Chapter 4. Histological groups

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In this volume, the main axis of classification is provided by the predominantly site-based categories of chapter II (Neoplasms) of the 10th Revision of the International Classification of Diseases (WHO, 1992). However, the characteristics of many cancers—with respect to etiology, treatment and prognosis—are also dependent upon their histology. For this reason, the CD-ROM accompanying the volume also includes some cancers classified according to combinations of site and morphology.

Sarcomas and mesotheliomas by site

Table 4.1 shows the sites (defined by the three-digit topography (T) codes of the second edition of the International Classification of Diseases for Oncology (ICD-O-2)) that were used for tabulation of the major types of sarcoma, and for mesotheliomas. These sites were selected based upon the principal localizations of these cancers, as shown in the database of cancer registry records available at IARC.

Four major types of soft-tissue sarcoma were included, as defined by the WHO Classification of Tumours (Fletcher *et al*., 2002):

- Fibrosarcomas and liposarcomas (including malignant fibrohistiocytic tumours);
- Leiomyosarcomas;
- Rhabdomyosarcomas;
- Angiosarcomas.

Kaposi sarcoma was tabulated separately from the other malignant vascular tumours. The morphology codes of the ICD-O-2 corresponding to these categories are shown in Table 4.2. In addition, malignant mesotheliomas (ICD-O-2, M9050–9055) have been tabulated with respect to their three principal sites of occurrence (Table 4.1).

Histological subgroups of ICD-10 categories

Diagnostic subgroups are presented for 15 cancers, as defined by the ICD three-character category codes (10th revision) used in this volume (Table 4.3). These follow the categories described in the IARC Technical Report *Histological Groups for Comparative Studies* (Parkin *et al*., 1998) and were selected on the basis of:

- Tumours (ICD-categories) that are relatively important numerically;
- Histological subgroups within the ICD categories that have clear etiological, therapeutic or prognostic significance;

Table 4.1. Sarcomas and mesotheliomas by ICD-O site

Type	ICD-O site
1 SARCOMAS	Lip, oral cavity and pharynx, nasal cavity, middle ear, accessory
Fibrosarcoma and liposarcoma	sinuses and larynx (C00–14, C30–32)
Leiomyosarcoma	Stomach (C16)
Rhabdomyosarcoma	Small intestine (C17)
Angiosarcoma	Trachea, bronchus, lung, thymus, heart, mediastinum and pleura (C33–38)
	Skin (C44)
	Peripheral nerves, autonomic nervous system, retroperitoneum, peritoneum, other connective and soft tissue (C47–49)
	Breast (C50)
	Cervix uteri and uterus (C53–55)
	Kidney, renal pelvis, ureter, bladder, other and unspecified urinary organs (C64–68)
2 Kaposi sarcoma	Lip, oral cavity and pharynx (C00–14)
	Digestive organs (C15–26)
	Trachea, bronchus, lung, thymus, heart, mediastinum and pleura (C33–38)
	Skin, peripheral nerves, autonomic nervous system, retroperitoneum, peritoneum, other connective and soft tissue (C44, C47–49)
	Lymph nodes (C77)
3 Mesothelioma	Pleura (C38.4)
	Peritoneum (C48)
	Pericardium (C38.0)
	Other

Table 4.2. Morphology codes (ICD-O-2 M codes) for the sarcomas

1	**Fibrosarcoma and liposarcoma**	**8810–8811, 8813–8833, 8850–8881, 9540–9561**
2	**Leiomyosarcoma**	**8890–8897**
3	**Rhabdomyosarcoma**	**8900–8920, 8991**
4	**Angiosarcoma**	**9120–9134, 9141–9175**
5	**Kaposi sarcoma**	**9140**
6	**Mesothelioma**	**9050–9055**

Table 4.3. Sites by ICD-O code

Site	ICD-10	Site	ICD-10
1 Oesophagus	C15	**9 Testis**	C62
2 Anus	C21	**10 Bladder**	C67
3 Liver	C22	**11 Eye**	C69
4 Lung	C34	**12 Brain and central nervous system**	C70–72
5 Bone	C40 + 41		
6 Cervix uteri	C53	**13 Thyroid**	C73
7 Corpus uteri	C54	**14 Hodgkin disease**	C81
8 Ovary	C56	**15 Leukaemia**	C91–95

