

**APPENDIX E:
MULTIPLE PRIMARY DETERMINATION**

MULTIPLE PRIMARY DETERMINATION

For all cases diagnosed January 1, 2007 and later, the *2007 Multiple Primary and Histology Coding Rules* (MP/H) should be utilized. MP/H represent the first site-specific multiple primary and histology rules developed to promote consistent and standardized coding. Physician guidance by specialty pathologists and clinicians was integral to the review and revision process. Regular consultation with the editors of ICD-O-3 clarified ICD-O-3 codes and ensured the new rules accurately reflect the ICD-O-3 editors' intent and purpose.

The 2007 MP/H rules include site specific rules for lung, breast, colon, melanoma of the skin, head and neck, kidney, renal pelvis/ureter/bladder, and malignant brain. A separate set of rules addresses the specific and general rules for malignant solid tumors originating in all other sites. The multiple primary rules guide and standardize the process of determining the number of primaries. The histology rules contain detailed histology coding instructions. For example, there are instructions and guidance for identifying histologic lineages, differentiating between general (NOS) terms and specific histologic types, and correctly assigning mixed and combination codes.

Determining Multiple Primaries for Solid Malignant Tumors – diagnosis dated January 1, 2007 and later

A. General Instructions

1. Use the MP/H rules to determine the number of reportable primaries. Do NOT use these rules to determine case reportability, stage or grade
2. The 2007 MP/H rules **replace all previous** multiple primary and histology coding rules.
3. The rules are **effective** for cases **diagnosed January 1, 2007** and after. Do not use these rules to abstract cases diagnosed prior to January 1, 2007.
4. Read the **General instructions** and the **site-specific Equivalent Terms and Definitions** before using the multiple primary rules.
5. The MP/H rules are available in three formats: flowchart, text, and matrix. The **rules are identical**, only the formats differ. Use the rules in the format that is easiest for you to follow.
6. **Do not use** a physician's statement to decide whether the patient has a recurrence of a previous cancer or a new primary. Use the multiple primary rules as written **unless a pathologist compares** the present tumor to the "original" tumor and states that this tumor is a recurrence of cancer from the previous primary.
7. Use the Determining Multiple Primaries: hematopoietic Primaries (lymphoma and leukemia rules and table "Definitions of Single and Subsequent Primaries for Hematologic Malignancies" to determine single versus multiple primaries for lymphoma and leukemia cases.

MULTIPLE PRIMARY DETERMINATION

B. How to use the MP/H Rules

1. Use the **Multiple Primary** rules to **make a decision on the number of primary malignancies** to be abstracted for reportable solid malignant tumors.
2. Use the **site-specific rules** for the following sites:
 - a. Brain, malignant (intracranial and CNS)
 - b. Breast
 - c. Colon
 - d. Head and Neck
 - e. Kidney
 - f. Lung
 - g. Malignant Melanoma of the Skin
 - h. Renal pelvis, ureter, bladder and other urinary
3. Use the **Other Site rules** for solid malignant tumors that occur in primary sites not covered by the site-specific rules.
4. Each module (Unknown if Single or Multiple Tumors, Single Tumor, Multiple Tumors) is an independent, complete set of coding rules. To determine which set of rules to use:
 - a. Where there is no tumor in the primary site, only metastatic lesions are present:
 - i. Use the primary site documented by a physician and use the multiple primary and histology coding rules for that primary site
 - ii. If no primary is documented, code the primary site as unknown and use the general multiple primary and histology coding rules. Use the “Unknown if Single or Multiple Tumors” module to determine multiple primaries and the “Single Tumor” module for coding histology.
 - b. To choose the appropriate module (Unknown if Single or Multiple Tumors, Single Tumor, Multiple Tumors):
 - i. Use the multiple primary and histology coding rules for the primary site
 - ii. Determine the number of tumors:
 - a.) Do not count metastatic lesions
 - b.) When the tumor is only described a multicentric or multifocal and the number of tumors is not mentioned, use the “Unknown if Single or Multiple Tumors” module
 - c.) When there is a tumor or tumors with separate microscopic foci, ignore the separate microscopic foci and use the “Single Tumor” or “Multiple Tumor” modules as appropriate
 - d.) When the patient has a single tumor, use the “Single Tumor” module
 - e.) If there are multiple tumors, use the “Multiple Tumor” module
 - c. See the Equivalent Terms and Definitions for Head and Neck for guidance in coding the primary site
 - d. Use the primary site documented by the physician on the medical record

MULTIPLE PRIMARY DETERMINATION

5. If a **single primary**, prepare **one abstract**
6. If there are **multiple primaries**, prepare **two or more abstracts**
7. Rules are in hierarchical order within each module (Unknown if Single or Multiple Tumors, Single Tumor, Multiple Tumors). Use the first rule that applies and **STOP**

The MP/H Rules is available online at :

<http://seer.cancer.gov/tools/mphrules/download.html>

Determining Multiple Primaries for Solid Malignant Tumors – diagnosis prior to January 1, 2007

More Than One Malignant Cancer

If more than one primary malignant cancer is diagnosed, a separate report must be submitted for each primary. The VCR, like most central registries in the United States, follows the rules of the Surveillance, Epidemiology and End Results (SEER) Program for determination of multiple primary cancers. The reference information contained in this section is taken from the *SEER Program Code Manual, Third Edition, January 1998*.

The determination of how many primary cancers a patient has is, of course, a medical decision, but operational rules are needed in order to ensure consistency of reporting by all participants. Basic factors include the site of origin, the date of diagnosis, the histologic type, the behavior of the neoplasm (i.e., in situ versus malignant), and laterality.

In general, if there is a difference in the site where the cancer originates, it is fairly easy to determine whether it is a separate primary, regardless of dates of diagnosis and differences in histology.

Likewise, if there is a clear-cut difference in histology, other data such as site and time of diagnosis are not essential. In some neoplasms, however, one must be careful since different histologic terms are used, for example, *leukemic phase of* or *converting to*, to describe progressive stages of the same disease process.

More than One Nonmalignant Intracranial or Central Nervous System Tumor

If more than one primary nonmalignant intracranial or central nervous system tumor is diagnosed, a separate report must be submitted for each primary. The VCR, like most central registries in the United States, follows the rules for determination of multiple non-malignant primary tumors prepared by the North American Association of Central Cancer Registries (NAACCR) Registry Operations Committee Benign Brain Tumor Subcommittee.

