes**

# Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

#### Note 2: Physician statement

• Physician statement of Chromosome 16q deletion/LOH can be used to code this data item when no other information is available.

Code	Description
0	Chromosome 16q deletion/LOH not identified/not present/negative
1	Chromosome 16q deletion/LOH present/positive
7	Test ordered, results not in chart
8	Not applicable: Information not collected for this case
	(If this item is required by your standard setter, use of code 8 will result in an edit error.)
9	Not documented in medical record
	Cannot be determined by pathologist
	Chromosome 16q: LOH not assessed or unknown if assessed
<blank></blank>	N/A - Diagnosis year is prior to 2024

#### 1190: Chromosome 1q Status

Item Length: 1 NAACCR Item #: 1190 XML NAACCR ID: chromosome1qStatus Active years: 2024+ Pediatric Schema(s):

- 6a1: Renal Tumors: Nephroblastoma
- 6a2: Renal Tumors: Rhabdoid Renal Tumor
- 6a3: Renal Tumors: Kidney Sarcomas
- 6a4: Renal Tumors: Ewing Sarcoma of Kidney
- 6c: Renal Tumors: Unspecified

# Description

Gain of chromosome 1q is one of the most common cytogenetic findings in Wilms tumor, occurring approximately 30% of tumors. It is associated with a poorer relapse-free survival (RFS) and overall survival (OS) in patients with favorable (non-anaplastic) histology Wilm's tumor (FHWT). This testing is commonly done in conjunction with Chromosome 1p: Loss of Heterozygosity (see NAACCR ID: 3801) and Chromosome 16q: Loss of Heterozygosity (see NAACCR ID: 1189).

This is a special molecular diagnostic test performed on tumor tissue to identify gain of genetic material normally found on the long arm of one of the patient's two copies of chromosome 1. A normal cell will contain two complete copies of each chromosome, one from each parent, and this normal state is termed heterozygous. Gain of heterozygosity (GOH) is an abnormal state reflecting gain of the whole arm of chromosome 1q following a chromosomal translocation event

#### Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

# **Additional Information**

Source documents: molecular pathology report (may be addendum to original pathology report)

Other names include\_whole arm loss, gene deletion and allelic loss.

#### **Notes**

#### Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

#### Note 2: Physician statement

• Physician statement of Chromosome 1q gain can be used to code this data item when no other information is available.

Code	Description
0	Chromosome 1q gain/GOH not identified/not present/negative
1	Chromosome 1q gain/GOH identified/present/positive
7	Test ordered, results not in chart

Code	Description
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 88 may result in an edit error.)
9	Not documented in medical record
	Cannot be determined by pathologist
	Chromosome 1q gain/LOH not assessed or unknown if assessed
<blank></blank>	N/A - Diagnosis year is prior to 2024

# 6a4-Renal Tumors: Ewing Sarcoma of Kidney

# 1191: EWSR1-FLI1 fusion

Item Length: 1 NAACCR Item #: 1191 XML NAACCR ID: ewsr1Fli1Fusion Active years: 2024+ Pediatric Schema(s):

- 6a4: Renal Tumors: Ewing Sarcoma of Kidney
- 8c: Malignant Bone Tumors: Ewing Sarcoma

# Description

EWS-FLI1 fusion occurs in about 90% of Ewing Sarcomas and functions as both a pioneering transcription factor and potent oncogene.

## Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

### **Additional information**

Source documents: molecular pathology report (may be addendum to original pathology report)

#### **Notes**

# Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

# Note 2: Physician statement

• Physician statement of EWSR1-FLI1 fusion can be used to code this data item when no other information is available.

Description
No gene rearrangements (fusions) identified
EWSR1-FLI1 gene rearrangement (fusion) present
EWSR1-ERG gene rearrangement (fusion) present
Other EWSR1 gene rearrangement (fusion) present
EWSR1 rearrangement present, fusion partner not known
Non-EWSR1 variant translocation present
Test ordered, results not in chart
Not applicable: Information not collected for this case
(If this information is required by your standard setter, use of code 8 may result in an edit
error.)
Not documented in medical record
Cannot be determined by pathologist
EWSR1 gene arrangements not assessed or unknown if assessed
N/A - Diagnosis year is prior to 2024

# **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C220	8970	All ages	3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- Children's Oncology Group (<u>Newly Diagnosed with Hepatoblastoma or Hepatocellular Carcinoma</u> (childrensoncologygroup.org)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Hepatoblastoma tumors, there are three different staging systems collected

- Toronto Staging is based on the absence or presence of mets and is collected in Pediatric Mets
- The Children's Oncology Group (COG) for liver staging is used.
  - Per this staging system, anything involved outside the liver is Stage IV. This is different than other staging used in the US that has adjacent organs not being a Stage IV
  - Pediatric Primary Tumor, Pediatric Regional Nodes and Pediatric Mets are used to derive the stage group
- Pretext is collected as a SSDI and is based on clinical staging only

# **1136: Pediatric Primary Tumor**

# **Coding Instructions and Codes**

Note 1: Evaluation of primary tumor is based on several factors

- Surgically resected WITH or WITHOUT neoadjuvant therapy and tumor(s) confined to the liver with **negative/unknown** margins
  - One lobe involved (see code 150)
  - More than one lobe involved (see code 250)
- Surgically resected WITH or WITHOUT neoadjuvant therapy and tumor(s) confined to the liver with **positive** margins (codes 175 and 275)
  - One lobe involved (see code 175)
  - More than one lobe involved (see code 275)
- Partial surgical resection WITH or WITHOUT neoadjuvant therapy, or unresectable and tumor(s) confined to the liver (code 350)

