## Case Scenario 1

A 65 year old black male presents with increased fatigue and a mass in his upper calf while visiting his family over Christmas. The patient visited a local hospital in which initial scans and x-rays were negative. Upon return home he mentioned this to his physician who then ordered a CT and PET scan.

A CT and PET scan revealed a 3.5 cm mass in the popliteal fossa. A core needle biopsy was done which revealed a myxoid liposarcoma. The physician recommended surgery to remove the tumor followed by external beam radiation.

**Core needle biopsy:**

Myxoid liposarcoma, grade 2

**Operative Report:**

1. EXCISION OF RIGHT POPLITEAL MASS

**Pathology:**

* Soft tissue, right popliteal mass excision:
  + Histologic Type: Myxoid liposarcoma
  + Grade: FNCLCC Grade 3 of 3
  + Tumor Size: 4.0 x 2.1x 3.2 cm
  + Extension: invasion into but not through superficial fascia
  + Margins: All margins are microscopically negative

**Treatment Summary:**

Patient received 50 Gy of IMRT utilizing 18 MV in 25 sessions to the tumor bed.

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| * **What is the primary site?**   Soft tissue of lower limb and hip – C49.2   * **What is the histology?**   myxoid liposarcoma – 8852/3 | | | | * **What is the grade/differentiation?**   Grade 3 of 3 = 4  (Instructions for Coding Grade 2014+ Rule 7b) | | | |
| **Stage/ Prognostic Factors** | | | | | | | |
| CS Tumor Size | 040 | | | | CS SSF 9 | 988 | |
| CS Extension | 110 | | | | CS SSF 10 | 988 | |
| CS Tumor Size/Ext Eval | 3 | | | | CS SSF 11 | 988 | |
| CS Lymph Nodes | 000 | | | | CS SSF 12 | 988 | |
| CS Lymph Nodes Eval | 0 | | | | CS SSF 13 | 988 | |
| Regional Nodes Positive | 98 | | | | CS SSF 14 | 988 | |
| Regional Nodes Examined | 00 | | | | CS SSF 15 | 988 | |
| CS Mets at Dx | 00 | | | | CS SSF 16 | 988 | |
| CS Mets Eval | 0 | | | | CS SSF 17 | 988 | |
| CS SSF 1 | 030 | | | | CS SSF 18 | 988 | |
| CS SSF 2 | 988 | | | | CS SSF 19 | 988 | |
| CS SSF 3 | 988 | | | | CS SSF 20 | 988 | |
| CS SSF 4 | 988 | | | | CS SSF 21 | 988 | |
| CS SSF 5 | 988 | | | | CS SSF 22 | 988 | |
| CS SSF 6 | 988 | | | | CS SSF 23 | 988 | |
| CS SSF 7 | 988 | | | | CS SSF 24 | 988 | |
| CS SSF 8 | 988 | | | | CS SSF 25 | 988 | |
| Summary Stage | 1-localized | | | |  |  | |
| Clinical Stage | T1 N0 M0, G2; Stage 99 | | | | Path Stage | T1a N0, *cM0*, G3; Stage IIA | |
| **Treatment** | | | | | | | |
| Diagnostic Staging Procedure | | 02 |  | | | |  |
| **Surgery Codes** | |  | **Radiation Codes** | | | |  |
| Surgical Procedure of Primary Site | | 25 | Radiation Treatment Volume | | | | 31 |
| Scope of Regional Lymph Node Surgery | | 0 | Regional Treatment Modality | | | | 31 |
| Surgical Procedure/ Other Site | | 0 | Regional Dose | | | | 05000 |
| **Systemic Therapy Codes** | |  | Boost Treatment Modality | | | | 00 |
| Chemotherapy | | 00 | Boost Dose | | | | 00000 |
| Hormone Therapy | | 00 | Number of Treatments to Volume | | | | 25 |
| Immunotherapy | | 00 | Reason No Radiation | | | | 0 |
| Hematologic Transplant/Endocrine Procedure | | 00 | Radiation/Surgery Sequence | | | | 3 |
| Systemic/Surgery Sequence | | 0 |  | | | |  |

## Case Scenario 2

Operative Report:

A 17-year-old male presented with increasing pain in the left upper arm of approximately 3 months' duration and a recent onset of low-grade fever. On physical examination, there was some local tenderness and soft tissue swelling over the proximal and mid thirds of the left humerus.

MRI Left humerus:

Noted is an approximately 4.7 x 3.4 x 6.5 cm enhancing interosseous mass within the proximal medial metaphysis and epiphysis of the left humerus. The remainder of the visualized bone marrow and cortex of the proximal two-thirds of the left humerus is within normal limits and MR signal characteristics.

Left proximal humerus biopsy:

Ewing Sarcoma

Bone scan:

* Markedly increased tracer accumulation corresponding to patient's known mass in the proximal medial aspect of the left humerus. This is consistent with the patient's biopsy-proven Ewing sarcoma.
* No additional suspicious sites of abnormal tracer accumulation are visualized elsewhere.

