Bone metastases are associated with considerable morbidity and can result in skeletal-related events (SREs), including pathologic fractures, the need for palliative radiotherapy, spinal cord compression, the need for surgery to bone to prevent or treat a pathologic fracture or spinal cord compression, and hypercalcemia of malignancy. Such SREs have been associated with decreases in survival and increases in healthcare costs. Skeletal morbidity and bone pain from metastases can also reduce patients’ functional capacity and undermine their quality of life. Patients who develop bone metastases from advanced cancers commonly receive bisphosphonates to not only delay the onset of SREs and reduce their frequency but also provide clinically meaningful palliative effects for bone pain. Ongoing research may lead to improvements in skeletal health monitoring and management for patients with malignant bone disease.

At a Glance

- Bone metastases place patients at risk for considerable morbidity and can result in skeletal-related events (SREs).
- Bisphosphonates can prevent and delay the onset of SREs.
- Bisphosphonates can reduce bone pain from metastases.

In large-scale clinical trials, SREs occurred in about 50% of patients with bone lesions (Berenson et al., 1998; Lipton et al., 2000; Rosen et al., 2004; Saad et al., 2004; Yarbro, O’Kelly, de Mattos Pimenta, Caponero, & Aranda, 2003) (see Figure 1), and patients experienced an average of 1.5–3.7 SREs per year, depending on the primary cancer: 1.5 for prostate cancer, 2.2 for...