MULTIPLE PRIMARY DETERMINATION

The natural biology of nonmalignant tumors is that of expansive, localized growth with common local recurrences, and uncommon or unusual metastasis. Nonmalignant brain tumors confine themselves to one location, their site of origin, and thus any new nonmalignant brain tumor would represent a new tumor. Therefore, if multiple nonmalignant tumors of the same histology are identified in different locations they should be considered separate primaries. Nonmalignant tumors of the same histology, same site, and same side will recur in the same location. If they recur, even after 20 years, they are still the same tumor.

More Than One Lymphatic or Hematopoietic Disease

Cancer registrars are often faced with multiple pathology reports in patients with hematologic malignancies, and the diagnoses reported may require different morphology codes. This is due in part to the fact that a more intensive diagnostic study may yield a more specific diagnosis, and in part due to the natural histories of hematopoietic diseases, which may progress from one diagnosis into another. The PCR, like most central registries in the United States, follows the rules of the Surveillance, Epidemiology and End Results (SEER) Program for determination of multiple lymphatic and hematopoietic diseases. The reference information contained in this section is taken from the *SEER Program Code Manual, Third Edition, January 1998*.

MULTIPLE PRIMARY DETERMINATION

Determination Rules

This appendix contains multiple primary determination rules for the following:

1. Non-Malignant Intracranial and Central Nervous System Primaries refer to pages E-E.
2. Lymphatic and Hematopoietic Diseases refer to pages E-E.

**MULTIPLE PRIMARY DETERMINATION
NONMALIGNANT INTRACRANIAL AND CENTRAL NERVOUS SYSTEM (CNS)**

INTRACRANIAL AND CENTRAL NERVOUS SYSTEM TUMORS

This section includes benign and borderline tumors for the following sites:

- Meninges (C70.0 - C70.9)
- Brain (C71.0 - C71.9)
- Spinal Cord (C72.0)
- Cauda equina (C72.1)
- Cranial nerves (C72.2 - C72.5)
- Other CNS (C72.8, C72.9)
- Pituitary gland (C75.1)
- Craniopharyngeal duct (C75.2)
- Pineal gland (C75.3)

DEFINITIONS

1. **Non-malignant:** behavior code of /0 or /1.
2. **Same Site-** Each 4-digit subcategory as delineated in ICD-O-3 is considered to be separate sites. Therefore, to be the same site it must be exactly the same.

Exception: 4-digit NOS site code (Meninges, NOS (C70.9), Brain, NOS (C71.9), Nervous System, NOS (C72.9)) with specific 4-digit site code in same rubric

Example: Meninges, NOS (C70.9) with spinal meninges (C70.1) is the same site.

3. **Different site-** Each 4-digit subcategory as delineated in ICD-O-3 is considered to be a separate site.

Example: Frontal lobe (C71.1) and Temporal lobe (C71.2) are different sites.

Exception: 4-digit NOS site code (Meninges, NOS (C70.9), Brain, NOS (C71.9), Nervous System, NOS (C72.9)) with specific 4-digit site code in same rubric

Example: Brain Stem (C71.7) with intracranial site, NOS (C71.9) is the same site.

4. **Same histology-** Use the table on page E/# in priority order:

1. If both histologies are in the same histologic group, then they are the same histology*

Example: A diagnosis of *subependymoma* (9383/1) followed by a diagnosis of *choroids glioma* (9444/1) would be considered the same histology.

2. If a histology has the same first 3 digits as any histology in the table on page E/#, then they are the same histology*

Example: A diagnosis of *ganglioglioma* (9505) followed by a diagnosis of *pacinian tumor* (9507) would be considered the same histology.

**MULTIPLE PRIMARY DETERMINATION
NONMALIGNANT INTRACRANIAL AND CENTRAL NERVOUS SYSTEM (CNS)**

3. If both histologies have the same first 3 digits but neither are in the table on page E/12, then they are the same histology

Example: A diagnosis of a teratoma, NOS (9080) followed by a diagnosis of a dermoid cyst (9084) would be considered the same histology.

***Note:** If two histologies are in the same group in the table on page E/12, code the one with the earliest diagnosis date or the more specific histology.

Exception: If one of the diagnoses is a non-specific term and the other is more specific (both in the same group), use the more specific diagnosis.

Example: A patient has a diagnosis of choroids plexus papilloma, NOS (9390/0) which is non-specific term and is subsequently diagnosed with atypical choroid plexus papilloma (9390/1) a more specific histology, report as atypical choroid plexus papilloma.

5. Different histology- Use the table on page E/#.

1. If both histologies are the same at the 3 digit level but are in 2 different histologic groups in the table on page E/14, then they are different histologies.

Example: A diagnosis of gliofibroma, (9442) followed by a diagnosis of choroids glioma (9444) would be considered two different histologies.

2. If histologies are different at the 3 digit level and are not in same group in the table on page E/#, then they are different histologies.

Example: A diagnosis of papillary ependymoma, NOS (9393) followed by a diagnosis of gliofibroma (9442) would be considered two different histologies.

3. If histologies are different at the 3 digit level and neither are in the table on page E/12, then they are different histologies

Example: A diagnosis of ganglioneuroma (9490) followed by a diagnosis of pilocytic astrocytoma (9421) would be considered two different histologies.

**MULTIPLE PRIMARY DETERMINATION
NONMALIGNANT INTRACRANIAL AND CENTRAL NERVOUS SYSTEM (CNS)**

Histologic Groupings To Determine Same Histology For Non-Malignant Brain Tumors		
Choroid plexus neoplasms	9390/0	choroid plexus papilloma
	9390/1	atypical choroids plexus papilloma
Ependymomas	9383	subependymoma
	9394	myxopapillary ependymoma
	9444	chordoid glioma
Neuronal and neuronal-glial neoplasms	9384	subependymal giant cell astrocytoma 9412
		desmoplastic infantile astrocytoma
	9413	dysembryoplastic neuroepithelial tumor 9442
		gliofibroma
	9505/1	ganglioglioma
	9506	central neurocytoma Neurofibromas 9540/0
		neurofibroma, NOS
	9540/1	neurofibromatosis, NOS (includes Von Recklinghausen disease except of bone)
9541	melanotic neurofibroma	
9550	plexiform neurofibroma	
9560/0	neurilemoma, NOS, Schwannoma, NOS, acoustic neuroma	
Neurinomatosis	9560/1	neurinomatosiis
Neurothekeoma	9562	neurothekeoma
Neuroma	9570	neuroma, NOS
Perineurioma, NOS	9571/0	perineurioma, NOS

6. Timing- 2-month timing rule does not apply. Nonmalignant tumors may recur in the same location. If they recur, even after many years, they are still the same tumor.

