



# **International Classification of Diseases for Oncology (ICD-O)**

**Young-Joo Won PhD**

**Division of Cancer Registration & Surveillance  
National Cancer Center, Korea**

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# What is ICD-O ?

## International Classification of Disease for Oncology

### **Classification**

**used in tumor or cancer registries  
for coding**

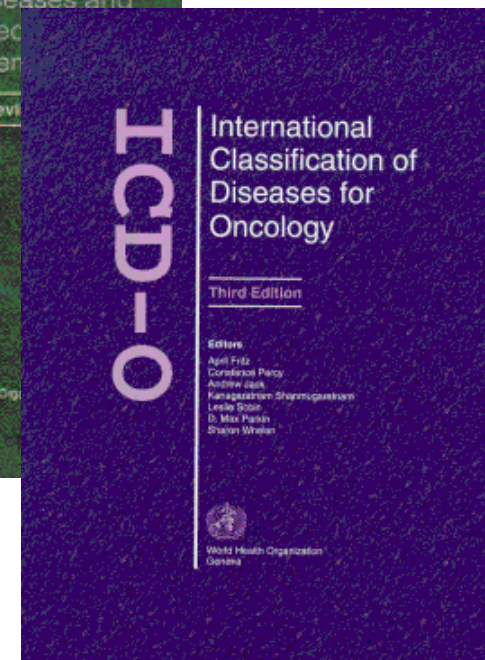
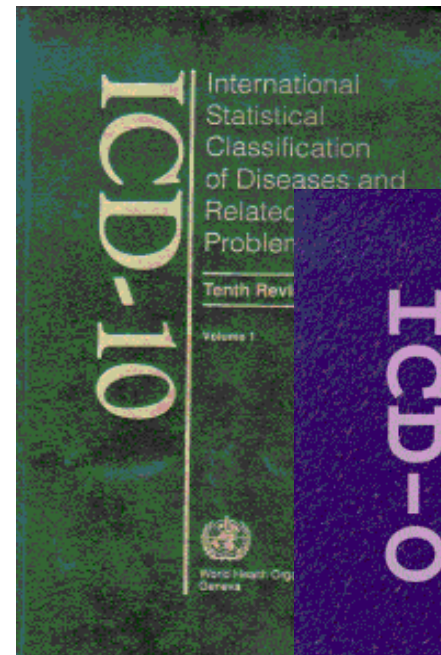
**the site(topography)  
and the histology(Morphology)  
of the neoplasm**

# What is ICD-O ?

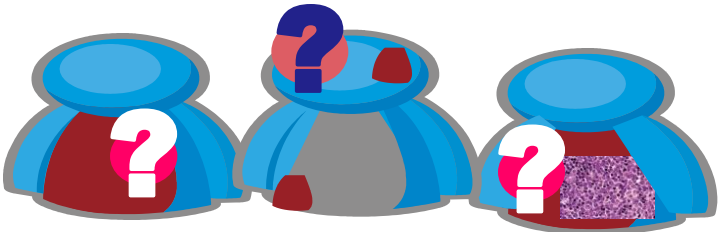

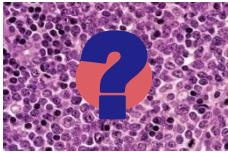
- Specific code set for neoplasms
- Coding system for primary site and cell type
- Subset of International
- Classification of Diseases

**ICD-10**  
All diseases

**ICD-O-3**  
Subset - neoplasms only



# Coding systems of ICD-10 & ICD-O-3

ICD-10	ICD-O-3	
Single axis	Dual axis	
		
Site of origin / <b>site of secondary tumor</b> / <b>site of origin + morphology</b>	Site of origin	Morphology Behavior
<b>C</b> <input type="text"/> <input type="text"/> . <input type="text"/> or <b>D</b> <input type="text"/> <input type="text"/> . <input type="text"/>	<b>C</b> <input type="text"/> <input type="text"/> . <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>

