Data Dictionary

1 .MRNO

Medical Record Number

2 .ICD

International code for disease

3 .MARPHOLOGY

The morphology of a cancer refers to the histological classification of the cancer tissue

(histopathological type) and a description of the course of development that a tumour is

likely to take: benign or malig0t (behaviour). The designation is based on a microscopic

diagnosis of morphology by the pathologist (Esteban, Whelan, Laudico & Parkin 1995).[1]

4 .PATHOLOGY

Pathology is the study and diagnosis of disease through examination of organs, tissues, bodily

fluids, and whole bodies (autopsies). Pathology also encompasses the related scientific study of

disease processes, called general pathology.[2]

5 .Class 1

6 .Regional lymph node positive

The total number of regional lymph nodes examined by a pathologist and reported as containing

tumour. A regional lymph node is a lymph node that drains lymph from the region around a tumour.

7 .Surgical margins

Surgical margin in a surgery reports define the visible margin or free edge of "normal" tissue seen by

the surgeon with the naked eye. Surgical margin as read in a pathology report define the histological

measurement of normal or unaffected tissue surrounding the visible tumour under a microscope on a

glass mounted histology section. A "narrow" surgical margin implies that the tumour exists very close

to the surgical margin, and a "wide" surgical margin implies the tumour exists far from the cut edge or

the surgical margin

1. **What is a tumor?**

In order to understand tumor grade, it is helpful to know how tumors form. The body is made up of many types of cells. Normally, cells grow and divide to produce new cells in a controlled and orderly manner. Sometimes, however, new cells continue to be produced when they are not needed. As a result, a mass of extra [tissue](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=tissue&version=Patient&language=English) called a tumor may develop. A tumor can be benign (not cancerous) or malignant (cancerous). Cells in malignant tumors are abnormal and divide without control or order. These cancerous cells can invade and damage nearby tissue, and spread to other parts of the body ([metastasize](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=metastasize&version=Patient&language=English)).

1. **What is tumor grade?**

Tumor grade is a system used to classify cancer cells in terms of how abnormal they look under a microscope and how quickly the tumor is likely to grow and spread. Many factors are considered when determining tumor grade, including the structure and growth pattern of the cells. The specific factors used to determine tumor grade vary with each type of cancer.

Histologic grade, also called [differentiation](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=differentiation&version=Patient&language=English), refers to how much the tumor cells resemble normal cells of the same tissue type. [Nuclear grade](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=nuclear%20grade&version=Patient&language=English) refers to the size and shape of the nucleus in tumor cells and the percentage of tumor cells that are dividing.

Tumor grade should not be confused with the [stage](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=stage&version=Patient&language=English) of a cancer. Cancer stage refers to the extent or severity of the cancer, based on factors such as the location of the [primary tumor](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=primary%20tumor&version=Patient&language=English), tumor size, number of tumors, and [lymph node](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=lymph%20node&version=Patient&language=English) involvement (spread of cancer into lymph nodes). (More information about [staging](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=staging&version=Patient&language=English) is available in the NCI fact sheet *Staging: Questions and Answers*, which can be found at <http://www.cancer.gov/cancertopics/factsheet/Detection/staging> on the Internet.)

1. **How is tumor grade determined?**

If a tumor is suspected to be malignant, a doctor removes a sample of tissue or the entire tumor in a procedure called a [biopsy](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=biopsy&version=Patient&language=English). A pathologist (a doctor who identifies diseases by studying cells under a microscope) examines the tissue to determine whether the tumor is benign or malignant. The pathologist can also determine the tumor grade and identify other characteristics of the tumor cells.

1. **What do the different tumor grades signify?**

Based on the [microscopic](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=microscopic&version=Patient&language=English) appearance of cancer cells, pathologists commonly describe tumor grade by four degrees of severity: Grades 1, 2, 3, and 4. The cells of Grade 1 tumors resemble normal cells, and tend to grow and multiply slowly. Grade 1 tumors are generally considered the least [aggressive](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=aggressive&version=Patient&language=English) in behavior.

Conversely, the cells of Grade 3 or Grade 4 tumors do not look like normal cells of the same type. Grade 3 and 4 tumors tend to grow rapidly and spread faster than tumors with a lower grade.

The American Joint Commission on Cancer recommends the following guidelines for grading tumors ([1](http://www.cancer.gov/cancertopics/factsheet/Detection/tumor-grade#r1)):

|  |  |
| --- | --- |
| Grade |  |
| GX | Grade cannot be assessed (Undetermined grade) |
| G1 | Well-differentiated (Low grade) |
| G2 | Moderately differentiated (Intermediate grade) |
| G3 | Poorly differentiated (High grade) |
| G4 | [Undifferentiated](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=undifferentiated&version=Patient&language=English) (High grade) |

1. **Does the same grading scale apply to all tumors?**

Grading systems are different for each type of cancer. For example, pathologists use the Gleason system to describe the degree of differentiation of [prostate](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=prostate&version=Patient&language=English) cancer cells. The Gleason system uses scores ranging from Grade 2 to Grade 10. Lower [Gleason scores](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=Gleason%20score&version=Patient&language=English) describe well-differentiated, less aggressive tumors. Higher scores describe poorly differentiated, more aggressive tumors. Other grading systems include the Bloom-Richardson system for [breast](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=breast&version=Patient&language=English) cancer and the Fuhrman system for [kidney](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=kidney&version=Patient&language=English) cancer.

1. **Does tumor grade affect a patient’s treatment options?**

Doctors use tumor grade and many other factors, such as cancer stage, to develop an individual treatment plan for the patient and to predict the patient’s [prognosis](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=prognosis&version=Patient&language=English). Generally, a lower grade indicates a better prognosis (the likely outcome or course of a disease; the chance of recovery or [recurrence](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=recurrence&version=Patient&language=English)). However, the importance of tumor grade in planning treatment and estimating a patient’s prognosis is greater for certain types of cancers, such as [soft tissue sarcoma](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=soft%20tissue%20sarcoma&version=Patient&language=English), primary brain tumors, [lymphomas](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=lymphoma&version=Patient&language=English), and breast and prostate cancer. Patients should speak with their doctor about tumor grade and how it relates to their [diagnosis](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?term=diagnosis&version=Patient&language=English) and treatment.

**Staging**

**Number staging system**

**Ductal carcinoma in situ (DCIS)** is sometimes described as stage 0.  [DCIS](http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Breast/Aboutbreastcancer/Typesandrelatedconditions/DCIS.aspx) |is almost always completely curable with treatment.

The following stages of breast cancer are known as **invasive breast cancer** :

**Stage 1** The tumour measures less than 2cm/1in. The lymph nodes in the armpit are not affected and there are no signs that the cancer has spread elsewhere in the body.

**Stage 2** The tumour measures between 2 and 5cm/1–2in, or the lymph nodes in the armpit are affected, or both. However, there are no signs that the cancer has spread further.

**Stage 3** The tumour is larger than 5cm/2in and may be attached to surrounding structures such as the muscle or skin. The lymph nodes are usually affected, but there are no signs that the cancer has spread beyond the breast or the lymph glands in the armpit.

**Stage 4** The tumour is of any size, but the lymph nodes are usually affected and the cancer has spread to other parts of the body. This is secondary or metastatic breast cancer. Breast cancer that has come back after initial treatment is known as **recurrent** breast cancer.

This section deals with stages 1–3 breast cancer. Stage 4 is covered in our [secondary breast cancer section](http://www.macmillan.org.uk/Cancerinformation/Cancertypes/Breastsecondary/Secondarybreastcancer.aspx)| .

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