- Histological subgroups defined by the morphological terms of the International Classification of Diseases for Oncology (ICD-O). This generally excludes terminology based upon special staining techniques (e.g., glandular and diffuse neoplasms of the stomach (Lauren, 1965)) or immunological methods to detect surface antigens of various types;
- Morphological diagnoses that are *relatively* reproducible between pathologists, based upon light microscopy of tissue specimens stained with haemoxylin and eosin only.

The tabulations in this volume comprise simply the frequency of different histological subtypes (including the category 'uncertain histology') within the total of morphologically verified cases for the particular ICD category. The total number of registrations for the site is also provided, to indicate the proportion of cases with morphological verification (the figure is reproduced in the tables of indicators of quality also). Restriction to morphologically verified cases leads to some loss of information on subtypes, particularly for those cancers for which a reasonably accurate diagnosis can be obtained without histological examination (e.g., melanoma, Kaposi sarcoma, retinoblastoma). If one makes the assumption that cases without a diagnosis based on histology or cytology have the same profile of histological subtypes as those with a tissue diagnosis, the percentages shown can be applied to the total number of cases (and the crude incidence rate) for a given site.

We have not attempted in the tables on the CD to present the breakdown by age-group, nor to calculate incidence rates by histological subtype, but this level of detail can be obtained using the software provided (see Chapter 7).

The subgroups used and their content in terms of ICD-O (2nd edition) morphology codes are reproduced below (Tables 4.4–4.18). The justification for the choice of most of these subgroups, and of their constituent histological entities, is contained in the IARC Technical Report (Parkin *et al*., 1998), which also provides a computer software for creating the subgroups from case listings. A few notes on each cancer site and its subgroups are included in this chapter. In addition, the following general points are pertinent:

Notes

1. Within each cancer in Table 4.1, the ICD-O M codes within the histological subgrouping include virtually all of those observed within the huge IARC database referred to above. Some are extremely rare occurrences (and will normally have been 'flagged' as such by some verification procedure within the registry or at IARC). Only morphological entities which were deemed frankly impossible at a given site have been excluded, in order that cancer registries will not have difficulties in allocating rare tumours to the subgroups (the process can be performed by computer program, without the need for 'hand coding').
2. Within the first 13 tumour sites listed in Table 4.3, there are no cases of mesothelioma (ICD-O 9050–9055, Kaposi sarcoma (9140), lymphoma (9590–9764) or leukaemia (9800–9941). These cancers have their own specific ICD codes within the 10th revision (and hence appear as separate lines in the tabulations by site in this volume) and mesothelioma and Kaposi sarcoma are presented by selected sites as described in Table 4.1.
3. ICD-O M code 8050 (papillary carcinoma NOS) is a term of variable meaning. When an organ contains an appreciable number of other epidermoid carcinomas, this term also is assumed to mean a papillary epidermoid carcinoma. Where the organ is the site of many adenocarcinomas and few epidermoid carcinomas, the term is assumed to refer to papillary adenocarcinomas. For organs where the majority of carcinomas are of transitional-cell type (urinary tract), it is assumed to refer to papillary transitional-cell carcinomas.

Table 4.4. Oesophagus

1 Carcinoma	**8010–8572**
1.1 Squamous-cell carcinoma	8050–8076
1.2 Adenocarcinoma (include adenosquamous, mucinous, adenoid cystic, mucoepidermoid, and Barrett carcinoma)	8140–8141, 8190–8231, 8260–8263, 8310, 8430, 8480–8490, 8560, 8570–8572
1.3 Other specified carcinomas	
1.4 Unspecified carcinoma	8010–8034
2 Sarcoma	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
3 Other specified cancer (include melanoma, carcinosarcoma)	
4 Unspecified cancer	**8000–8004**

