

Belgian Virtual Tumourbank: Registration module (BVTr)

Information for data structure



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1. INTRODUCTION

This document contains all available information on data requirements for upload in the Belgian Virtual Tumourbank, registration module (BVTr) (version 2.4.1 or later).

2. CONTACT INFORMATION

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3. NOTES SPECIFIC TO ACTUAL VERSION OF THIS DOCUMENT

This is version 4 of the BVTr manual 'Information for data structure'. Following changes were made compared to the previous version:

- 4.1 table of classifications, text about morphology and about CODAP.
- 4.2 descriptions of definitions, remark about laterality, adapted to new variables and values.
- 4.3 table: adapted to new registration rules and new variables and values.
- 4.4 table: adapted to new registration rules and new variables and values.
- 4.5: 2 values added in table of degree of differentiation, extra table for values of pTNM prefix, remark about sample type "N" and "O" added.
- 4.6 missing TNM-values and TNM 8 added
- 4.7 flow chart adapted according to new registration rules.

4. DOCUMENTS

4.1. Classifications

For the classification of tumours, the virtual tumourbank uses internationally recommended classifications: *International Classification of Diseases – Oncology* (ICD-O) and the TNM of the UICC. These classifications are published in several editions, and the use of each edition depends on the incidence date of the tumour:

Sample Year	ICD-O	Sample Year	TNM
...	ICD-O-2	...	TNM 4
1998		1998	
1999		1999	
2001	ICD-O-3 → Warning: update of 2011! ¹	2001	TNM 5
2002		2002	TNM 6
2003		2003	
...		...	
2009		2009	TNM 7
2010		2010	
...		...	
			2016
		2017	

1: The ICD-O-3 update of 2011 can be applied to all tumours from 2002 onwards. The complete list of updates can be downloaded via the following link:

NL: <http://www.kankerregister.org/media/docs/downloads/voorpathologen/20130118ICDO3Updates-vertalingNL.pdf>

FR: <http://www.kankerregister.org/media/docs/downloads/pourpathologistes/20130117ICDO3Updates-traductionFR.pdf>

2: For the latest version of all the changes and corrections for TNM, see:

http://www.wileyanduicc.com/pdf/Corrected_pages.pdf

The application will automatically take the appropriate version of the ICD-O and TNM into account based on the given sample date of the concerned registration.

For all values of the ICD-O-3, please consult the book:

- NL: *ICD-O Internationale Classificatie van Ziekten voor Oncologie, derde editie* (derde herwerkte druk 2007).
- FR: *Classification Internationale des Maladies pour l'Oncologie, troisième édition*.

For more information about the ICD-O classification:

<http://www.who.int/classifications/icd/adaptations/oncology/en/>

For all possible TNM-values, please see the list in chapter 4.6 (page 13-14). For more information about the TNM-classification, please consult the TNM-publications (see also <http://www.uicc.org/resources/tnm>).

The ICD-O classification consists of a topography code (Cxx.x) to anatomically localise the tumour and a morphology code to establish the histological diagnosis (Mxxxx/x) of the sampled tumour. The 'x' characters represent digits. The topography code is derived from the ICD10-classification, but is not entirely similar, since the **ICD-10** code Cxx.x provides information about the localisation AND the morphology, while the **ICD-O** code Cxx.x only includes the exact localisation of the tumour. The ICD-O morphology code Mxxxx/x is very similar to the morphology codes (M-codes) present in the M-axis of SNOMED classification (Mxxxxx).

In Flanders, most pathologists use CODAP-codes to encode tumour localisation and morphology. The CODAP-codes, however, are not accepted in the BVTr-application.

Following table shows the format of the official ICD-O classification, compared to the format for BVTr batch upload:

Official ICD-O:	Topography code	Morphology code	
	C_ _ . _ site subsite	M_ _ _ _ / _ histology behaviour	
Columns batch upload:	Sample localisation (+ Localisation of primary T if meta)	Morphology	Behaviour
	C_ _ _ site + subsite ! Without a dot !	M_ _ _ _ histology	_ behaviour

As site + subsite define the wording of the topography code (C18.9 = colon, NOS), also the combination of both histology and behaviour defines the wording of the histological diagnosis:

M8140/0 = Adenoma, NOS

M8140/3 = Adenocarcinoma, NOS



4.2. Definitions of the dataset variables of the BVT

Patient Variables:

- **SSIN (also known as INSZ or NISS):** Unique identification number of the Social Security (11 digits). The number starts with birth date in reversed order (6 digits).
- **Gender** of the donor: male or female.
- **Birth date** of the donor
- The biobank must declare that the donor is informed about the conservation and the possible use of his sample for scientific purposes, and did **not oppose** to this (cfr. law).

