

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

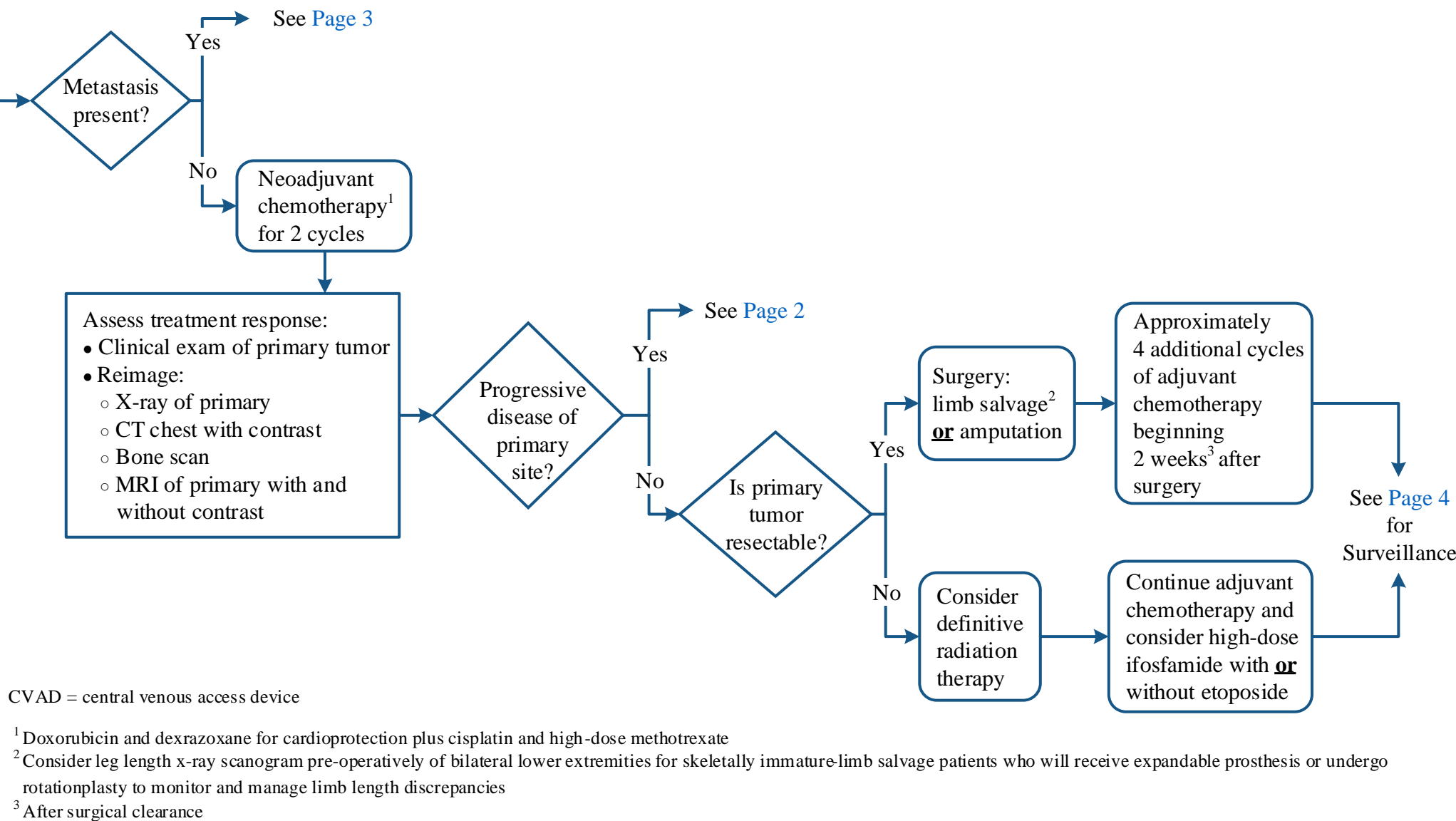
**Note:** Consider Clinical Trials as treatment options for eligible patients. Referral to a center with both pediatric oncology and orthopedic surgery is essential.