Oesophagus

The adenocarcinoma group excludes cancers which normally occur in gastric epithelium (linitis plastica (8142)), adenocarcinoma, intestinal-type (8144), carcinoma, diffuse (8145)). It includes mucoepidermoid carcinomas (8430), sometimes considered as distinct malignant tumours, but because of their rarity (1.4% of oesophageal tumours (7.4% of oesophageal adenocarcinomas)), the distinction appears hardly worthwhile. The principal cancers in the 'Other specified carcinomas' group are small-cell carcinomas (8040–8045). In this category also is 'basaloid squamous-cell carcinoma', a recently described high-grade tumour that does not yet have an ICD-O morphology code. Of the codes currently available, 8123 (basaloid carcinoma) is the most appropriate for this tumour.

Table 4.5. Anus

1 Carcinoma	**8010–8570**
1.1 Squamous-cell carcinoma	8050–8076
1.2 Basaloid and cloacogenic carcinoma	8123–8124
1.3 Adenocarcinoma	8140–8145, 8190–8231, 8260–8263, 8310, 8480–8090, 8560, 8570
1.4 Other specified carcinomas	
1.5 Unspecified carcinoma	8010–8034
2 Melanoma	**8270–8790**
3 Other specified cancer	**8800–8811, 8830, 8840–8920, 8990–8991, 9150, 9540–9581**
4 Unspecified cancer	**8000–8004**

Anus

The categories are based upon those of *Pathology and Genetics of Tumours of the Digestive System* (Hamilton & Aaltonen, 2000). Basaloid and cloacogenic carcinomas have been presented separately, as they comprise around one quarter of the histological types of anal cancers. The leiomyosarcomas account for 48.6% of the 'Other specified' category.

Table 4.6. Liver

1 Carcinoma	**8010–8572**
1.1 Hepatocellular carcinoma	8170–8171
1.2[1] Cholangiocarcinoma (all intrahepatic biliary carcinomas, i.e. all adenocarcinomas and adenosquamous carcinoma)	8050, 8140–8141, 8160–8161, 8260, 8440, 8480–8500, 8550, 8560, 8570–8572
1.3 Other specified carcinomas (include combined hepatocellular and cholangiocarcinoma, carcinoid)	
1.4 Unspecified carcinoma	8010–8034
2 Hepatoblastoma	**8970**
3 Sarcoma	
3.1 Haemangiosarcoma	9120–9133, 9161
3.2 Other sarcomas	8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9150, 9170, 9540–9581
4 Other specified cancer	
5 Unspecified cancer	**8000–8004**

[1] The category Cholangiocarcinoma applies to all primary carcinomas of the liver of biliary epithelial type, i.e. all carcinomas other than hepatocellular carcinoma and combined hepatocellular and cholangiocarcinoma.

Liver

The groupings largely follow those of the International Histological Classification of Tumours (IHCT) (Gibson & Sobin, 1978). Combined hepatocellular and cholangiocarcinomas (8180), which comprised 0.12% of cancers of known histology in the IARC database, appear in the 'Other specified carcinomas' category.

Table 4.7. Lung

1 Carcinoma	**8010–8572**
1.1 Squamous-cell carcinoma	8050–8076
1.2 Adenocarcinoma	8140, 8211, 8230–8231, 8250–8260, 8323, 8480–8490, 8550–8560, 8570–8572
1.3 Small-cell carcinoma	8040–8045
1.4 Large-cell carcinoma (include giant-cell, clear cell and large-cell undifferentiated carcinoma)	8012–8031, 8310
1.5[1] Other specified carcinomas (include adenoid cystic, mucoepidermoid, and large-cell neuroendocrine carcinomas, and carcinoid tumour)	
1.6 Unspecified carcinoma	8010–8011, 8032–8034
2 Sarcoma	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
3 Other specified cancer (include pulmonary blastoma)	
4 Unspecified cancer	**8000–8004**

[1] The separation of bronchial gland carcinomas (adenoid cystic and mucoepidermoid carcinomas) from other adenocarcinomas, as in the WHO classification, is based on differences in etiology and prognosis.

