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TNM Staging Fact Sheet

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This document provides answers to some of the frequently asked questions posed by physicians, health information management professionals, and cancer program administrators, related to documenting and reporting stage data. The majority of questions were collected by Cancer Care Ontario (CCO) during the TNM Stage Data Expansion Project in 2007 and 2008 and updated to reflect 7th edition AJCC/UICC TNM System.

The questions cover topics such as:

- how stage data is used
- how it should be documented in day-to-day practice
- how it should be reported and submitted

By providing answers to these commonly asked questions we hope to strengthen basic knowledge on staging and promote consistent staging practices among all health care professionals in facilities that diagnose and/or provide cancer treatment in Ontario.

Overview of TNM Stage-Related Frequently Asked Questions

Reporting & Submission Questions

1. Are both Clinical and Pathologic Stage required?
2. Is stage required for recurrent cases and second opinion cases?
3. Which cases are stageable and non-stageable?
4. Which staging system(s) should be used?

Practice & Coding Questions

5. What are the 6 Rules for TNM Staging?
6. When is it appropriate to use 'X'?
7. If clinical investigations were not performed to confirm clinical N and/or M, should the case be staged as cNX, cMX?
8. Is Unknown (UNK) a valid stage value?
9. If pM is not assessed, can cM0 be brought down to the pM element?
10. If pN is not assessed, can cN0 value be brought down to the pN element?
11. Can a T, N or M value be left blank if these stage elements cannot be assessed?
12. How should in situ tumours be staged?
13. Should small cell lung cancers be staged and how?

Additional Resources

Informatics Help Desk: Any questions regarding stage, including the use of stage data, can be submitted to the electronic Informatics Help Desk: informatics@cancercare.on.ca

Stage Reporting Questions:

1. Are both Clinical and Pathologic Stage required?

Pathologic stage may be submitted on its own (without clinical stage) for a case where pathologic T and N categories are determined and the clinical M (distant metastasis) is known.

There are three exceptions when clinical stage should be submitted for a case:

- Neoadjuvant therapy given
- pT or pN missing from pathology report
- No resection was performed

Neoadjuvant therapy includes chemo, radiation and hormone therapy prior to surgery. Clinical stage should be documented using evidence collected before the start of the neoadjuvant therapy since clinical stage is a pre-treament stage – it should reflect the extent of disease before any cancer-directed treatment is given.

Clinical T, N and M categories also need to be submitted if either the pathologic T or N is not available from the pathology report. For example, if the primary tumour has been resected but no lymph nodes have been removed in the specimen, pN is pNX. In this situation the clinical stage should be submitted.

2. Is stage required for recurrent cases and second opinion consults?

Stage data does not need to be submitted for recurrent cases or for cases seen as second opinion consults where the Regional Cancer Centre (RCC) is not directly involved in diagnosing or treating the case. However, CCO welcomes receiving stage at diagnosis for all cases that are seen at an RCC, including recurrences and consults, since this increases the percent of cases for which we have stage at diagnosis at the population level.

3. Which cases are stageable and non-stageable?

All invasive and in situ cancers should be staged. Some ovarian, testicular and gestational trophoblastic tumours that are benign or borderline/uncertain should also be staged. (Refer to the AJCC manual for a list of the histologies that are stageable in the Ovary, Gestational Trophoblastic Tumors and Testis chapters.)

The following cases do not need to be staged since no TNM staging schema exists:

- Central Nervous System
- Myeloma
- Leukemia
- Thymoma
- Primary unknown
- Kaposi's sarcoma
- Islets of Langerhans of pancreas

CCO does not collect stage data on pediatric cases (patients less than 18 years of age) nor non-melanoma skin. These cases are excluded from stage capture rate calculations.

4. What staging system(s) should be used?

In 2010/11, either 6th edition or 7th edition AJCC TNM staging system should be used for the majority of disease sites. The Ann Arbor staging system is used for lymphomas and has been incorpated into the AJCC TNM system. The FIGO staging system is accepted for gynecological cancers. The Collaborative Staging methodology will be used for breast, colorectal, lung, and prostate cancer cases diagnosed in 2010 onward.

