ICD-O 3rd Edition

National Cancer Registry workshop
International Agency for Research on Cancer
Deputy of Research (Iran Ministry of Health)

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What is ICD-O?

Includes codes from multiple classification systems

- Actually a coded nomenclature for:
  - Topography (primary site of origin)
  - Morphology (histology, behavior, grade)
Rationale for ICD-O

- To standardize cancer data collection

- To compare data
  - Regional
  - National
  - International
ICD-O 3rd Edition

- ICD-O-3 Manual format
  - Instructions
  - Numerical list for topography
  - Numerical list for morphology
  - Alphabetic index
  - Differences in morphology codes between 2nd and 3rd editions
Gum, NOS C03.9

Site Sub-Site

C03.0 upper gum

C03.1 lower gum

M - - - / - - -

Histology
Cell type
grading/origin (phenotype)
behavior

Well differentiated adenocarcinoma

M-8140/3

adeno carcinoma

Well diff

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Benign

Unknown/uncertain
- Borderline malignancy
- Low malignant potential
- Uncertain malignant potential

Carcinoma in situ
- Intraepithelial
- Noninvasive
- Noninfiltrative

Primary

Secondary

Malignant, uncertain

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Topography – Numerical List

- Range: C00.0 – C80.9
  - Grouped by systems / common organs
  - Numerical order
Morphology - Numerical List

- Range: 8000/0 to 9989/3
  - Grouped by common cell types
  - Numerical order
Grade/Differentiation is the sixth digit (after the /) of the morphology code.

Describes how much or how little a tumor resembles the normal tissue from which it arose.

Code the grade of the primary tumor. Do code the grade if given for an in situ neoplasm. Do not code grade for intraepithelial neoplasias.
ICD-10 vs ICD-O

- ICD-10 topography code describes the behavior of the neoplasm

<table>
<thead>
<tr>
<th>Primary</th>
<th>Seconadry insitu</th>
<th>benign</th>
<th>unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>C34.9</td>
<td>C78.0</td>
<td>D02.2</td>
</tr>
</tbody>
</table>

| /0 | D10-D36 | Benign |
| /1 | D37-D48 | Unknown |
| /2 | D00-D09 | Insitu |
| /3 | C00-C76, C80 | Primary |
| /3 | C81-C96 | Primary (lymphoma, leukemia) |
| /6 | C77-C79, C80 | Secondary |
ICD10:

- Solid tumor C00-C80, D00-D48 (except some codes)
- Non solid tumor (C81-C96 + some “D codes”)
- Topographic codes (C00-C80, D00-D48)
- Morphologic codes (C81-C96, some other codes)

Melanoma of skin C43.9
Malignant neoplasm of skin C44.9

Benign neoplasm of uterus D26.9
Leiomyoma of uterus D25.9

Lymphoma C85.9

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Not Used in ICD-O

D codes (non malignant)
C81-C96 (non solid)
C43 melanoma
C45 Mesothelioma
C46 Kaposi Sarcoma
C97 Multiple Neoplasms
C78, C79 secondary
C77 Secondary lymph node

Used in ICD-O

C00-C76, C80
C77 lymph node
C42 hematopoetic
C42.0 Blood
C42.1 Bone marrow [C96.9]
C42.2 Spleen [C26.1]

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Tumor like lesion

Hematoma (see SNOMED)
Acanthoma (see SNOMED)
Keloid (see SNOMED)
Tabular:

- Preferred term is bold type
- Synonyms are intended
- **Equivalents are under Preferred term**

M-8290/3 **Oxyphilic adenocarcinoma**

- Onocytic carcinoma
- Onocytic adenocarcinoma
- Hurtle cell carcinoma (C73.9)
- Hurtle cell adenocarcinoma (C73.9)
- Follicular carcinoma, oxyphilic cell (C73.9)
Alphabetic Index

Topography and morphology
- 3 or more terms are in **bold type**
- Tumor-like lesions

NOS- not otherwise specified
See
[obs] obscure terms
Spell- American- Britain (refer to American)
.- complete the code
General Coding Guidelines - Topography

- Code the site in which the primary tumor originated, even if it extends to an adjacent subsite.

- Code subsite to .9 for *single primaries* when multiple tumors arise in different subsites of the same anatomic site.

