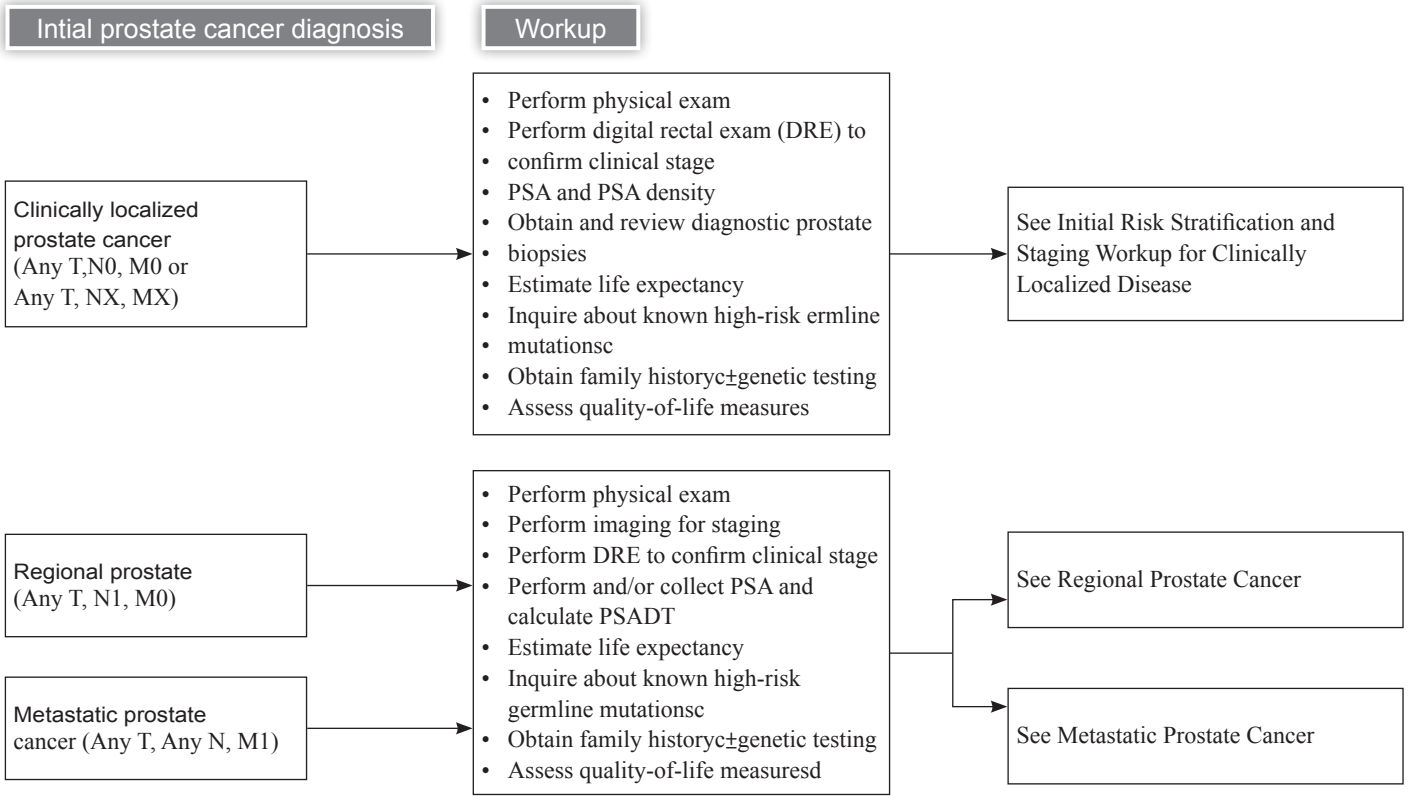
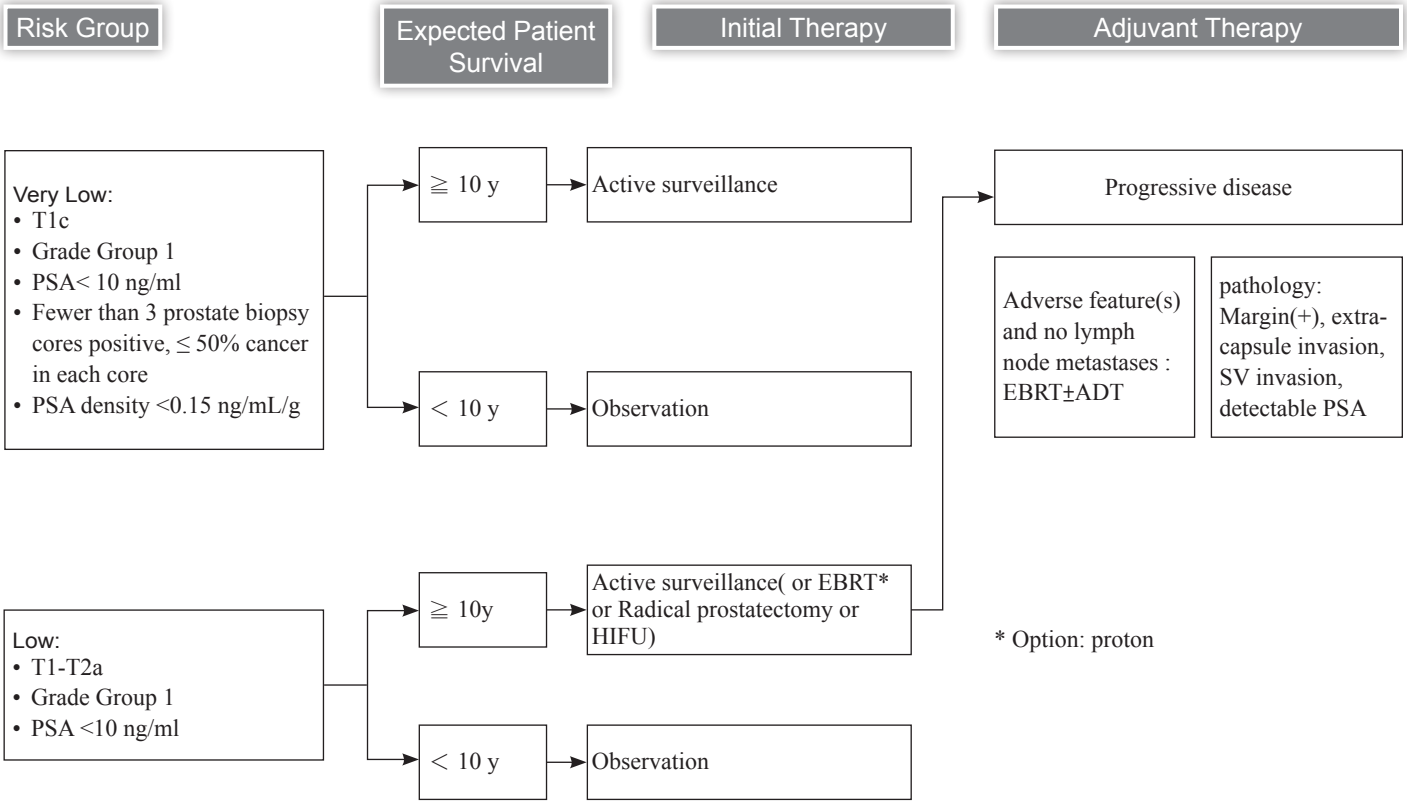
Urinary Tract Tumors