Note 2: See Pediatric Mets for involvement of adjacent structures, along with metastatic disease

Code	Description	SS2018 T
150	PATHOLOGICAL ASSESSMENT ONLY	L
	<ul> <li>Tumor confined to the liver WITH or WITHOUT vascular invasion and NEGATIVE/UNKNOWN surgical margins</li> <li>Complete resection of the tumor(s)</li> <li>Single lesion (one lobe)</li> <li>Multiple (satellite) nodules/tumors confined to one lobe</li> <li>Confined to liver, NOS</li> </ul>	
	Localized, NOS	
175	Code 150 with positive surgical margins	L
250	PATHOLOGICAL ASSESSMENT ONLY	RE
	Tumor confined to the liver WITH or WITHOUT vascular invasion	
	Complete resection of the tumor(s)	
	<ul> <li>More than one lobe involved by contiguous growth (single lesion)</li> </ul>	
	<ul> <li>Multiple (satellite) nodules/tumors in more than one lobe of liver or on surface of parenchyma</li> </ul>	
275	Code 250 with positive surgical margins	RE
350	Tumor confined to the liver WITH or WITHOUT vascular invasion	RE
	<ul> <li>Incomplete resection done or no surgical resection performed</li> </ul>	
	Determined to be unresectable	
	Presses onto vital tissues in the liver	
800	No evidence of primary tumor	U

Code	Description	SS2018 T
999	Unknown, extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

# **1137: Pediatric Regional Nodes**

# **Coding Instructions and Codes**

**Note 1:** Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in Pediatric Mets.

**Note 2:** Regional lymph nodes are defined as those in the vicinity of the primary tumor.

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
300	Caval	RN
	Hepatic, NOS	
	Hepatic artery	
	Hepatic pedicle	
	Inferior vena cava	
	Porta hepatis (portal) (hilar) [in hilus of liver]	
	Hepatoduodenal ligament	
	Periportal	
	Portal vein	
700	Inferior phrenic nodes	D
800	Regional lymph node(s), NOS	RN
	Lymph node(s), NOS	
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

# 1138: Pediatric Mets

# **Coding Instructions and Codes**

**Note:** This field includes the involvement of adjacent structures to the liver.

Code	Description	SS2018 M
00	No distant metastasis	None
10	Diaphragm Extrahepatic bile duct(s) Extrahepatic blood vessel(s) • Hepatic artery • Portal vein • Vena cava Gallbladder Ligament(s) • Coronary • Falciform • Hepatoduodenal • Hepatogastric • Round (of liver) • Triangular Omentum (lesser and NOS) (see code 20 for greater omentum) Peritoneum, NOS	RE
	Parietal     Visceral	
20	Greater omentum (see code 10 for lesser omentum and omentum, NOS) Pancreas Pleura Stomach Further contiguous extension	D
30	<ul> <li>Distant lymph node(s)</li> <li>Aortic (para-aortic, periaortic)</li> <li>Cardiac</li> <li>Coronary artery</li> <li>Diaphragmatic, NOS</li> <li>Lateral (aortic) (lumbar)</li> <li>Pericardial (pericardiac)</li> <li>Peripancreatic (near head of pancreas only)</li> <li>Posterior mediastinal (tracheoesophageal) including juxtaphrenic nodes</li> <li>Renal artery</li> <li>Retroperitoneal, NOS</li> </ul>	D
	Distant lymph node(s), NOS	
40	Lungs	D

Code	Description	SS2018 M
70	Carcinomatosis	D
	Distant metastasis WITH or WITHOUT distant lymph node(s)	
	Other specified metastasis	
	Distant metastasis, NOS	
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

## 7a: Hepatoblastoma

## **1192: Pretext Clinical Staging**

Item Length: 1 NAACCR Item #: 1192 Provisional XML Parent-NAACCR ID: pretextClinicalStaging Active years: 2024+ Pediatric Schema(s): Liver

## Description

PRETEXT stands for PRE-Treatment Extent of tumor. This field describes the extent of involvement within the four lobes of the liver at time of a pediatric liver tumor diagnosis. It is based off clinical imaging and was originally designed to standardize imaging evaluation and risk stratification of hepatoblastoma before neoadjuvant chemotherapy or tumor resection.

#### Rationale

After initially being created by the International Childhood Liver Tumours Strategy Group (SIOPEL) in 1990, PRETEXT was introduced for use within the United States in 2014 by the Children's Oncology Group (COG) once radiographic imaging became more sophisticated and exploratory surgery at diagnosis was no longer advisable. It is used as a central component of risk stratification schemes that define treatment of hepatoblastoma.

## **Additional information**

## Source documents: imaging

## Notes

## Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

#### Note 2: Criteria for coding

• This SSDI is based on imaging findings only. **Do not** code any findings from surgical resection in this data item. Evaluation must also be done prior to any neoadjuvant therapy

## Note 3: Pretext Staging-Segments of the liver

- Caudate liver: Segment I
   Note: Involvement of the caudate liver is at minimum Stage 2
- Left lateral section: Segments II & III
- Left medial section: Segments IVA & IVB
- Right anterior section: Segments V & VIII
- Right posterior section: Segments VI & VII

Code	Description
1	One section involved; three adjoining sections are tumor free
	Stage I, Pretext 1
2	One or two sections involved; two adjoining sections are tumor free
	Stage 2, Pretext 2
3	Two or three sections involved; one adjoining section is tumor free
	Stage 3, Pretext 3
4	Four sections involved
	Stage 4, Pretext 4
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 8 may result in an
	edit error.)
9	Not documented in medical record
	Cannot be determined by pathologist
	PRETEXT not assessed or unknown if assessed
<blank></blank>	N/A- Diagnosis year is prior to 2024