7. Laterality:

- a. **Single side (SS):** involves only one side of sites listed in *PCR Manual, Part Three, Laterality*.
- b. **Both sides (BS):** involves both sides of sites listed in *PCR Manual, Part Three, Laterality*.
- c. **Laterality unknown (LX):** Site does not have laterality coded or laterality is not known for site.

**MULTIPLE PRIMARY DETERMINATION
NONMALIGNANT INTRACRANIAL AND CENTRAL NERVOUS SYSTEM (CNS)**

**GENERAL RULES FOR DETERMINING MULTIPLE PRIMARIES FOR
NONMALIGNANT INTRACRANIAL AND CENTRAL NERVOUS SYSTEM
TUMORS.**

1. Multiple lesions in which all are non-malignant tumors

a. Different Sites- If different sites, then separate primaries

Example: Patient has a benign cerebral meningioma, NOS over the left parietal lobe. The patient is subsequently diagnosed with a benign spinal meningioma, NOS. Because these tumors are located in different subsites they are considered **separate** primary tumors.

b. Different Histologies- If different histologies, then separate primaries

c. Same Site/Same Histology- If same site and same histology*:

1. and **laterality is same side, one side is unknown or not applicable**, then single primary
2. and **laterality is both sides**, then separate primaries

Example: Patient has a benign cerebral meningioma, NOS over the left parietal lobe. The patient is subsequently diagnosed with a benign cerebral meningioma, NOS on the right side of the brain. Because these tumors are located on different sides of the brain they are considered **separate** primary tumors.

*** Note:** If two histologies are in the same group in the table on page E/12, code the one with the earliest diagnosis date or the more specific histology

2. Multiple tumors in which one is non-malignant and the other is a malignant lesion

a. Non-malignant tumor followed by malignant tumor: separate primaries regardless of timing

b. Malignant tumor followed by a non-malignant tumor: separate primaries regardless of timing

Note: For malignant intracranial and central nervous system tumors, follow rules and definitions on pages E-E.

**MULTIPLE PRIMARY DETERMINATION
LYMPHATIC/HEMATOPOIETIC**

**GUIDELINES FOR DETERMINING MULTIPLE PRIMARIES FOR
LYMPHATIC AND HEMATOPOIETIC DISEASES**

- 1. Lymphoma and Leukemia Terminology** - *Lymphoma* is a general term for hematopoietic solid malignancies of the lymphoid series. *Leukemia* is a general term for liquid malignancies of either the lymphoid or the myeloid series. While it is recognized some malignancies occur predominantly (or even exclusively) in liquid or solid form, because so many malignancies can potentially arise as either leukemias or lymphomas (or both), all hematopoietic malignancies are assumed to have this potential.
- 2. Lymphoid and Myeloid Series** - Malignancies of the lymphoid series are considered to be different from those of the myeloid series. Therefore a lymphoid malignancy arising after diagnosis of a myeloid malignancy (or myelodysplastic or myeloproliferative disorder) would be considered a subsequent (new) primary; however, a myeloid malignancy diagnosed after a previous myeloid malignancy would not count as a subsequent primary. Histiocytic malignancies are considered different from both lymphoid and myeloid malignancies.
- 3. Hodgkin and Non-Hodgkin Lymphoma** - Hodgkin lymphoma is considered to be different from non-Hodgkin lymphoma (NHL). Among the NHLs, B-cell malignancies are considered different from T-cell/NK cell malignancies. Therefore, a B-cell malignancy arising later in the course of a patient previously diagnosed with a T-cell malignancy would be considered a subsequent primary; however, a T-cell malignancy diagnosed later in the same patient would not be considered a subsequent primary.
- 4. Sequence of Diagnosis** - The sequence of diagnosis affects whether a diagnosis represents a subsequent primary. In some cases, the order of occurrence of the two diagnoses being compared is a factor in the decision whether the second diagnosis is a new primary.

**MULTIPLE PRIMARY DETERMINATION
LYMPHATIC/HEMATOPOIETIC****RULES FOR DETERMINING MULTIPLE PRIMARIES FOR LYMPHATIC AND HEMATOPOIETIC DISEASES**

1. **The topography (site) is to be disregarded in determining multiple primaries of lymphatic and hematopoietic diseases.**
2. **The interval between diagnoses is not to enter into the decision.**

Example: A lymphocytic lymphoma (9670/3) diagnosed in March 1999 and an unspecified non-Hodgkin lymphoma (9591/3) diagnosed in April 2001 would be considered one primary, a lymphocytic lymphoma diagnosed March 1999 (the earlier diagnosis).

Lymphatic and Hematopoietic Disease Tables: ICD-O-3 and ICD-O-2

The ICD-O-3 (*International Classification of Diseases for Oncology, Third Edition*) and ICD-O-2 (*Second Edition*) tables are used to determine multiple primaries of lymphatic and hematopoietic diseases. The ICDO-3 table is to be used with diagnoses on or after January 1, 2001 and when the first diagnosis was made prior to 2001 and the second diagnosis was made on or after January 1, 2001. The ICD-O-2 table is to be used when both diagnoses were made prior to January 1, 2001.

The ICD-O-3 version of the hematopoietic primaries table is very different from the ICD-O-2 version in both format and medical understanding of these diseases. For example, a first diagnosis of leukemia and later diagnosis of lymphoma in the same patient may be considered two primaries in one version and one primary in the other version. As a result, the two tables may not be used interchangeably.

Instructions for Using the ICD-O-3 and ICD-O-2 Lymphatic and Hematopoietic Disease Tables

1. **If both lymphatic/hematopoietic diseases are diagnosed on or after January 1, 2001**, use the ICD-O-3 table of this Appendix.
2. **If the first diagnosis was prior to 2001 and the second diagnosis was on or after January 1, 2001**, use the ICD-O-3 table.
3. **If both diagnoses are prior to January 1, 2001**, use the ICD-O-2 table of this Appendix.