Intial prostate cancer diagnosis
Workup
Clinically localized prostate cancer (Any T,N0, M0 or Any T, NX, MX)
• Perform physical exam
• Perform digital rectal exam (DRE) to
• confirm clinical stage
• PSA and PSA density
• Obtain and review diagnostic prostate
• biopsies
• Estimate life expectancy
• Inquire about known high-risk ermline
• mutationsc
• Obtain family historyc±genetic testing
• Assess quality-of-life measures
See Initial Risk Stratification and Staging Workup for Clinically Localized Disease
Regional prostate (Any T, N1, M0)
Metastatic prostate cancer (Any T, Any N, M1)
• Perform physical exam
• Perform imaging for staging
• Perform DRE to confirm clinical stage
• Perform and/or collect PSA and calculate PSADT
• Estimate life expectancy
• Inquire about known high-risk germline mutationsc
• Obtain family historyc±genetic testing
• Assess quality-of-life measuresd
See Regional Prostate Cancer
See Metastatic Prostate Cancer

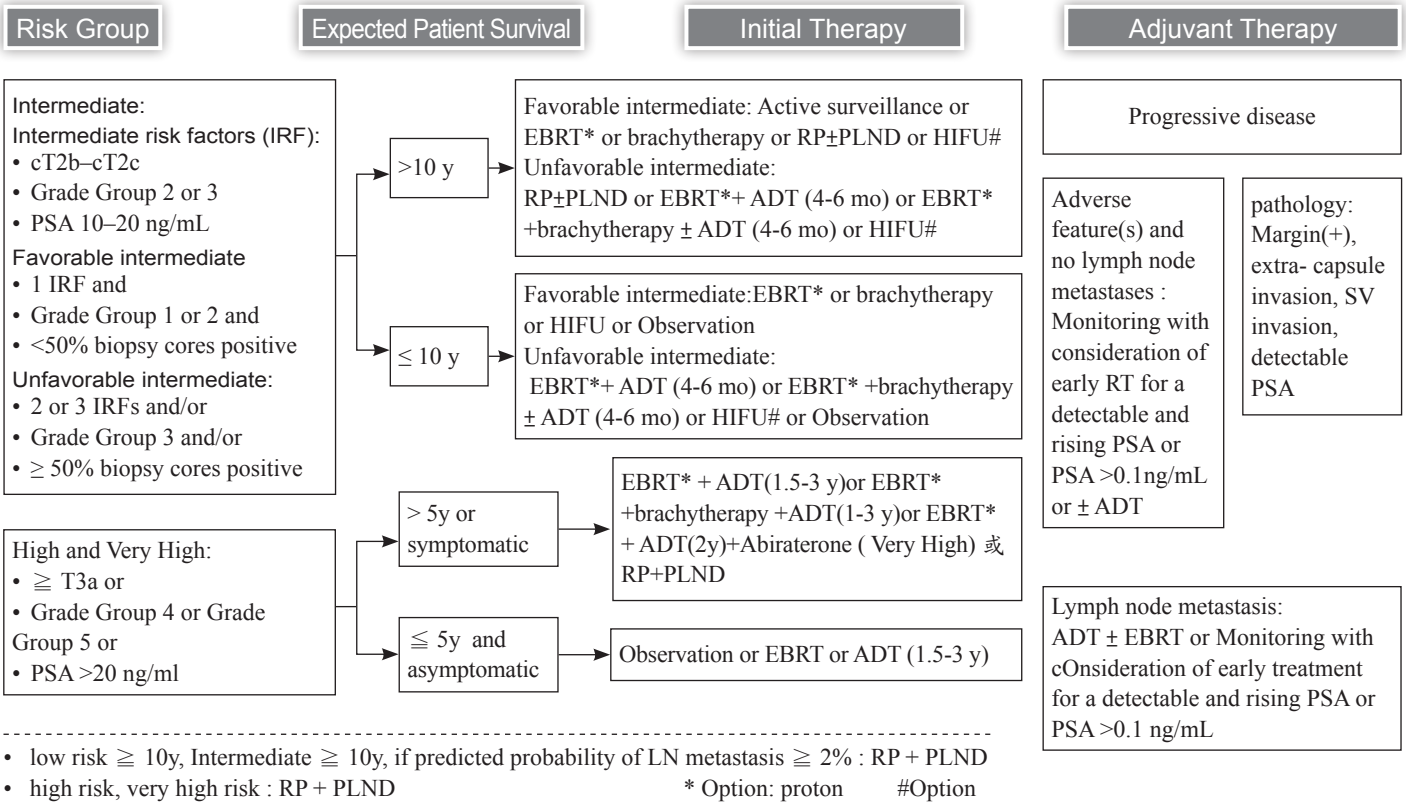
INITIAL RISK STRATIFICATION AND STAGING WORKUP FOR CLINICALLY LOCALIZED DISEASE

Risk Group	Clinical/Pathologic Features			Additional Evaluationg,h	Initial Therapy
Very low	Has all of the following: • cT1c • Grade Group 1 • PSA <10 ng/mL • <3 prostate biopsy fragments/ cores positive ≤ 50% cancer in each fragment/core • PSA density <0.15 ng/mL/g			Confirmatory testing can be used to assess the appropriateness of active surveillance	See Very low Risk Group
Lowe	Has all of the following but does not qualify for very low risk: • cT1–cT2a • Grade Group 1 • PSA <10 ng/mL			Confirmatory testing can be used to assess the appropriateness of active surveillance	See low Risk Group
Intermediate	Has all of the following: •No high-risk group features •No very-high-risk group features •Has one or more factors (IRFs): ◗ cT2b–cT2c ◗ Grade Group 2 or 3 ◗ PSA 10–20 ng/mL	Favorable intermediate	Has all of the following: • 1 IRF • Grade Group 1 or 2 • <50% biopsy cores positive (eg, <6 of 12 cores)	Confirmatory testing can be used to assess the appropriateness of active surveillance	See Intermediate Risk Group
		Unfavorable intermediate	Has one or more of the following: • 2 or 3 IRFs • Grade Group 3 • ≥ 50% biopsy cores positive (eg, ≥ 6 of 12 cores)	Bone and soft tissue imaging • If regional or distant metastases are found, see PROS-8 or PROS-12	See Intermediate Risk Group
High	Has no very-high-risk features and has exactly one high-risk feature: • cT3a OR • Grade Group 4 or Grade Group 5 OR • PSA >20 ng/mL			Bone and soft tissue imagingi,j • If regional or distant metastases are found, see PROS-8 or PROS-12	See high Risk Group
Very high	Has at least one of the following: • cT3b–cT4 • Primary Gleason pattern 5 • 2 or 3 high-risk features • >4 cores with Grade Group 4 or 5			Bone and soft tissue imagingi,j • If regional or distant metastases are found, see PROS-8 or PROS-12	See Very high Risk Group

