

**Erythropoietin in clinical practice:
current use, effect on survival,
and future directions**

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ABSTRACT

Recombinant erythropoietin (EPO) has become an essential part of the care of anemic patients with end-stage renal disease. Its use has been extended to the treatment of the anemia associated with cancer and other diseases, and it improves quality of life. In recent years, studies in animals and humans have focused on the use of EPO for other indications. It has been found that it plays a role in both cardioprotection and neuroprotection. It has effects on the immune system, and can cause regression in hematologic diseases such as multiple myeloma. It may also improve the response of solid tumors to chemotherapy and radiation therapy. On the other hand, concerns have been raised following two studies of patients with solid tumors showing diminished survival in those treated with EPO. Criticism of the design of these studies makes it clear that large, well-designed, randomized trials must be performed to determine the role of EPO in the treatment of cancer, and more generally to clarify the full clinical benefits of the drug, while minimizing the harm.