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EUROPEAN NETWORK OF CANCER REGISTRIES (ENCR)

ENCR RECOMMENDATIONS

Condensed TNM for Coding the Extent of Disease

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April 2002

Condensed TNM for Coding the Extent of Disease in Cancer Registration

1. UICC/AJCC TNM classification system

1.1 The extent of disease should be recorded in terms of the three digit code of the TNM system. The rules for coding 'the stage' of disease according to the TNM system are described in TNM Classification of Malignant Tumours, 6th Edition, 2002 (Leslie H. Sobin and Ch. Wittekind).

1.2 The TNM system is not used for the coding of the extent of lymphomas, leukaemias, brain tumours and childhood cancers (defined as < 15 years of age at diagnosis).

2. pTNM vs. cTNM

When the stage/extent of the cancer is recorded in the clinical/pathological records according to the TNM system, these codes should be registered. The registry should record the best available data - that is pT (rather than cT) and pN (rather than cN), if they are available. Normally, if there is any evidence (clinical or pathological) of metastatic disease, M will be recorded as 1.

3. Time of diagnosis

Extent of disease at diagnosis is based upon all examinations carried out to plan treatment, plus surgery and pathological examination of resected specimen(s) (including the radicalisation of primary surgery). Examinations carried out post-surgery, but during the same hospital stay, are included.

In the absence of surgery, staging is based upon examinations carried out prior to medical treatment, or radiotherapy, or during the hospital stay when these treatments were started, or a decision made to withhold them.

For non-hospitalised patients, staging is based upon examinations, clinical and instrumental, carried out to establish the primary treatment, or decision not to treat.

The detection of metastatic disease after the first course of treatment (including during adjuvant treatment or hormonal therapy) does not change coding of extent of disease at diagnosis.

4. Condensed TNM

4.1 When T, and/or N, and/or M have not been explicitly recorded in the clinical/pathological records, **the cancer registry should attempt to score extent of disease according to the <u>Condensed TNM</u> scheme:**

T :	**L** (**L**ocalised)	**A** (**A**dvanced)	**X** (cannot be assessed)
N :	**0**	**+**	**X** (cannot be assessed)
M :	**0**	**+**	**X** (cannot be assessed)

where T and N are extracted, if possible, from the pathology report, or, in its absence, from the clinical record (endoscopy, X-ray etc). M is based on the best available information, whether clinical, instrumental or pathological. For M, clinical signs and

findings are enough to justify M**+** in the absence of pathological confirmation of metastatic deposits.

4.2 The Condensed TNM should be based on all available clinical and pathological information, or on sound reasoning based on the understanding of clinical practices.

4.3 The conventional values of T, which correspond to T (**L**ocalised) and T (**A**dvanced) are given in Table 1, and a summary of the corresponding definitions from the TNM Manual in Appendix 1.

N**+** refers to spread to <u>regional</u> lymph nodes. The definition of 'regional nodes' for each site is provided in the TNM manual and in summary form in Appendix 2.

4.4 For some primary sites, correct allocation of T and N requires detailed specification of site, otherwise the extent of spread (T), or the regional nodes cannot be defined. This is the case for the cancers of head & neck, oesophagus and skin.

4.5 If the primary site is unknown (ICD-O code C80.9), T and N cannot be correctly assigned (although the fact that the tumour is M**+** may be obvious).

5. Unknown or unavailable TNM or other extent of disease information

5.1 If the only recorded T, N or M is **X**, then this value should be registered. However, **X** should only be coded if it appears to be the best value based on <u>all available information</u>.

5.2 If T, N or M are recorded as X (cannot be assessed) based on pathology (pTNM), then use the best available information from <u>clinical</u> examination to code TNM, rather than coding **X**.

5.3 N and M should be coded to **X** (cannot be assessed), only if there is no reasonable evidence of zero (**0**). For example, code N**0**/M**0** instead of N**X**/M**X**, when a resection is performed for an abdominal tumour but no nodes were found in the resected specimen by the pathologist. Similarly, code N**0**/M**0** for a digestive system tumour completely resected by endoscopy (e.g. polypectomy, transanal excision).

5.4 Cancers[1] which are <u>non-resectable</u>, but without evidence of metastases, should be classified with M+ cases. Non-resectable cancers, and those with metastases, are advanced malignancies with a similar prognosis. Classifying such cases as M+ allows them to be distinguished from cases which have been resected, and for which no pathology report is available (NX and/or MX).

