

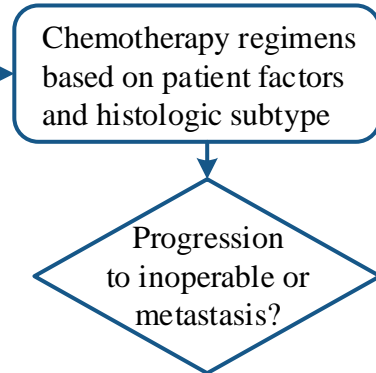
Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional 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.

INITIAL EVALUATION

- Sarcoma Multidisciplinary Planning Conference
- History and physical (H&P)
- Baseline laboratory studies: CBC with differential and platelets, comprehensive metabolic panel (CMP)
- Plain film radiographs of primary tumor location
- CT chest with contrast
- Pre-treatment biopsy (core-needle biopsy preferred)
- Histology review of soft tissue sarcoma by pathologist
- MRI primary tumor with and without contrast (if not intra-abdominal)
- MRI thoracic and lumbar spine with and without contrast (if small cell)
- CT abdomen and pelvis with and without contrast (on initial assessment) if myxoid liposarcoma
- EKG and cardiac scan (MUGA or ECHO) (if cardiac history or high risk)
- Bone scan (if indicated by history)
- Post excision MRI² with and without contrast
- Lifestyle risk assessment³

PRE-OP CHEMOTHERAPY (Up to 6 cycles)

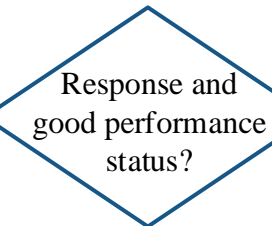


TREATMENT

(Note: See Page 2 for chemotherapy regimen references)
 Treatment of sarcoma should not be initiated until the histologic subtype is known.

LOCAL THERAPY

1. Second line chemotherapy or clinical trial
 2. Evaluation for palliative local therapy as appropriate



- Yes → Evaluate for resection of metastasis
- No → 1. Third line chemotherapy **or**
 2. Clinical trial **or**
 3. Supportive care

- Surgery then radiation therapy **or**
 • Radiation therapy then surgery
- Consider chemotherapy⁴

SURVEILLANCE

- H&P:
 - Every 3 months for 2 years, then
 - Every 4 months for 2 years, then
 - Every 6 months for 1 year, then
 - Annually
- CBC with differential, platelets, total protein, albumin, calcium, glucose, creatinine, total bilirubin, alkaline phosphatase, LDH, and ALT every visit
- Chest x-ray every visit with H&P as above (optional if CT chest ordered)
- CT chest with contrast if initial staging CT chest with abnormalities, or chest x-ray becomes equivocal or for pre-operative surgical planning to exclude occult lung metastatic disease
- Ultra-sound or MRI primary with and without contrast (CT abdomen and pelvis with contrast for intra-abdominal) every visit with H&P above
- Cardiac scan as needed

¹ Not applicable to all histologies such as gastrointestinal stromal tumor (GIST), chondrosarcoma, alveolar soft-parts sarcoma, clear cell sarcoma.

Clinical Stage III: patients with Intermediate Grade (greater than or equal to 10 cm) and High Grade (greater than or equal to 5 cm)

² Post excision MRI - allow a minimum of 6 weeks post excision to allow for resolution of post-operative change

³ See [Physical Activity](#), [Nutrition](#), and [Tobacco Cessation](#) algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

⁴ Consider the following for chemotherapy: performance status 0-1 post local therapy, significant radiologic or pathologic response, adequate organ function

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SUGGESTED READINGS

Adriamycin/ifosfamide for osteosarcoma and soft-tissue sarcomas:

Patel S.R., Vadhan-Raj S., Burgess M.A., Plager C., Papadopoulos N., Jenkins J., Benjamin R.S. (1998). Results of two consecutive trials of dose-intensive chemotherapy with doxorubicin and ifosfamide is highly active in patients with soft-tissue sarcomas. *American Journal of Clinical Oncology*, 21(3), 317-321.

Eribulin versus dacarbazine for advanced liposarcoma or leiomyosarcoma:

Schöffski, P., Chawla, S., Maki, R. G., Italiano, A., Gelderblom, H., Choy, E., ... & Blay, J. Y. (2016). Eribulin versus dacarbazine in previously treated patients with advanced liposarcoma or leiomyosarcoma: a randomised, open-label, multicentre, phase 3 trial. *The Lancet*, 387(10028), 1629-1637.

High-dose ifosfamide for osteosarcoma and soft-tissue sarcoma:

Patel, S. R., Vadhan-Raj, S., Papadopoulos, N., Plager, C., Burgess, M. A., Hays, C., & Benjamin, R. S. (1997). High-dose ifosfamide in bone and soft tissue sarcomas: results of phase II and pilot studies--dose-response and schedule dependence. *Journal of Clinical Oncology*, 15(6), 2378-2384.

Gemcitabine +/- Taxotere for soft-tissue sarcomas:

Patel, S. R., Gandhi, V., Jenkins, J., Papadopoulos, N., Burgess, M. A., Plager, C., ... & Benjamin, R. S. (2001). Phase II clinical investigation of gemcitabine in advanced soft tissue sarcomas and window evaluation of dose rate on gemcitabine triphosphate accumulation. *Journal of Clinical Oncology*, 19(15), 3483-3489.

Maki, R. G., Wathen, J. K., Patel, S. R., Priebat, D. A., Okuno, S. H., Samuels, B., ... & Thall, P. F. (2007). Randomized phase II study of gemcitabine and docetaxel compared with gemcitabine alone in patients with metastatic soft tissue sarcomas: results of sarcoma alliance for research through collaboration study 002 [corrected]. *J Clin Oncol*, 25(19), 2755-2763.

Pazopanib for metastatic soft-tissue sarcoma:

Van der Graaf, W. T., Blay, J. Y., Chawla, S. P., Kim, D. W., Bui-Nguyen, B., Casali, P. G., ... & Le Cesne, A. (2012). Pazopanib for metastatic soft-tissue sarcoma (PALETTE): a randomised, double-blind, placebo-controlled phase 3 trial. *The Lancet*, 379(9829), 1879-1886.

Trabectedin or dacarbazine for metastatic liposarcoma or leiomyosarcoma:

Demetri, G. D., Von Mehren, M., Jones, R. L., Hensley, M. L., Schuetze, S. M., Staddon, A., ... & Van Tine, B. A. (2016). Efficacy and safety of trabectedin or dacarbazine for metastatic liposarcoma or leiomyosarcoma after failure of conventional chemotherapy: results of a phase III randomized multicenter clinical trial. *Journal of Clinical Oncology*, 34(8), 786.

Post treatment follow-up schedule:

Patel, S. R., Zagars, G. K., & Pisters, P. W. (2003, June). The follow-up of adult soft-tissue sarcomas. In *Seminars in oncology* (Vol. 30, No. 3, pp. 413-416). Elsevier.

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DEVELOPMENT CREDITS

This practice algorithm is based on majority expert opinion of the Sarcoma Center Faculty 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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