EFT is defined by the expression of ews/ets fusion genes. The type of the fusion transcript impacts on the clinical biology. EFT requires risk adapted treatment. A risk-adapted treatment is determined by tumor localisation, tumor stage and volume. For metastatic and relapsed disease the pattern of spread and the time of relapse are the determinants of risk stratification. Staging of Ewing tumors has been considerably improved by magnetic resonance imaging and modern isotope scanning techniques. However, the determination of the extent of the metastatic spread in particular number of involved bones remains an unresolved issue. The prognosis for high-risk Ewing tumors has been improved by multimodal and high-dose radio/chemotherapy (HDC). The concepts for high-dose therapy in Ewing tumors are based on dose response and dose intensity relationships. In single agent HDC most experience exists with Melphalan. Several chemotherapeutic agents have been used in combination HDC with or without TBI such as Adriamycin, BCNU, Busulphan, Carboplatin, Cyclophosphamide, Etoposide, Melphalan, Thiotepa Procarbazin and Vincristine. To date, superiority of any high-dose chemotherapy regimen has not been established. However, the clinical biology, the pattern of spread and the time of relapse determine the prognosis of patient who are eligible for HDC. In particular, patients with multifocal bone or bone marrow metastases have a poorer prognosis than patients with lung metastases. In
addition, patients with a relapse within 24 months have a poorer prognosis than patients with a relapse later than 24 months after diagnosis. This review will analyze the results of single- and multi-agent chemotherapy with respect to agent combination, dose and risk stratum of patient population. Future therapeutic modalities for the treatment of EFT might encompass immunotherapeutic and genetic strategies including allogeneic stem cell transplantation.