《 Urology tumor-Prostate cancer treatment consensus-3 》



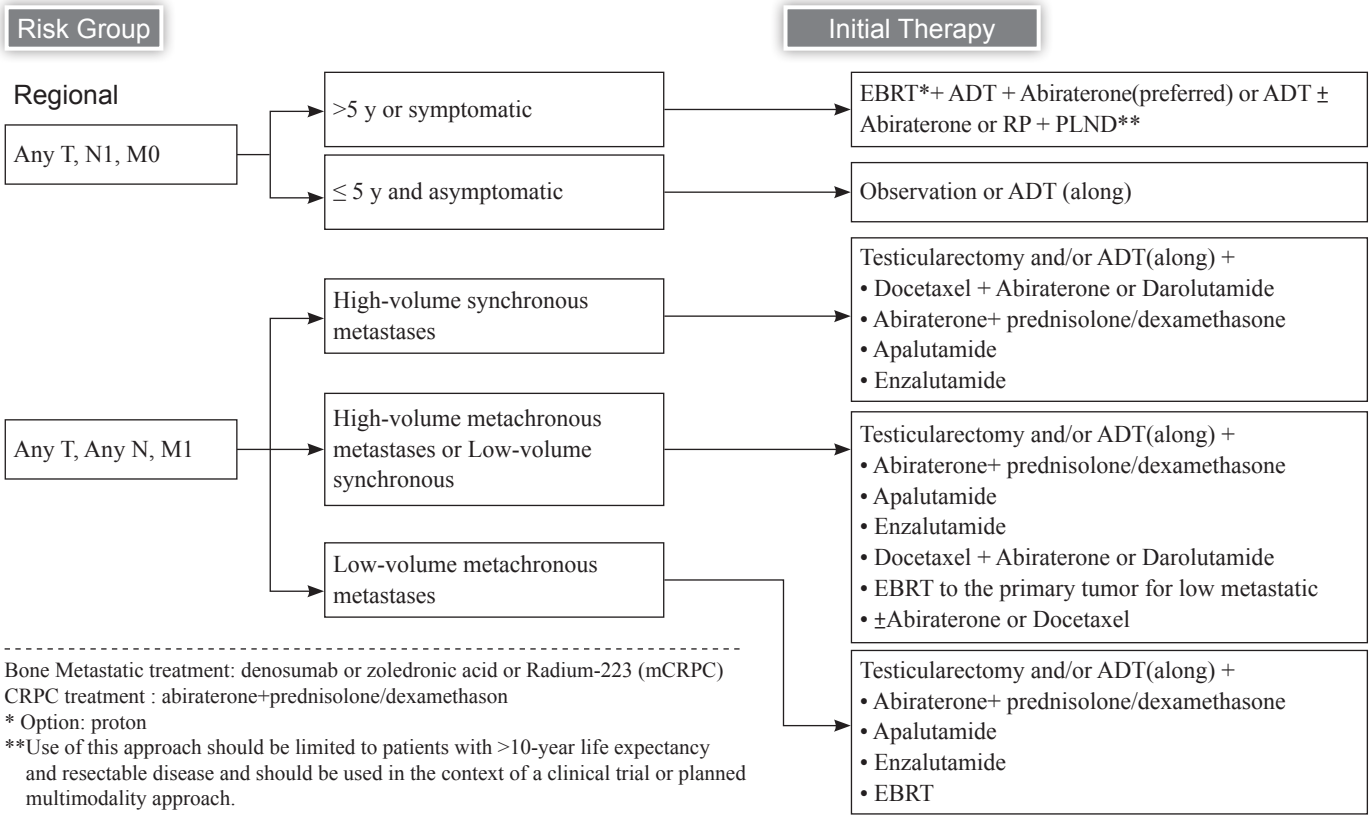
《 Urology tumor-Prostate cancer treatment consensus-4 》



- low risk ≧ 10y, Intermediate ≧ 10y, if predicted probability of LN metastasis ≧ 2% : RP + PLND
- high risk, very high risk : RP + PLND

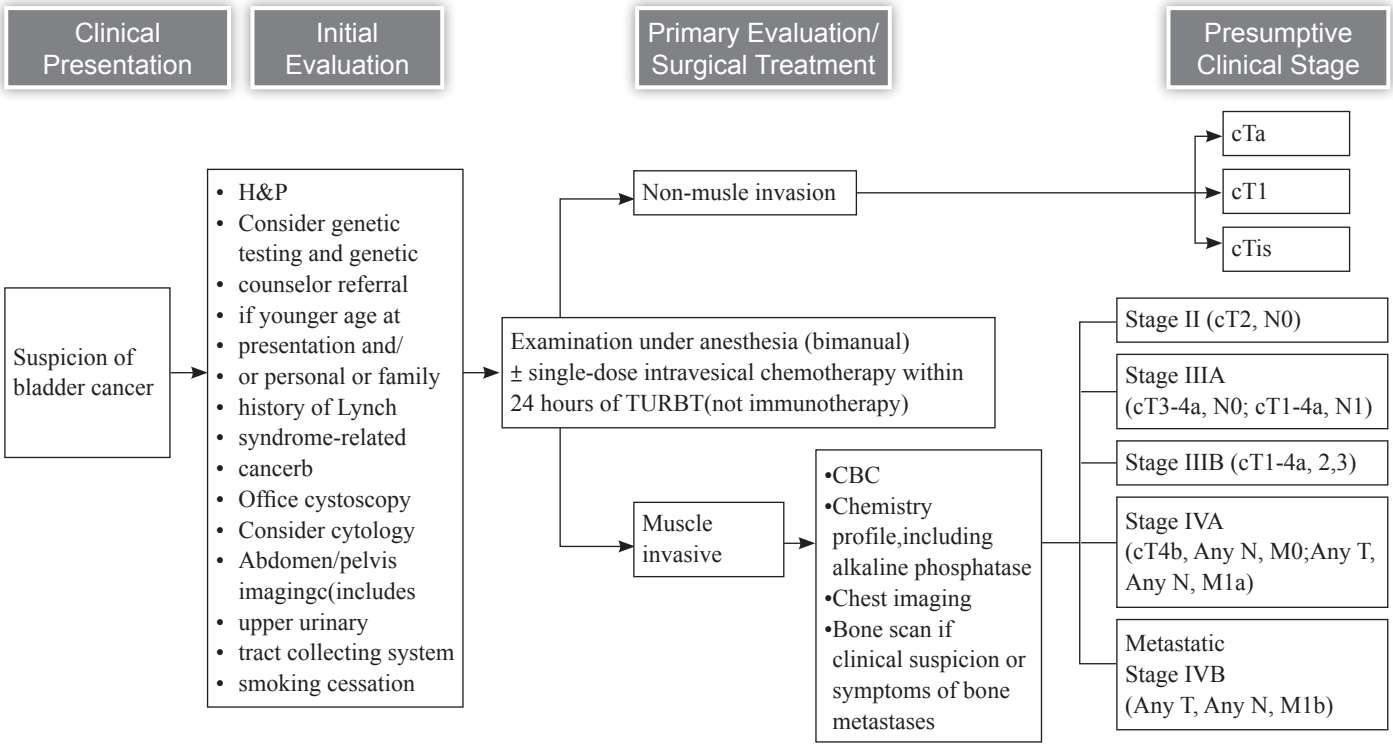
* Option: proton #Option

《 Urology tumor-Prostate cancer treatment consensus -5 》



Bone Metastatic treatment: denosumab or zoledronic acid or Radium-223 (mCRPC)
CRPC treatment : abiraterone+prednisolone/dexamethason
* Option: proton
**Use of this approach should be limited to patients with >10-year life expectancy and resectable disease and should be used in the context of a clinical trial or planned multimodality approach.

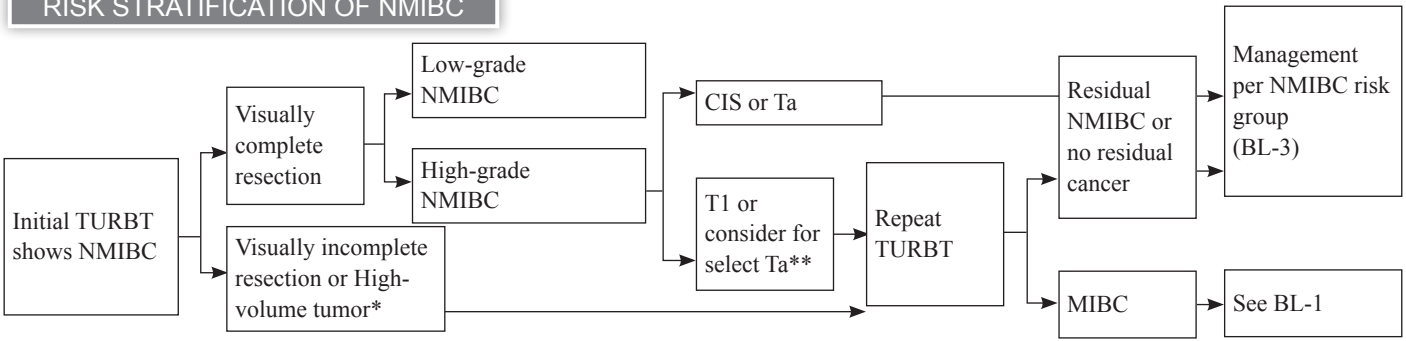
《 Urology tumor-Bladder cancer treatment consensus-1 》



