

**Does Local Recurrence Affect Prognosis for Ewing's Sarcoma?**

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## **Abstract**

**Background:** Recurrence of disease carries a poor prognosis in Ewing's sarcoma (ES), with long-term survival less than 30%. This study aimed to assess the affect of local recurrence on prognosis in patients with non-metastatic ES.

**Methods:** 308 patients were treated for ES without metastases at diagnosis. The mean age was 17 and the mean follow up 103 months. 272 patients underwent limb salvage whilst 36 underwent amputation. 41 patients (13%) developed local recurrence at a median of 25 months.

**Results:** Survival was affected by local recurrence ( $p < 0.001$ ), particularly local recurrence presenting before 24 months ( $p < 0.03$ ). 23 patients had metastatic disease at the time of local recurrence, 11 had no metastases but subsequently developed them, and 7 had only local recurrence. These 7 patients were alive at latest follow up. The incidence of local recurrence was not affected by the response to chemotherapy but patients with a good response to chemotherapy had improved 5-year survival ( $p < 0.05$ ).

**Conclusion:** In conclusion, local recurrence is a poor prognostic indicator in ES, which may be explained by the presence of metastases at local recurrence. The development of local recurrence is not affected by the response to chemotherapy, though those that respond well have better survival following local recurrence.