Prostate Cancer

This practice algorithm has been specifically developed for M. D. Anderson using a multidisciplinary approach and taking into consideration circumstances particular to M. D. Anderson, including the following: M. D. Anderson's specific patient population; M. D. Anderson's services and structure; and M. D. Anderson's clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers.

Note: Consider Clinical Trials as treatment options for eligible patients.

This Prostate Cancer treatment consensus algorithm is used as a framework for the application of individualized therapy for patients with prostate cancer at the M.D. Anderson Cancer Center. The faculty and members of the Genitourinary Center apply this general algorithm to individual patients accommodating patient preference and physician experience in the context of a specific knowledge of prostate cancer.

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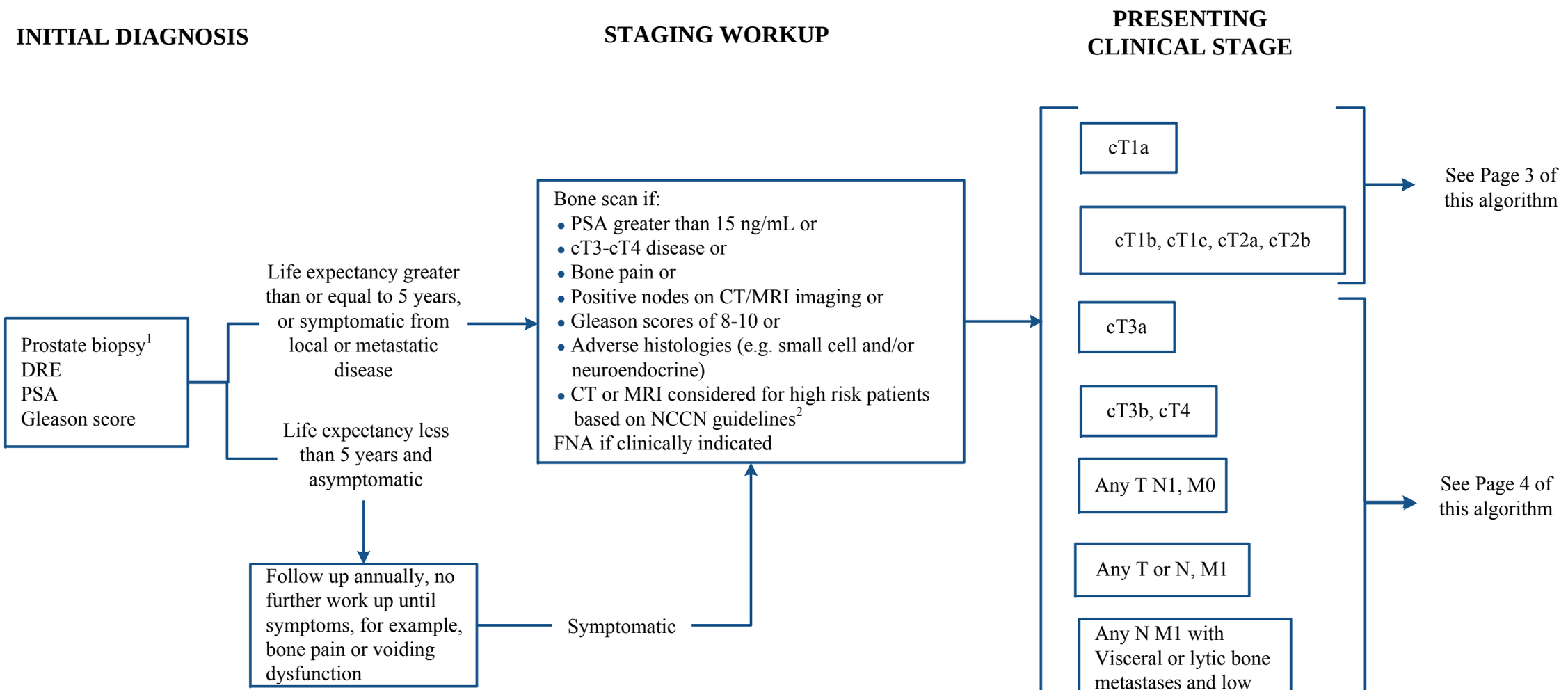

[1] Perform prostate biopsy if not previously done. If done, MDACC review of prostate biopsy results.