Technical Variables:

- **Sample ID:** Unique and non-identifying code of the sample within the local tumourbank. Only the biobank personnel should have access to the link between the Sample ID and identifying data (SSIN/INSZ/NISS, biopsy number, etc.). It is impossible to have 2 different samples from one biobank with the same Sample ID in the BVTr (validation error).
- **Biopsy number:** Reference number of the sample within the laboratory, reference to the anatomopathological (or other lab) protocol where the diagnosis is reported.
- **Sample date:** Date at which the sample was removed from the patient.
- **Conservation mode:** Only indicate the mode of conservation that is used for the tumour tissue in this sample in the local tumourbank. Only one option should be filled in! If “other” is selected, an additional text field must be completed for further specification.
- **Conservation delay:** Indicates the time elapsed between the removal from the patient and the fixation of the tumour tissue sample.
- **Autopsy:** Does the sample originate from an autopsy (yes/no)? For new registrations the default is “no”.
- **Available materials:** Indicates all various types of materials that are available in the tumourbank corresponding to the tissue sample. If “other” is selected, an additional text field must be completed for further specification. “Corresponding normal tissue” can be annotated here.
- Any **technical remarks**

Oncological Variables:

- **Sample type:** Indicates the type of pathology that was sampled in the tumourbank (primary tumour or metastasis). (Theoretically, the values “normal” or “other” can still be used, but these types of registrations should not be uploaded anymore in the BVTr.)
- **Sample localisation:** Anatomical localisation of the sampled tissue. The ICD-O topography codification is used. If a metastasis is sampled, then the metastatic localisation should be defined here.
- **Primary tumour if metastasis:** Anatomical localisation of the primary tumour if the sample was taken from the metastasis (sample type = “M”). If the pathologist indicates that this is not known, use the corresponding topography code C80.9. If nothing is mentioned, leave this parameter empty.
- **Laterality:** Anatomical side from which the sample was taken (if known and applicable). For biobank related registrations the list of paired organs does not have to be taken into account.
- **Histological diagnosis** of the tumour: composed of the **morphology** of the sampled tumour and the **behaviour**. The ICD-O morphology codification is used. If it concerns a metastasis (Sample Type = “M”), then behaviour “6” should be used.
- **Degree of differentiation:** Tumour differentiation, if known. 1-4 or H (“high grade”) or L (“low grade”) for most tumours; 5-8 for haematological malignancies.
- **pTNM:** The pathological TNM-classification of the tumour. See values listed in chapter 4.6.
- **pTNM prefix:** In combination with the pTNM, the prefixes “y”, “r” or “a” can be used, depending on the moment of the first pTNM classification (respectively after neo-adjuvants therapy, for a recurrent tumour or for an autopsy).
- Any **oncological remarks**