- Infiltrating duct carcinoma in UOQ of R Breast and infiltrating duct carcinoma in LIQ R Breast

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General Coding Guidelines - Site

- If a tumor is metastatic and the primary site is unknown, code primary site to C80.9

- If the medical record does not contain enough info to code site:
  - Consult physician advisor
  - Use NOS for organ system or ILL defined site code
  - Code unknown C80.9
Rule A: ill defined site

Codes C76._
If the diagnosis specifies the tissue of origin, code to the tissue suggested in the alphabetic index in preference to NOS. C76._ codes should be used very rarely as the histology usually will allow you to use a more specific code.

اگر در مورد مواضع بد تعريف شده، نوع بافت در درگير در تشخيص نيامده است، به بافت پيشنهادي در ايندكس الفبايي كد دهيد و از NOS استفاده نكنيد.

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Arm

- C76.4 NOS
- C44.6 NOS (carcinoma, melanoma, nevus)
- C49.1 NOS (sarcoma, lipoma)
- C49.1 adipose tissue
- C47.1 automatic nervous system
- C40.0 bone
- C49.1 connective tissue
- C49.1 fatty tissue
- C49.1 fibrous tissue
- C77.3 lymph node
- C49.1 muscle
- C47.1 peripheral nerve
- C49.1 skeletal muscle
- C44.6 skin
- C49.1 soft tissue
- C49.1 subcutaneous tissue
- C49.1 tendon
- C49.1 tendon sheath

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Example of Rule A

Code : Malignant carcinoma of the arm

Answer : C44.6 (skin of upper limb)
Prefixes (B)

Some prefixes modify the topographic site and are listed with specific codes (ex. C77.2 Para-aortic lymph node)

Use Ill-defined site code C76._ for terms such as those above if not specifically listed in ICD-O (only if Rule A does not apply)

اگر موضع با پیشوندهایی مانند infra, para, peri و ... آمده باشد، در صورتی که در کتاب باشد از همان استفاده کنید و در غیر این صورت از موضوع بدتعریف شده مناسب (C76) استفاده کنید.

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Example of Rule B

Code: periabdominal cystadenocarcinoma

Answer: C76.2 (abdomen, NOS)
Rule C. overlap lesion

A single neoplasm that overlaps two contiguous sites and whose point of origin cannot be determined is coded to ‘C__ __ .8’

Adenocarcinoma of upper and middle lobe, right lung. Site of origin unknown.

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Lung C34.8
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Example of Rule C

Code: Carcinoma overlapping the stomach and small intestine?

Answer: C26.8 (overlapping digestive)
Rule D. Topography codes for lymphomas:

Always code site of origin (extranodal/nodal)

lymphoma

\[\begin{align*}
\text{Nodal} & : \text{C77.-, C77.9, C77.8} \\
\text{Extranodal} & : \text{C00-C76, C80.9}
\end{align*}\]

If no site of origin is given, code to lymph nodes, NOS (C77.9);–

C80.9 if suspected to be extranodal but site is not stated.

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Malignant lymphoma involving cervical and inguinal lymph nodes

- Primary site
  - C77.8

Cervical lymph nodes C77.0

Plus

Inguinal lymph nodes C77.4

Equals

Multiple lymph nodes C77.8
Examples

- Malignant lymphoma stomach and aortic lymph nodes
  - Primary site
  - C16.9

Stomach C16.9
Plus
Aortic Lymph
Nodes C77.2

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Rule E. Topography for Leukemias:

Code **all leukemias** except for *myeloid sarcoma* *
(M-9930/3) to C42.1 (bone marrow)

* Myeloid sarcoma is a leukemic deposit in an **organ or tissue** and should be coded to the site of origin
General Coding Guidelines - Behavior

- Collect *in situ* and *malignant* always

- Code the *behavior* as /3 if any portion of the primary tumor is invasive
General Coding Guidelines - Grade

- Code the grade from the final diagnosis of the pathology report.
- Code grade from primary tumor, not from a metastasis or recurrence.
- If tumor has invasive and in situ components, code grade of invasive component of tumor.
Morphology – Matrix Concept (F)

- Use the **appropriate 5th digit behavior code even if the exact term is not listed in ICD-O**
- **over-ride suggested code** if pathology report says something different