[2] http://www.nccn.org/professionals/physician_gls/PDF/prostate.pdf

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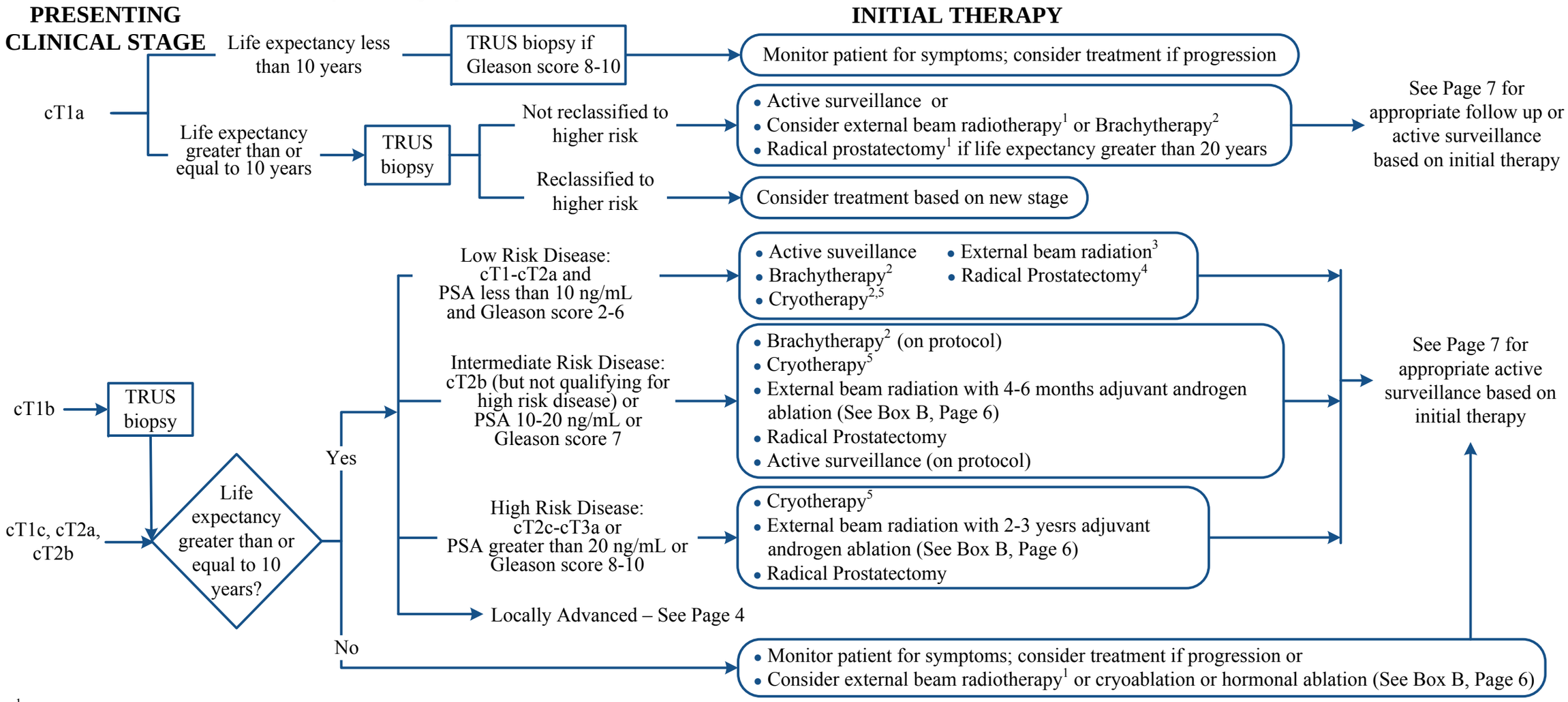

[1] All localized treatments: length of follow-up and quality of data differ with each treatment and should be discussed with your treatment team

[2] Brachytherapy and cryotherapy eligibility limited by prostate size, pubic bone geometry, baseline urinary function

[3] External beam radiation should be dose escalated using either IMRT (intensity modulated radiation therapy), or proton therapy. Inflammatory bowel Disease and peri-rectal disease may be contraindications.