《 Urology tumor-Bladder cancer treatment consensus-2 》

Non-Muscle Invasive Bladder Cancer

RISK STRATIFICATION OF NMIBC



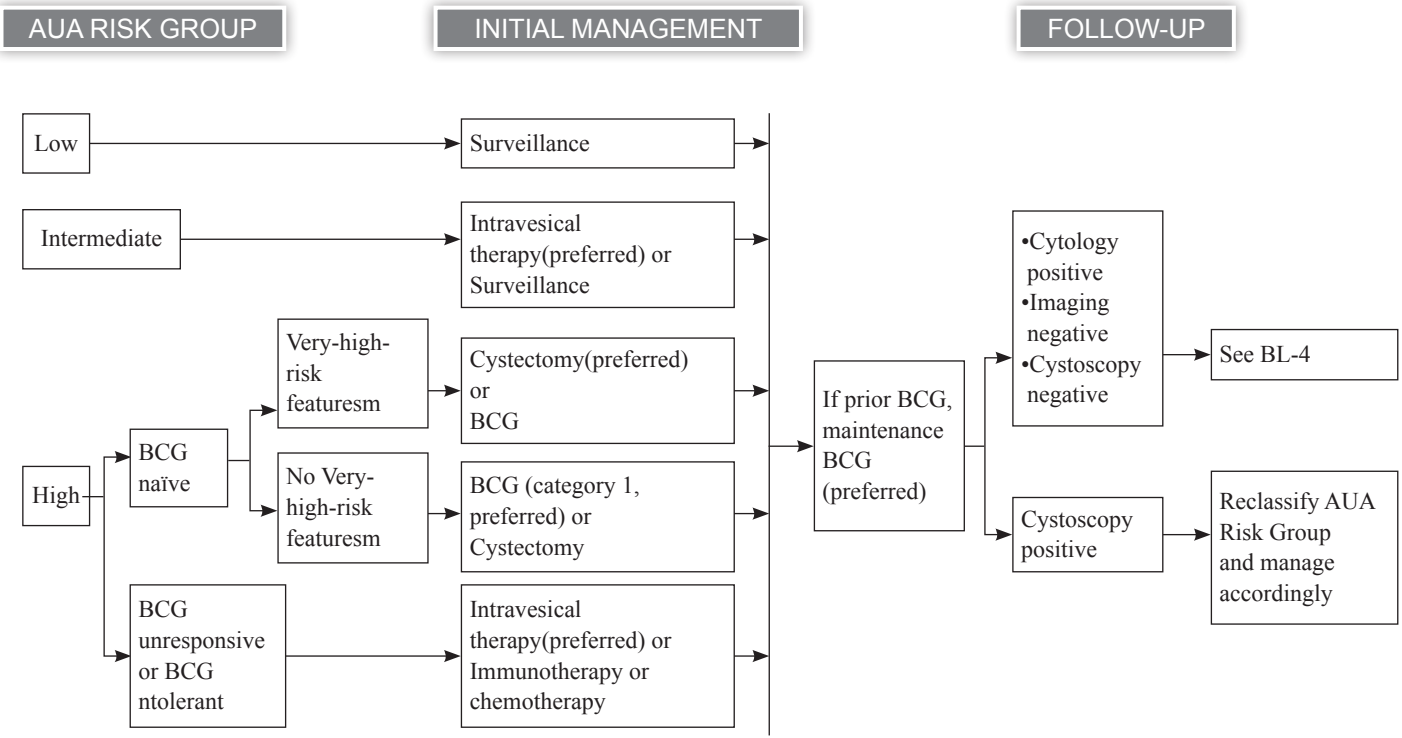
AUA Risk Stratification for Non-Muscle Invasive Bladder Cancer*

Low Risk	Intermediate Risk	High Risk
● Papillary urothelial neoplasm of low malignant potential ● Low grade urothelial Carcinoma ▸ Ta and ▸ ≤ 3 cm and ▸ Solitary	● Low grade urothelial carcinoma ▸ T1 or ▸ >3 cm or ▸ Multifocal or ▸ Recurrence within 1 year ● High grade urothelial carcinoma ▸ Ta and ▸ ≤ 3 cm and ▸ Solitary	● High grade urothelial carcinoma ▸ CIS or ▸ T1 or ▸ >3 cm or ▸ Multifocal ● Very high risk features (any): ▸ BCG unresponsive ▸ Variant histologies ▸ Lymphovascular invasion ▸ Prostatic urethral invasion

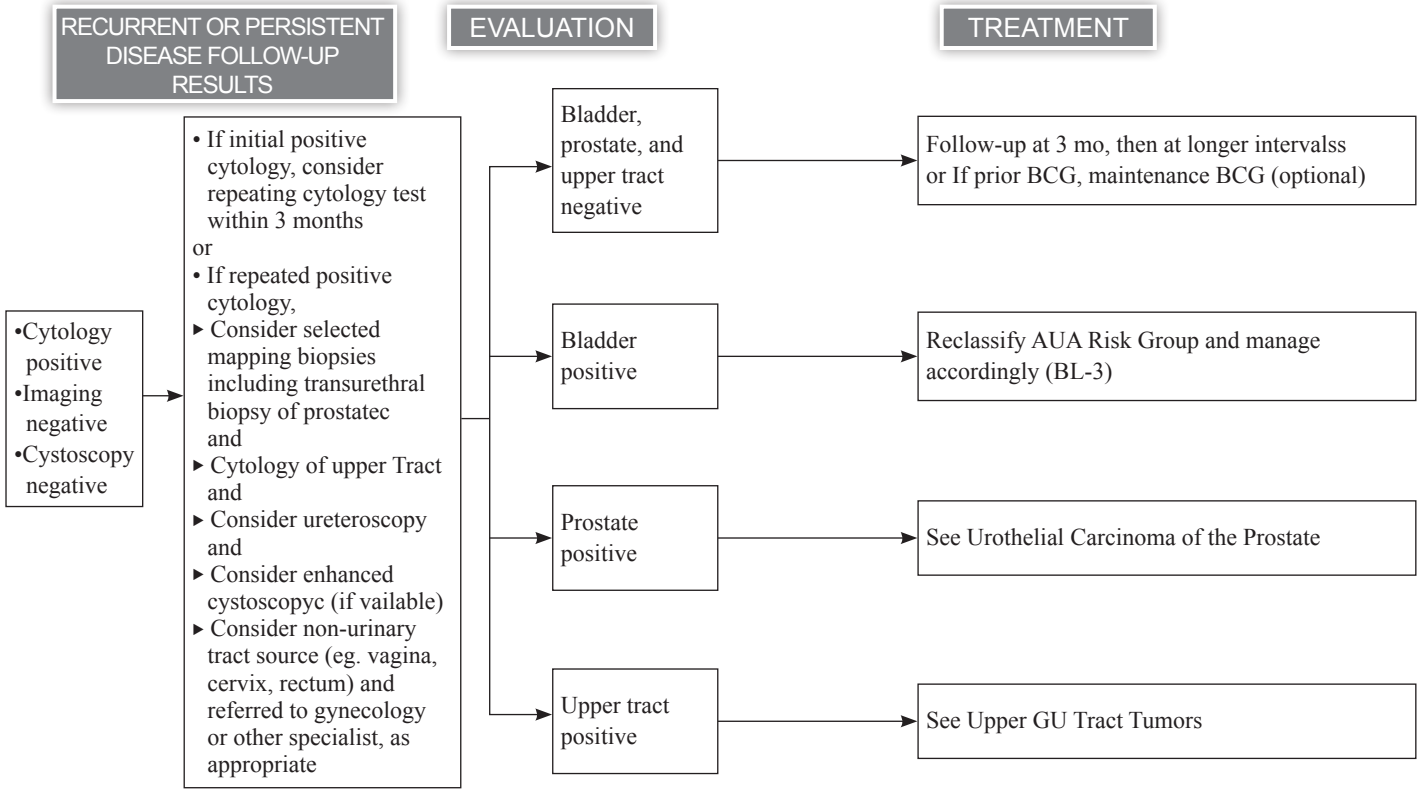
*High-volume tumors (large or highly multifocal) are at high risk of residual tumor.