## **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C400-C419,	9180-9187, 9191-9195, 9200, 9210, 9220-9221, 9230, 9240-	00-39	3
C760-C768,	9243, 9260		
C809			
C400-C419	8000-8005, 8800, 8801, 8803-8805, 8810-8812, 8823, 8830,	00-39	3
	9250, 9261-9262, 9270-9275, 9280-9282, 9290, 9300-9302,		
	9310-9312, 9320-9322, 9330, 9340-9342, 9363-9365, 9370-		
	9372		

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Bone tumors, Toronto Staging is based on the presence or absence of mets and is collected in Pediatric Mets.

• Pediatric Primary Tumor and Pediatric Regional Nodes are collected for surveillance purposes

### 1136: Pediatric Primary Tumor

#### **Coding Instructions and Codes**

**Note:** The cortex of a bone is the dense outer shell that provides strength to the bone; the spongy center of a bone is the cancellous portion. The periosteum of the bone is the fibrous membrane covering of a bone that contains the blood vessels and nerves; the periosteum is similar to the capsule on a visceral organ.

Code	Description	SS2018 T
100	Appendicular (C400-C403, C408-C411, C413, C418-C419)	L
	Confined to cortex of bone	
	<ul> <li>Extension beyond cortex to periosteum (no break in periosteum)</li> </ul>	
	Spine (C412)	
	<ul> <li>Confined to spine, NOS (number of segments involved not known)</li> </ul>	
	<ul> <li>Involvement of single or multiple adjacent vertebral segment(s)</li> </ul>	
	Pelvis (C414)	
	<ul> <li>Confined to pelvis, NOS (number of segments involved not known and WITHOUT or UNKNOWN if extraosseous extension)</li> </ul>	
	One to four pelvic segments involved WITHOUT or UNKNOWN if extraosseous	
	extension (see code 200 for extraosseous extension)	
	Localized, NOS	
200	All sites	RE
	Extraosseous extension (beyond periosteum to surrounding tissues, including	
	adjacent skeletal muscle(s))	
	Appendicular (C400-C403, C408-C411, C413, C418-C419)	
	Adjacent bone/cartilage	
	Spine (C412)	
	<ul> <li>Involvement of multiple non-adjacent vertebral segments</li> </ul>	
	Spinal canal	
	Pelvis (C414)	
	One to four pelvic segments involved WITH extraosseous extension	
500	Appendicular (C400-C403, C408-C411, C413, C418-C419)	D
	<ul> <li>Discontinuous tumors in the primary bone site ("skip" metastasis)</li> </ul>	
	• Skin	
	Spine (C412)	
	Gross vascular invasion	
	Tumor thrombus in great vessels	
	Pelvis (C414)	
	Encasement of external iliac vessels	
	Gross tumor thrombus in major pelvic vessels	
	Sacral neuroforamen	
	Sacroiliac joint	
800	No evidence of primary tumor	U

Code	Description	SS2018 T
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

#### **1137: Pediatric Regional Nodes**

#### **Coding Instructions and Codes**

Note 1: Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in Pediatric Mets.

**Note 2:** Regional lymph nodes are defined as those in the vicinity of the primary tumor.

**Note 3:** Regional lymph node involvement is rare. If there is no mention of lymph node involvement clinically, assume that lymph nodes are negative.

**Note 4:** Code 800 if regional lymph nodes are involved, but there is no indication which ones are involved.

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
800	Regional lymph node(s), NOS	RN
	Lymph node(s), NOS	
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

#### 1138: Pediatric Mets

## **Coding Instructions and Codes**

**Note:** Use code 70 when the only information is "distant metastasis, NOS," and there is no documentation regarding the specific metastases.

• If there are specific metastasis documented that are not listed in codes 10, 30, or 50, assign code 50 for "other specified distant metastasis."

Code	Description	SS2018 M
00	No distant metastasis	None
10	Lung	D
30	Distant lymph node(s), NOS	D
	WITH or WITHOUT lung metastasis	
50	Bone (other than primary site)	D
	Other specified distant metastasis	
	WITH or WITHOUT distant lymph nodes or lung metastasis	
	Carcinomatosis	
70	Distant metastasis, NOS	D
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

## 1191: EWSR1-FLI1 fusion

Item Length: 1 NAACCR Item #: 1191 XML NAACCR ID: ewsr1Fli1Fusion Active years: 2024+ Pediatric Schema(s):

- 6a4: Renal Tumors: Ewing Sarcoma of Kidney
- 8c: Malignant Bone Tumors: Ewing Sarcoma

## Description

EWS-FLI1 fusion occurs in about 90% of Ewing Sarcomas and functions as both a pioneering transcription factor and potent oncogene.

## Rationale

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

## Additional information

Source documents: molecular pathology report (may be addendum to original pathology report)

#### <u>Notes</u>

#### Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

## Note 2: Physician statement

• Physician statement of EWSR1-FLI1 fusion can be used to code this data item when no other information is available.

