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Bladder Cancer Recurrence – Clinician Perspective

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Disclosures

- None

Objectives

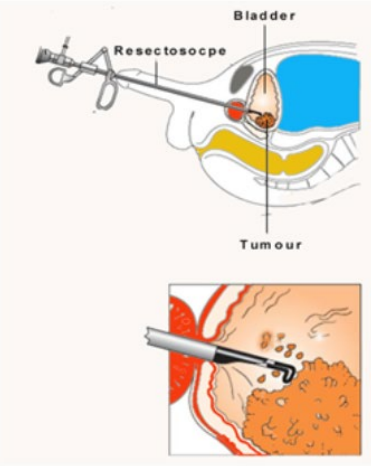
Differentiate **recurrent, persistent, and progressive disease** based on timing, disease-free interval, and changes in stage or grade

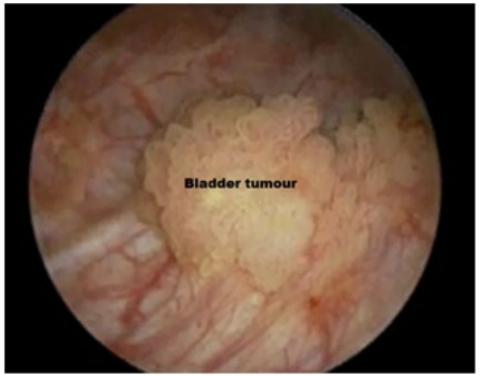
Describe **standard surveillance methods** used to detect bladder cancer recurrence — cystoscopy, urine cytology, imaging, and pathologic evaluation

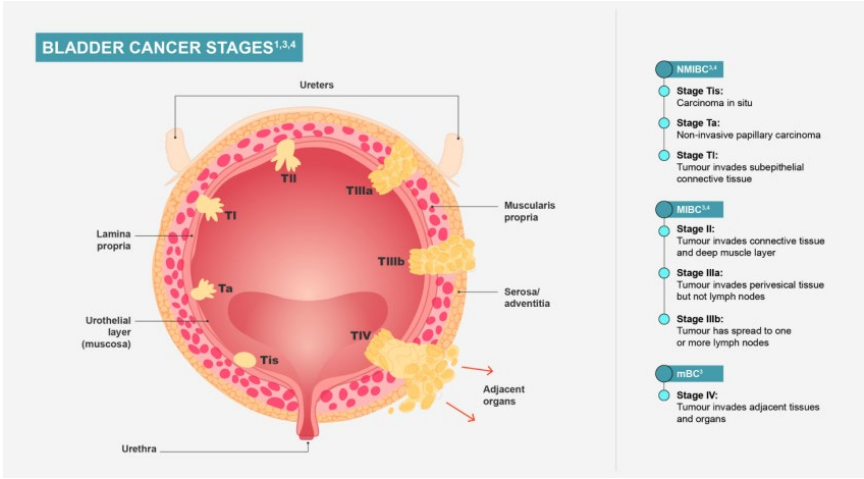
Explain **recurrence patterns** for non–muscle invasive (NMIBC) and muscle-invasive bladder cancer (MIBC), including local recurrence, progression, nodal involvement, and distant metastasis

Identify **critical medical record documentation** and terminology that support accurate abstraction of bladder cancer recurrence data

Bladder Cancer Overview







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https://ccmurology.com/surgery/transurethral-resection-of-bladder-tumour-turbt/

https://fity.club/lists/suggestions/Bladder-Cancer-Diagram-Stages/

Key Clinical Concepts

Recurrence: new tumor detected after a documented disease-free interval following definitive treatment

Persistent disease: residual or incompletely resected tumor — no true disease-free interval; not a recurrence

Re-resection is NOT recurrence: for T1 or high-grade Ta tumors, repeat Transurethral Resection of Bladder Tumor (TURBT) within 4–6 weeks is part of initial staging — not a separate recurrence event

Progressive disease: increase in stage or grade, or development of metastasis compared to prior tumor

Timing matters: the disease-free interval — confirmed by cystoscopy, pathology, or imaging showing No Evidence of Disease (NED) — is the critical dividing line between persistence and true recurrence