## CLINICAL EVALUATION

## NEOADJUVANT TREATMENT

## ADJUVANT TREATMENT

- History and physical
- CBC with differential, sodium, potassium, chloride, carbon dioxide, BUN, creatinine, phosphorus, magnesium, total protein, albumin, calcium, total bilirubin, alkaline phosphatase, LDH, AST, PT/INR, and PTT
- Plain films of primary
- MRI of primary with and without contrast
- Bone scan
- Chest x-ray
- CT chest with contrast
- Consider PET scan
- Biopsy (open vs. needle)
- Histology review by Bone Tumor Pathologist
- EKG/ECHO
- CVAD
- Urine pregnancy test if clinically indicated
- Discuss fertility
- Audiogram
- Consult Physical Therapy/ Occupational Therapy and Childlife



CVAD = central venous access device

<sup>1</sup> Doxorubicin and dexrazoxane for cardioprotection plus cisplatin and high-dose methotrexate

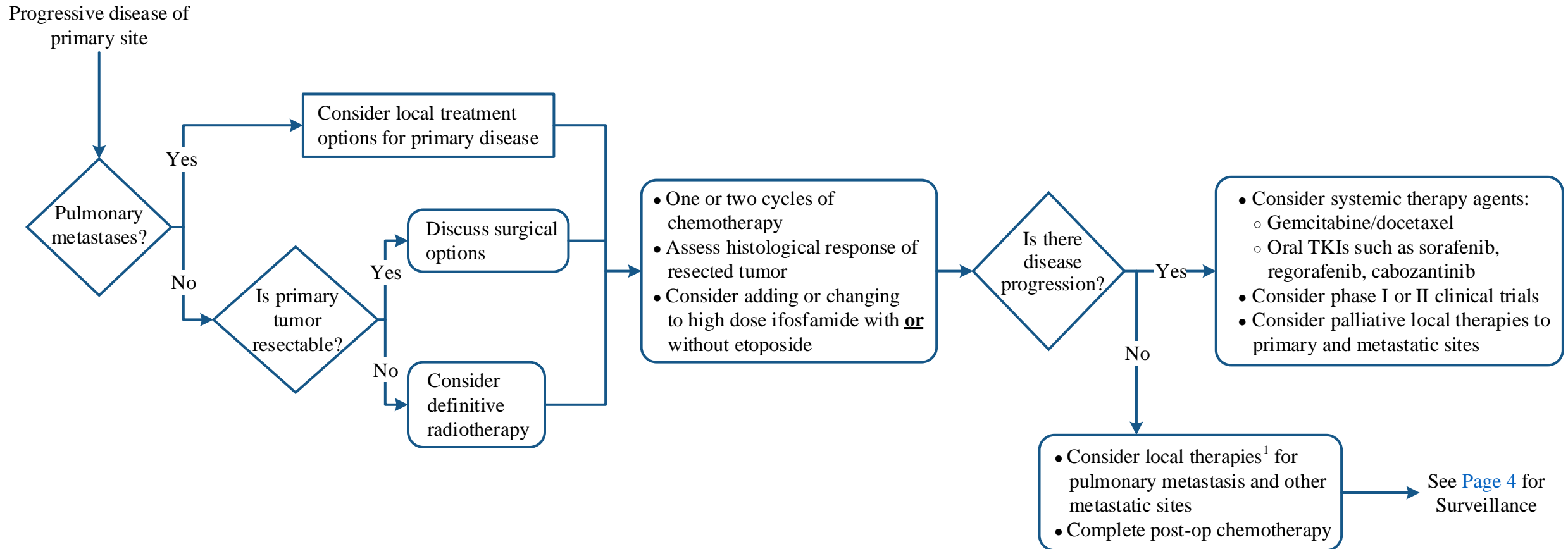
<sup>2</sup> Consider leg length x-ray scanogram pre-operatively of bilateral lower extremities for skeletally immature-limb salvage patients who will receive expandable prosthesis or undergo rotationplasty to monitor and manage limb length discrepancies