[4] Radical prostatectomy is performed by open retropubic or robot assisted technique. These technique choices, eligibility for a nerve sparing procedure, and the need for a pelvic lymph node dissection should be discussed with your treatment team.

[5] External beam radiation and Brachytherapy radical prostatectomy have longer duration of follow-up and may be preferred over cryotherapy

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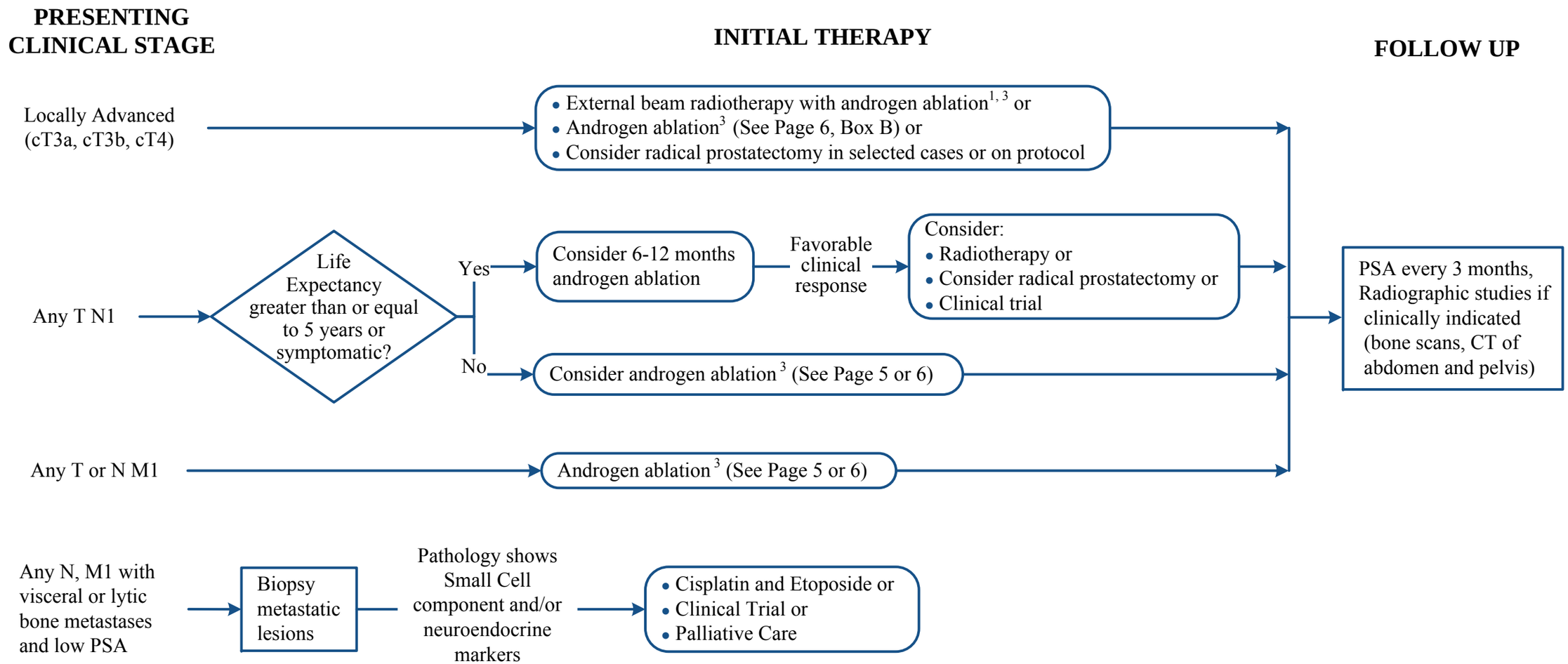