**MULTIPLE PRIMARY DETERMINATION
LYMPHATIC/HEMATOPOIETIC**

4. Use of Tables By Registry and Non Registry Hospitals

- a. **Registry Hospitals** - To use both the ICD-O-3 and ICD-O-2 Lymphatic/Hematopoietic tables, first assign the proper ICD-O morphology code then follow instructions below for using the table. The ICD-O-3 table and the *Complete Diagnostic Terms for Table (based on ICD-O-3)* display only the ICD-O-3 primary (boldfaced) term associated with the code. Refer to the ICD-O-3 for a complete list of terms. If you are unsure of a decision as to single or multiple primary, call the PCR or abstract the case as a new primary and submit to the PCR with a note of explanation included in *Text-Remarks*.
- c. **Non-Registry Hospitals** - Since Non-Registry Hospitals do not assign ICD-O codes, use the terminology in the pathologic diagnosis to locate the correct multiple primary decision. If a term does not appear on the tables or if you are unsure of the decision, call the PCR or abstract the case as a new primary and submit to the PCR with a note of explanation included on the abstract.

5. **Using the ICD-O-3 Table**- To use this table, locate the first morphology code/diagnosis in rows 1 through 52. Then locate the second morphology code/diagnosis in columns 1 through 52. In the cell at the intersection of the first diagnosis row and the second diagnosis column, a "S" symbol indicates the two diagnoses are most likely the same disease process (prepare/update a single abstract), and a "D" indicates they are most likely different disease processes (prepare more than one abstract).

Note: If one of the two diagnoses is an NOS (not otherwise specified) term and the other is more specific and determined to be the same disease process, report the more specific diagnosis regardless of the sequence. Be sure to report the earlier date of diagnosis. For example, if a diagnosis of non-Hodgkin lymphoma NOS is followed by a diagnosis of follicular lymphoma, report the morphology as follicular lymphoma and use the date of diagnosis from the non-Hodgkin lymphoma.

6. **Using the ICD-O-2 Table**- To use this table, locate the first morphology code/diagnosis in the left column of the table, then locate the second morphology code/diagnosis in the other columns. If the second primary appears in the middle column, the two diagnoses are usually considered two separate primaries. If the second diagnosis appears in the right-hand column, then the two diagnoses are usually considered one primary. Select the disease mentioned in the first column unless there is an indication in the right-hand column to do otherwise. If the pathology report specifically states differently, use the pathology report.

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ICD-O-3 TABLE

SINGLE VERSUS SUBSEQUENT PRIMARIES OF LYMPHATIC AND HEMATPOIETIC DIESASE

**Both diseases diagnosed
on or after 01/01/2001**

or

**First diagnosis made prior to 2001 and
second diagnosis made on or after 01/01/2001**

February 28, 2001 PAGE 1											
SECOND DX ACROSS		9590 Malignant lymphoma, NOS	9591 NHL, NOS	9596 Composite HD/NHL	9650-9667 Hodgkin lymphoma	9670-9671 ML, small B lymphoma	9673 Mantle cell lymphoma	9675-9684 ML, diffuse, large B-cell	9687 Burkitt lymphoma	9689, 9699 Marg zone, B-cell lymphoma	9690-9698 Follicular lymphoma
FIRST DX DOWN		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Malignant lymphoma, NOS	9590	S	S	S	S	S	S	S	S	S	S
2. NHL, NOS	9591	S	S	D	D	S	S	S	S	S	S
3. Composite HD/NHL	9596	S	S	S	S	S	S	S	S	S	S
4. Hodgkin lymphoma	9650-9667	S	D	D	S	D	D	D	D	D	D
5. ML, small B lymphocytic	9670-9671	S	S	D	D	S	D	D	D	D	D
6. Mantle cell lymphoma	9673	S	S	D	D	D	S	D	D	D	D
7. ML, diffuse, large B-cell	9675-9684	S	S	D	D	S	D	S	S	D	S
8. Burkitt lymphoma	9687	S	S	D	D	D	D	D	S	D	D
9. Marg zone, B-cell lymphoma	9689, 9699	S	S	D	D	D	D	D	D	S	D
10. Follicular lymphoma	9690-9698	S	S	D	D	D	D	S	D	D	S
11. Mycos fung, Sezary disease	9700-9701	S	S	D	D	D	D	D	D	D	D
12. T/NK-cell NHL	9702-9719	S	S	D	D	D	D	D	D	D	D
13. Precurs lym'blas lymph NOS	9727	S	S	D	D	D	D	D	D	D	D
14. Precur lym'blas lymph B-cell	9728	S	S	D	D	D	D	D	D	D	D
15. Precur lym'blas lymph T-cell	9729	S	S	D	D	D	D	D	D	D	D
16. Plasma cell tumors	9731-9734	D	D	D	D	D	D	D	D	D	D
17. Mast cell tumors	9740-9742	D	D	D	D	D	D	D	D	D	D
18. Histiocyt/Langerhans cell	9750-9756	D	D	D	D	D	D	D	D	D	D
19. Dendritic cell sarcoma	9757-9758	S	S	D	D	D	D	D	D	D	D
20. Immunoprolif disease, NOS	9760	S	S	D	D	S	D	S	D	D	D
21. Waldenstrom macroglob	9761	S	S	D	D	S	D	S	D	D	D
22. Heavy chain disease, NOS	9762	S	S	D	D	D	D	D	D	D	D
23. Immun sm intest disease	9764	S	S	D	D	D	D	D	D	D	D
24. Leuk/Acute leuk, NOS	9800-9801	S	S	D	D	D	D	D	S	D	D
25. Acute biphenotypic leukem	9805	S	S	D	D	S	S	S	S	S	S
26. Lymphocytic leukem, NOS	9820	S	S	D	D	D	D	D	S	D	S
27. BCLL/SLL	9823	S	S	D	D	S	D	S	D	D	D
28. Burkitt cell leukemia	9826	S	S	D	D	D	D	D	S	D	D
29. Adult T-cell leuk/lymph	9827	S	S	D	D	D	D	D	D	D	D
30. Polym'cyt leuk, NOS	9832	D	D	D	D	S	D	D	D	D	D
31. Polym'cyt leuk, B-cell	9833	D	D	D	D	S	D	D	D	D	D
32. Polym'cyt leuk, T-cell	9834	D	D	D	D	D	D	D	D	D	D
33. Precurs lym'cyt leuk, NOS	9835	S	S	D	D	D	D	D	D	D	D
34. Precurs B-cell leuk	9836	S	S	D	D	D	D	D	D	D	D
35. Precurs T-cell leuk	9837	S	S	D	D	D	D	D	D	D	D
36. Myeloid leukemias	9840-9910	D	D	D	D	D	D	D	D	D	D
37. Therapy related AML	9920	D	D	D	D	D	D	D	D	D	D
38. Myeloid sarcoma	9930	D	D	D	D	D	D	D	D	D	D
39. Acute panmyelosis	9931	D	D	D	D	D	D	D	D	D	D
40. Hairy cell leukemia	9940	D	D	D	D	D	D	D	D	D	D
41. Chron myelomonocyt leuk	9945	D	D	D	D	D	D	D	D	D	D
42. Juvenile myelomonocy leuk	9946	D	D	D	D	D	D	D	D	D	D
43. NK-cell leukemia	9948	S	S	D	D	D	D	D	D	D	D
44. Polycythemia vera	9950	D	D	D	D	D	D	D	D	D	D
45. Chron myeloprolif disease	9960	D	D	D	D	D	D	D	D	D	D
46. Myelosclerosis	9961	D	D	D	D	D	D	D	D	D	D
47. Essen thrombocythem	9962	D	D	D	D	D	D	D	D	D	D
48. Chron neutrophilic leukemia	9963	D	D	D	D	D	D	D	D	D	D
49. Hypereosinophilic syndrome	9964	D	D	D	D	D	D	D	D	D	D
50. Refractory anemias	9980-9986	D	D	D	D	D	D	D	D	D	D
51. Therapy related MDS	9987	D	D	D	D	D	D	D	D	D	D
52. Myelodysplastic syndr, NOS	9989	D	D	D	D	D	D	D	D	D	D