<sup>3</sup> After surgical clearance

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## ADJUVANT TREATMENT



TKI = tyrosine kinase inhibitors

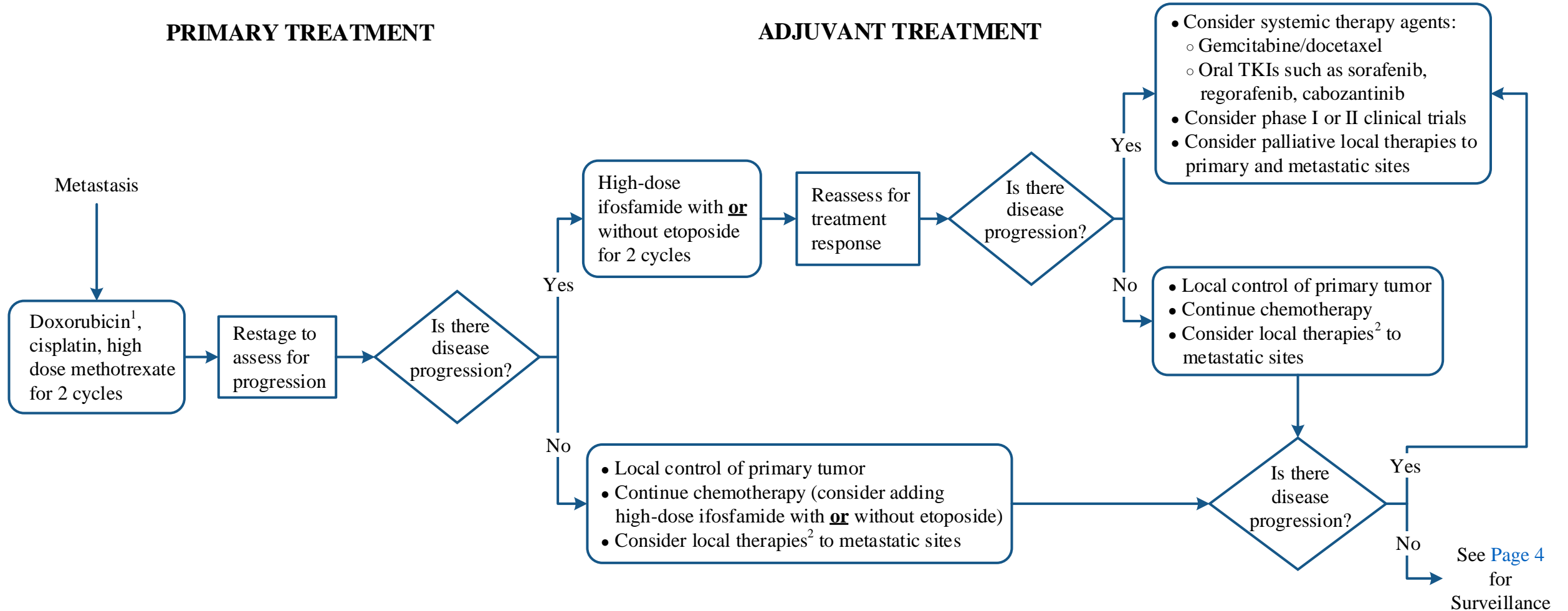
<sup>1</sup> Surgery is the primary modality of local therapy

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## PRIMARY TREATMENT

## ADJUVANT TREATMENT



<sup>1</sup> With dexrazoxane for cardioprotection

<sup>2</sup> Surgery is the primary modality of local therapy

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## Pediatric Osteosarcoma Surveillance

Total Years for Surveillance				Yr 1				Yr 2			Yr 3		Yr 4	Yr 5	Yr 10
<b>Frequency of Surveillance by month</b>	<b>3</b>	<b>6</b>	<b>9</b>	<b>12</b>	<b>15</b>	<b>18</b>	<b>21</b>	<b>24</b>	<b>28</b>	<b>32</b>	<b>36</b>	<b>42</b>	<b>48</b>	<b>60</b>	<b>120</b>
History and physical	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Monitor and discuss with patient late effects of primary treatment	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
CBC with differential	x	x	x	x		x		x		x			x	x	
Total protein, albumin, calcium, phosphorous, magnesium, glucose, AST, creatinine, total bilirubin, alkaline phosphatase, LDH	x	x	x	x		x		x		x			x	x	
Plain films of primary	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Pelvic primaries: MRI with and without contrast	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bone scan <sup>1</sup>		x		x		x		x			x				
CT chest with contrast <sup>2</sup>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
ECHO				x				x			x		x	x	x
Audiogram <sup>3</sup>				x				x			x			x	x
Leg-length x-ray scanogram <sup>4</sup>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

**Note:** Functional assessments post-limb salvage and cardiac surveillance should continue for life

<sup>1</sup> Consider PET CT in patients with metastatic disease, those who underwent surgery for resection of lung nodules, or at relapse

<sup>2</sup> May omit if concurrent with PET CT

<sup>3</sup> Once at entry into long-term follow-up. If problems are detected, repeat yearly until stable. If there is evidence of progressive hearing loss, test more frequently as needed, until stable.

<sup>4</sup> Leg length x-ray scanogram of bilateral lower extremities for skeletally immature patients who received limb-salvage surgery with expandable prosthesis or underwent rotationplasty to monitor and manage limb length discrepancies. Followed by physical exam - may not need scanogram with every visit.

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## DEVELOPMENT CREDITS

This practice algorithm is based on majority expert opinion of the Pediatric Osteosarcoma workgroup at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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