6. Tabulation of results

Extent of disease should be tabulated as:

Tumour localised	(T**L**/N**0**/M**0**)
Tumour with local spread	(T**A**/N**0**/M**0**)
Tumour with regional spread	(anyT/N**+**/M**0**)
Advanced cancer	
• Metastatic	(any T/any N/M**+**)
• Non-resectable tumours[1]	(MX)
Unknown extent	(TX/NX/MX)

[1] This proposal does not apply to prostate cancers

7. Optional data

7.1 *Size of tumour*

This is relevant to the allocation of the T code. For some purposes, the exact size of the tumour is important, for example, in the evaluation of a screening programme. Registries should decide for which sites it is important to record tumour size, and provide a separate field for this purpose.
Size is recorded as maximum diameter (in mm), and is registered from the pathology report; in the absence of pathology, it is recorded from imaging or clinical examination. If size is given for both the fresh and the fixed tissue and the two measurements are discrepant, then record that obtained from the histological (fixed) specimen(s). In the case of multiple simultaneous tumours that are not independent primaries, the tumour with the greatest diameter should be used for classification.

7.2 *Number of nodes*

The presence or absence of positive nodes may depend on the number of nodes that have been examined pathologically.

For detailed staging studies of specific designated tumours, record:

Number of nodes positive (two digit code)
Number of nodes examined (two digit code)

7.3 *Certainty of information*

The TNM manual allows for the coding of the C-factor, to define the certainty of the information on which the TNM staging was based (Appendix 3). As the condensed TNM does not distinguish between c (clinical) and p (pathology-based) codes, registries might wish to consider the use of a simplified C code:-

C1 Evidence from standard diagnostic means (e.g. inspection, palpation, standard radiography, intraluminal endoscopy)
C2 Evidence from special diagnostic means
- imaging: special radiographic projections, CT scan, ultrasound, lymphography, angiography, scintiography, MRI
- endoscopic biopsy or cytology

Cp Evidence based upon post surgical (or autopsy) histopathology

Appendices

1. T**L**/T**A** precise definitions for each site

2. N list of regional nodes for each site

3. C C-factor

Condensed TNM Scheme

Table 1. Conventional values of T corresponding to T **L**ocalised and T **A**dvanced

Site	**L**ocalised	**A**dvanced
Lip & oral cavity	T1 - T2	T3 - T4
Pharynx	T1 - T2	T3 - T4
Larynx	T1 -T2	T3 - T4
Paranasal sinuses	T1 - T2	T3 - T4
Salivary glands	T1 - T2	T3 - T4
Thyroid	T1 - T3	T4
Oesophagus	T1 - T2	T3 - T4
Stomach	T1 - T2	T3 - T4
Small intestine	T1 - T2	T3 - T4
Colon & rectum	T1 - T2	T3 - T4
Anal canal	T1 - T2	T3 - T4
Liver	T1 - T2	T3 - T4
Gallbladder	T1 - T2	T3 - T4
Extrahepatic bile ducts & ampulla	T1 - T2	T3
Pancreas	T1 - T2	T3 - T4
Lung	T1 - T2	T3 - T4
Pleura	T1 - T2	T3 - T4
Bone	T1	T2
Soft tissue	T1	T2
Skin	T1 - T3	T4
Melanoma	T1 - T3	T4
Breast	T1 - T3	T4

Condensed TNM Scheme

Table 1. Conventional values of T corresponding to T **L**ocalised and T **A**dvanced (continued)

Site	**L**ocalised	**A**dvanced
Vulva	T1 - T2	T3 - T4
Vagina	T1 - T2	T3 - T4
Cervix	T1 - T2	T3 - T4
Corpus	T1 - T2	T3 - T4
Ovary	T1	T2 - T3
Fallopian tube	T1	T2 - T3
Trophoblastic	T1	T2
Penis	T1 - T2	T3 - T4
Prostate	T1 - T2	T3 - T4
Testis	T1 - T2	T3 - T4
Kidney	T1 - T2	T3 - T4
Pelvis & ureter	T1 - T2	T3 - T4
Bladder	T1 - T2	T3 - T4
Urethra	T1 - T2	T3 - T4
Eye *Except for sarcoma of orbit*	T1 - T3 *T1 - T2*	T4 *T3 - T4*

Appendix 1.