**Consider repeat TURBT for high-grade Ta particularly if large, and/or no muscle in specimen.

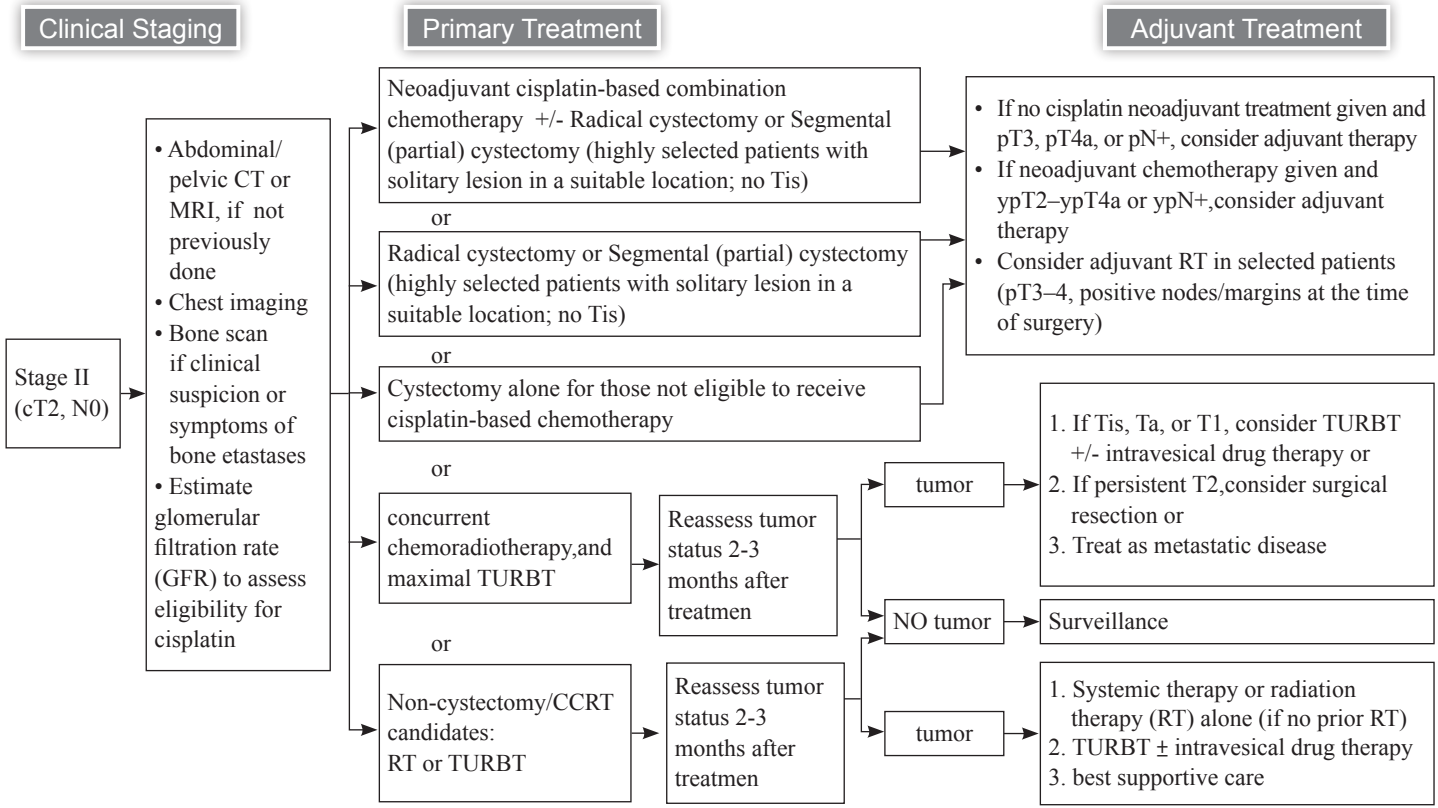
MANAGEMENT PER NMIBC RISK GROUP



