



# IARC Multiple Primary Rules

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## MULTIPLE PRIMARY NEOPLASM

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The IARC/IACR rules state the following:

1. Recognition of the existence of two or more primary cancers does not depend on time.
2. A primary cancer is one that originates in a primary site or tissue and is neither an extension, nor a recurrence, nor a metastasis.
3. Only one tumour shall be recognized as arising in an organ or pair of organs or tissue. For tumours where site is coded by the first edition of ICD-O (or by ICD-9), an organ or tissue is defined by the three-character category of the topography code.

ICD-O second and third editions and ICD-10 have a more detailed set of topography codes. Some groups of codes are considered to be a single organ for the purposes of defining multiple tumours. These topography code groups are shown in Table 1.

Multifocal tumours – that is, discrete masses apparently not in continuity with other primary cancers originating in the same primary site or tissue, for example bladder – are counted as a single cancer.

Skin cancer presents a special problem as the same individual may have many such neoplasms over a lifetime. The IARC/IACR rules imply that only the first tumour of a defined histological type, anywhere on the skin, is counted as an incident cancer unless, for example, one primary was a malignant melanoma and the other a basal cell carcinoma.

4. Rule 3 does not apply in two circumstances:
  - a. For systemic or multicentric cancers potentially involving many discrete organs, four histological groups – lymphomas, leukaemias, Kaposi sarcoma, and mesothelioma (groups 7, 8, 9 and 10 in Table 2) – are included. They are counted only once in any individual.
  - b. Other specific histologies – groups 1, 2, 3, 4, 6, and 11 in Table 2 – are considered to be different for the purpose of defining multiple tumours. Thus, a tumour in the same organ with a 'different' histology is counted as a new tumour. Groups 5 and 12 include tumours that have not been satisfactorily typed histologically and cannot therefore be distinguished from the other groups.

Table 1: Groups of topography codes from ICD-O-2 and ICD-O-3 considered a single site in the definition of multiple cancers

ICD-O-2/3	ICD-O-1
C01 Base of tongue	
C02 Other and unspecified parts of tongue	141
C05 Palate	
C06 Other and unspecified parts of mouth 145	145
C07 Parotid gland	
C08 Other and unspecified major salivary glands 142	142
C09 Tonsil	
C10 Oropharynx 146	146
C12 Pyriform sinus	
C13 Hypopharynx 148	148
C19 Rectosigmoid junction	
C20 Rectum 154	154
C23 Gallbladder	
C24 Other and unspecified parts of biliary tract 156	156
C30 Nasal cavity and middle ear	
C31 Accessory sinus 160	160
C33 Trachea	

C34 Bronchus and lung	162
C37 Thymus	164
C38.0-3 Heart and mediastinum	164
C38.8 Overlapping lesion of heart, mediastinum and pleura	165.8
C40 Bones, joints and articular cartilage of limbs	
C41 Bones, joints and articular cartilage of other and unspec. sites	170
C51 Vulva	
C52 Vagina	184
C56 Ovary	
C57 Other female genital organs	183
C60 Penis	
C63 Other and unspecified male genital organs	187
C64 Kidney	
C65 Renal pelvis	
C66 Ureter	
C68 Other and unspecified urinary organs	189
C74 Adrenal gland	
C75 Other endocrine glands and related structures	194

Table 2: Groups of malignant neoplasms considered to be histologically “different” for the purpose of defining multiple tumours (adapted from Berg, 1994)

Group	
<b>Carcinomas</b>	
1. Squamous carcinomas	M-805 - 808, M-812 – 813
2. Basal cell carcinomas	M-809 – 811
3. Adenocarcinomas	M-814, M-816, M-819 - 822, M-826 - 833, M-835 - 855, M-857, M-894
4. Other specific carcinomas	M-803 - 804, M-815, M-817 - 818, M-823, M-824, M-825, M-834, M-856, M-858 – 867
5. Unspecified carcinomas (NOS)	M-801, M-802
6. Sarcomas and soft tissue tumours	M-868 - 871, M-880 - 892, M-899, M-904, M-912 - 913, M-915 - 925, M-937, M-954 – 958
7. Lymphomas	M-959 – 972
8. Leukaemia	M-980 - 994, M-995, M-996, M-998
9. Kaposi sarcoma	M-914
10. Mesothelioma	M-905
11. Other specified types of cancer	M-872 - 879, M-893, M-895 - 898, M-900 - 903, M-906 - 911, M-926 - 936, M-938 - 953, M-973 - 975, M-976
12. Unspecified types of cancer	M-800, M-997