Codes: S--one primary only; D--presumably a subsequent primary

February 28, 2001 PAGE 2 SECOND DX ACROSS FIRST DX DOWN		11. 9700-9701 MF Sezary dz	12. 9702-9719 T/NK- cell lymphoma	13. 9727 Precur lym'blas lym, NOS	14. 9728 Precur lym'blas lym B-cell	15. 9729 Precur lym'blas ly T-cell	16. 9731-9734 Plasma cell tumors	17. 9740-9742 Mast cell tumors	18. 9750-9756 histiocytes; LCH	19. 9757-9758 Dendritic cell sarc	20. 9760 Immunoprolif dz
1. Malignant lymphoma, NOS	9590	S	S	S	S	S	S	S	S	S	S
2. NHL, NOS	9591	S	S	S	S	S	D	D	D	S	S
3. Composite HD/NHL	9596	S	S	S	S	S	D	D	D	D	S
4. Hodgkin lymphoma	9650-9667	D	D	D	D	D	D	D	D	D	D
5. ML, small B lymphocytic	9670-9671	D	D	D	D	D	D	D	D	D	D
6. Mantle cell lymphoma	9673	D	D	D	D	D	D	D	D	D	D
7. ML, diffuse, large B-cell	9675-9684	D	D	D	D	D	D	D	D	D	S
8. Burkitt lymphoma	9687	D	D	D	D	D	D	D	D	D	D
9. Marg zone, B-cell lymphoma	9689, 9699	D	D	D	D	D	D	D	D	D	D
10. Follicular lymphoma	9690-9698	D	D	D	D	D	D	D	D	D	D
11. Mycos fung, Sezary disease	9700-9701	S	D	D	D	D	D	D	D	D	D
12. T/NK-cell NHL	9702-9719	D	S	D	D	D	D	D	D	D	S
13. Precurs lym'blas lymph NOS	9727	D	D	S	S	S	D	D	D	D	D
14. Precur lym'blas lymph B-cell	9728	D	D	S	S	D	D	D	D	D	D
15. Precur lym'blas lymph T-cell	9729	D	D	S	D	S	D	D	D	D	D
16. Plasma cell tumors	9731-9734	D	D	D	D	D	S	D	D	D	D
17. Mast cell tumors	9740-9742	D	D	D	D	D	D	S	D	D	D
18. Histiocyt/Langerhans cell	9750-9756	D	D	D	D	D	D	D	S	D	D
19. Dendritic cell sarcoma	9757-9758	D	D	D	D	D	D	D	D	S	D
20. Immunoprolif disease, NOS	9760	D	D	D	D	D	S	D	D	D	S
21. Waldenstrom macroglob	9761	D	D	D	D	D	D	D	D	D	S
22. Heavy chain disease, NOS	9762	D	D	D	D	D	D	D	D	D	S
23. Immun sm intest disease	9764	D	D	D	D	D	S	D	D	D	S
24. Leuk/Acute leuk, NOS	9800-9801	D	S	S	S	S	D	D	D	D	D
25. Acute biphenotypic leukem	9805	S	S	S	S	S	D	D	D	D	D
26. Lymphocytic leukem, NOS	9820	S	S	S	S	S	D	D	D	D	S
27. BCLL/SLL	9823	D	D	D	D	D	D	D	D	D	S
28. Burkitt cell leukemia	9826	D	D	D	D	D	D	D	D	D	D
29. Adult T-cell leuk/lymph	9827	D	D	D	D	D	D	D	D	D	D
30. Prolym'cyt leuk, NOS	9832	D	D	D	D	D	D	D	D	D	D
31. Prolym'cyt leuk, B-cell	9833	D	D	D	D	D	D	D	D	D	D
32. Prolym'cyt leuk, T-cell	9834	D	D	D	D	D	D	D	D	D	D
33. Precurs lym'cyt leuk, NOS	9835	D	D	D	D	D	D	D	D	D	D
34. Precurs B-cell leuk	9836	D	D	S	S	S	D	D	D	D	D
35. Precurs T-cell leuk	9837	D	D	S	S	D	D	D	D	D	D
36. Myeloid leukemias	9840-9910	D	D	D	D	D	D	D	D	D	D
37. Therapy related AML	9920	D	D	D	D	D	D	D	D	D	D
38. Myeloid sarcoma	9930	D	D	D	D	D	D	D	D	D	D
39. Acute panmyelosis	9931	D	D	D	D	D	D	D	D	D	D
40. Hairy cell leukemia	9940	D	D	D	D	D	D	D	D	D	D
41. Chron myelomonocyt leuk	9945	D	D	D	D	D	D	D	D	D	D
42. Juvenile myelomonocy leuk	9946	D	D	D	D	D	D	D	D	D	D
43. NK-cell leukemia	9948	D	S	D	D	D	D	D	D	D	D
44. Polycythemia vera	9950	D	D	D	D	D	D	D	D	D	D
45. Chron myeloprolif disease	9960	D	D	D	D	D	D	D	D	D	D
46. Myelosclerosis	9961	D	D	D	D	D	D	D	D	D	D
47. Essen thrombocythem	9962	D	D	D	D	D	D	D	D	D	D
48. Chron neutrophilic leukemia	9963	D	D	D	D	D	D	D	D	D	D
49. Hypereosinophilic syndrome	9964	D	D	D	D	D	D	D	D	D	D
50. Refractory anemias	9980-9986	D	D	D	D	D	D	D	D	D	D
51. Therapy related MDS	9987	D	D	D	D	D	D	D	D	D	D
52. Myelodysplastic syndr, NOS	9989	D	D	D	D	D	D	D	D	D	D
Codes: S--one primary only; D--presumably a subsequent primary											