4.3. Dataset of the Belgian Virtual Tumourbank

Nr	Variable Name	Description	Required	Data type	Value description	Value	Format Batch file	Column if included in csv for batch	Value skipped in batch upload Y/N	Validations	Available for researcher Y/N
1 General variables											
1.1	Laboratory	Unique code identifying the originating laboratory.	N	text				A	Y	Automatically determined by the BVTr-application.	Y
1.2	Creation date	Creation date/upload date of the registration.	Not applicable	date				/	Not applicable	Automatically determined by the BVTr-application.	N
1.3	Update date	Most recent update date of the registration.	Not applicable	date				/	Not applicable	Automatically determined by the BVTr-application.	N
1.4	Reference ID	Unique identifier of the registration within the BVT applications.	N	number				B	Y	Automatically determined by the BVTr-application.	Y
2 Patient variables											
2.1	SSIN	Social security identification number, unique identifier of a physical person (starting with birthdate in reverse order).	Y	number as text			nnnnnnnnnn	C	N	Valid Social Security Identification Number (numeric, 11 digits, modulo 97 check)	N
2.2	Gender	Gender of the patient.	Y	text	Male Female	M F		D	N		Y
2.3	Birth date	Birth date of the patient.	Y	date			yyyymmdd	E	N	1) Valid date 2) Date must be in the past 3) Must be before or on sample date (Age ≥ 0)	Y (only age)
2.4	Patient opposition	Field that must indicate if the patient made any opposition for including the sample in the tumourbank and for possible use of the sample for scientific purposes.	Y	number	Informed and no opposition Opposition No opposition, but not informed (can be used for historical data)	0 1 2	n	F	N	Records with value "1" will be excluded. Records with this field empty will be excluded.	N
3 Technical variables											
3.1	Sample ID	Unique identifier for the local tumourbank, identifying the tumour sample. Must be unique and non-identifying towards the patient.	Y	text			free, max 50 characters	G	N	Unique value for the local biobank	Y
3.2	Biopsy number	Reference code of the resected tissue within the clinical routine.	Y	text			free, max 50 characters	H	N		N
3.3	Sample date	Date when the sample was removed from the patient.	Y	date			yyyymmdd	I	N	1) Valid date 2) Date must be in the past or current date 3) Must be after or on birth date (Age ≥ 0)	Y (only sample year)

Nr	Variable Name	Description	Required	Data type	value description	value	Format Batch file	column if included in csv for batch	Value skipped in batch upload	Validations	Available for researcher
3.4	Conservation mode	Indicates the mode of conservation used for this tumour tissue sample in the local tumourbank. Conservation modes of corresponding normal tissue or other corresponding samples should <u>not</u> be mentioned.	Y	number	-20°C	1	n	J	N	Only one value possible.	Y
					-80°C	2					
					-120°C or colder	3					
					Liquid nitrogen	4					
					Paraffin (FFPE)	5					
					Other	6					
3.5	Other conservation mode	Description of the other conservation mode, which should differ from those mentioned in 3.4.	Y if conservation mode is "6"	text			free, max 50 characters	K	N	Required if option 6 (other) is selected for parameter "conservation mode".	Y
3.6	Conservation delay	Indicates the time elapsed between the removal from the patient and the fixation of the tumour tissue sample.	Y	number	0 - 30 min	1	n	L	N		Y
					+ 30 min	2					
					Unknown	9					
3.7	Autopsy	Indicates whether the sample derived from an autopsy or not.	N	text	Yes	Y	t	M	N	Default value = no.	Y
					No	N					
3.8	Available materials	Indicates which various types of materials are available in the tumourbank that correspond to the tumour tissue sample.	Y	text, multiple possible	Tissue	T	t*t*...	N	N	Multiple values possible. Must at least contain "T".	Y
					Cytology	C					
					DNA	D					
					RNA	R					
					Proteins	P					
					Corresponding normal tissue	N					
					Serum	S					
					Plasma	L					
					Whole blood	B					
					Urine	U					
Other	O										
3.9	Other available materials		Y if available materials is "O"	text			free, max 50 characters	O	N	Required if option O (other) is selected for "Available materials".	Y
3.10	Technical remarks		N	text			free, max 255 characters	P	N		N
4 Oncological variables											
4.1	Sample type		Y	text	Primary tumour	P	t	Q	N	Registrations with sample type "normal" or "other" should not be uploaded anymore in the BVTr.	Y
					Metastasis	M					
					(Normal Tissue)	(N)					
					(Other)	(O)					
4.2	Comment if other sample type	Specifies the non-tumoural lesion type. This is a free field so the value is not guaranteed to have a standard terminology.	Y if sample type is "O"	text			free, max 255 characters	R	N	Required if option "O" (other) is selected for "sample type", but this sample type should not be uploaded anymore in the BVTr.	Y