Lung

In the scheme adopted here, there are six groups of carcinomas:

Squamous-cell cancers correspond to group 1 of the IHCT (Kreyberg *et al.*, 1981) and include 'papillary carcinoma NOS' (8050). *Adenocarcinoma* excludes bronchial gland carcinomas (adenoid cystic (8200) and mucoepidermoid (8430)), which appear in 'other specified carcinomas'. *Small-cell carcinoma* corresponds to group 2 of the IHCT. *Large-cell carcinoma* corresponds to group 4 of the IHCT and includes cancers so described (8012), as well as undifferentiated carcinomas (8020–8022), giant-cell carcinomas (8030, 8031) and clear-cell adenocarcinoma (8310). *Other specified carcinoma* includes the carcinoid tumours, bronchiolar gland tumours and 'mixed' tumours and carcinosarcomas (categories 6, 7 and 8, respectively, in the IHCT).

Mesotheliomas are not included in any group, as they are tabulated separately in this volume. Mesothelioma in lung tissue, as opposed to pleura, must be very rare (1.5% and 81.5% of mesotheliomas, respectively, in the SEER database (Mack, 1995)).

Table 4.8. Bone

1 Sarcoma	**8800–8920, 9040–9044, 9120–9133, 9150, 9180–9250, 9260, 9540–9581**
1.1 Osteosarcoma	9180–9200
1.2 Chondrosarcoma	9220–9240
1.3 Ewing sarcoma	9260
1.4 Fibrosarcoma and malignant fibrous histiocytoma	8810–8812, 8830
1.5 Other specified sarcomas (include angiosarcoma, malignant giant-cell tumour and PNET)	
1.6 Unspecified sarcoma	8800–8804
2 Other specified cancer (include chordoma, adamantinoma of long bones)	
3 Unspecified cancer	**8000–8004**

Bone

The groups proposed regroup the categories of the WHO Pathology and Genetics series (Fletcher *et al.*, 2002), with the exception of haematopoietic neoplasms.

The main categories are: osteosarcomas (group I); chondrosarcomas (group II), and Ewing sarcoma (part of group IV). These three groups contain the same ICD-O entities as groups a–c in the *International Classification of Childhood Cancer* (Kramárová *et al.*, 1996). Fibrosarcoma (part of group VI) includes malignant fibrous histiocytoma arising in bone. The 'Other sarcomas' category includes principally malignant giant-cell tumours (group III, 9250); angiosarcomas (group V, 9120–9133) and liposarcomas (part of group VI, 8850).

The other specified tumours include mesenchymomas, chordomas and adamantinomas.

Table 4.9. Cervix uteri

1 Carcinoma	**8010–8572**
1.1 Squamous-cell carcinoma	8051–8076
1.2 Adenocarcinoma (include adenosquamous carcinoma, adenocarcinoma with squamous differentiation, mucoepidermoid and adenoid cystic carcinomas)	8050, 8140–8141, 8190–8211, 8230–8231, 8260–8263, 8310, 8380, 8430, 8440–8490, 8510, 8560, 8570–8572
1.3 Other specified carcinoma	
1.4 Unspecified carcinoma	8010–8034
2 Sarcoma	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
3 Other specified cancer (include mullerian mixed tumour, carcinosarcoma, melanoma)	
4 Unspecified cancer	**8000–8004**

Cervix uteri

The groupings divide the carcinomas into four categories: squamous, adenocarcinoma, other specified and unspecified. Certain carcinomas that do not occur in the cervical epithelium are omitted from the squamous-cell and adenocarcinoma groups. Papillary carcinoma NOS (0.5% of cases in the IARC database) is included with the adenocarcinomas. No distinction is made between the various types of adenocarcinoma listed in the IHCT (Poulsen *et al.*, 1975). Adenosquamous carcinomas (8560–8570) are included with the adenocarcinomas—they comprise 7.6% of this group in the IARC database.