# Coding example

ICD-O-3 topography is a subset of ICD-10, but differs at a basic level

Term	ICD-10	ICD-O-3
Lung tumor, <b>benign</b>	D14.3	C34.9 8000/0
Lung tumor, <b>borderline</b>	D38.1	C34.9 8000/1
Lung tumor, <b>in situ</b>	D02.2	C34.9 8000/2
Lung tumor, <b>invasive</b>	C34.9	C34.9 8000/3
Lung tumor, <b>metastatic</b>	C78.0	C34.9 8000/6
Lung tumor, <b>unclear if primary or metastatic</b>	D38.1	C34.9 8000/9

# Format of Book

- Introduction
- Coding Guidelines
- Tabular (numeric) lists
  - Topography
  - Morphology
- Alphabetic index
- Lists of changed terms

## Topography – Numerical List

- Numerical order
- This section adapted from the malignant section of Chapter II of ICD-10
- Run from **C00.0** to **C80.9**
- Grouped by systems / common organs

# Major Topography Groups

C00-14	Lip, Oral Cavity, Pharynx
C15-26	Digestive Organs
C30-39	Respiratory System
C40-41	Bones, Joints, Cartilage
C44	Skin
C47	Nerves
C49	Soft Tissues
C50	Breast



# Major Topography Groups

C51-58	Female Genital Organs
C60-63	Male Genital Organs
C64-68	Urinary Tract
C69-72	Eye, Brain, CNS
C73-75	Thyroid and Endocrine Glands
C76	Other IIR defined sites
C77	Lymph Nodes
C80	Unknown

# Structure of ICD-O-3

## Morphology – Numerical List

Morphology terms have five-digit codes ranging from M-8000/0 – M-9989/3

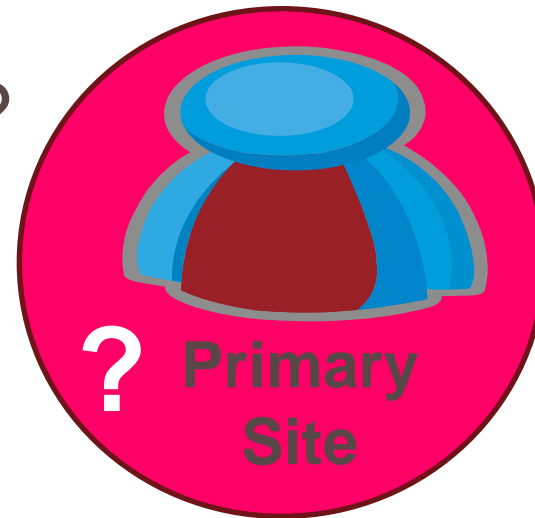
- The morphology section of ICD-O, First and Second Edition, has been revised.
- WHO classification** of Hematopoietic and Lymphoid Diseases is used instead of **REAL** (Revised European American Lymphoma) classification for lymphoma and **FAB** (French American British) classification for leukemia.

# Major Morphology Groups

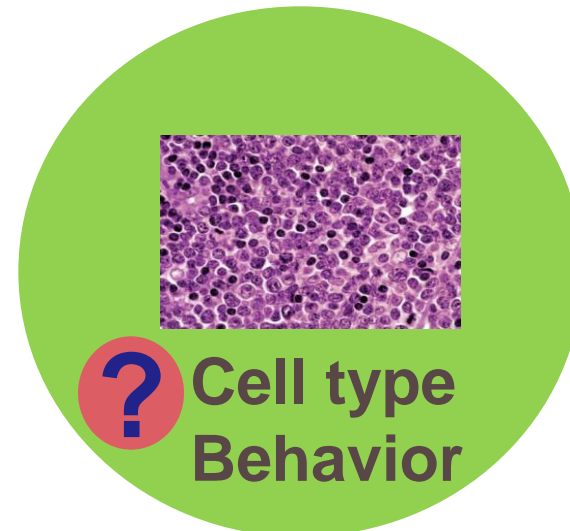
800	Unspecified
801-867	Carcinomas
872-879	Melanomas
880-899	Sarcomas
906-909	Germ Cell
938-948	Gliomas
959-972	Lymphomas
980-994	Leukemias