Nr	Variable Name	Description	Required	Data type	value description	value	Format Batch file	column if included in csv for batch	Value skipped in batch upload	Validations	Available for researcher
4.3	Sample localisation	Anatomic localisation of the sampled tissue. It can be different from the primary tumour localisation.	Y	list			"C"nnn	S	N	Validation based on ICD-O code lists.	Y
4.4	Localisation primary T if meta	Anatomic localisation of the primary tumour, if a metastasis was sampled.	N	list			"C"nnn	T	N	1) Only applicable if option M (metastasis) is selected for sample type. 2) Validation based on ICD-O code lists.	Y
4.5	Laterality	Anatomic side from which the sample was taken.	N	text	Left Right Odd Unknown	L R O U	t	U	N	If empty, "O" or "U" will be automatically filled in, depending on the sample localisation (paired or unpaired organ).	Y
4.6	Morphology	Morphology of the sampled tumour (= first 5 characters from the ICD-O-code = the letter "M" followed by 4 numbers).	Y	list			"M"nnnn	V	N	1) Validation based on ICD-O code lists. 2) Required if option P (primary tumour) or M (metastasis) is selected for sample type.	Y
4.7	Behaviour	Behaviour of the sampled tumour (= last character from the ICD-O-code).	Y	list	Benign Borderline In situ/ high grade dysplasia Malignant + primary Malignant + metastasis	0 1 2 3 6	n	W	N	1) Allowed values: 0, 1, 2, 3 and 6. In combination with ICD-O code lists. 2) Required if option P (primary tumour) or M (metastasis) is selected for sample type. 3) Behaviour "6" is only possible in combination with sample type "M".	Y
4.8	Degree of differentiation	Tumour differentiation (1-4 or H or L for most tumours ; 5-8 for haematological malignancies).	N	number or text	Well differentiated Moderately differentiated Poorly differentiated Undifferentiated (anaplastic) T-cell B-cell Null-cell NK-cell Unknown High grade Low grade	1 2 3 4 5 6 7 8 9 H L	n or t	X	N		Y

Nr	Variable Name	Description	Required	Data type	value description	value	Format Batch file	column if included in csv for batch	Value skipped in batch upload	Validations	Available for researcher
4.9	pT	Pathological TNM	N	list			free	Y	N	Validation based on pTNM code lists in combination with sample date (see table in chapter 4.6.)	Y
4.10	pN		N	list			free	Z	N	Validation based on pTNM code lists in combination with sample date (see table in chapter 4.6)	Y
4.11	pM		N	list			free	AA	N	Validation based on pTNM code lists in combination with sample date (see table in chapter 4.6)	Y
4.12	Oncological remarks	For example, information concerning a recurrent tumour.	N	text			free, max 255 characters	AB	N		N
4.13	Prefix	Indicates the moment when the pTNM classification was first determined.	N	text	pTNM during or after neoadjuvant therapy	y	t	AC	N	Only possible to fill in when at least pT is filled in.	Y
				pTNM of a recurrent tumour	r						
				pTNM determined at autopsy	a						
5 Lab comment											
5.1	Lab comment	Used for communication with the BCR about a rejected registration (e.g. "checked and confirmed")	Not applicable	text			free, max 255 characters	/	Not applicable	Only possible to fill in when an error comment is filled in by BCR.	N
6 BCR variables: <u>not</u> to be filled in by the local tumourbanks!											
6.1	cT	Clinical TNM	N	list			free	AD	Y	Validation based on pTNM code lists in combination with sample date	Y
6.2	cN		N	list			free	AE	Y	Validation based on pTNM code lists in combination with sample date	Y
6.3	cM		N	list			free	AF	Y	Validation based on pTNM code lists in combination with sample date	Y
6.4	Quality control result	Internal BCR quality control status, not visible for local tumourbanks and researchers.	N	number	No QC	0	n	AG	Y		N
				QC ongoing	1						
				QC OK	2						
				QC Not OK	3						
6.5	BCR comment	Internal BCR notes, not visible for local tumourbanks and researchers.	N	text			free, max 255 characters	AH	Y		N
6.6	Error comment	Used for communication with labs related to data quality control, e.g. to indicate the reason why a registration is "rejected".	N	text			free, max 255 characters	AI	Y		N
6.7	Historical data	Indicates whether or not the sample is added by BCR through less strict validation	Not applicable	text	Yes	Y	t	/	Not applicable		N
				No	N						

4.4. Specifications for the .csv file for batch upload in the BVTr

File to be saved with a .csv extension. Reference lists: see chapter 4.5 and 4.6 (page 12-14).