Code	Description
0	No gene rearrangements (fusions) identified
1	EWSR1-FLI1 gene rearrangement (fusion) present
2	EWSR1-ERG gene rearrangement (fusion) present
3	Other EWSR1 gene rearrangement (fusion) present
4	EWSR1 rearrangement present, fusion partner not known
5	Non-EWSR1 variant translocation present
7	Test ordered, results not in chart
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 8 may result in an edit
	error.)
9	Not documented in medical record
	Cannot be determined by pathologist
	EWSR1 gene arrangements not assessed or unknown if assessed
<blank></blank>	N/A - Diagnosis year is prior to 2024

## **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C000-C809	8900-8905, 8920, 8991	00-39	3
C000-C809	8910, 8912	All ages	3

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Rhabdomyosarcoma, Toronto Staging is based on Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets.

#### **1137: Pediatric Regional Nodes**

#### **Coding Instructions and Codes**

Note 1: Code only regional nodes, and nodes, NOS in this field. Distant nodes are coded in Pediatric Mets.

Note 2: Use the following resources to determine if involved lymph nodes are regional or distant.

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

**Note 3:** Regional lymph node involvement is rare. For this Pediatric Schema, if there is no mention of lymph node involvement clinically, assume that lymph nodes are negative. Code 999 (unknown) only when there is no available information on the patient's disease, for example when a lab only case is abstracted from a biopsy report and no clinical information is provided.

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
800	Regional lymph node(s), NOS	RN
	Lymph node(s), NOS	
888	Not applicable: Primary site C420-C424, C700-C729, C751-C753, C760-C809	U
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

## **1136: Pediatric Primary Tumor**

#### **Coding Instructions and Codes**

**Note:** Use the following resources to determine if a tumor is localized, regional, or distant (further contiguous extension).

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 T
100	Any size tumor	L
	Confined to site of origin	
	Localized, NOS	
200	Any size tumor	RE
	Adjacent (connective) tissue, NOS	
	<ul> <li>Adjacent organ(s)/structure(s), NOS</li> </ul>	
	Regional, NOS	
700	Any size tumor	D
	Further contiguous extension	
800	No evidence of primary tumor	U
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

## 1138: Pediatric Mets

## **Coding Instructions and Codes**

**Note:** Use the following resources to determine if involved lymph nodes are distant or if involved organs are metastatic.

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 M
00	No distant metastasis	None
10	Distant lymph node(s), NOS	D
70	Carcinomatosis	D
	Distant metastasis WITH or WITHOUT distant lymph node(s) Distant metastasis, NOS	
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

#### 1193-FOXO1 Gene Rearrangements

Item Length: 1 NAACCR Item #: 1193 XML NAACCR ID: foxo1GeneRearrangements NAACCR Alternate Name: FKHR-PAX3 or FKHR-PAX7 Active years: 2024+ Pediatric Schema(s):

• 9a: Rhabdomyosarcoma

## **Description**

FOXO1 gene rearrangement fusions are found to be positive in about 85% of alveolar rhabdomyosarcoma patients, while are generally negative for embryonal rhabdomyosarcomas. The presence of these fusions indicates a poor prognosis. Identify these fusions will also provide new therapeutic opportunities for the treatment of fusion positive rhabdomyosarcomas (FP-RMS).

## **Rationale**

This is part of the National Childhood Cancer Registry (NCCR) project to collect more specific information on pediatric patients, specifically for Rhabdomyosarcoma. Registries part of the NCCR will start collection on specific pediatric data items with 2024+ diagnoses.

## **Additional information**

Source documents: molecular pathology report (may be addendum to original pathology report)

For further information, refer to the **Rhabdomyosarcoma** cancer protocol published by the College of American Pathologists.

## **Notes**

## Note 1: Effective years

- This SSDI is effective for diagnosis years 2024+
- For cases diagnosed 2018-2023, this SSDI must be blank

## Note 2: Physician statement

• Physician statement of FOXO1 gene rearrangements can be used to code this data item when no other information is available.

## Note 3: Applicable histologies

- FOXO1 may be recorded all sarcomas; however, it is primary done for Alveolar Rhabdomyosarcomas
- Embryonal Rhabdomyosarcomas are usually negative, and therefore the test is usually not done.
- Code 9 if information is not available

Code	Description
0	No gene rearrangements (fusions) identified
1	FOXO1-PAX3 gene rearrangement (fusion) present
2	FOXO1-PAX7 gene rearrangement (fusion) present

Code	Description
3	FOXO1-PAX3 and FOXO1-PAX7 gene rearrangements (fusions) present
4	FOXO1 gene rearrangement present, fusion partner not known
7	Test ordered, results not in chart
8	Not applicable: Information not collected for this case
	(If this information is required by your standard setter, use of code 8 may result in an edit error.)
9	Not documented in medical record
	Cannot be determined by pathologist
	FOXO1 gene rearrangement not assessed or unknown if assessed
<blank></blank>	N/A- Diagnosis year is prior to 2024

#### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C000-C809	8820, 8822, 8824-8827, 9150, 9160, 9491, 9540-9571,	00-39	3
	9580		
C000-C399, C440-	8587, 8710-8713, 8806, 8810-8811, 8813-8815, 8821,	00-39	3
C768, C809	8823, 8830-8836, 8840-8842, 8850-8858, 8860-8862,		
	8870, 8880, 8881, 8890-8898, 8921, 8982, 8990, 9040-		
	9044, 9120-9125, 9130-9133, 9135, 9136, 9141, 9142,		
	9161, 9170-9175, 9231, 9251, 9252, 9373, 9581		
C000-C639, C659-	8963	00-39	3
C699, C739-C768,			
C809			
C490-C499	9180, 9210, 9220, 9240	00-39	3
C000-C399, C470-	9260	00-39	3
C759			
C000-C399, C470-	9364, 9365	00-39	3
C639, C659-C699,			
C739-C768, C809			

Note 1: The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (<u>IACR Paediatric Cancer Stage Guidelines</u>)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Non-Rhabdomyosarcoma, Toronto Staging is based on Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets.