AUA/SUO NMIBC Risk Stratification

2024 Amendment — Holzbeierlein JM et al., J Urol 2024

RISK GROUP	TUMOR CHARACTERISTICS
Low Risk	Single tumor · Ta · Low-grade · <3 cm · No CIS No prior recurrence
Intermediate Risk	Recurrent low-grade Ta · Multiple low-grade Ta tumors Low-grade Ta >3 cm · Low-grade T1 (no other high-risk features)
High Risk	Any high-grade T1 · Any CIS · High-grade Ta (large or multifocal) BCG-unresponsive disease · Variant histology · Lymphovascular invasion High-grade involvement of prostatic urethra

LOW RISK

Recurrence	~45%
Progression	<5%

INTERMEDIATE RISK

Recurrence	~40%
Progression	~10%

HIGH RISK

Recurrence	~75%
Progression	~30%

Source: AUA/SUO NMIBC Guideline 2024 Amendment · Recurrence/progression rates per 12–24 month follow-up data

Surveillance Overview

Cystoscopy — the primary surveillance tool

- White light vs. enhanced (blue light, narrow band imaging)
- Visual detection — triggers biopsy or TURBT

Urine cytology — adjunct, not standalone diagnosis

- Best sensitivity for high-grade disease and Carcinoma In Situ (CIS)

Imaging — CT urogram, CT abdomen/pelvis, MRI, PET scan

- Evaluates upper tract disease, lymph nodes, distant metastasis

TURBT with pathology — confirms diagnosis

- Establishes stage, grade, and muscularis propria sampling

Surveillance — Cystoscopy

Lesion characteristics to document: location, size, number, and appearance

Morphology: flat vs. papillary vs. sessile

Documentation language to look for: "new lesion," "suspicious area," "recurrent tumor at prior resection site"

Normal cystoscopy = documented NED — critical anchor for the disease-free interval

Surveillance — Urine Cytology

Positive cytology is a clinical flag — not a diagnosis of recurrence

Tissue confirmation required: TURBT or directed biopsy is needed to establish recurrence

Reported using the Paris System: negative · atypical · suspicious · high-grade malignancy

Sensitivity profile: best for high-grade disease and CIS — low sensitivity for low-grade tumors

Positive cytology + negative cystoscopy: upper tract evaluation and random bladder biopsies required

CIS caveat: flat lesion, often invisible on cystoscopy — cytology raises suspicion but biopsy still required to confirm

The Urothelial Field Defect

Urothelial carcinoma is a field defect disease — the entire urothelium from renal calyces to urethra is at risk

Upper Tract Urothelial Carcinoma (UTUC): renal pelvis or ureter; can develop metachronously after a bladder cancer diagnosis

Detected through upper tract surveillance: CT urogram is the primary imaging modality

Highest risk: high-risk NMIBC, CIS, and tumors ≥ 3 cm carry the highest risk of subsequent UTUC

2.6–5.8%	3.7%	8.3%
UTUC incidence during NMIBC surveillance	UTUC at 5 years after radical cystectomy	UTUC at 10 years after radical cystectomy

Key for registrars: UTUC is NOT coded as recurrence or progression of the bladder primary. Under SEER Solid Tumor Rules, bladder urothelial carcinoma and UTUC are abstracted as separate primaries — each requires its own abstract.

Imaging

CT Urogram: evaluates upper tracts, lymph nodes, and distant sites

CT Abdomen/Pelvis: standard for staging and restaging MIBC

MRI Pelvis: local extent and soft tissue involvement

PET/CT: selected cases — distant metastasis evaluation

Key for registrars: imaging confirms nodal or distant recurrence independent of pathology

Transurethral Resection of Bladder Tumor (TURBT)

Confirms diagnosis: determines stage (Ta, T1, T2+) and grade

Muscularis propria (detrusor muscle): must be present and sampled for accurate staging

Compare with prior pathology: new lesion vs. same site = recurrence vs. persistence (often challenging — not always definitive)

Key report elements: specimen site, depth of invasion, grade, Lymphovascular Invasion (LVI), and margin status

Recurrence Patterns — NMIBC

High recurrence rates: 50–70% recur within 5 years

Intravesical recurrence is most common — same or different bladder location

Risk of progression to muscle invasion: ~10–20% for high-grade T1

Bacillus Calmette-Guérin (BCG) therapy: reduces recurrence and progression risk

BCG-unresponsive disease: intravesical gemcitabine/docetaxel, nadofaragene firadenovec, or pembrolizumab

BCG failure / high-risk disease: radical cystectomy should be strongly considered

BOTTOM LINE

True recurrence requires two things: a **documented disease-free interval** and **tissue confirmation** on pathology. Cystoscopy finds it — pathology confirms it.