Staging Practice Questions

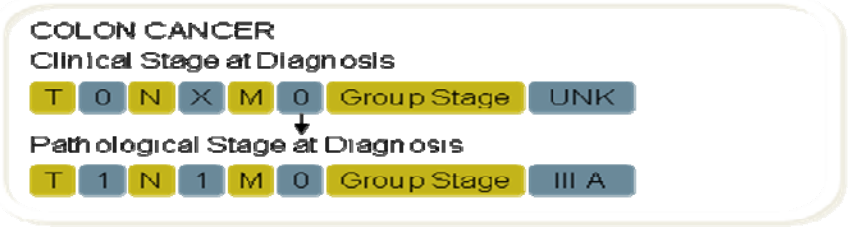
5. What are the 6 rules for TNM Staging?

i. "X" is to be used ONLY when there is absence or uncertainty of assigning a T or N category when all reasonable clinical/pathological maneuvers have been used. MX designation has been eliminated from the 7th edition AJCC/UICC TNM system.

ii. When a physician decides that it is not clinically necessary to assess N and/or M categories to confirm absence of disease, for low stage tumours, the assumption is N0 and M0.

iii. If the highest category that determines the stage group can be allocated in T, N, or M, then, a stage group can be assigned if one or both of the other two categories are completed with an "X".

iv. Unless there is clinical or pathologic evidence of distant metastases, the case is classified as clinical M0 (cM0). CAP has dropped the M component from pathology templates to further discourage use of MX. This is a change in the 7th edition AJCC/UICC TNM System.



v. If there is doubt concerning the T, N, or M classification to which a particular case should be assigned, then the lower (less advanced) category should be assigned. The same principle applies to the stage grouping.

vi. Nonanatomic factor not available: If a nonanatomic factor required for grouping is not available, the case is assigned to the group assuming that factor was the lowest or least advanced (e.g., lower Gleason's score in prostate cancer).

6. When is it appropriate to use X?

'X' is a valid value for individual T and N elements only (e.g., cTX, or pNX), but not for M or stage group. X may be used when all routine investigations have been conducted but the extent of the primary tumour, regional lymph nodes or distant metastasis cannot be assessed. TX is rarely used. pNX is used when surgery is performed on the primary tumour but not on regional lymph nodes (e.g., breast lumpectomy without axillary node removal). (Note: the nodes have to be assessed clinically either by clinical examination alone or with additional imaging.)

'X' is not a valid value for stage group. When the stage group cannot be determined, "UNK" (unknown) should be submitted. 'X' is no longer a valid value for M in the 7th edition AJCC/UICC TNM System.

The following are <u>two practical rules for using "X"</u> in staging:

- "X" is to be used only when there is absence of information to assign a T or N category after all reasonable clinical and pathologic investigations have been conducted and reviewed.

- If M1 is determined, TX and/or NX may be entered if the extent of the primary tumour, and/or regional lymph node involvement are unknown. For example, a patient with a colon primary has a liver biopsy which reveals metastases (i.e., cM1). A clinical stage group of IV is automatically derived for this case from cM1. If T and/or N cannot be assigned, X may be entered as the value; overall clinical stage group will remain as IV.

<u>Where X should not be used:</u>

- Low stage tumors: when a physician decides that it is not clinically necessary to assess N and/or M categories to confirm the absence of disease, one can assume cN0 and cM0 (instead of cNX, cMX).
- When assessing the pathologic stage, pM is most often unknown. If cM is "0" it can be assumed that pM is "0" (enter pM0, not pMX). This will allow the pathologic stage group to be determined.

7. If clinical investigations were not performed to confirm clinical N and/or M, should the case be staged as cNX, cMX?

No, not necessarily - in many cases, and especially for low stage tumours, real values for T, N, and M can be assigned even though full clinical investigations were not performed. For low stage tumours a physician may decide that it is not clinically necessary to fully assess N and/or M categories (other than by physical examination) to confirm the absence of disease. The assumption is an absence of regional lymph node involvement and distant metastasis. cN0 and cM0 are appropriate, and a valid stage group can be assigned.