## **1136: Pediatric Primary Tumor**

## **Coding Instructions and Codes**

**Note:** Use the following resources to determine if a tumor is localized, regional, or distant (further contiguous extension).

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 T
100	Any size tumor	L
	Confined to site of origin	
	Localized, NOS	
200	Any size tumor	RE
	Adjacent (connective) tissue, NOS	
	<ul> <li>Adjacent organ(s)/structure(s), NOS</li> </ul>	
	Regional, NOS	
700	Any size tumor	D
	Further contiguous extension	
800	No evidence of primary tumor	U
999	Unknown; extension not stated	U
	Primary tumor cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

## **1137: Pediatric Regional Nodes**

## **Coding Instructions and Codes**

Note 1: Code only regional nodes, and nodes, NOS in this field. Distant nodes are coded in Pediatric Mets.

Note 2: Use the following resources to determine if involved lymph nodes are regional or distant.

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

**Note 3:** Regional lymph node involvement is rare. For this Pediatric Schema, if there is no mention of lymph node involvement clinically, assume that lymph nodes are negative. Code 999 (unknown) only when there is no available information on the patient's disease, for example when a lab only case is abstracted from a biopsy report and no clinical information is provided.

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
800	Regional lymph node(s), NOS	RN
	Lymph node(s), NOS	
888	Not applicable: Primary site C420-C424, C700-C729, C751-C753, C760-C809	NA
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

#### 1138: Pediatric Mets

#### **Coding Instructions and Codes**

**Note:** Use the following resources to determine if involved lymph nodes are distant or if involved organs are metastatic.

- EOD: Review the primary site-based schema
- Summary Stage: Review the primary site-based chapter

Code	Description	SS2018 M
00	No distant metastasis	None
10	Distant lymph node(s), NOS	D
70	Carcinomatosis	D
	Distant metastasis WITH or WITHOUT distant lymph node(s) Distant metastasis, NOS	
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

## **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C620-C629	9060-9065, 9070-9073, 9080-9085, 9090, 9091, 9100-9101	00-39	3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Testicular, Toronto Staging is based on Pediatric Primary Tumor, Pediatric Regional Nodes, Pediatric Mets, S Category Clinical, and S Category Pathological.

## **1136: Pediatric Primary Tumor**

## **Codes and Coding Instructions**

**Note 1:** This schema has extension codes that are defined as "PATHOLOGICAL assessment only"

• PATHOLOGICAL assessment only codes (200, 250, 350, 450, 500) are used when there is an orchiectomy

Note 2: Code 200 for Seminomas confined to the testis.

Note 3: For codes 200 and 250, LVI [NAACCR # 1182] must be coded as none (code 0), not applicable (8), or unknown (9).

• See the STORE or SEER manual for instructions on how to code LVI

Code	Description	Pediatric	SS2018
		Т	Т
200	PATHOLOGICAL assessment only	T1	L
	Tumour limited to the testis		
	Body of testis		
	Rete testis		
	Tunica albuginea		
	Tunica, NOS		
	Confined to testis, NOS		
	Localized, NOS		
	WITHOUT or UNKNOWN vascular/lymphatic invasion		
250	PATHOLOGICAL assessment only	T1	RE
	Epididymis		
	WITHOUT vascular/lymphatic invasion		
350	PATHOLOGICAL assessment only	T2	L
	Tumor limited to testis (including rete testis invasion) (code 200)		
	WITH vascular/lymphatic invasion		
	<ul> <li>Excludes Epididymis (see code 450)</li> </ul>		
	Tunica vaginalis (includes implants on surface of tunica vaginalis)		
	WITH or WITHOUT vascular/lymphatic invasion		
450	PATHOLOGICAL assessment only	T2	RE
	Hilar soft tissue		
	Mediastinum (of testis)		
	Visceral mesothelial layer		
	WITHOUT or UNKNOWN vascular/lymphatic invasion		
	OR Epididymis WITH vascular invasion		

Code	Description	Pediatric	SS2018
		Т	Т
500	PATHOLOGICAL assessment only	Т3	RE
	Spermatic cord, ipsilateral		
	Vas deferens		
600	Dartos muscle, ipsilateral	Т3	RE
	Scrotum, ipsilateral		
700	Penis	T4	D
	Scrotum, contralateral		
	Ulceration of scrotum		
	Further contiguous extension		
800	No evidence of primary tumor	ТО	U
999	Unknown; extension not stated	ТХ	U
	Primary tumor cannot be assessed		
	Not documented in medical record		
	Death Certificate Only		

## **1137: Pediatric Regional Nodes**

## **Codes and Coding Instructions**

Note 1: Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in Pediatric Mets.

Note 2: This schema has lymph node codes that are defined as CLINICAL assessment only or PATHOLOGICAL assessment only.

- CLINICAL assessment only codes (100, 300) are used when there is a clinical work up only and there is no surgical resection of the primary tumor or site. This includes FNA, core biopsy, sentinel node biopsy, or lymph node excision
  - *Exception*: If patient has neoadjuvant therapy, and the clinical assessment is greater than the pathological assessment, then the clinical assessment code would take priority
- **PATHOLOGICAL** assessment only codes (200, 400, 500) are used when
  - Primary tumor or site surgically resected with
    - Any microscopic examination of regional lymph nodes. Includes
      - FNA, core biopsy, sentinel node biopsy or lymph node excision done during the clinical work up and/or
      - Lymph node dissection performed
  - Remaining codes (no designation of **CLINICAL** or **PATHOLOGICAL** only assessment) can be used based on clinical and/or pathological information

**Note 3:** Involvement of inguinal, pelvic, or external iliac lymph nodes WITHOUT or unknown if previous scrotal or inguinal surgery prior to presentation of the testis tumor is coded in Pediatric Mets as distant lymph node involvement.