[1] 3D conformal radiotherapy or intensity modulated radiotherapy (IMRT) are standard for external beam radiotherapy.
[2] Based on pathologic findings after radical prostatectomy (e.g. path stage, margin status, Gleason score, age), consider adjuvant external beam radiotherapy.
[3] Treatment recommendation is dependent of life expectancy. See Page 6.

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ANDROGEN ABLATIVE THERAPY

FOLLOW-UP

ANDROGEN-INDEPENDENT SALVAGE THERAPY

A

Intermittent androgen ablation[1]

Follow up visit every 3 months with PSA and testosterone, repeat imaging if rising PSA and/or clinical progression, and liver function tests every month for 3 months if on antiandrogens.

Rising PSA or other signs of progression?

Yes

- If on anti-androgen alone, add LHRH agonist; if progression, go to Box D on page 6
- If on LHRH agonist alone, switch to continuous androgen ablation and add anti-androgen; if progression, go to Box C on Page 6

No

Continue follow up and current treatment

Progression

For Continuous Androgen Ablation, see Box B on Page 6

[1] Consider intermittent androgen ablation for rising PSA only. If skeletal metastases are present, recommend 7 to 14 days of antiandrogen prior to initiation of LHRH agonist to prevent flare.
[2] Consider baseline bone density scan and bisphosphonate therapy every 6 months to minimize osteoporosis associated with LHRH agonist use.
[3] Check Liver Function Tests 1 month after initiation of antiandrogen and then with each 3 month follow up visit thereafter.

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ANDROGEN ABLATIVE THERAPY

B

Continuous androgen ablation with LHRH agonist alone[1, 2] or with antiandrogen[3]

FOLLOW-UP

Follow up visit every 3 months with PSA, testosterone, repeat imaging if rising PSA and/or clinical progression, liver function tests every month for 3 months if on antiandrogens.

C

Rising PSA or other signs of progression?

- Yes → Serum testosterone greater than 50?
  - Yes → If LHRH agonist and anti-androgen, consider Orchiectomy or If LHRH agonist alone, consider adding antiandrogen[2] orswitch to GnRH receptor antabgonist → Progression, go to Box C
  - No → Antiandrogen given?
    - Yes → **D** Discontinue antiandrogen → Decreasing PSA?
      - Yes → Continue follow up
      - No → Secondary hormone therapies or noncytotoxics Antiandrogen[3], Diethylstibestrol, Ketoconazole, Abiraterone, Sipuleucel-T or low dose Glucorticoids if not previously given
    - No → Secondary hormone therapies or noncytotoxics Antiandrogen[3], Diethylstibestrol, Ketoconazole, Abiraterone, Sipuleucel-T or low dose Glucorticoids if not previously given
- No → Continue follow up or current therapy

ANDROGEN-INDEPENDENT SALVAGE THERAPY

For Intermittent Androgen Ablation, see Box A on Page 5

Progression of symptoms or by imaging?

- Yes
  - Chemotherapy (Docetaxel and Glucocorticoids) or
  - Clinical Trial or
  - Supportive care
- No
  - Secondary hormone therapies or noncytotoxics Antiandrogen[3], Diethylstilbestrol, Ketoconazole, Abiraterone, Sipuleucel-T or
  - Low-dose Glucocorticoids if not previously given or
  - Clinical Trial or
  - Observation

Progression

Progression with visceral or lytic bone metastases and low PSA → Biopsy metastatic lesions → Pathology shows Small Cell component and/or neuroendocrine markers
- Cisplatin and Etoposide or
- Clinical Trial or
- Palliative Care