ENCR Condensed TNM Scheme

T: L(ocalised) or **A**(dvanced)

(see Table 1 of ENCR recommendations)

Definition of **A**(dvanced)
(usually minimum criteria for T3, else specified in text)

Based on: Sobin LH, Ch. Wittekind (eds.): UICC International Union Against Cancer TNM Classification of Malignant Tumors, Sixth Edition. Wiley-Liss, New York, 2002

Lip and oral cavity
T3, Tumour more than 4 cm in greatest dimension

Pharynx (Including base of tongue, soft palate, and uvula)

Oropharynx:	T3, Tumour more than 4 cm in greatest dimension
Nasopharynx:	T3, Tumour invades bony structures or paranasal sinuses
Hypopharynx:	T3, Tumour more than 4 cm in greatest dimensionor with fixation of hemilarynx

Larynx

Supraglottis:	T3, Tumour limited to larynx with vocal cord fixation and/or invades any of the following: post-cricoid area, pre-epiglottic tissues, paraglottic space, thyroid cartilage
Glottis:	T3, Tumour limited to larynx with vocal cord fixation, involvement of paraglottic space, thyroid cartilage
Subglottis:	T3, Tumour limited to larynx with vocal cord fixation

Paranasal sinuses
Maxillary sinus: T3, See TNM manual
Ethmoid sinus: T3, See TNM manual

Salivary glands - parotid, submandibular, and sublingual
T3, Tumour more than 4 cm in greatest dimension or having extraparenchymal extension

Thyroid gland
T4, Tumour of any size extending beyond the thyroid capsule
(Anaplastic carcinomas are all T4, irresective of extent)

Esophagus
T3, Tumour extends beyond the muscle coat of the esophagus

Stomach
T3, Tumour penetrates serosa (visceral peritoneum)

Small intestine
Colon and rectum
T3, Tumour invades extends beyond the muscle coat of the intestine

Anal canal
T3, Tumour more than 5 cm in greatest dimension

Liver (including intrahepatic bile ducts)
T3, Multiple tumours >5 cm in diameter or involving major branch of portal or hepatic veins

Gallbladder
T3, Tumour penetrates serosa (visceral peritoneum) or invades adjacent structures

Extrahepatic bile duct
T3, Tumour invades adjacent structures: liver, pancreas, duodenum, gallbladder, colon, stomach

Ampulla of Vater
T3, Tumour invades pancreas or other adjacent structures (note: duodenal wall is T2)

Pancreas
T3, Tumour not limited to pancreas

Lung
Pleural mesothelioma
T3, See TNM manual

Bone
T2, Tumour more than 8 cm in greatest dimension

Soft tissues
T2, Tumour more than 5 cm in greatest dimension

Carcinoma of the skin (excluding eyelid, vulva, and penis)
T4, Tumour invades deep extradermal structures (cartilage, skeletal muscle, bone)

Malignant melanoma of the skin (excluding eyelid)
pT4, Tumour more than 4 mm in thickness.

Breast
T4, Tumour of any size with direct extension to chest wall or skin

Vulva
T3, Tumour invades beyond vulva or perineum (urethra, vagina, anus/rectum, bladder)

Vagina
T3, Tumour extends to pelvic wall or further

Cervix uteri
T3, Tumour extends beyond uterus to pelvic wall or lower third of vagina, or further, or causes hydronephrosis or non-functioning kidney

Corpus Uteri
T3, Tumour involves serosa or extends beyond uterus

Ovary
Fallopian tube
T2, Tumour with pelvic extension

Gestational trophoblastic tumours
T2, Tumour extends beyond uterus

Penis
T3, Tumour invades urethra or prostate

Prostate
T3, Tumour extends through the prostatic capsule

Testis
pT3, Tumour invades spermatic cord

Kidney
T3, Tumour extends beyond kidney

Renal pelvis and ureter
T3, Tumour invades beyond muscularis

Urinary bladder
T3, Tumour invades perivesical tissue

Urethra
T3, Tumour invades beyond corpus spongiosum, prostate, or periurethral muscle

Eye
T4 (T3 for sarcoma of the orbita), See TNM manual

Appendix 2.