**Note 4:** Regional lymph nodes include:

Aortic, NOS

- Lateral (lumbar)
- Para-aortic
- Periaortic
- Preaortic
- Retroaortic

Pericaval, NOS

- Interaortocaval
- Paracaval
- Precaval
- Retrocaval

Retroperitoneal below the diaphragm or NOS Spermatic vein

Lymph nodes **WITH** previous scrotal or inguinal surgery

- External iliac
- Inguinal nodes, NOS
  - o Deep, NOS
  - Node of Cloquet or Rosenmuller (highest deep inguinal)
  - Superficial (femoral)
- Pelvic

**Note 5:** Code 800 if regional lymph nodes are involved, but there is no indication which ones are involved.

Code	Description	Derived N	SS2018 N
000	No regional lymph node involvement	NO	NONE
100	CLINICAL assessment only	N1	RN
	Metastasis in lymph node(s), all less than 2 cm		
200	PATHOLOGICAL assessment only	Based on	RN
		RNP	
	Metastasis in lymph node(s), all less than 2 cm		
300	CLINICAL assessment only	N2	RN
	Metastasis lymph node(s) between 2 cm and 5 cm		
400	PATHOLOGICAL assessment only	N2	RN
	Metastasis in a lymph node, between 2 cm and 5 cm		
500	PATHOLOGICAL assessment only	N2	RN
	Extranodal extension of lymph nodes present		
600	Metastasis in a lymph node larger than 5 cm in greatest dimension	N3	RN
800	Regional lymph node(s), NOS	N1	RN
	Lymph node(s), NOS		
999	Unknown; regional lymph node(s) not stated	NX	U
	Regional lymph node(s) cannot be assessed		
	Not documented in medical record		
	Death Certificate Only		

## 1138: Pediatric Mets

## **Codes and Coding Instructions**

**Note:** Involvement of inguinal, pelvic, or external iliac lymph nodes with previous scrotal or inguinal surgery prior to presentation of the testis tumor are coded in Pediatric Regional Nodes.

Code	Description	SS2018
		М
00	No distant metastasis	NONE
10	Distant lymph node(s)	D
	<ul> <li>WITHOUT previous scrotal or inguinal surgery OR UNKNOWN if previous scrotal or inguinal surgery         <ul> <li>External iliac</li> <li>Inguinal, NOS</li> <li>Deep, NOS</li> <li>Node of Cloquet or Rosenmuller (highest deep inguinal)</li> <li>Pelvis, NOS</li> <li>Superficial (femoral)</li> </ul> </li> <li>Retroperitoneal specified as above the diaphragm</li> </ul>	
	Distant lymph node(s), NOS	
50	Lung WITH or WITHOUT distant lymph nodes	D
60	Other specified distant metastasis WITH or WITHOUT distant lymph node(s) and/or lung	D
	Carcinomatosis	
70	Distant metastasis, NOS	D
99	Unknown; distant metastasis not stated	None
	Not documented in medical record	
	Death Certificate Only	

#### 3923: S Category Clinical

Item Length: 1 NAACCR Item #: 3923 XML Parent-NAACCR ID: Tumor-sCategoryClinical NAACCR Alternate Name: None Active years: 2018+ Schema(s):

• 00590: Testis (2018+)

## **Description**

S Category Clinical combines the results of pre-orchiectomy Alpha Fetoprotein (AFP), Human Chorionic Gonadotropin (hCG) and Lactate Dehydrogenase (LDH) into a summary S value.

In addition to T, N, and M, the S category is collected to stage Testicular cancers. There are three factors that make up the S stage: alpha-fetoprotein (AFP), beta-human chorionic gonadotropin (beta-hCG), and lactase dehydrogenase (LDH). These play an important role as serum tumor markers in the staging and monitoring of germ cell tumors and should be measured prior to removing the involved testicle. For patients with nonseminomas, the degree of tumor-marker elevation after the cancerous testicular has been removed is one of the most significant predictors of prognosis. Serum tumor markers are also very useful for monitoring all stages of nonseminomas and for monitoring metastatic seminomas because elevated marker levels are often the earliest sign of relapse.

There are several related data items pertinent to the collection of these variables.

## For clinical staging

- 3807: AFP Pre-Orchiectomy Lab Value
- 3808: AFP Pre-Orchiectomy Range
- 3848: hCG Pre-Orchiectomy Lab Value
- 3849: hCG Pre-Orchiectomy Range
- 3868: LDH Pre-Orchiectomy Range
- 3923: S Category Clinical

## **Rationale**

S Category Clinical is required for prognostic stage grouping in Chapter 59 *Testis*. It is a new data item for cases diagnosed 1/1/2018+.

## **Notes**

## Note 1: Physician Statement

 Code the S category as described by the physician. If the S category determined by available lab values or calculated by vendor software differs from the physician statement of the S category, the physician's statement takes precedence.

## Note 2: Pre-orchiectomy S Category

• Code the pre-orchiectomy S category (Clinical S) according to the table below. This table is also available in AJCC 8<sup>th</sup> edition, Chapter 59, *Testis*.

• For AFP, a lab value expressed in micrograms per liter (ug/L) is equivalent to the same value expressed in nanograms per milliliter (ng/ml).