Column in csv file	Column name (row 1) ¹	Mandatory field ²	Value loaded	Value skipped ³	Format ⁴	Validation rules
A	Laboratory	N	N	Y		Automatically determined by the BVTr-application.
B	Reference ID	N	N	Y		Automatically determined by the BVTr-application.
C	SSIN	Y	Y	N	nnnnnnnnnn	Valid Social Security Identification Number (numeric, length, modulo 97 check)
D	Gender	Y	Y	N	t	Allowed values: M (male) or F (female)
E	Birth date	Y	Y	N	yyyymmdd	Valid date ; must be in the past ; must be before or on sample date (Age ≥ 0)
F	Patient opposition	Y	Y	N	n	Allowed values: 1 (opposition), 0 (no opposition). The value "2" can be used for historical data when the patient was not informed.
G	Sample ID	Y	Y	N	free	Min 1, max 50 characters ; unique value for a specific labo = reference key of the registration
H	Biopsy number	Y	Y	N	free	Min 1, max 50 characters
I	Sample date	Y	Y	N	yyyymmdd	Valid date ; must be in the past or current date ; must be after or on birth date(Age ≥ 0)
J	Conservation mode	Y	Y	N	n	Validation based on reference list (see chapter 4.5) ; only 1 selection allowed !
K	Other conservation mode	Y, if conservation mode = "other"	Y	N	free	Min 1, max 50 characters ; required when option "other" is selected for "conservation mode"
L	Conservation delay	Y	Y	N	n	Validation based on reference list (see chapter 4.5) ; only 1 selection allowed
M	Autopsy	N	Y	N	t	Allowed values: N (No) or Y (Yes). Default value = "N".
N	Available materials	Y	Y	N	t*t*t*...	Validation based on reference list (see chapter 4.5) ; multiple values allowed (separated with an asterisk (*)) ; must at least contain "T".
O	Other available materials	Y, if available materials = "other"	Y	N	free	Min 1, max 50 characters ; required when option "Other" is selected for "Available materials"
P	Technical remarks	N	Y	N	free	Maximum 255 characters
Q	Sample type	Y	Y	N	t	Validation based on reference list (see chapter 4.5) ; only 1 selection allowed
R	Comment if other sample type	Y, if sample type = "other"	Y	N	free	Min 1, max 255 characters ; required when option "Other" is selected for "Sample type"
S	Sample localisation	Y	Y	N	"C"nnn	Validation based on ICD-O code list (topography)

Column in csv file	Column name (row 1) ¹	Mandatory field ²	Value loaded	Value skipped ³	Format ⁴	Validation rules
T	Localisation primary T if meta	N	Y	N	"C"nnn	Validation based on ICD-O code list (topography) ; only applicable when "Metastasis" is selected for "Sample type"
U	Laterality	N	Y	N	t	Validation based on reference list (see chapter 4.5) ; only 1 selection allowed. The list of paired organs does not have to be taken into account for registrations of tumour samples in the BVTr.
V	Morphology	Y, if sample type = "Primary" or "Metastasis"	Y	N	"M"nnnn	Validation based on ICD-O code list (morphology) ; required when option "Primary" or "Metastasis" is selected for "Sample type"
W	Behaviour	Y, if sample type = "Primary" or "Metastasis"	Y	N	n	Allowed values: 0, 1, 2, 3 and 6 ; required when option "Primary" or "Metastasis" is selected for "Sample type"
X	Degree of differentiation	N	Y	N	n or t	Validation based on reference list (see chapter 4.5) ; only 1 selection allowed
Y	pT	N	Y	N	List	Validation based on TNM code list in combination with sample date (see chapter 4.6)
Z	pN	N	Y	N	List	Validation based on TNM code list in combination with sample date (see chapter 4.6)
AA	pM	N	Y	N	List	Validation based on TNM code list in combination with sample date (see chapter 4.6)
AB	Oncological remarks	N	Y	N	free	Maximum 255 characters
AC	Prefix	N	Y	N	t	Allowed values: "y", "r" and "a" ; only applicable when at least pT is filled in ; only 1 selection allowed
AD	cT	N	N	Y	List	This column should be left empty by the local tumourbank
AE	cN	N	N	Y	List	This column should be left empty by the local tumourbank
AF	cM	N	N	Y	List	This column should be left empty by the local tumourbank
AG	Quality control result	N	N	Y	n	This column should be left empty by the local tumourbank
AH	BCR comments	N	N	Y	free	This column should be left empty by the local tumourbank
AI	Error comments	N	N	Y	free	This column should be left empty by the local tumourbank

¹ Row nr 1 of the .csv-file will never be loaded as a registration and can thus be used for titles (free to use other names). On the other hand, the order of the columns does matter. E.g. cell C1 may be titled as "*Another title*", but the SSIN values MUST be placed in column C.