ENCR Condensed TNM Scheme

Definitions of regional lymph nodes (N+)

Based on: Sobin LH, Ch. Wittekind (eds.): UICC International Union Against Cancer TNM Classification of Malignant Tumors, Sixth Edition. Wiley-Liss, New York, 2002

Lip and oral cavity
Pharynx (Including base of tongue, soft palate, and uvula)
Larynx
Paranasal sinuses
Salivary glands - parotid, submandibular, and sublingual
Cervical nodes

Thyroid gland
Cervical and upper/superior mediastinal nodes

Oesophagus

Cervical oesophagus:	Scalene, internal jugular, upper and lower cervical, perioesophageal, supraclavicular
Intrathoracic oesophagus:	Upper perioesophageal (above the azygous vein), subcarinal, lower perioesophageal (below the azygous vein), mediastinal and perigastric nodes, excluding coeliac nodes

Stomach
Perigastric nodes along the lesser and greater curvatures
Nodes along the left gastric, common hepatic, splenic, and celiac arteries
Hepatoduodenal nodes
Gastroesophageal junction: paracardial, left gastric, coeliac, diaphragmatic, and the lower mediastinal paraoesophageal

Small intestine

Duodenum:	Pancreaticoduodenal, pyloric, hepatic (pericholedochal, cystic, hilar), and superior mesenteric nodes
Ileum and Jejunum:	Mesenteric, including superior mesenteric nodes
Terminal ileum only:	Ileocolic, including posterior cecal nodes

Colon and rectum
The regional lymph nodes are the pericolic and perirectal nodes and those located along the ileocolic, right colic, middle colic, left colic, inferior mesenteric, superior rectal (hemorrhoidal),internal iliac arteries, mesorectal, lateral sacral, presacral, and sacral promontory (Gerota).

Anal canal
Perirectal, internal iliac, and inguinal nodes

Liver (including intrahepatic bile ducts)
The regional lymph nodes are the hilar nodes (i.e., those in the hepatoduodenal ligament), hepatic (along the proper hepatic artery), periportal (along the portal vein), and those along the abdominal inferior vena cava above the renal veins (exept the inferior phrenic nodes).

Gallbladder
Extrahepatic bile duct
Cystic duct, pericholedochal, hilar, peripancreatic (head only), periduodenal, periportal, celiac, and superior mesenteric nodes

Ampulla of Vater

Superior:	Lymph nodes superior to the head and body of the pancreas
Inferior:	Lymph nodes inferior to the head and body of the pancreas
Anterior:	Anterior pancreaticoduodenal, pyloric, and proximal mesenteric nodes
Posterior:	Posterior pancreaticoduodenal, common bile duct, and proximal mesenteric nodes

Pancreas

The regional lymph nodes are the peripancreatic nodes, which may be subdivided as follows:

Superior:	Lymph nodes superior to the head and body of the pancreas
Inferior:	Lymph nodes inferior to the head and body of the pancreas
Anterior:	Anterior pancreaticoduodenal, pyloric (for head only), and proximal mesenteric lymph nodes
Posterior:	Posterior pancreaticoduodenal, common bile duct, and proximal mesenteric nodes
Splenic:	Hilum of the spleen and tail of the pancreas (for tumors in the body and tail only)
Celiac:	(for tumors of head only)

Lung

Pleural mesothelioma

All regional nodes are above the diaphragm. They include the intrathoracic, scalene, internal mammary (for pleural mesothelioma only) and supraclavicular nodes.

Bone

The regional lymph nodes are those appropriate to the site of the primary tumor.

Soft tissues

The regional lymph nodes are those appropriate to the site of the primary tumor.

Carcinoma of the skin (excluding eyelid, vulva, and penis)

Malignant melanoma of the skin (excluding eyelid)

The regional lymph nodes are those appropriate to the location of the primary tumor.

Unilateral Tumors

Head, neck	Ipsilateral preauricular, submandibular, cervical, and supraclavicular lymph nodes
Thorax	Ipsilateral axillary lymph nodes
Arm	Ipsilateral epitrochlear and axillary lymph nodes
Abdomen, loins and buttocks	Ipsilateral inguinal lymph nodes
Leg	Ipsilateral popliteal and inguinal lymph nodes
Anal margin and perianal skin	Ipsilateral inguinal lymph nodes

With tumors in the boundary zones between the above, the lymph nodes pertaining to the regions on both sides of the boundary zone are considered to be regional lymph nodes. The following 4 cm-wide bands are considered boundary zones:

Between	*Along*
Right/left	Midline
Head and neck/ thorax	Clavicula-acromion-upper shoulder blade edge
Thorax/arm	Shoulder-axilla-shoulder
Thorax/abdomen, loins, buttocks	Front: Middle between navel and costal arch Back: Lower border of thoracic vertebrae (midtransverse-axis)
Abdomen, loins, and buttock/leg	Groin-trochanter-gluteal sulcus