Table 4.10. Corpus uteri

1 Carcinoma	**8010–8572**
1.1 Adenocarcinoma (include adenosquamous carcinoma and adenocarcinoma with squamous differentiation)	8050, 8140–8141, 8190–8211, 8230–8231, 8260–8263, 8310, 8380, 8430, 8440–8490, 8510, 8560, 8570–8572
1.2 Other specified carcinoma (include squamous-cell carcinoma, clear-cell carcinoma)	
1.3 Unspecified carcinoma	8010–8034
2 Sarcoma (include leiomyosarcoma, endometrial stromal sarcoma)	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
3 Other specified cancer (include mullerian mixed tumour, carcinosarcoma, adenosarcoma)	
4 Unspecified cancer	**8000–8004**

Corpus uteri

The groupings proposed are identical to those of cervix cancer, except that squamous-cell carcinomas are grouped with 'other specified carcinomas' because of their rarity at this site (they comprise only 0.9% of carcinomas in the IARC database). Endometrial stromal sarcoma, in the 'Other specified cancer' category, accounts for 1.7% of the total diagnoses.

Table 4.11. Ovary

1 Carcinoma	**8010–8570, 9014–9015, 9110[1]**
1.1 Serous carcinoma	8441–8462, 9014
1.2 Mucinous carcinoma	8470–8490, 9015
1.3 Endometrioid carcinoma	8380–8381, 8560, 8570
1.4 Clear-cell carcinoma	8310–8313, 9110
1.5 Adenocarcinoma NOS	8140–8190, 8211–8231, 8260, 8440
1.6 Other specified carcinomas	
1.7 Unspecified carcinoma	8010–8034
2 Sex cord–stromal tumours	**8590–8671**
3 Germ-cell tumours	**8240–8245, 9060–9102**
4 Other specified cancers (include malignant Brenner tumour, mullerian mixed tumour, carcinosarcoma)	
5 Unspecified cancer	**8000–8004**

1.1–1.2: Categories 1.1 and 1.2 include tumours of borderline malignancy (low malignant potential). Unlike other borderline tumours, ICD-O includes borderline tumours of serous and mucinous type with carcinomas. This approach remains to be fully validated.

[1] Excludes 8240–8245

Ovary

The categories are based primarily upon those in the IHCT (Serov & Scully, 1973). The first four 'epithelial' carcinomas correspond to malignant serous (IA), mucinous (IB), endometrioid (IC) and clear-cell (ID) tumours. Among the carcinomas not encompassed within these four groups, the majority in the IARC database were various adenocarcinomas which cannot be allocated to any of the above groups and are hence included in a category labelled 'adenocarcinoma, NOS'. Sex cord/stromal tumours (group II of the IHCT) retain their own group. Germ-cell tumours include dysgerminomas, embryonal carcinomas and teratomas, as well as the rare carcinoid tumours of the ovary (group IV of the IHCT) and the very rare gonadoblastomas (group V). Lipid-cell tumours (group III), Brenner tumours (group IE) and sarcomas (group VI) are very rare (<1% of cases in the IARC database) and are consigned to the 'other specified' subgroup.

Table 4.12. Testis

1 Germ-cell tumours	**9060–9102**
1.1 Seminoma	9060–9064
1.2 Other germ-cell tumours	
1.2.1 Embryonal carcinoma (include yolk sac tumour)	9070–9073
1.2.2 Malignant teratoma	9080–9085, 9102
1.2.3 Choriocarcinoma	9100–9101
2 Other specified cancers (include sex cord-stromal tumour)	
3 Unspecified cancer	**8000–8004**

Testis

The groupings proposed correspond to the IHCT (Mostofi & Sobin, 1977). They separate germ-cell tumours from other specified cancers, and recognize four specific types of germ-cell tumours: seminomas (9060–9064), embryonal carcinomas (9070–9073), malignant teratomas (9080–9085, 9102) and (more rare) choriocarcinomas (9100–9101).