The following is an example of a low stage tumour of the breast, with an applicable clinical stage group determined:

- 85 year-old woman; ductal carcinoma of the breast; several co-morbid conditions
- Physical examination showed 0.7 cm left breast mass upon palpation
- Left and right breast axilla and right breast negative for lymph nodes and masses
- Remainder of examination unremarkable

Clinical Stage: T1b, N0, M0, Stage Group: I

8. Is Unknown (UNK) a valid stage group?

Yes, unknown stage in 7th edition AJCC is allowed and CCO considers 'UNK' a valid stage group in the uncommon situations where stage cannot be assessed. In these situations the necessary investigations required to assign stage may not have been conducted or results may not have been obtained. For unknown stage, 'UNK' should be entered as the stage group, not 'X'.

Stage capture rate data that are reported in CCO's Cancer System Quality Index (CSQI) and presented at RCP quarterly performance reviews are including UNK cases as validly staged.

9. If pM is not assessed, can the cM value be brought down to the pM element?

When staging the pathologic TNM, the pM is most often unknown since it would be impossible to biopsy or surgically explore the whole body to determine the absence or presence of distant metastasis. If the cM is "0", the value can be carried down to pM and a pathologic stage group can be derived. If the cM is "1" and this is not specifically disproved by surgical findings, the cM1 may also be brought down to the pM.

Colon Cancer Example, with cM0:

Clin Stage: cT0, NX, **M0**, Stage Group: **UNK**

Path Stage: pT1, N1, **M0** ✓, Stage Group: **IIIA**

10. If pN is not assessed, can cN0 be brought down to the pN element?

Certain disease sites such as melanoma skin cancer often require no nodal dissection. Therefore the pathologic N is not assessed.

In most situations, cN0 should not be carried down to the pN element. This is because only regional lymph node biopsy results are considered meaningful for pathologic evaluation; clinical radiological evidence is not. In the example below pN would be entered as pNX, and the path stage group would be UNK.

Example: Melanoma Skin Cancer:

Clin stage: cT1, **N0**, M0 – Stage Group: **I**

Path stage: pT1, **NX**, M0 – Stage Group: **UNK** ✓

11. Can a T, N, or M value be left blank if these stage elements cannot be assessed?

The T, N, or M values should not be left blank when documenting stage, or when submitting stage to CCO (except when using FIGO or for staging of most lymphomas, for which only group stage is required). If all routine investigations conducted do not allow for confirmation of the T, N, or M, the value may be entered as X (except for M where in the absence of clinical or pathologic evidence, the case is classified as cM0).

12. Staging in situ tumours

How should clinical stage be reported, if initially a tumour is determined to be clinical Stage Group I but after surgery it is proven to be in situ with pathologic Stage Group 0?

For a case that does not receive neoadjuvant therapy, realistically it would be impossible to have a pathologic Tis and a clinical T1. For proven in situ tumours, AJCC allows one to "borrow" the pathologic T value for clinical staging. For a proven in situ tumour the initial clinical stage should be changed from cT1 to cTis, and the new clinical stage group should be documented.

If lymph nodes were not excised during surgery for an in situ tumour, AJCC also allows one to assume pN0. This is because for cases with pTis, by definition no regional lymph node metastasis can be present.

13. Should small cell lung cancers be staged and how?

In routine clinical practice, some clinicians classify small cell lung cancers as either "limited" or "extensive" disease and do not provide TNM stage.

While "limited" and "extensive" constitute an alternative staging scheme, this scheme is not supported by CCO. It is recommended that small cell lung cancers be staged along with all other lung cancers, using 7th edition AJCC TNM Staging System. A list of the stageable lung histologies, which includes small cell lung cancer histologies, can be found at the end of the lung scheme in the AJCC manual.

Additionally, a large multi-country study[1] conducted by the International Association for the Study of Lung Cancer (IASLC) showed that TNM staging is relevant and recommended for small cell lung cancer.