Progression without visceral or lytic bone metastases and low PSA
- Clinical Trial or
- Palliative radiotherapy or
- Salvage chemotherapy or
- Bone-targeting radio-isotopes such as Strontium or
- Supportive care
- Secondary hormone therapies or noncytotoxics Antiandrogen[3], Diethylstilbestrol, Ketoconazole, Abiraterone, Sipuleucel-T or low dose Glucorticoids if not previously given

[1] If skeletal metastases are present, recommend 7 to 14 days of antiandrogen prior to initiation of LHRH agonist to prevent flare.
[2] Consider baseline bone density scan and bisphosphonate therapy every 6 months to minimize osteoporosis associated with LHRH agonist use.
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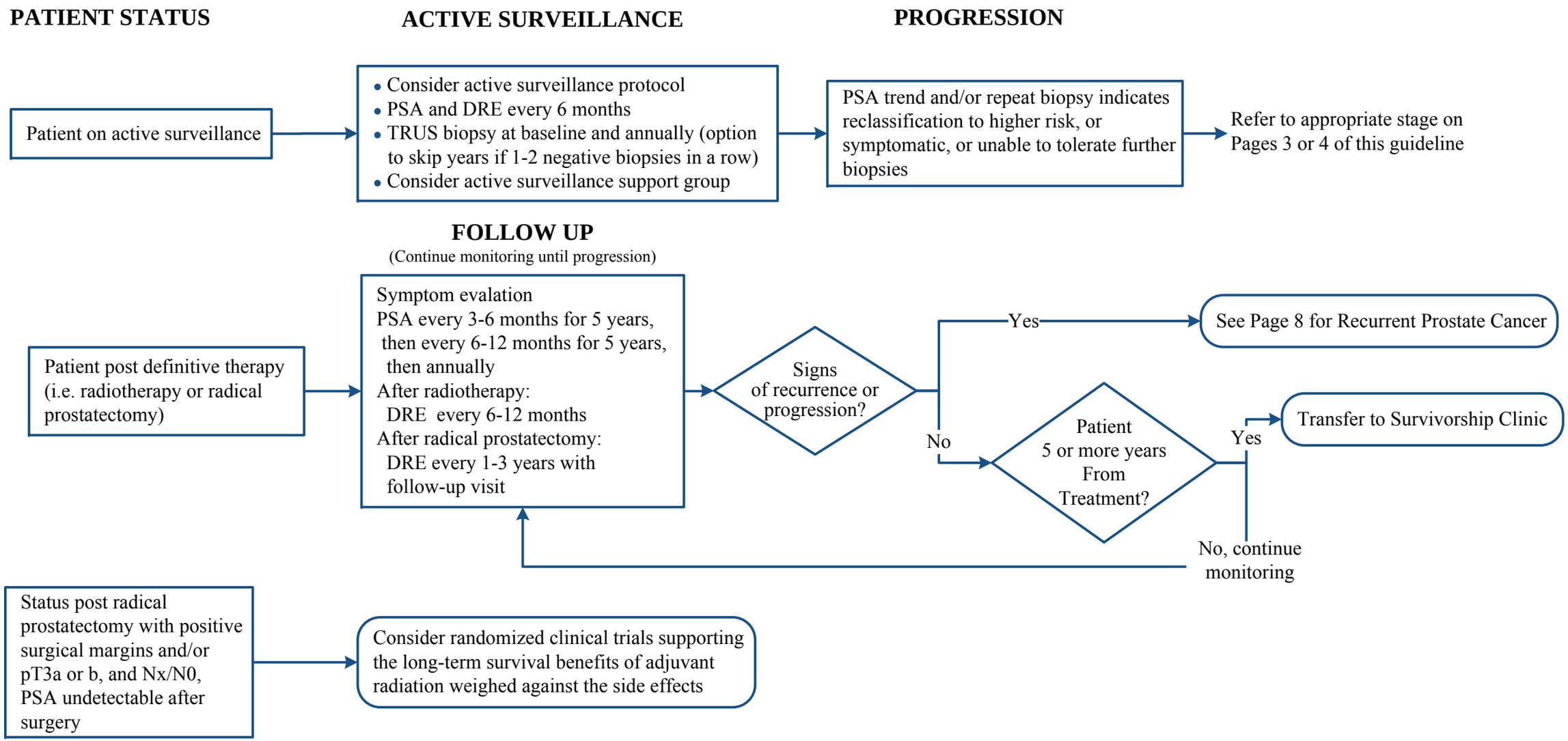