Table 4.13. Bladder

1 Carcinoma	**8010–8570**
1.1 Squamous-cell carcinoma	8051–8076
1.2 Transitional-cell carcinoma (include transitional cell carcinoma with squamous and/or glandular differentiation)	8050, 8120–8122, 8130
1.3 Adenocarcinoma	8140–8145, 8190–8231, 8260–8263, 8310, 8480–8490, 8560, 8570
1.4 Other specified carcinoma	
1.5 Unspecified carcinoma	8010–8034
2 Sarcoma	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
3 Other specified cancer (phaeochromocytoma, malignant paraganglioma, melanoma, carcinosarcoma)	
4 Unspecified cancer	**8000–8004**

Bladder

Transitional-cell carcinomas (groups ID and IE in the IHCT (Mostofi *et al.*, 1973)) comprise the majority of carcinomas. Tumours coded 8050 (papillary carcinoma NOS) are assumed to be papillary transitional-cell carcinomas (8130). The adenocarcinoma group comprised only 2% of histologically verified cases in the IARC database.

Table 4.14. Eye

1 Retinoblastoma	**9510–9512**
2 Malignant melanoma	**8720–8790**
3 Carcinoma	**8010–8572**
3.1 Squamous-cell carcinoma	8050–8082
3.2 Other specified carcinomas	
3.3 Unspecified carcinoma	8010–8034
4 Sarcoma	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
5 Other specified cancers (include glial tumours)	
6 Unspecified cancer	**8000–8004**

Eye

The ICD rubrics for 'eye' include adnexae such as the lacrimal gland and duct, as well as 'orbit'. Tumours of these structures are accommodated within the code groupings for 'eye' (Zimmermann & Sobin, 1980).

The principal eye cancers—retinoblastoma and malignant melanoma—form two groups. The carcinomas (11.4% of eye cancers in the IARC database) are divided into squamous-cell carcinomas (70% of the carcinomas)—principally tumours of the conjunctiva and cornea, other carcinomas, which comprise almost entirely adenocarcinomas (14.6%), mainly originating in the lacrimal gland and duct, and unspecified carcinomas (14.3% of carcinomas) which could be either.

Table 4.15. Brain and central nervous system

1 Tumours of neuroepithelial tissue	**8680, 9360–9362, 9364, 9380–9506, 9520–9523**
1.1 Gliomas	9380–9384, 9391–9460, 9480, 9481
1.1.1 Astrocytic tumours	9384, 9400–9421, 9424, 9440–9442, 9481
1.1.2 Oligodendroglial tumours and mixed gliomas	9382, 9450–9451
1.1.3 Ependymal tumours	9383, 9391–9394
1.1.4 Gliomas of uncertain origin	9380, 9381, 9422, 9423, 9430, 9443, 9460, 9480
1.2 Embryonal tumours	9470–9473, 9490, 9500–9504
1.2.1 Medulloblastoma	9470–9472; 9364 and 9473 (C71.6/7)
1.2.2 Other	9490, 9500–9504, 9364 and 9473 (other sites than C71.6/.7)
2 Other specified tumours	
3 Unspecified tumours	**8000–8004**

Brain and nervous system

The categories are based upon those of the WHO Pathology and Genetics classification (Kleihues & Cavanee, 1997). The lymphomas and haematopoietic neoplasms are not included. In the IARC Technical Report describing the histological groups for comparative studies (Parkin *et al.*, 1998), the olfactory, pineal and pituitary tumours are included with brain and central nervous system; these diagnoses are not presented here.

In the IARC database, 69% of the brain (C71) tumours and 24.7% of central nervous system tumours (C72) were astrocytic tumours. 79% of diagnoses in the meninges (C70) were meningiomas. The other specified tumours in the table include the choroid plexus tumours, neuronal and mixed neuronal glial tumours, and the germ-cell tumours—together accounting for <1% of cases in the IARC database.