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Recurrence vs. Progression — Clinical Perspective

SCENARIO A **New bladder tumor after NED** Same or different location · any stage · confirmed on TURBT/biopsy	→	CLINICIAN CALLS IT **Recurrence** Disease-free interval documented
SCENARIO B **T1 → T2 on re-resection** Higher stage found at repeat TURBT · no disease-free interval	→	CLINICIAN CALLS IT **Progression** No NED interval — never disease-free
SCENARIO C **New nodal or distant mets** Confirmed on CT, MRI, or PET — with or without prior NED	→	CLINICIAN CALLS IT **Progression / Recurrence** Used interchangeably in clinical notes

THE CLINICAL REALITY

Clinicians use "recurrence" and "progression" interchangeably. What matters for documentation is: **Was there a disease-free interval? What does the pathology or imaging show?** The words in the note are less important than the underlying data.

Recurrence Patterns — MIBC

Local recurrence: pelvic recurrence after radical cystectomy — most common site

Regional: pelvic lymph node involvement — may be detected on CT or PET

Distant metastasis: lung, liver, bone, and peritoneum are most common sites

Recurrence timing: ~50% of patients with MIBC develop recurrence within 2 years of cystectomy

Neoadjuvant chemotherapy: cisplatin-based regimens prior to cystectomy reduce recurrence risk

Surveillance after cystectomy: CT chest/abdomen/pelvis every 3–6 months for 2 years, then annually

Recurrence Detection in MIBC

AFTER RADICAL CYSTECTOMY

- No bladder — cystoscopy is not possible
- Recurrence detected primarily by CT chest/abdomen/pelvis or PET/CT
- Biopsy not always performed — imaging findings + clinical context drive management
- Biopsy reserved for atypical findings or when pathology would change management

WHAT CONFIRMS RECURRENCE IN THE MEDICAL RECORD

- Radiology report documenting new pelvic mass, lymphadenopathy, or distant metastasis
- Medical oncology note documenting recurrent disease and new treatment plan
- Initiation of systemic chemotherapy or immunotherapy for recurrent disease
- Radiation oncology referral or treatment plan for pelvic recurrence
- Tumor board documentation discussing recurrent MIBC

> **BOTTOM LINE**
>
> In MIBC, the clinical decision to treat IS the confirmation of recurrence. Imaging showing new disease + action taken by the treating team = recurrence documentation — a pathology report is not always required.

Key Medical Record Documentation

Cystoscopy reports: lesion description, location, size, biopsy taken, and NED documentation

TURBT operative note: resection findings, depth of resection, whether muscularis propria was sampled

Pathology reports: stage (Ta, T1, T2+), grade, LVI, margin status — primary source for abstraction

Imaging reports: CT, MRI, PET findings — critical for MIBC recurrence and upper tract disease

Urology and oncology progress notes: clinical assessment, NED statements, and treatment decisions

Treatment plans and tumor board notes: document clinical action taken for recurrent disease

Intravesical therapy records: often in nursing notes — BCG, gemcitabine, docetaxel

Terminology and Common Documentation Pitfalls

Recurrence vs. residual disease: recurrence requires a prior disease-free interval; residual disease does not

NED, complete response, negative cystoscopy: all document the disease-free interval — look for these phrases

Progression vs. recurrence: used interchangeably by clinicians — look at pathology and imaging, not just the word

Positive cytology alone: does not confirm recurrence — tissue confirmation is always required

Re-resection within 4–6 weeks (T1 / high-grade Ta): not recurrence — part of initial treatment

UTUC after bladder cancer: a separate primary, NOT a recurrence — requires its own abstract

MIBC post-cystectomy: imaging plus clinical action taken = recurrence documentation, even without biopsy

Thank you

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Questions?

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