² The rows/registrations where one or more obligatory fields are empty will be transferred to the error file and not submitted in the BVTr-application.

³ Any value placed in these fields won't be loaded in the BVTr.

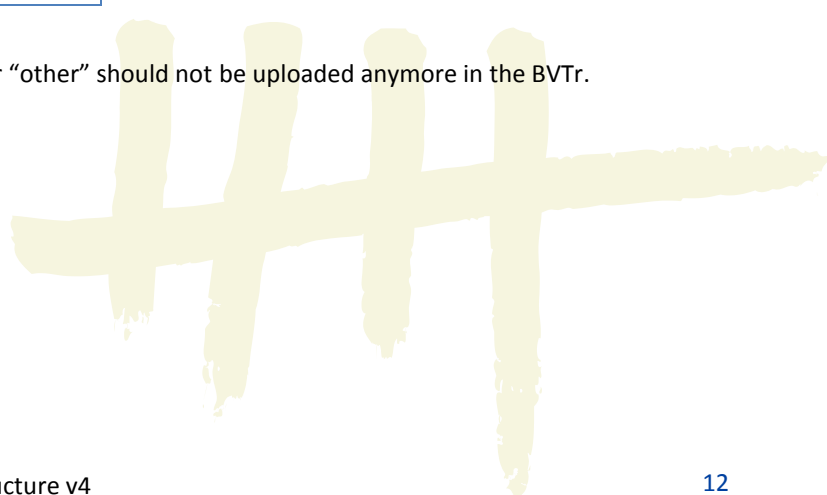
⁴ "n" = single digit, "t" = any single character. The file is not CAPS-sensitive.

4.5. Reference lists for batch upload

Value	Description
Conservation mode	
1	-20°C
2	-80°C
3	-120°C or colder
4	Liquid nitrogen
5	Inclusion in paraffin
6	Other
Conservation delay	
1	Less than or equal to 30 minutes
2	More than 30 minutes
9	Unknown
Available materials	
T	Tissue
C	Cytology
D	DNA
R	RNA
P	Proteins
N	Corresponding normal tissue
S	Serum
L	Plasma
B	Blood
U	Urine
O	Others
Sample Type	
P	Primary tumour
M	Metastasis
N	Normal tissue *
O	Other *

Value	Description
Laterality	
L	Left
R	Right
O	Odd
U	Unknown
Degree of differentiation	
1	Well differentiated
2	Moderately differentiated
3	Poorly differentiated
4	Undifferentiated (anaplastic)
5	T-cell
6	B-cell
7	Null-cell
8	NK-cell
9	Unknown
H	High grade
L	Low grade
pTNM prefix	
y	pTNM determined during or after neoadjuvant therapy
r	pTNM for a recurrent tumour
a	pTNM determined at autopsy

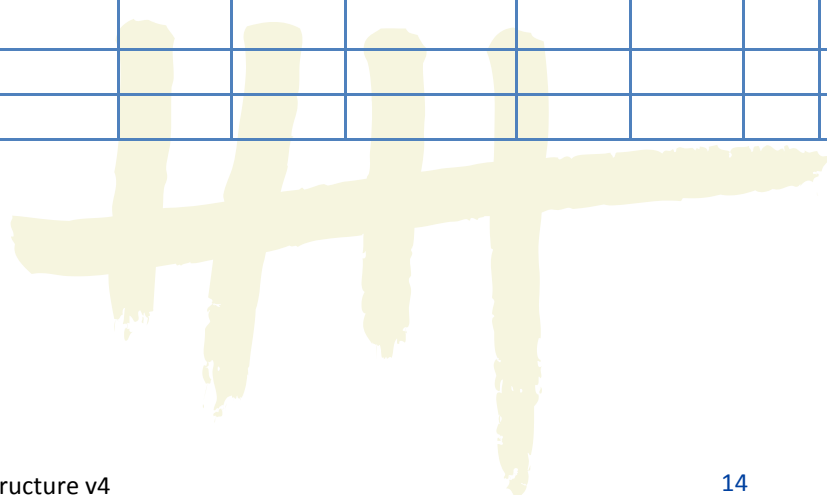
* Registrations with sample type "normal" or "other" should not be uploaded anymore in the BVTr.