# Structure of Code

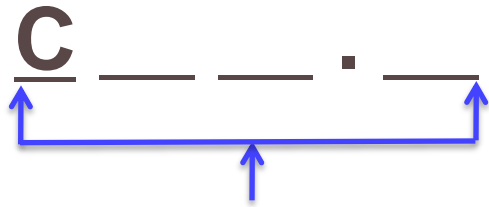
- Where did it start ?
  - Topography
  - Site of origin



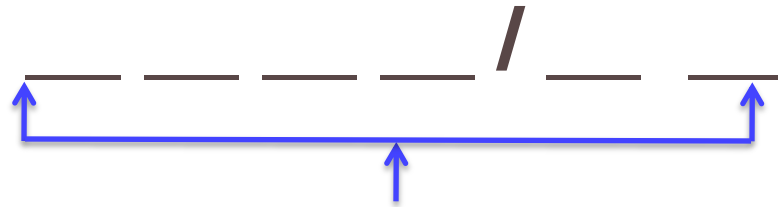
- What is it ?
  - Morphology
  - Behavior



# Structure



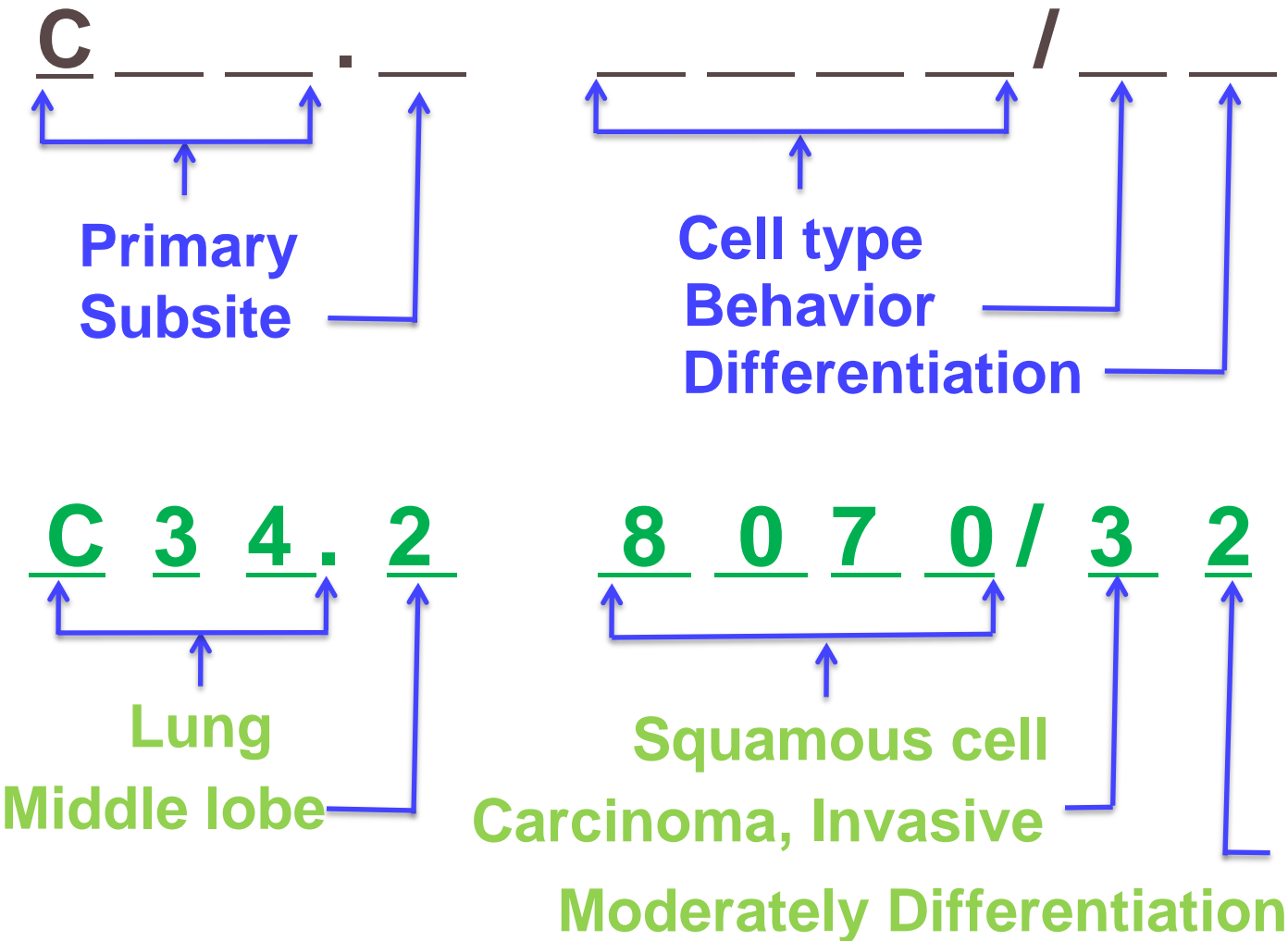
**Topography**  
**(4 digits)**



**Morphology**  
**(6 digits)**



# Example



# Format of ICD-O Terms in Numerical List

- **Each** topographic and morphologic **term appears only once**
- **The first listed term, printed in bold type under a particular code, is the preferred term**

<b>C07.9</b>	<b>Parotid gland</b>
	Parotid, NOS
	Stensen duct
	Parotid gland duct
<b>M8290/3</b>	<b>Oxyphilic adenocarcinoma</b>
	Oncocytic carcinoma
	Hurthle cell carcinoma(C73.9)
	Follicular carcinoma, oxyphilic cell(C73.9)

**Not  
synonyms**



# Alphabetic Index

- **Boldface header** for any word that appears as part of 3 or more terms (terms indented)
- **Topography (C) and morphology (M) terms listed** together alphabetically but not mixed under a heading in the index.  
**Space before and after each group.**
- **NOS terms listed first**

# First column of Alphabetic Index

	<b>Abdomen</b>
C76.2	<b>NOS</b>
C47.4	Autonomic nervous system
C49.4	Connective tissue
C49.4	Muscle
C47.4	Peripheral nerve
C44.5	skin
C49.4	Subcutaneous tissue
M8822/1	Abdominal desmoid
M8822/1	Abdominal fibromatosis
	<b>Abdominal</b>
C49.4	Aorta

<b>C15.2</b>	<b>Esophagus</b>
C77.2	Lymph node
C49.4	Vena cava
	<b>Abdominal wall</b>
C76.2	NOS
C44.5	NOS(carcinoma, melanoma nevus)
C44.9	NOS(Sarcoma, lipoma)
---	--- skip ---
M_____	Acanthoma, clear cell (see <b>SNOMED</b> )
M_____	Acanthosis nigricans (see <b>SNOMED</b> )

Only two : no bold type

# Appendices

1. New ICD-O-3 codes
2. New terms & synonyms (codes were in ICD-O-2)
3. Terms that changed morphology codes
