**WHAT IS THE PERFORM TRIAL?**

Cancers that spread in the body often end up in the skeleton, particularly in the hip bones (proximal femur). Hip bones that are weakened or broken from cancer have historically been stabilized with hardware (metal nails, screws and plates) to avoid or to fix cancer-related fractures. However, cancer treatments continue to improve, and many patients with cancer in their hip bones are living longer. Although this is a positive development, patients that have hip stabilizing surgery are now living longer than the hardware was designed to last and, as a result, these patients are experiencing many more problems in the years after surgery, including cancer recurrence and hardware breakage. In the meantime, surgeons have begun to consider removing the entire section of the affected bone and replacing it with a large hip replacement (endoprosthetic replacement). This is more complex than the usual surgery, and may have higher risks for complications, but is less likely to result in problems such as cancer recurrence and hardware breakage. Research to support a more invasive surgery is very weak as there have yet to be any clinical trials to determine which surgery is better overall. The **P**roximal F**E**mur **R**esection or Internal

**F**ixation f**OR** **M**etastases (PERFORM) trial will assign patients by chance (randomize) to 1 of the 2 surgeries. The patients will be followed for 1 year to see which surgery results in better cancer- and surgery-related, as well as quality-of-life, outcomes.

Our Methods Center and participating clinical sites collectively possess the methodological, logistical

and clinical expertise required to successfully confirm the feasibility of the PERFORM trial. Ultimately, this trial has the potential to effect significant changes in orthopaedic oncology clinical practice and improve the oncologic, functional, and quality of life outcomes of patients with cancers that have metastasized to their proximal femur. While the introduction of a more invasive yet more durable procedure would represent a paradigm shift in the approach to this patient population, the challenge we

confront is to support this practice change with high-quality, concrete evidence.