4.6. TNM-values accepted in the BVTr

8 th edition			7 th edition			6 th edition			5 th edition		
2017 - ...			2010 - 2016			2003 - 2009			1999 - 2002		
T	N	M	T	N	M	T	N	M	T	N	M
See values of the 7 th edition! The new TNM-values that are added in the 8 th edition (T1c1, T1c2, T1c3 and T3e) are not yet accepted by the BVTr-application (version 2.4.1).			0	0	0	0	0	0	0	0	1
			1	1	1	1	1	1	1	1	0
			2	2	1a	2	2	1a	2	2	1a
			3	3	1b	3	3	1b	3	3	1b
			4	+	1c	4	+	1c	4	+	1c
			1a	0(i-)	1d	1a	0(i-)	x	1a	1a	x
			1a1	0(i-)(sn)	1e	1a1	0(i-)(sn)	0(i+)	1a1	1b	
			1a1m	0(i+)	x	1a1m	0(i+)	0(i-)	1a1m	1bi	
			1a2	0(i+)(sn)	0(i+)	1a2	0(i+)(sn)	0(mol+)	1a2	1bii	
			1a2m	0(mol-)	0(i-)	1a2m	0(mol-)	0(mol-)	1a2m	1biii	
			1am	0(mol-)(sn)	0(mol+)	1am	0(mol-)(sn)		1am	1biv	
			1b	0(mol+)	0(mol-)	1b	0(mol+)		1b	2a	
			1b1	0(mol+)(sn)		1b1	0(mol+)(sn)		1b1	2b	
			1b2	0(sn)		1b2	0(sn)		1b2	2c	
			1bm	1(sn)		1bm	1(sn)		1bm	x	
			1c	1a		1c	1a		1c		
			1cm	1a(sn)		1cm	1a(sn)		1cm		
			1d	1b		1m	1b		1m		
			1dm	1b(sn)		1mic	1b(sn)		1mic		
		1m	1c		1micm	1c		1micm			
		1mic	1c(sn)		2a	1c(sn)		2a			
		1micm	1mi		2am	1mi		2am			
		2a	1mi(sn)		2b	1mi(sn)		2b			
		2am	2a		2bm	2a		2bm			
		2a1	2b		2c	2b		2c			
		2a1m	2c		2cm	2c		2cm			
		2a2	3a		2m	3a		2m			
		2a2m	3b		3a	3b		3a			
		2b	3c		3am	3c		3am			
		2bm	x		3b	x		3b			
		2c	x(sn)		3bm	x(sn)		3bm			
		2cm			3c			3c			
		2d			3cm			3cm			
		2dm			3m			3m			
		2m			4a			4a			

(continued) 8 th edition			7 th edition			6 th edition			5 th edition		
T	N	M	T	N	M	T	N	M	T	N	M
			3a			4am			4am		
			3am			4b			4b		
			3b			4bm			4bm		
			3bm			4c			4c		
			3c			4cm			4cm		
			3cm			4d			4d		
			3d			4dm			4dm		
			3dm			4m			4m		
			3m			a			a		
			4a			is			is		
			4am			is pd			is pd		
			4b			is pu			is pu		
			4bm			is(DCIS)			x		
			4c			is(LCIS)			xm		
			4cm			is(Page t)					
			4d			x					
			4dm			xm					
			4e								
			4em								
			4m								
			a								
			is								
			is pd								
			is pu								
			is(DCIS)								
			is(LCIS)								
			is(Paget)								
			x								
			xm								



4.7. Flowchart for registering multiple samples from one biopsy

This flowchart shows how many registrations to make in certain situations and how to use "*N" (i.e. corresponding normal tissue) in Available Materials when different pathologies (tumour, normal, metastasis, etc.) are sampled from one biopsy/resection specimen and stored in the biobank. (R = registration)