## Note 3: Clinical Stage

• Clinical stage values are those based on physician statement or lab values at diagnosis, prior to orchiectomy, and prior to any systemic treatment.

## Note 4: AFP, hCG, LDH

• All three lab values are needed for S0-S1. Only one elevated test is needed to assign S2-3. If any individual test is not available and none of the available tests results meets the S2-3 criterion for that test, assign code 9 (SX).

Description
S0: Marker study levels within normal levels
S1: At least one of these values is elevated AND
LDH less than 1.5 x N* AND
hCG (mIU/L) less than 5,000 AND
AFP (ng/mL) less than 1,000
S2:
LDH 1.5 x N* to 10 x N* OR
hCG (mIU/L) 5,000 to 50,000 OR
AFP (ng/mL) 1,000 to 10,000
S3: Only one elevated test is needed
LDH greater than 10 x N* OR
hCG (mIU/mL) greater than 50,000 OR
AFP (ng/mL) greater than 10,000
SX: Not documented in medical record
S Category Clinical not assessed or unknown if assessed

\*N indicates the upper limit of normal for the LDH assay.

#### **3924: S Category Pathological**

Item Length: 1 NAACCR Item #: 3924 XML Parent-NAACCR ID: Tumor-sCategoryPathological NAACCR Alternate Name: None Active years: 2018+ Schema(s):

• 00590: Testis (2018+)

## **Description**

S Category Pathological combines the results of post-orchiectomy Alpha Fetoprotein (AFP), Human Chorionic Gonadotropin (hCG) and Lactate Dehydrogenase (LDH) into a summary S value.

In addition to T, N, and M, the S category is collected to stage Testicular cancers. There are three factors that make up the S stage: alpha-fetoprotein (AFP), beta-human chorionic gonadotropin (beta-hCG), and lactase dehydrogenase (LDH). These play an important role as serum tumor markers in the staging and monitoring of germ cell tumors and should be measured prior to removing the involved testicle. For patients with nonseminomas, the degree of tumor-marker elevation after the cancerous testicular has been removed is one of the most significant predictors of prognosis. Serum tumor markers are also very useful for monitoring all stages of nonseminomas and for monitoring metastatic seminomas because elevated marker levels are often the earliest sign of relapse.

There are several related data items pertinent to the collection of these variables.

## For pathological staging

- 3805: AFP Post-Orchiectomy Lab Value
- 3806: AFP Post-Orchiectomy Range
- 3846: hCG Post-Orchiectomy Lab Value
- 3847: hCG Post-Orchiectomy Range
- 3867: LDH Post-Orchiectomy Range
- 3924: S Category Pathological

## **Rationale**

S Category Pathological is required for prognostic stage grouping in AJCC 8<sup>th</sup> edition, Chapter 59 *Testis*. It is a new data item for cases diagnosed 1/1/2018+.

## <u>Notes</u>

## **Note 1: Physician Statement**

• Code the S category as described by the physician. If the S category determined by available lab values or calculated by vendor software differs from the physician statement of the S category, the physician's statement takes precedence.

## Note 2: Post-orchiectomy S Category

• Code the post-orchiectomy S category (Pathological S) according to the table below. This table is also available in AJCC 8<sup>th</sup> edition, Chapter 59, *Testis*.

• For AFP, a lab value expressed in micrograms per liter (ug/L) is equivalent to the same value expressed in nanograms per milliliter (ng/ml).

## Note 3: Timing

• Pathological stage values are those based on physician statement or lab values after orchiectomy and prior to adjuvant therapy.

## Note 4: Lab values elevated after orchiectomy

• If the initial post-orchiectomy lab values remain elevated, review the subsequent tests, and use the lowest lab values (normalization or plateau) prior to adjuvant therapy or before the value rises again.

## Note 5: AFP, hCG, LDH

• All three lab values are needed for S0-S1. Only one elevated test is needed to assign S2-3. If any individual test is not available and none of the available tests results meets the S2-3 criterion for that test, assign code 9 (SX).

## Note 6: Normal Serum Tumor Markers (pre-orchiectomy)

• When all the serum tumor markers are normal pre-orchiectomy and they are not repeated post-orchiectomy, code 5.

Code	Description
0	S0: Marker study levels within normal levels
1	S1: At least one of these values is elevated AND
	LDH less than 1.5 x N* AND
	hCG (mIU/L) less than 5,000 AND
	AFP (ng/mL) less than 1,000
2	S2
	LDH 1.5 x N* to 10 x N* OR
	hCG (mIU/L) 5,000 to 50,000 OR
	AFP (ng/mL) 1,000 to 10,000
3	S3: Only one elevated test is needed
	LDH greater than 10 x N* OR
	hCG (mIU/mL) greater than 50,000 OR
	AFP (ng/mL) greater than 10,000
5	Post-orchiectomy serum tumor markers unknown or not done but pre-orchiectomy
	serum tumor markers were normal
9	SX: Not documented in medical record
	S Category Pathological not assessed or unknown if assessed

\*N indicates the upper limit of normal for the LDH assay.