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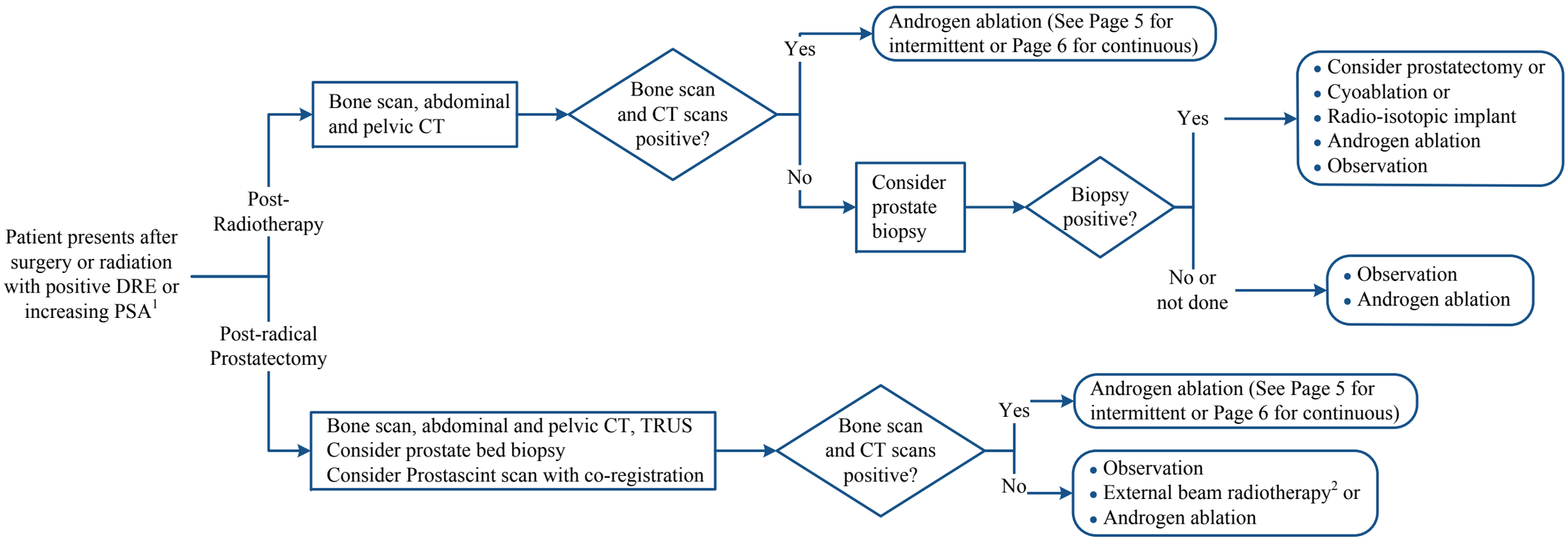
PROGRESSION

SALVAGE THERAPY



[1] Rising PSA after radical prostatectomy is greater than 0.2 ng/mL
Rising PSA after radiotherapy or brachytherapy is PSA greater than 2 .0 ng/mL above the nadir (lowest value post treatment off androgen deprivation, or medical castration therapy (ADT)

[2] Numerous studies indicate that salvage external beam radiotherapy is most effective if delivered with a PSA less than 0.5 ng/mL

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SUGGESTED READINGS

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Development Credits

This practice consensus algorithm is based on majority expert opinion of the GU Center Faculty at the University of Texas, MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following medical oncologists, radiation oncologist, and urologic oncologists:

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