Sigmoid colon with mucin-producing adenocarcinoma, in situ

M-8481/2

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Rule G. Grading or differentiation code:

code to the highest grade/diff

- بالاترین درجه تمایز را اختصاص دهید.
- نشان دادن نوع سلول در گیر اولویت دارد.
- فقط برای نیوپلاسم های بدخیم کاربرد دارد.
<table>
<thead>
<tr>
<th>6th digit</th>
<th>6th digit immunophenotype</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Grade 1</td>
<td>well differentiated</td>
</tr>
<tr>
<td></td>
<td>Differentiated, NOS</td>
</tr>
<tr>
<td>2 Grade 2</td>
<td>Moderately diff</td>
</tr>
<tr>
<td></td>
<td>Moderate well diff</td>
</tr>
<tr>
<td></td>
<td>Intermediate diff</td>
</tr>
<tr>
<td>3 Grade 3</td>
<td>Poorly diff</td>
</tr>
<tr>
<td>4 Grade 4</td>
<td>Undifferentiated</td>
</tr>
<tr>
<td></td>
<td>Anaplastic</td>
</tr>
<tr>
<td>9</td>
<td>Not determined/ not stated/NA</td>
</tr>
</tbody>
</table>

5 T cell
6 B cell
7 Null cell (not B or T)
8 NK cell (natural killer)
9 Not determined/ not stated NA

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Bladder with well to moderately differentiated transitional cell carcinoma

- **Code:** 8120/32

Malignant lymphoma, B lymphocytic, small, NOS

- **Code:** 9670/36

- Well diff carcinoma M-8010/31

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Rule H. Site-associated morphology terms:

برخی مورفولوژی‌ها نشان دهنده موقعیت نیز هستند (کد آنها در پرانتز می‌آید).

این کد زمانی استفاده می‌شود که:

1- موقعیت دیگری ذکر نشده باشد یا هیچ موضعی ذکر نشده باشد.
2- نام پیوسته در آن موضع ثانویه نباشد.

If no specific primary site is listed in the diagnosis, default to the suggested code

Disregard suggested code if tumor is known to arise at another primary site

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Infiltrating duct carcinoma in Prostate (Primary site)

Infiltrating duct carcinoma (C50.2)
prostate: C61.9

Infiltrating duct carcinoma
Breast : C50.9
Pseudo-topographic terms

intrahepatic bile duct of liver (C22.1)  
Bile duct carcinoma (C24.0)  

Carcinoma (M8010/3)  
M-8160/3  
Bile duct (C22.1, C24.0)

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Rule J. Compound morphology diagnoses:

Some tumors have more than one histologic pattern
Common combinations are listed and given a specific code

Mixed adenocarcinoma & squamous cell carcinoma

8560/3 (adenosquamous carcinoma)

Fibrmyxoosarcoma vs. Myxofibrosarcoma
Adenofibroma
fibroadenoma

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Rule K. multiple morphology terms:

two or more modifying terms describe the same single tumor

transitional cell epidermoid carcinoma
transitional cell carcinoma M8120/3
epidermoid carcinoma M8070/3
Morphology - Multiple Terms (K)

- Rule K does not apply to separate tumors nor to the hematopoetic diseases in general.

- For the hematopoetic diseases, code the more specific histology over the higher code.
  
  Example) Diffuse large B-Cell lymphoma (9680/3) Mantle cell lymphoma (9673/3)
CIN III (cervix intra epithelial neoplasia)

Dysphasia cervix
- Mild N87.0
- Moderate N87.1
- Severe N87.2

Vagina (VAIN III)
Anus (AIN III)
Vulva (VIN III)

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References

ICD-0
Kansainvälinen syöpäsairausluokittelu
ICD-O-3

World Health Organization Broomhead

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Group Exercise - Topography

- Ascending colon
  - C18.2

- Axillary lymph node
  - C77.3

- UOQ right breast
  - C50.4
Group Exercise - Morphology

- Medullary adenocarcinoma
  - 8510/3

- Acute myelomonocytic leukemia
  - 9867/3

- Malignant neuroastrocytoma
  - 9505/3

- Seminoma and teratocarcinoma (1 tumor)
  - 9081/3 (higher than 9061/3 and more specific)
Benign chordoma 9370/0

Undiff carcinoma M-8020/34

Follicular Lymphoma, grade 1 M- 9695/39

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carcinoma of stomach and esophagus.

Carcinoma of tip and ventral surface of tongue

Adenocarcinoma of tip and ventral surface of tongue, tip is origin
Papillary carcinoma of thyroid, undifferentiated

Differentiated retinoblastoma

Monocytic chronic leukemia

Lipomyxosarcoma in lower limb