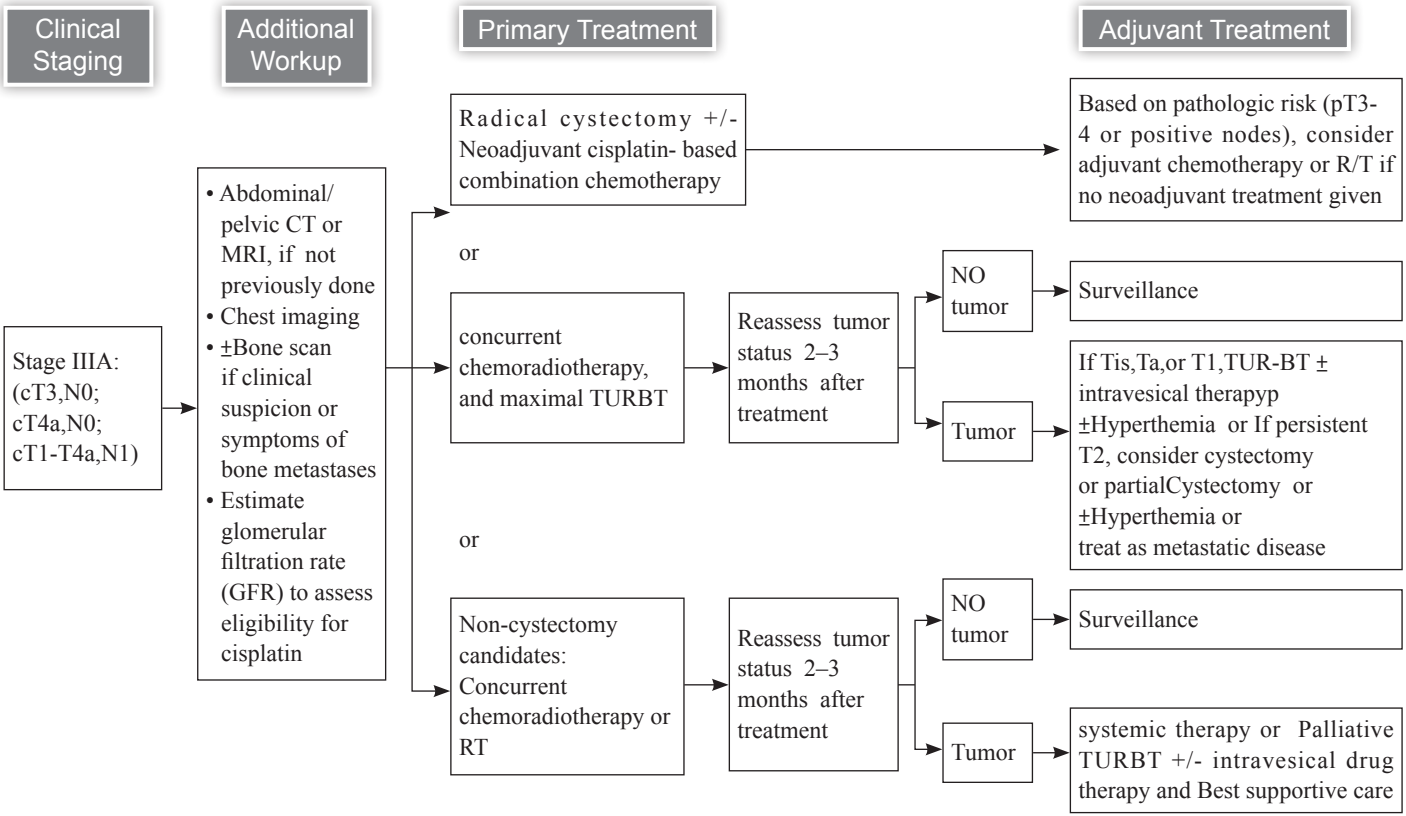
Management of Positive Urine Cytology



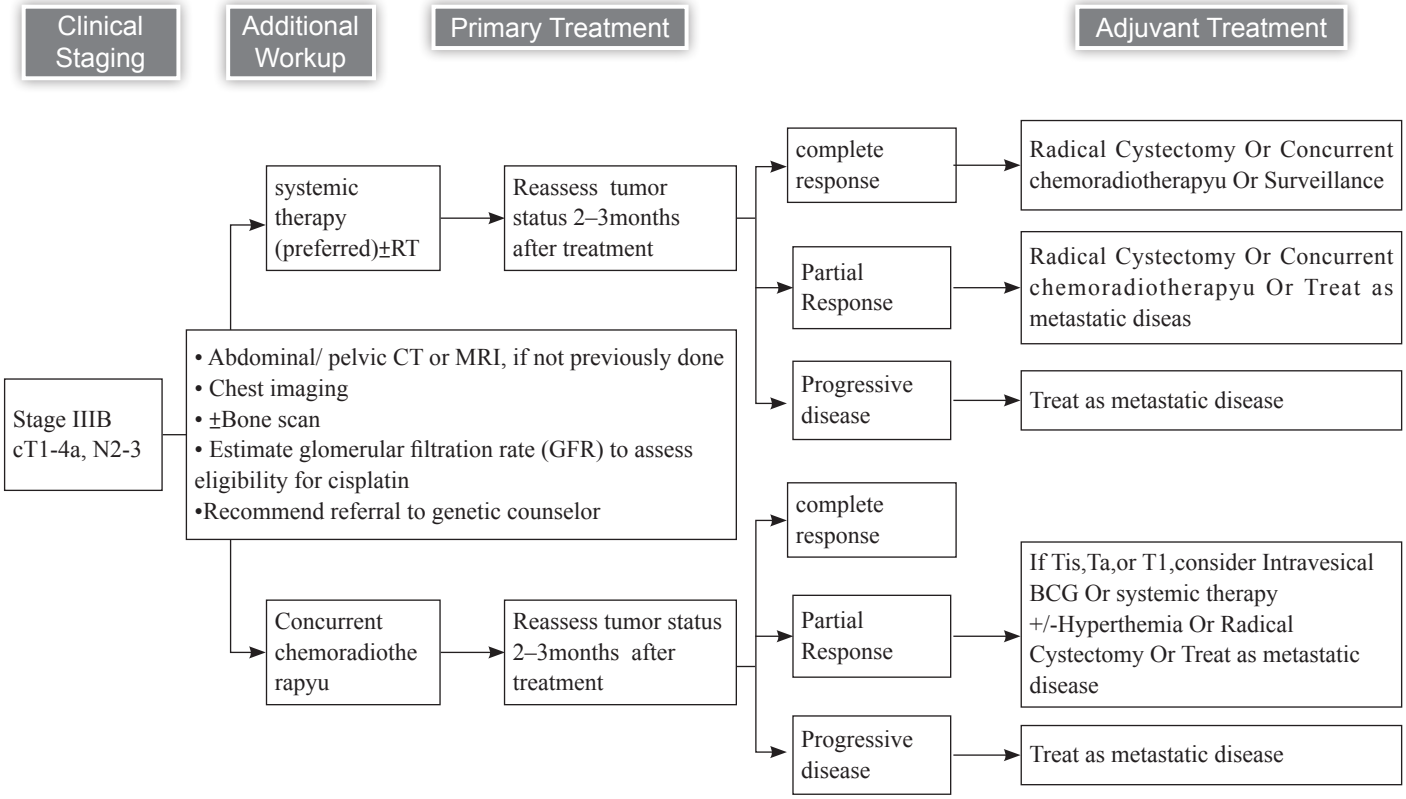
《 Urology tumor-Bladder cancer treatment consensus-5 》