Table 4.16. Thyroid

1 Carcinoma	**8010–8511**
1.1 Follicular carcinoma	8290, 8330–8334
1.2 Papillary carcinoma	8050, 8260, 8340, 8350, 8450
1.3 Medullary carcinoma	8510–8511
1.4 Anaplastic carcinoma (include undifferentiated carcinoma, giant-cell carcinoma)	8020–8034
1.5 Other specified carcinoma	
1.6 Unspecified carcinoma	8010–8012
2 Sarcoma	**8800–8811, 8830, 8840–8920, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581**
3 Other specified cancer	
4 Unspecified cancer	**8000–8004**

Thyroid

The scheme proposed follows the most recent revision of the IHCT (Hedinger *et al.*, 1988). The follicular carcinomas and papillary carcinomas provide the majority of thyroid cancers; the latter includes follicular carcinomas with a papillary component (8340). The anaplastic carcinomas (undifferentiated, giant-cell, spindle-cell carcinomas) are separated from 'unspecified carcinomas'. Small-cell carcinoma (8040–8045) is specifically excluded, since the great majority of tumours previously so diagnosed are in fact lymphomas (Hedinger *et al.*, 1989) and should thus appear with the lymphomas. Squamous carcinomas (0.6% of thyroid cancers), which are no longer recognized as a major histological type in the IHCT and are included in 'Other specified carcinomas'.

Table 4.17. Hodgkin disease	
1 Lymphocytic predominance	**9657–9659, 9660**
2 Nodular sclerosis	**9663–9667**
3 Mixed cellularity	**9652**
4 Lymphocytic depletion	**9653–9655**
5 Unspecified Hodgkin disease	**9650, 9661, 9662**

Hodgkin disease

Subdivision of Hodgkin disease has, until recently, been carried out according to the Rye classification (Lukes *et al.*, 1966), which delineates four subgroups: lymphocytic predominance, nodular sclerosis, mixed cellularity and lymphocytic depletion. However, Hodgkin disease is now recognized to comprise two distinct entities: nodular lymphocyte predominant Hodgkin lymphoma and classical Hodgkin lymphoma (CHL), with four subtypes within the latter (lymphocyte-rich CHL, nodular sclerosis, mixed cellularity and lymphocyte-depleted) (Jaffe *et al.*, 2001). The 3rd revision of ICD-O (Fritz *et al.*, 2000) includes new terms which allow coding according to this scheme, plus a new morphology code (9651: Hodgkin disease, lymphocyte-rich) which permits separation of nodular lymphocyte-predominant HL (9659) and lymphocyte-rich CHL (9651). However, since the data in this volume have been coded using the earlier editions of ICD-O that follow the older Rye classification, this subdivision has been retained in the tabulations by 'histological subtype'. Cases classified as 'paragranuloma' under the old Jackson–Parker (1944) classification can be regrouped with the lymphocytic predominance category, while cases described as 'Hodgkin granuloma and sarcoma' are not readily reallocated, and so are left in a category termed 'other specified'.

Table 4.18. Leukaemia	
1 Lymphoid	**9820–9827, 9940–9941[1]**
1.1 Acute	9821, 9826
1.2 Chronic	9823
1.3 Other specified leukaemia	
1.4 Unspecified	9820
2 Myeloid	**9860–9868, 9890–9894**
2.1 Acute	9861, 9866–9867, 9891
2.2 Chronic	9863, 9868, 9870, 9880, 9893
2.3 Other specified (include granulocytic sarcoma)	
2.4 Unspecified	9860, 9890
3 Other specified leukaemia[2]	**9801–9804, 9840–9850, 9870–9880, 9900–9930**
4.1 Acute	9801, 9841,9910, 9931, 9932
4.2 Chronic	9803, 9842
4.3 Other	
4 Unspecified leukaemia	**9800**

[1] Hairy-cell leukaemia and leukaemic reticuloendotheliosis included within lymphoid leukaemia in ICD-10.

[2] Plasma-cell leukaemia (9830) is excluded (it is classified with myeloma in ICD-9 203.1 and ICD-10 C90.1). Hairy-cell leukaemia (9940) and leukaemic reticuloendotheliosis (9941) are excluded (they are classified with the non-Hodgkin lymphomas in ICD-9 (202.4) and with lymphoid leukaemias in ICD-10 (C91.4).

Leukaemias

The groupings of codes proposed allow extraction of data to the main cellular types (lymphoid and myeloid), or to examine all acute or chronic leukaemias as a group (by combining the -·1 or -·2 subgroups). Subacute leukaemias have been left with the 'other specified' subgroups.

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