Breast
The regional lymph nodes are:

1. Axillary (ipsilateral): interpectoral (Rotter's) nodes and lymph nodes along the axillary vein and its tributaries, which may be divided into the following levels:
   (i) Level I (low-axilla): lymph nodes lateral to the lateral border of the pectoralis minor muscle
   (ii) Level II (mid-axilla): lymph nodes between the medial and lateral borders of the pectoralis minor
   muscle and the interpectoral (Rotter's) lymph nodes
   (iii) Level III (apical axilla): lymph nodes medial to the medial margin of the pectoralis minor muscle, excluding those designated as subclavicular, infraclavicular.

Note: Intramammary lymph nodes are coded as axillary lymph nodes.

2. Infraclavicular (subclavicular) (ipsilateral).
3. Internal mammary (ipsilateral): lymph nodes in the intercostal spaces along the edge of the sternum in the endothoracic fascia.
4. Supraclavicular (ipsilateral).

Any other lymph node metastasis is coded as a distant metastasis (M1), including cervical, or contralateral internal mammary lymph nodes.

Vulva
The femoral and inguinal nodes

Vagina
Upper two-thirds of vagina: pelvic nodes, including obturator, internal iliac (hypogastric), external iliac, and pelvic nodes, NOS.
Lower third of vagina: inguinal and femoral nodes

Cervix uteri
Paracervical, parametrial, hypogastric (internal iliac, obturator), common and external iliac, presacral, and lateral sacral nodes

Corpus Uteri
Pelvic (hypogastric [obturator, internal iliac], common and external iliac, parametrial, and sacral), and para-aortic nodes

Ovary
Fallopian tube
Hypogastric (obturator), common and external iliac, lateral sacral, para-aortic, and inguinal nodes

Gestational trophoblastic tumours
Regional lymph nodes: Not applicable

Penis
Superficial and deep inguinal nodes and pelvic nodes

Prostate
The regional lymph nodes are the nodes of the true pelvis, which essentially are the pelvic nodes below the bifurcation of the common iliac arteries

Testis
Abdominal para-aortic (periaortic), preaortic, interaortocaval, precaval, paracaval, retrocaval, and retroaortic nodes, and nodes along the spermatic vein
Intrapelvic and inguinal nodes are considered regional after scrotal or inguinal surgery

Kidney
Renal hilar, abdominal para-aortic and paracaval nodes

Renal pelvis and ureter
Renal hilar, abdominal para-aortic and paracaval nodes
Intrapelvic nodes (for ureter only)

Urinary bladder
The regional lymph nodes are the nodes of the true pelvis, which essentially are the pelvic nodes below the bifurcation of the common iliac arteries.

Urethra
Inguinal and pelvic nodes

Carcinoma of the eyelid
Carcinoma of the conjunctiva
Malignant melanoma of the conjunctiva
Malignant melanoma of the uvea
Retinoblastoma
Sarcoma of the orbit
Carcinoma of the lacrimal gland
Preauricular, submandibular, and cervical lymph nodes.

Brain
Hodgkin's disease and
Non-Hodgkin's lymphoma
Not TNM classifiable

Appendix 3.

C-Factor

Sobin LH, Ch. Wittekind (eds.): UICC International Union Against Cancer
TNM Classification of Malignant Tumors, Sixth Edition. Wiley-Liss, New York, 2002

The C-factor, or certainty factor, reflects the validity of classification according to the diagnostic methods employed. Its use is optional.

The C-factor definitions are:

C1 Evidence from standard diagnostic means (e.g., inspection, palpation, and standard radiography, intraluminal endoscopy for tumours of certain organs)

C2 Evidence obtained by special diagnostic means (e.g., radiographic imaging in special projections, tomography, computerized tomography [CT], ultrasonography, lymphography, angiography; scintigraphy; magnetic resonance imaging [MRI]; endoscopy, biopsy, and cytology)

C3 Evidence from surgical exploration, including biopsy and cytology

C4 Evidence of the extent of disease following defintive surgery and pathological examination of the resected specimen

C5 Evidence from autopsy

Example: Degrees of C may be applied to the T, N, and M categories.
A case might be described as T3C2, N2C1, M0C2.

The TNM clinical classification is therefore equivalent to C1, C2, and C3 in varying degrees of certainty, while the pTNM pathological classification generally is equivalent to C4.