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SECOND DX ACROSS												
FIRST DX DOWN		21. 9671 Waldenstrom	22. 9762 Heavy Chain dz	23. 9764 Imm sm intest dz	24. 9800-9801 Leuk/ acute leuk, NOS	25. 9805 Acute biphenotypic leuk	26. 9820 Lymphocytic leukemia, NOS	27. 9823 BCLL/SLL	28. 9826 Burkitt leukemia	29. 9827 Adult T-cell leukemia/lymph	30. 9832 Prolymphocyt leukemia, NOS	
1. Malignant lymphoma, NOS	9590	S	S	S	S	S	S	S	S	S	S	
2. NHL, NOS	9591	S	S	S	S	S	S	S	S	S	D	
3. Composite HD/NHL	9596	S	S	S	S	D	S	S	S	S	D	
4. Hodgkin lymphoma	9650-9667	D	D	D	D	D	D	D	D	D	D	
5. ML, small B lymphocytic	9670-9671	S	D	D	D	S	S	S	D	D	S	
6. Mantle cell lymphoma	9673	D	D	D	D	S	D	D	D	D	D	
7. ML, diffuse, large B-cell	9675-9684	S	S	S	D	S	S	S	D	D	S	
8. Burkitt lymphoma	9687	D	D	D	S	S	S	D	S	D	D	
9. Marg zone, B-cell lymphoma	9689, 9699	D	D	D	D	S	D	D	D	D	D	
10. Follicular lymphoma	9690-9698	D	D	D	D	S	D	D	D	D	D	
11. Mycos fung, Sezary disease	9700-9701	D	D	D	D	S	S	D	D	D	D	
12. T/NK-cell NHL	9702-9719	D	D	D	D	S	S	D	D	D	D	
13. Precurs lym'blas lymph NOS	9727	D	D	D	S	S	S	D	D	D	D	
14. Precur lym'blas lymph B-cell	9728	D	D	D	S	S	S	D	D	D	D	
15. Precur lym'blas lymph T-cell	9729	D	D	D	S	S	S	D	D	D	D	
16. Plasma cell tumors	9731-9734	D	D	D	D	D	D	D	D	D	D	
17. Mast cell tumors	9740-9742	D	D	D	D	D	D	D	D	D	D	
18. Histiocyt/Langerhans cell	9750-9756	D	D	D	D	D	D	D	D	D	D	
19. Dendritic cell sarcoma	9757-9758	D	D	D	D	D	D	D	D	D	D	
20. Immunoprolif disease, NOS	9760	S	S	S	D	D	D	D	D	D	D	
21. Waldenstrom macroglob	9761	S	D	D	D	D	S	S	D	D	D	
22. Heavy chain disease, NOS	9762	D	S	S	D	D	S	S	D	D	D	
23. Immun sm intest disease	9764	D	S	S	D	D	D	D	D	D	D	
24. Leuk/Acute leuk, NOS	9800-9801	D	D	D	S	S	S	D	S	S	D	
25. Acute biphenotypic leukem	9805	D	D	D	S	S	S	S	S	S	S	
26. Lymphocytic leukem, NOS	9820	S	S	D	S	S	S	S	S	S	S	
27. BCLL/SLL	9823	D	D	D	D	S	S	S	D	D	S	
28. Burkitt cell leukemia	9826	D	D	D	S	S	S	D	S	D	D	
29. Adult T-cell leuk/lymph	9827	D	D	D	D	S	S	D	D	S	D	
30. Prolym'cyt leuk, NOS	9832	D	D	D	D	S	S	S	D	D	S	
31. Prolym'cyt leuk, B-cell	9833	D	D	D	D	S	S	S	D	D	S	
32. Prolym'cyt leuk, T-cell	9834	D	D	D	D	S	S	D	D	S	S	
33. Precurs lym'cyt leuk, NOS	9835	D	D	D	S	S	S	D	D	D	D	
34. Precurs B-cell leuk	9836	D	D	D	S	S	S	D	D	D	D	
35. Precurs T-cell leuk	9837	D	D	D	S	S	S	D	D	D	D	
36. Myeloid leukemias	9840-9910	D	D	D	S	S	D	D	D	D	D	
37. Therapy related AML	9920	D	D	D	S	S	D	D	D	D	D	
38. Myeloid sarcoma	9930	D	D	D	S	S	D	D	D	D	D	
39. Acute panmyelosis	9931	D	D	D	S	S	D	D	D	D	D	
40. Hairy cell leukemia	9940	D	D	D	S	S	D	D	D	D	D	
41. Chron myelomonocyt leuk	9945	D	D	D	S	S	D	D	D	D	D	
42. Juvenile myelomonocy leuk	9946	D	D	D	S	S	D	D	D	D	D	
43. NK-cell leukemia	9948	D	D	D	S	S	D	D	D	D	D	
44. Polycythemia vera	9950	D	D	D	S	S	D	D	D	D	D	
45. Chron myeloprolif disease	9960	D	D	D	S	S	D	D	D	D	D	
46. Myelosclerosis	9961	D	D	D	S	S	D	D	D	D	D	
47. Essen thrombocythem	9962	D	D	D	S	D	D	D	D	D	D	
48. Chron neutrophilic leukemia	9963	D	D	D	S	D	D	D	D	D	D	
49. Hypereosinophilic syndrome	9964	D	D	D	S	D	D	D	D	D	D	
50. Refractory anemias	9980-9986	D	D	D	S	S	D	D	D	D	D	
51. Therapy related MDS	9987	D	D	D	S	S	D	D	D	D	D	
52. Myelodysplastic syndr, NOS	9989	D	D	D	S	S	D	D	D	D	D	
Codes: S--one primary only; D--presumably a subsequent primary												

