



Grading / Staging Notes w/ Dr. Porter

Definitions

- Grading- histologic appearance of tumor, based on cellular anaplasia, mitotic activity, presence/absence of abnormal mitotic figures, amount of necrosis
 - LOW GRADE- well differentiated, few mitosis, moderate cellular atypia
 - HIGH GRADE- poorly differentiated, evidence of microvascular invasion, inc cellularity
- Staging- grade + tumor size, depth, presence of distant mets, etc (is it in one compartment?)

Staging

- Clinical estimate of disease burden
- Allows clinical comparisons for relatively similar disease burdens between authors and institutions

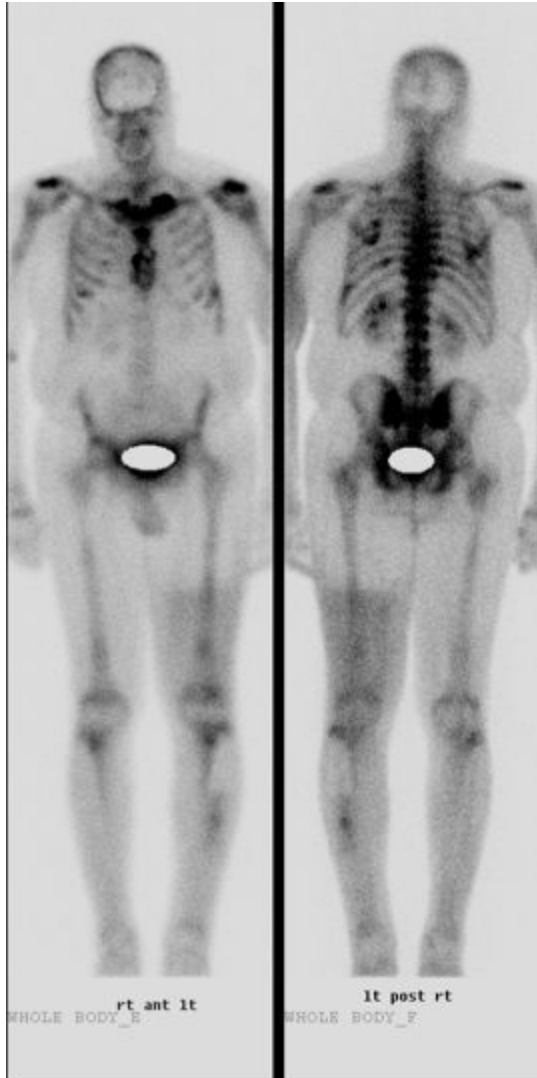
Order of importance

- Distant disease
- Regional disease
- Local disease
 - Histology
 - Size (+/- 5-8cm)
 - Depth

Distant disease

- CT chest (MC met site)
- Bone scan
- PE of lymph nodes?





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Staging orgs

- AJCC- American joint committee on Cancer
- UICC- International Union Against Cancer (European)
- Hadju, Enneking, MSK?

AJCC/ UICC

- TNM system
 - T- local tumor burden
 - Size, depth, and histological grade
 - T1 , T2
 - A/B (Superficial/Deep)
 - Grade
 - Biopsy, get axial imaging
 - 1-4, 1-3, or low v high grade
 - Low grade lesions - 15% risk of mets
 - High grade lesions- 50% risk of mets
 - N- regional Nodal burden

- N0 (none), N1 (present)
- M- presence of mets
 - M0 - none
 - M1A- lungs, M1B elsewhere
- Most important PROGNOSTIC factor- distant mets*

Staging

- Applicable to soft tissue and bone sarcomas
- Soft tissue / bone staging slightly different
- Both different than carcinoma/melanoma

Bone V Soft Tissue Sarcoma

Bone staging

- Classic teaching is that tumors existed in a compartment
- A/B intra v extra compartmental
- No TNM

Enneking Classification

Enneking Classification			
Stage	Grade	Tumor	Mets
IA	Low	T1	0
IB	Low	T2	0
IIA	High	T1	0
IIB	High	T2	0
III	Either grade	Either location	1

*T1 – intracompartmental
*T2 - extracompartment

Newer Staging- AJCC/UICC

- Uses TNM

Bone Staging				
Stage	Grade	T	N	M
IA	Low	T ₁	0	0
IB	Low	T ₂	0	0
IIA	High	T ₁	0	0
IIB	High	T ₂	0	0
III	Any G	T ₃ (Skip)	0	0
IVA	Any G	Any T	0	1A (lung)
IVB	Any G	Any T	1	1B (any)

*T1 – tumor less than 8 cm
*T2 – tumor greater than 8 cm

Bone staging

- Histological grade is important
- High grades are stage II no matter the size
- Less predictable than soft tissue staging
- Bone mets- 0% survival at 5 yrs
- Lung mets- 20% survival at 5 yrs

Soft tissue staging

- Histological grade is more important
- Stage I- 90% survival at 5 yrs
- Stage II- 80% survival at 5 yrs
- Stage III- 55% survival at 5 yrs

Soft Tissue Staging

Stage	Grade	T	N	M
I	Low	Any T	0	0
II	High	T1a, 1b, 2a	0	0
III	High	T2b	0	0
IVa	Any G	Any T	1	0
IVb	Any G	Any T	Any N	1

Benign bone staging

- 1-3 (note no roman numerals)
 - 1- near normal bone architecture
 - 2- everything between 1-3
 - 3- very aggressive - destructive- lesion