4. Terms that changed from tumor-like lesions to neoplasms
5. Deleted terms
6. Terms that changed behavior code

# Coding of tumors

- Same coding system with same rules allows comparison of statistics between registries (in your country and internationally) and within the registry (trends over time).
- Registries should use the same rules: ICD-O-3
- Standardization.

# Rule A.

## Topographic regions and ill-defined sites

If the diagnosis does not specify the tissue of origin, use the appropriate tissues suggested in the alphabetic index for each ill-defined site in preference to the “NOS” category.

**Diagnosis : melanoma of the arm**

**Arm, NOS C76.4 ✗**

**Skin of arm C44.6 ●**

# Rule B.

## Prefixes

If a topographic site is modified by a prefix such as peri-, para-, or the like which is not specifically listed in ICD-O, code to the appropriate ill-defined subcategory C76 (ill-defined site), unless the type of tumor indicates origin from a particular tissue

Try to specify the site.  
When there is no way you specify the site...

**C76.\_**

**(ill-defined sites)**

**peri-**

**para-**

**pre-**

**supra-**

**infra-**

**in the area of**

**in the region of**

# Topographic site modified by prefix terms in index

## Examples:

Peri-adrenal tissue	C48.0
Peri-ampullary	C24.1
Retro-cecal tissue	C48.0
Peri-pancreatic tissue	C48.0
Supra-tentorial brain	C71.0
Peri-renal tissue	C48.0

# Rule C.

## **Tumors involving more than one topographic category or subcategory**

**Use subcategory “.8” when a single tumor overlaps the boundaries of two or more categories or subcategories and its point of origin cannot be determined.**



# Rule D.

## Topography codes for lymphomas

If a lymphoma involves multiple lymph node regions, code to C77.8(lymph nodes of multiple regions).