### **General Information**

Primary Site	Histology	Age at Diagnosis	Behavior
C569	9060-9065, 9070-9073, 9080-9085, 9090, 9091, 9100-9101	00-39	3

**Note 1:** The following sources were used in the development of this pediatric schema

- Toronto Childhood Cancer Stage Guidelines, Version 2, May 2022 (IACR Paediatric Cancer Stage Guidelines)
- SEER Extent of Disease (EOD) 2018: Codes and Coding Instructions (<u>Extent of Disease (EOD) 2018 v3.0</u> (cancer.gov)
- SEER Summary Stage Manual-2018: Codes and Coding Instructions (<u>seer.cancer.gov/tools/ssm/2018-Summary-Stage-Manual.pdf</u>)

**Note 2:** For Ovarian, Toronto Staging is based on stage group only.

• Pediatric Primary Tumor, Pediatric Regional Nodes, and Pediatric Mets will be collected for surveillance purposes and will derive the Stage Group

## **1136: Pediatric Primary Tumor**

## **Coding Instructions and Codes**

**Note 1:** If there is involvement of the fallopian tube with no further evidence of extension, regional lymph node involvement or metastasis, and the physician verifies this is an ovary primary, code 300.

Note 2: Code 300 for extension to and/or discontinuous metastasis to any of the following pelvic organs

- Adnexa
- Adjacent (pelvic) peritoneum
- Bladder
- Bladder serosa
- Cul de sac (rectouterine pouch)
- Fallopian Tube
- Ligament(s) (broad, ovarian, round, suspensory)
- Mesosalpinx (Meosvarium)
- Parametrium
- Pelvic wall
- Rectosigmoid
- Rectum
- Sigmoid colon (including sigmoid mesentery)
- Ureter (pelvic portion)
- Uterus, NOS

**Note 3:** Code 400 for any evidence of peritoneal carcinomatosis, which may also be called seeding, salting, talcum powder appearance, or studding in any of the following abdominal organs (see Pediatric Mets for extraperitoneal carcinomatosis)

- Abdominal mesentery
- Diaphragm
- Gallbladder
- Intestine, large (except rectum, rectosigmoid and sigmoid colon)
- Kidneys
- Omentum (infracolic, NOS)
- Pancreas
- Pericolic gutter
- Peritoneum, NOS
- Small intestine
- Stomach
- Ureters (outside pelvis)

Code	Description	SS2018
100	Limited to one or both ovaries	
	<ul> <li>WITH or WITHOUT tumor on ovarian surface</li> </ul>	
	WITH or WITHOUT surgical spill	
	AND NO or UNKNOWN	
	<ul> <li>Malignant cells in ascites or peritoneal washings</li> </ul>	
	<ul> <li>Capsule rupture</li> </ul>	

Code	Description	SS2018
200	Limited to one or both ovaries	RE
	<ul> <li>WITH Malignant Cells in ascites or peritoneal washings OR</li> </ul>	
	Capsule rupture	
300	Tumor involves one or both ovaries with pelvic extension (below the pelvic brim) (see Note 2)	RE
400	Tumor involves one or both ovaries WITH cytologically OR histologically confirmed spread to the peritoneum outside the pelvis (see Note 3)	D
800	No evidence of primary tumor	U
999	Unknown stage: stage group not stated	U
	Stage group cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

## **1137: Pediatric Regional Nodes**

### **Coding Instructions and Codes**

Note 1: Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in Pediatric Mets.

**Note 2:** Regional lymph nodes are defined as those in the vicinity of the primary tumor.

Code	Description	SS2018 N
000	No regional lymph node involvement	NONE
300	Intraabdominal	RN
	Para-aortic, NOS	
	Aortic	
	Lateral aortic/lateral lumbar	
	Periaortic	
	Pelvic, NOS	
	Iliac, NOS	
	o Common	
	o External	
	<ul> <li>Internal (hypogastric) (obturator)</li> </ul>	
	Paracervical	
	Parametrial	
	Sacral, NOS	
	<ul> <li>Lateral (laterosacral)</li> </ul>	
	<ul> <li>Middle (promontorial) (Gerota's node)</li> </ul>	
	<ul> <li>Presacral</li> </ul>	
	<ul> <li>Uterosacral</li> </ul>	
	Retroperitoneal, NOS	
800	Regional lymph node(s), NOS	RN
	Lymph node(s), NOS	
999	Unknown; regional lymph node(s) not stated	U
	Regional lymph node(s) cannot be assessed	
	Not documented in medical record	
	Death Certificate Only	

## 1138: Pediatric Mets

# **Coding Instructions and Codes**

No distant metastasis Pleural effusion with positive cytology	NONE
Pleural effusion with positive cytology	
	D
FIGO Stage IVA	
Distant lymph node(s)	D
Inguinal. NOS	
- · · ·	
Distant lymph node(s)	
WITH or WITHOUT pleural effusion with positive cytology	
Extra-abdominal organs	D
Liver parenchymal	
Carcinomatosis (involvement of multiple parenchymal organs OR	
diffuse involvement of multiple non-abdominal organs)	
<ul> <li>Excludes peritoneal carcinomatosis (see Pediatric Primary Tumor)</li> </ul>	
WITH or WITHOUT distant lymph node(s) OR pleural effusion with positive cytology	
FIGO Stage IVB	
Distant metastasis, NOS	D
	None
Not documented in medical record	
Death Certificate Only	
	Distant lymph node(s)  Inguinal, NOS  Node of Cloquet or Rosenmuller (highest deep inguinal)  Superficial inguinal (femoral)  Distant lymph node(s)  WITH or WITHOUT pleural effusion with positive cytology Extra-abdominal organs Liver parenchymal Spleen parenchymal Transmural involvement of intestine Carcinomatosis (involvement of multiple parenchymal organs OR diffuse involvement of multiple non-abdominal organs)  Excludes peritoneal carcinomatosis (see Pediatric Primary Tumor) WITH or WITHOUT distant lymph node(s) OR pleural effusion with positive cytology FIGO Stage IVB