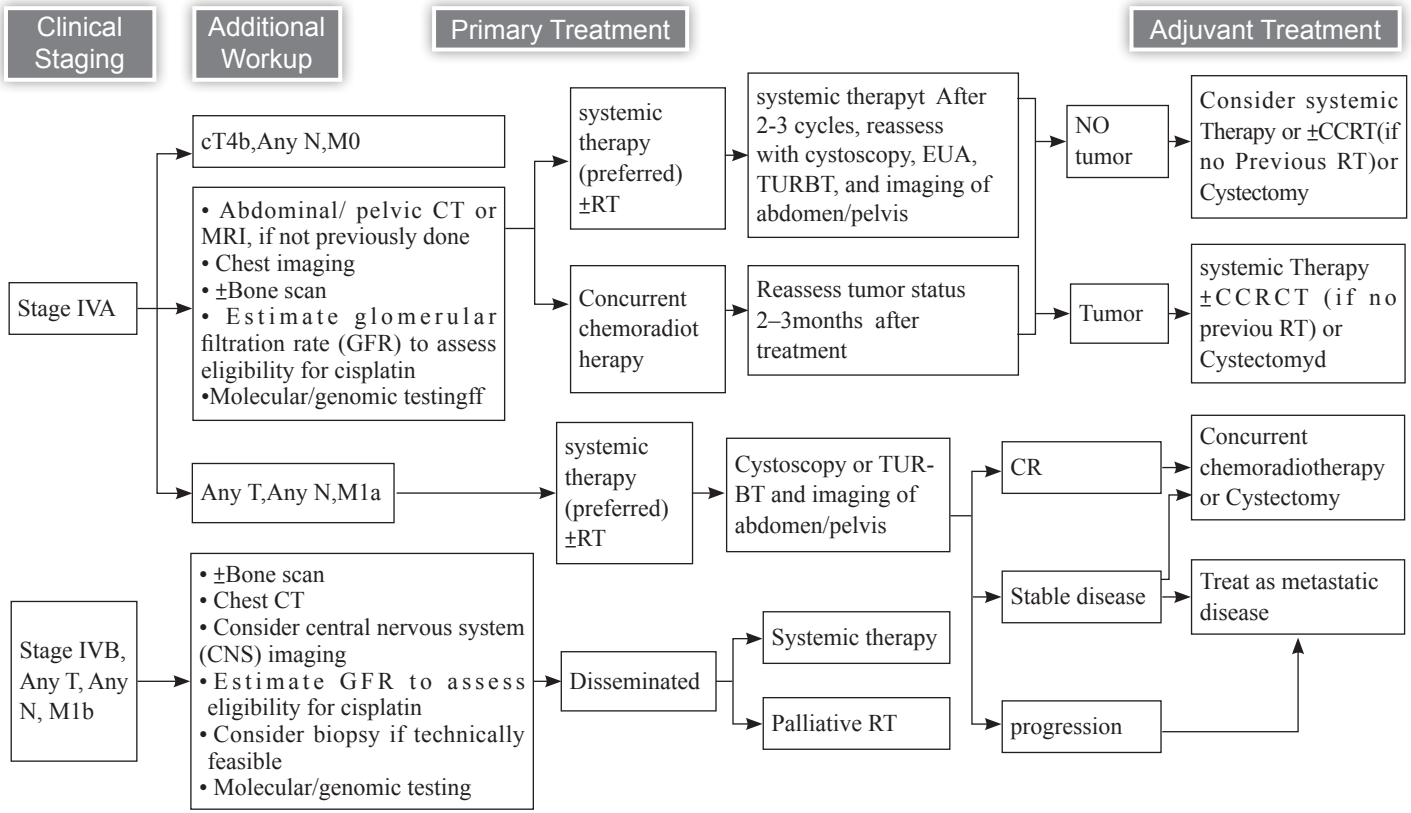


《 Urology tumor-Bladder cancer treatment consensus-6 》

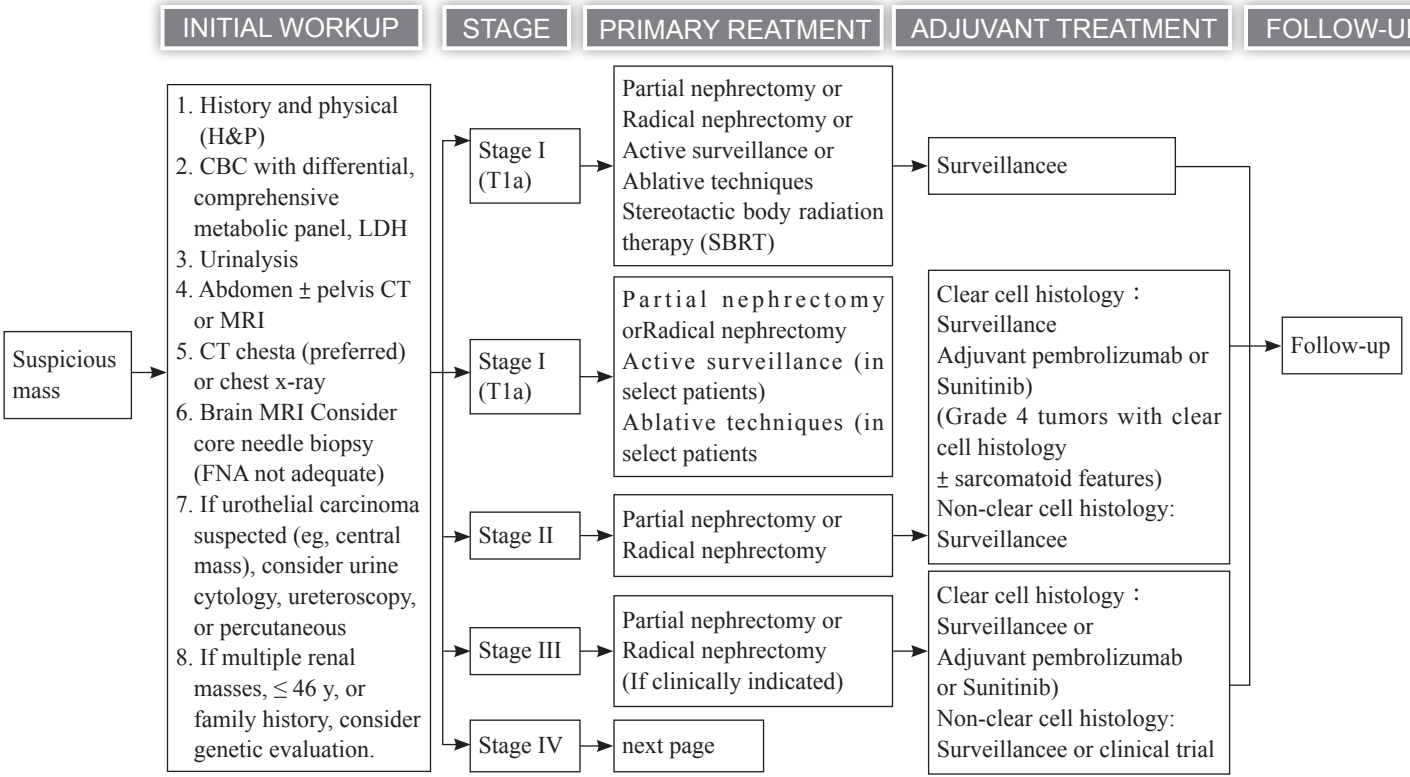


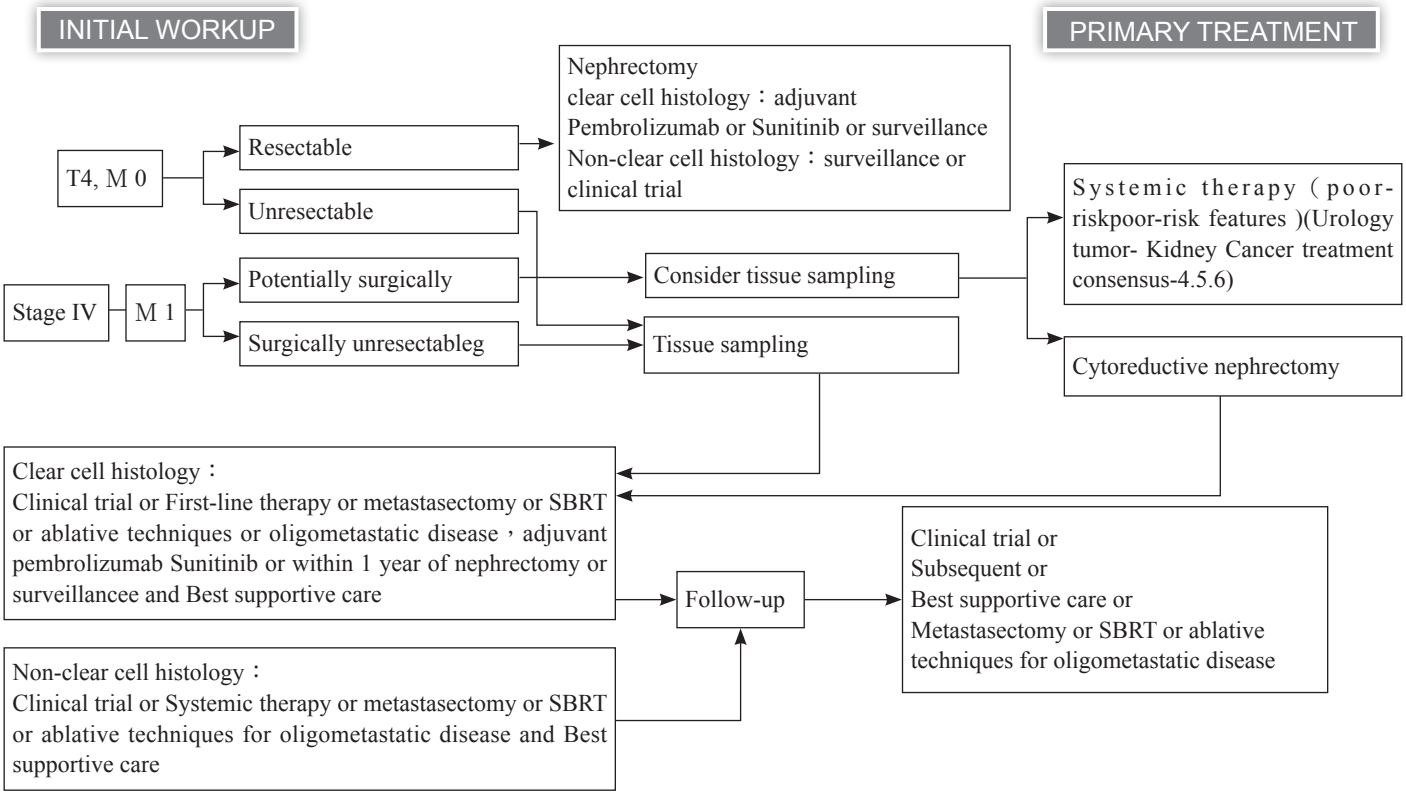
《 Urology tumor-Bladder cancer treatment consensus-7 》