Treatment Summary:

The patient will receive 12 weeks of VAC/IE (Vincristine, doxorubicin, and cyclophosphamide alternating with ifosfamide and etoposide). If the patient has a positive response to the chemotherapy, he will have a wide excision of the tumor followed by adjuvant chemotherapy.

Post chemo MRI Left Humerus:

There is normal marrow signal within the proximal humerus. The mid humoral diaphysis also has normal signal intensity.

Tumor dimensions transverse 2.3 cm, craniocaudad 4.5 cm and is AP maximum 1.8 cm.

IMPRESSION:

Significant change in volume of diffusely enhancing metaphyseal Ewing sarcoma.

**OPERATION**

RADICAL RESECTION LEFT PROXIMAL BONE TUMOR.

**Pathology: Final Diagnosis:**

A) BONE, LEFT PROXIMAL HUMERUS, RESECTION:

- EWING SARCOMA, HIGH-GRADE

WITH POST-CHEMOTHERAPY CHANGES.

- TUMOR MEASURES 2.4X4.5X1.5 CM IN MAXIMUM DIMNESIONS.

- TUMOR SHOWS APPROXIMATELY 80% TUMOR CELL NECROSIS.

- EVIDENCE OF PRIOR FOCAL TUMOR EXTENSION INTO PERIOSTEAL CONNECTIVE TISSUE IS IDENTIFIED.

- LYMPH-VASCULAR INVASION IS NOT IDENTIFIED.

- RESECTION MARGINS FREE FROM MALIGNANCY.

B) BONE, PROXIMAL HUMORAL MARGIN, BIOPSY:

- NEGATIVE FOR MALIGNANCY.

COMMENT: The sections of the post-chemotherapy left distal humerus resection specimen show high grade, Ewing sarcoma, osteoblastic type, with chemotherapy related changes. Approximately 80% of the tumor shows tumor cell necrosis. There is evidence of prior focal tumor extension beyond the periosteum into the periosteal connective tissue. Lymph-vascular invasion is not seen. All specimen margins are negative. Chemo continued post-op.

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| * **What is the primary site?**   Long bones of the upper limb – C40.0   * **What is the histology?**   Ewing Sarcoma 9260/3 | | | | * **What is the grade/differentiation?**   High Grade – 4 (Instructions for Coding Grade 2014+ Rule 8) | | | |
| **Stage/ Prognostic Factors** | | | | | | | |
| CS Tumor Size | 065 | | | | CS SSF 9 | 988 | |
| CS Extension | 400 | | | | CS SSF 10 | 988 | |
| CS Tumor Size/Ext Eval | 5 | | | | CS SSF 11 | 988 | |
| CS Lymph Nodes | 000 | | | | CS SSF 12 | 988 | |
| CS Lymph Nodes Eval | 0 | | | | CS SSF 13 | 988 | |
| Regional Nodes Positive | 98 | | | | CS SSF 14 | 988 | |
| Regional Nodes Examined | 00 | | | | CS SSF 15 | 988 | |
| CS Mets at Dx | 00 | | | | CS SSF 16 | 988 | |
| CS Mets Eval | 0 | | | | CS SSF 17 | 988 | |
| CS SSF 1 | 988 | | | | CS SSF 18 | 988 | |
| CS SSF 2 | 988 | | | | CS SSF 19 | 988 | |
| CS SSF 3 | 988 | | | | CS SSF 20 | 988 | |
| CS SSF 4 | 988 | | | | CS SSF 21 | 988 | |
| CS SSF 5 | 988 | | | | CS SSF 22 | 988 | |
| CS SSF 6 | 988 | | | | CS SSF 23 | 988 | |
| CS SSF 7 | 988 | | | | CS SSF 24 | 988 | |
| CS SSF 8 | 988 | | | | CS SSF 25 | 988 | |
| Summary Stage | 2 – reg by direct ext | | | | TNM Path Descriptor | 4 | |
| Clinical Stage | T1 N0 M0 G4, Stage IIA | | | | Path Stage | T1 *N0 M0* G4, Stage IIA | |
| **Treatment** | | | | | | | |
| Diagnostic Staging Procedure | | 02 |  | | | |  |
| **Surgery Codes** | |  | **Radiation Codes** | | | |  |
| Surgical Procedure of Primary Site | | 30 | Radiation Treatment Volume | | | | 00 |
| Scope of Regional Lymph Node Surgery | | 0 | Regional Treatment Modality | | | | 00 |
| Surgical Procedure/ Other Site | | 0 | Regional Dose | | | | 00000 |
| **Systemic Therapy Codes** | |  | Boost Treatment Modality | | | | 00 |
| Chemotherapy | | 03 | Boost Dose | | | | 00 |
| Hormone Therapy | | 00 | Number of Treatments to Volume | | | | 000 |
| Immunotherapy | | 00 | Reason No Radiation | | | | 1 |
| Hematologic Transplant/Endocrine Procedure | | 00 | Radiation/Surgery Sequence | | | | 0 |
| Systemic/Surgery Sequence | | 4 |  | | | |  |