February 28, 2001 PAGE 4 SECOND DX ACROSS FIRST DX DOWN		31. 9833 Polymph leuk, B-cell	32. 9834 Polymph leuk, T-cell	33. 9835 Precurs lymph leuk, NOS	34. 9836 Precurs leuk, B-cell	35. 9837 Precurs leuk, T-cell	36. 9840-9910 Myel leukemias	37. 99520 Therapy related AML	38. 9930 Myeloid sarcoma	39. 9931 Acute panmyelosis	40. 9940 Hairy cell leukemia	41. 9945 Chronic myelomono leuk
1. Malignant lymphoma, NOS	9590	S	S	S	S	S	S	S	S	S	S	S
2. NHL, NOS	9591	D	D	S	S	S	D	D	D	D	D	D
3. Composite HD/NHL	9596	D	D	S	S	S	D	D	D	D	D	D
4. Hodgkin lymphoma	9650-9667	D	D	D	D	D	D	D	D	D	D	D
5. ML, small B lymphocytic	9670-9671	S	D	D	D	D	D	D	D	D	D	D
6. Mantle cell lymphoma	9673	D	D	D	D	D	D	D	D	D	D	D
7. ML, diffuse, large B-cell	9675-9684	S	D	D	D	D	D	D	D	D	D	D
8. Burkitt lymphoma	9687	D	D	D	D	D	D	D	D	D	D	D
9. Marg zone, B-cell lymphoma	9689, 9699	D	D	D	D	D	D	D	D	D	D	D
10. Follicular lymphoma	9690-9698	D	D	D	D	D	D	D	D	D	D	D
11. Mycos fung, Sezary disease	9700-9701	D	D	D	D	D	D	D	D	D	D	D
12. T/NK-cell NHL	9702-9719	D	D	D	D	D	D	D	D	D	D	D
13. Precurs lym'blas lymph NOS	9727	D	D	S	S	S	D	D	D	D	D	D
14. Precur lym'blas lymph B-cell	9728	D	D	S	S	D	D	D	D	D	D	D
15. Precur lym'blas lymph T-cell	9729	D	D	S	D	S	D	D	D	D	D	D
16. Plasma cell tumors	9731-9734	D	D	D	D	D	D	D	D	D	D	D
17. Mast cell tumors	9740-9742	D	D	D	D	D	D	D	D	D	D	D
18. Histiocyt/Langerhans cell	9750-9756	D	D	D	D	D	D	D	D	D	D	D
19. Dendritic cell sarcoma	9757-9758	D	D	D	D	D	D	D	D	D	D	D
20. Immunoprolif disease, NOS	9760	D	D	D	D	D	D	D	D	D	D	D
21. Waldenstrom macroglob	9761	D	D	D	D	D	D	D	D	D	D	D
22. Heavy chain disease, NOS	9762	D	D	D	D	D	D	D	D	D	D	D
23. Immun sm intest disease	9764	D	D	D	D	D	D	D	D	D	D	D
24. Leuk/Acute leuk, NOS	9800-9801	D	D	S	S	S	S	S	S	D	D	S
25. Acute biphenotypic leukem	9805	S	S	S	S	S	S	S	S	S	S	S
26. Lymphocytic leukem, NOS	9820	S	S	S	S	S	D	D	D	D	S	D
27. BCLL/SLL	9823	S	D	D	D	D	D	D	D	D	D	D
28. Burkitt cell leukemia	9826	D	D	D	D	D	D	D	D	D	D	D
29. Adult T-cell leuk/lymph	9827	D	D	D	D	D	D	D	D	D	D	D
30. Polym'cyt leuk, NOS	9832	S	S	D	D	D	D	D	D	D	D	D
31. Polym'cyt leuk, B-cell	9833	S	D	D	D	D	D	D	D	D	D	D
32. Polym'cyt leuk, T-cell	9834	D	S	D	D	D	D	D	D	D	D	D
33. Precurs lym'cyt leuk, NOS	9835	D	D	S	S	S	D	D	D	D	D	D
34. Precurs B-cell leuk	9836	D	D	S	S	D	D	D	D	D	D	D
35. Precurs T-cell leuk	9837	D	D	S	D	S	D	D	D	D	D	D
36. Myeloid leukemias	9840-9910	D	D	D	D	D	S	S	S	S	D	S
37. Therapy related AML	9920	D	D	D	D	D	S	S	S	S	D	S
38. Myeloid sarcoma	9930	D	D	D	D	D	S	S	S	S	D	S
39. Acute panmyelosis	9931	D	D	D	D	D	S	S	S	S	D	S
40. Hairy cell leukemia	9940	D	D	D	D	D	D	D	D	D	S	D
41. Chron myelomonocyt leuk	9945	D	D	D	D	D	S	S	S	S	D	S
42. Juvenile myelomonocy leuk	9946	D	D	D	D	D	S	S	S	S	D	S
43. NK-cell leukemia	9948	D	D	D	D	D	D	D	D	D	D	D
44. Polycythemia vera	9950	D	D	D	D	D	D	D	D	D	D	D
45. Chron myeloprolif disease	9960	D	D	D	D	D	S	S	S	S	D	S
46. Myelosclerosis	9961	D	D	D	D	D	S	S	S	S	D	S
47. Essen thrombocythem	9962	D	D	D	D	D	S	S	S	S	D	S
48. Chron neutrophilic leukemia	9963	D	D	D	D	D	S	S	S	S	D	S
49. Hyper eosinophilic syndrome	9964	D	D	D	D	D	S	S	S	S	D	S
50. Refractory anemias	9980-9986	D	D	D	D	D	S	S	S	S	D	S
51. Therapy related MDS	9987	D	D	D	D	D	S	S	S	S	D	S
52. Myelodysplastic syndr, NOS	9989	D	D	D	D	D	S	S	S	S	D	S