Code extranodal lymphomas to the site of origin, which may not be the site of the biopsy.

If no site is indicated for a lymphoma and it is suspected to be extranodal, code to C80.9 (unknown primary site).

# Rule E.

## Topography code for leukemias

Code all leukemias as **C42.1** (bone marrow)

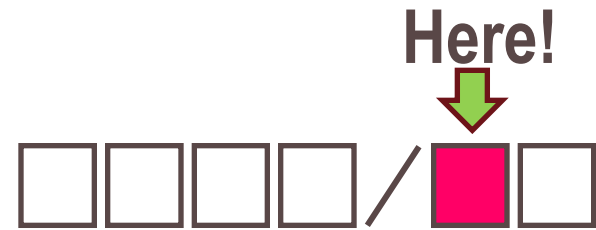
Except for myeloid sarcoma (9930/3)

Myeloid sarcoma: a deposit of malignant myeloid cells in soft tissue.  
Code to location of lesion.

# Rule F.

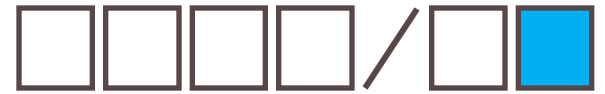
## Behavior code in morphology

Use the appropriate 5<sup>th</sup> digit behavior code even if the exact term is not listed in ICD-O.



- /0 Benign
- /1 Uncertain whether benign or malignant; borderline
- /2 In situ; non-invasive
- /3 Malignant; invasive
- /6 Malignant, metastatic
- /9 Malignant, uncertain whether primary of metastatic site

**Rule G.**



## **Grading or differentiation code**

Assign the highest grade or differentiation code described in the diagnostic statement

Applied to malignant neoplasms (/ 3)

# Rule G. (continued)

## Grading or differentiation code (6<sup>th</sup> digit)

1	Grade I	Well differentiated
2	Grade II	Moderately differentiated; intermediate differentiation
3	Grade III	Poorly differentiated
4	Grade IV	Undifferentiated; anaplastic



5	T-cell	← Leukemias and lymphomas
6	B-cell	
7	Null-cell	
8	NK-cell	

9                      Grade or differentiation not determined,  
Not stated; cell type not determined;  
Not applicable

# Rule H.

## Site-associated morphology terms

Use the topography code provided when a topographic site is not stated in the diagnosis.

This topography code should be disregarded if the tumor is known to arise at another site.

# Rule J.

## Compound morphology diagnoses

Change the order of word roots in a compound term if the term is not listed in ICD-O-3.

**Fibromyxo**sarcoma 8811/3

Myxofibrosarcoma not in ICD-O-3



# Rule K.

## Coding multiple morphology terms

When no single code includes all diagnostic terms,

use the numerically higher code number if the diagnosis of a single tumor includes two modifying adjectives with different code numbers.



# How to Code

- Divide phrase into topography and morphology
- Look up morphology first
- Look up unusual term first
- Use all the words in the phrase
- Add 5<sup>th</sup> and 6<sup>th</sup> digit codes
- Look up topography

# Coding Example (1)

Poorly differentiated hepatocellular carcinoma of right lobe of liver

**Morphology** : hepatocellular carcinoma

**Behavior** : carcinoma → /3 (5<sup>th</sup> digit)

**Grade** : poorly differentiated → 3 (6<sup>th</sup> digit)

**Topography** : liver, right lobe

C22.1

M 8170/33

# Coding Example (2)

Grade 3 Infiltration duct carcinoma, comedo type, UOQ, right breast

**Morphology** : Duct carcinoma, comedo type

**Behavior** : Infiltrating → /3 (5<sup>th</sup> digit)

**Grade** : Grade 3 → 3 (6<sup>th</sup> digit)

**Topography** : breast, UOQ

C50.4

M 8501/33

# Thank You



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