

Appendix B Staging for penile tumours

TNM pathological staging of penile tumours (9th edition, UICC)¹

Although there is a category of non-invasive verrucous carcinoma in the primary tumour classifications (Ta), the criteria for the diagnosis of this entity and its distinction from verrucous hyperplasia are unclear to the authors of this dataset and use of this category is not recommended. Although verrucous carcinomas have a pushing rather than infiltrative margin, they are nevertheless invasive. Invasion is often only superficial but more deeply invasive tumours may be observed.

In the case of multiple tumours, the tumour with the highest T category should be classified and the multiplicity or number of tumours should be indicated in parentheses, e.g. pT2 (m) or pT2 (5).

Use of the category TX is to be avoided and the designation “T... at least” is preferable if full staging is not possible because of the nature of the specimen (e.g. small incision biopsies) or the presence of positive margins.

Urethral invasion is irrelevant for staging on TNM9 and extension to the corpora cavernosum (including albuginea) implies a pT3 tumour.

a) Tumours of the penis and foreskin

Primary tumour (T)

TX	Primary tumour cannot be assessed
T0	No evidence of primary tumour
Tis	Carcinoma in situ (PeIN)
Ta*	Non-invasive localized squamous cell carcinoma including verrucous carcinoma*
T1	Tumour invades subepithelial connective tissue (Glans: lamina propria; Foreskin: invades dermis, lamina propria or dartos fascia; Shaft: invades connective tissue between epidermis and corpora and regardless of location)
T1a	Tumour invades subepithelial connective tissue without lymphovascular invasion or perineural invasion and is not poorly differentiated (i.e. grade 3)

T1b Tumour invades subepithelial connective tissue with lymphovascular invasion or perineural invasion or is poorly differentiated

T2 Tumour invades corpus spongiosum with or without invasion of the urethra

T3 Tumour invades corpus cavernosum with or without invasion of the urethra

T4 Tumour invades other adjacent structures

* The dataset authors' view is that the use of this category is to be avoided as it is not evidence based.

Regional lymph nodes (N)

Clinical stage definition

cNX Regional lymph nodes cannot be assessed.

cN0 No palpable or visibly enlarged inguinal lymph nodes.

cN1 Palpable mobile unilateral inguinal lymph node.

cN2 Palpable mobile multiple or bilateral inguinal lymph nodes.

cN3 Fixed inguinal nodal mass or pelvic lymphadenopathy unilateral or bilateral.

Pathologic stage definition

pNX Regional lymph nodes cannot be assessed.

pN0 No regional lymph node metastasis.

pN1 Metastasis in 1 or 2 unilateral inguinal lymph nodes.

pN2 Metastases in more than 2 unilateral inguinal nodes or bilateral inguinal lymph nodes.

pN3 Metastasis in pelvic lymph node(s), unilateral or bilateral, or extranodal extension of regional lymph node metastasis

Distant metastasis (M)

M0 No distant metastasis (clinical category only).

M1 Distant metastasis.

Includes lymph node metastasis outside the regional lymph nodes (superficial and deep inguinal and the pelvic nodes) in addition to visceral or bone sites.

Anatomic stage/prognostic groups

Stage	T	N	M
Stage 0	Tis	N0	M0
	Ta	N0	M0
Stage I	T1a	N0	M0
Stage IIA	T1b, T2	N0	M0
Stage IIB	T3	N0	M0
Stage IIIA	T1, T2, T3	N1	M0
Stage IIIB	T1, T2, T3	N2	M0
Stage IV	T4	Any N	M0
	Any T	N3	M0
	Any T	Any N	M1

b) Tumours of the distal urethra

It should be noted that the N categories differ considerably between urethral and penile tumours and extranodal spread is not a feature of the urethral N staging (i.e. there is no N3 category).

Primary tumour (T)

- TX Primary tumour cannot be assessed
- T0 No evidence of primary tumour
- Ta Non-invasive papillary, polypoid, or verrucous carcinoma*
- Tis Carcinoma in situ (PeIN)** or urothelial carcinoma in situ
- T1 Tumour invades subepithelial connective tissue
- T2 Tumour invades any of the following: corpus spongiosum, prostate, periurethral muscle
- T3 Tumour invades any of the following: corpus cavernosum, beyond prostatic capsule, bladder neck
- T4 Tumour invades other adjacent organs (including bladder wall)

* The dataset authors' view is that the use of this category for verrucous carcinoma is to be avoided as it is not evidence based. This category includes non-invasive urothelial carcinomas but these are very rare in the distal urethra.

** The dataset authors recommend the use of the same terminology (PeIN) for squamous precancerous lesions of the distal urethra as in the penis.

Regional lymph nodes

NX Regional lymph nodes cannot be assessed.

N0 No regional lymph node metastasis.

N1 Metastasis in a single lymph node

N2 Metastases in multiple nodes.

Distant metastasis

M0 No distant metastasis*

M1 Distant metastasis.

* This is a clinical category, not to be used in pathological reporting.

References

1. Brierley JD, Giuliani M, O'Sullivan B, Rous B, Van Eycken L (eds.). *TNM Classification of Malignant Tumours* (9th edition). Oxford, UK: Wiley-Blackwell; 2025.