Codes: S--one primary only; D--presumably a subsequent primary

February 28, 2001 PAGE 5		42. 9946 Juv myelomono leuk	43. 9948 NK-cell leukemia	44. 9950 Polycythemia vera	45. 9960 Chronic myeloprolifer dz	46. 9961 Myeloclerosis	47. 9962 Essential thrombocythemia	48. 9963 Chr neutrophil leukemia	49. 9964 Hypereosin syndrome	50. 9980-9986 Refract anemias	51. 9987 therapy rel MDS	52. 9989 Myelodyspl
SECOND DX ACROSS												
FIRST DX DOWN												
1. Malignant lymphoma, NOS	9590	S	S	D	D	D	D	D	D	D	D	D
2. NHL, NOS	9591	D	D	D	D	D	D	D	D	D	D	D
3. Composite HD/NHL	9596	D	D	D	D	D	D	D	D	D	D	D
4. Hodgkin lymphoma	9650-9667	D	D	D	D	D	D	D	D	D	D	D
5. ML, small B lymphocytic	9670-9671	D	D	D	D	D	D	D	D	D	D	D
6. Mantle cell lymphoma	9673	D	D	D	D	D	D	D	D	D	D	D
7. ML, diffuse, large B-cell	9675-9684	D	D	D	D	D	D	D	D	D	D	D
8. Burkitt lymphoma	9687	D	D	D	D	D	D	D	D	D	D	D
9. Marg zone, B-cell lymphoma	9689, 9699	D	D	D	D	D	D	D	D	D	D	D
10. Follicular lymphoma	9690-9698	D	D	D	D	D	D	D	D	D	D	D
11. Mycos fung, Sezary disease	9700-9701	D	D	D	D	D	D	D	D	D	D	D
12. T/NK-cell NHL	9702-9719	D	D	D	D	D	D	D	D	D	D	D
13. Precurs lym'blas lymph NOS	9727	D	D	D	D	D	D	D	D	D	D	D
14. Precur lym'blas lymph B-cell	9728	D	D	D	D	D	D	D	D	D	D	D
15. Precur lym'blas lymph T-cell	9729	D	D	D	D	D	D	D	D	D	D	D
16. Plasma cell tumors	9731-9734	D	D	D	D	D	D	D	D	D	D	D
17. Mast cell tumors	9740-9742	D	D	D	D	D	D	D	D	D	D	D
18. Histiocyt/Langerhans cell	9750-9756	D	D	D	D	D	D	D	D	D	D	D
19. Dendritic cell sarcoma	9757-9758	D	D	D	D	D	D	D	D	D	D	D
20. Immunoprolif disease, NOS	9760	D	D	D	D	D	D	D	D	D	D	D
21. Waldenstrom macroglob	9761	D	D	D	D	D	D	D	D	D	D	D
22. Heavy chain disease, NOS	9762	D	D	D	D	D	D	D	D	D	D	D
23. Immun sm intest disease	9764	D	D	D	D	D	D	D	D	D	D	D
24. Leuk/Acute leuk, NOS	9800-9801	S	D	D	S	S	D	S	S	D	S	S
25. Acute biphenotypic leukem	9805	S	S	D	S	S	D	D	D	S	S	S
26. Lymphocytic leukem, NOS	9820	D	S	D	D	D	D	D	D	D	D	D
27. BCLL/SLL	9823	D	D	D	D	D	D	D	D	D	D	D
28. Burkitt cell leukemia	9826	D	D	D	D	D	D	D	D	D	D	D
29. Adult T-cell leuk/lymph	9827	D	D	D	D	D	D	D	D	D	D	D
30. Prolym'cyt leuk, NOS	9832	D	D	D	D	D	D	D	D	D	D	D
31. Prolym'cyt leuk, B-cell	9833	D	D	D	D	D	D	D	D	D	D	D
32. Prolym'cyt leuk, T-cell	9834	D	D	D	D	D	D	D	D	D	D	D
33. Precurs lym'cyt leuk, NOS	9835	D	D	D	D	D	D	D	D	D	D	D
34. Precurs B-cell leuk	9836	D	D	D	D	D	D	D	D	D	D	D
35. Precurs T-cell leuk	9837	D	D	D	D	D	D	D	D	D	D	D
36. Myeloid leukemias	9840-9910	S	D	D	S	S	S	S	S	D	S	S
37. Therapy related AML	9920	S	D	D	D	S	D	D	D	D	S	S
38. Myeloid sarcoma	9930	S	D	D	S	S	S	S	D	D	S	S
39. Acute panmyelosis	9931	S	D	D	D	S	D	D	D	D	S	S
40. Hairy cell leukemia	9940	D	D	D	D	D	D	D	D	D	D	D
41. Chron myelomonocyt leuk	9945	S	D	D	S	S	D	S	D	D	S	S
42. Juvenile myelomonocy leuk	9946	S	D	D	D	S	D	D	D	D	S	S
43. NK-cell leukemia	9948	D	S	D	D	D	D	D	D	D	D	D
44. Polycythemia vera	9950	D	D	S	S	S	D	D	D	D	D	D
45. Chron myeloprolif disease	9960	D	D	D	S	S	S	S	D	D	D	D
46. Myeloclerosis	9961	S	D	D	S	S	S	S	D	D	S	S
47. Essen thrombocythem	9962	D	D	D	S	S	S	S	D	D	D	D
48. Chron neutrophilic leukemia	9963	D	D	D	S	S	S	S	D	D	D	D
49. Hypereosinophilic syndrome	9964	S	D	D	S	S	D	D	S	D	D	D
50. Refractory anemias	9980-9986	S	D	D	S	S	D	D	D	S	S	S
51. Therapy related MDS	9987	S	D	D	S	S	D	D	D	S	S	S
52. Myelodysplastic syndr, NOS	9989	A	D	D	S	S	D	D	D	S	S	S

Codes: S--one primary only; D--presumably a subsequent primary

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