Clinical Staging
Additional Workup
Primary Treatment
Adjuvant Treatment
Stage IVA
cT4b,Any N,M0
• Abdominal/ pelvic CT or MRI, if not previously done
• Chest imaging
• ±Bone scan
• Estimate glomerular filtration rate (GFR) to assess eligibility for cisplatin
•Molecular/genomic testingff
Any T,Any N,M1a
systemic therapy (preferred) ±RT
Concurrent chemoradiot herapy
systemic therapyt After 2-3 cycles, reassess with cystoscopy, EUA, TURBT, and imaging of abdomen/pelvis
Reassess tumor status 2–3months after treatment
NO tumor
Tumor
Consider systemic Therapy or ±CCRT(if no Previous RT)or Cystectomy
systemic Therapy ±CCRCT (if no previou RT) or Cystectomyd
systemic therapy (preferred) ±RT
Cystoscopy or TUR-BT and imaging of abdomen/pelvis
CR
Stable disease
progression
Concurrent chemoradiotherapy or Cystectomy
Treat as metastatic disease
Stage IVB, Any T, Any N, M1b
• ±Bone scan
• Chest CT
• Consider central nervous system (CNS) imaging
• Estimate GFR to assess eligibility for cisplatin
• Consider biopsy if technically feasible
• Molecular/genomic testing
Disseminated
Systemic therapy
Palliative RT

《Consensus on Guidelines for Diagnosis and Treatment of Kidney Cancer -1》




INITIAL WORKUP
PRIMARY TREATMENT
T4, M 0
Resectable
Unresectable
Nephrectomy
clear cell histology：adjuvant Pembrolizumab or Sunitinib or surveillance
Non-clear cell histology：surveillance or clinical trial
Stage IV
M 1
Potentially surgically
Surgically unresectableg
Consider tissue sampling
Tissue sampling
Systemic therapy（poor-riskpoor-risk features)(Urology tumor- Kidney Cancer treatment consensus-4.5.6)
Cytoreductive nephrectomy
Clear cell histology：
Clinical trial or First-line therapy or metastasectomy or SBRT or ablative techniques or oligometastatic disease，adjuvant pembrolizumab Sunitinib or within 1 year of nephrectomy or surveillancee and Best supportive care
Non-clear cell histology：
Clinical trial or Systemic therapy or metastasectomy or SBRT or ablative techniques for oligometastatic disease and Best supportive care
Follow-up
Clinical trial or
Subsequent or
Best supportive care or
Metastasectomy or SBRT or ablative techniques for oligometastatic disease

Memorial Sloan Kettering Cancer Center (MSKCC) Prognostic Model

Prognostic Factors

- Interval from diagnosis to treatment of less than 1 year
- Karnofsky performance status less than 80%
- Serum LDH greater than 1.5 times the upper limit of normal
- Corrected serum calcium greater than the ULN
- Serum hemoglobin less than the lower limit of normal (LLN)

Prognostic Risk Groups

- Low-risk group: no prognostic factors
- Intermediate-risk group: one or two prognostic factors
- Poor-risk group: three or more prognostic factors

International Metastatic Renal Cell Carcinoma Database Consortium (IMDC) Criteria

Prognostic Factors

- Less than one year from time of diagnosis to systemic therapy
- Performance status <80% (Karnofsky)
- Hemoglobin < lower limit of normal (Normal: 120 g/L or 12 g/dL)
- Calcium > upper limit of normal (Normal: 8.5–10.2 mg/dL)
- Neutrophil > upper limit of normal (Normal: 2.0–7.0 × 109/L)
- Platelets > upper limit of normal (Normal: 150,000–400,000))

Prognostic Risk Groups

- Favorable-risk group: no prognostic factors
- Intermediate-risk group: one or two prognostic factors
- Poor-risk group: three to six prognostic factors

《 Consensus on Guidelines for Diagnosis and Treatment of Kidney Cancer -4》

PRINCIPLES OF SYSTEMIC THERAPY FOR RELAPSE OR STAGE IV DISEASE

FIRST-LINE THERAPY FOR CLEAR CELL HISTOLOGY			
Risk	Preferred Regimens	Other Recommended Regimens	Useful in Certain Circumstances
Favorablea	•Axitinib + pembrolizumab(cat 1) •Cabozantinib + nivolumab(cat 1) •Lenvatinib + pembrolizumab(cat 1) •Ipilimumab + nivolumab	•Axitinib + avelumab •Cabozantinib (cat 2B) •Ipilimumab + nivolumab •Pazopanib •Sunitinib	•Active surveillance •Axitinib (cat 2B) •High-dose IL-2 (cat 2B)
Poor/ intermediatea	•Axitinib + pembrolizumab (cat 1) •Cabozantinib + nivolumab (cat 1) •Ipilimumab + nivolumab (cat 1) •Lenvatinib + pembrolizumab (cat 1) •Cabozantinib	•Axitinib + avelumab •Pazopanib •Sunitinib	• Axitinib (cat 2B) • High-dose IL-2 (cat 3) • Temsirolimus (cat 3)

PRINCIPLES OF SYSTEMIC THERAPY FOR RELAPSE OR STAGE IV DISEASE

SUBSEQUENT THERAPY FOR CLEAR CELL HISTOLOGY (IN ALPHABETICAL ORDER BY CATEGORY)		
Immuno-oncology (IO) Therapy History Status	Other Recommended Regimens	Useful in Certain Circumstances
IO Therapy Naïve	• Axitinib + pembrolizumab • Cabozantinib • Cabozantinib + nivolumab • Everolimus +lenvatinib • Ipilimumab + nivolumab • Lenvatinib + pembrolizumab • Nivolumab	• Axitinib • Everolimus • Pazopanib • Sunitinib • Tivozanib • Belzutifan (category 2B) • Bevacizumab (category 2B) • Axitinib + avelumab (category 3)
Prior IO Therapy	• Axitinib • Belzutifan • Cabozantinib • Lenvatinib + everolimus • Tivozanib	• Axitinib + pembrolizumab • Cabozantinib + nivolumab • Everolimus • Ipilimumab + nivolumab • Lenvatinib + pembrolizumab • Pazopanib • Sunitinib • Bevacizumab (category 2B) • Axitinib + avelumab (category 3)

《 Consensus on Guidelines for Diagnosis and Treatment of Kidney Cancer -5》

PRINCIPLES OF SYSTEMIC THERAPY FOR RELAPSE OR STAGE IV DISEASE

SYSTEMIC THERAPY FOR NON-CLEAR CELL HISTOLOGY		
Preferred Regimens	Other Recommended Regimens	Useful in Certain Circumstances
• Clinical trial • Cabozantinib • Cabozantinib + nivolumab • Lenvatinib + pembrolizumab	• Erlotinib+bevacizumab for selected patients with advanced papillary RCC including hereditary leiomyomatosis and renal cell cancer (HLRCC)-associated RCC •Everolimus +lenvatinib • Pembrolizumab • Sunitinib	• Axitinib • Everolimus+bevacizumab • Everolimus • Ipilimumab +nivolumab (cat 2B)

* The use of proton beam therapy is evolving in the treatment of primary proatate cancer and should be performed within the context of prospective registries or clinical trials.

《 Reference 》

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