

GLOSSARY

This glossary includes definitions for patients who have cancer with bone involvement. New definitions will be added periodically.

For more in-depth information, please refer to the Bone and Cancer Foundation publications

Anemia – Having too few red blood cells. Symptoms include tiredness, weakness and shortness of breath.

Adjuvant therapy – Hormonal therapy or chemotherapy given at the time breast cancer is diagnosed to decrease the risk of the cancer returning.

Anabolic drugs – Drugs that help build bones, such as parathyroid hormone (PTH).

Antibody therapy – A laboratory-produced molecule engineered to attach to or target specific defects in cancer cells.

Anus – Opening at the lower end of the rectum through which solid waste leaves the body.

Aromatase inhibitors – Drugs used to block the production of estrogen to prevent breast cancer from recurring in post-menopausal women. Aromatase inhibitor treatment side effects include severe bone loss and increased risk of fractures, which may be treated with bisphosphonates.

Benign prostatic hypertrophy (BPH) – Enlargement of the prostate, blocking urine flow. BPH is not cancer but can cause some of the same symptoms. Also called benign prostatic hyperplasia.

Biopsy – Removal of a sample of tissue, examined under a microscope to check for cancer cells.

Bisphosphonates – Drugs used for treating cancers of the bone and benign bone diseases such as osteoporosis and Paget's disease. Some bisphosphonates are also used off label to treat other bone diseases. The administration and dose of these drugs vary between treatments for cancerous and non-cancerous diseases and between osteoporosis and Paget's disease.

To treat cancerous disease, the most commonly used bisphosphonate drug is zoledronic acid (Zometa®), given intravenously. Pamidronate (Aredia®) is also used.

Osteoporosis and Paget's disease may be treated with bisphosphonates intravenously or orally. The most common intravenous treatments are zoledronic acid (marketed as

Reclast® in the US and Aclasta® elsewhere) and pamidronate (marketed as Aredia® in the US). Oral drug treatments include Actonel®, Fosamax®, Boniva®, Skelid and Didronel.

Bone lesion – Any structural change in the bone as a result of disease or injury.

Bone mineral density (BMD) – A bone mineral density (BMD) test measures the density of minerals (such as calcium) in bones to determine the strength of the bones. The test may use x-ray, ultrasound or CT scan.

Bone scan – A test performed by a radiologist that allows the doctor to check the entire skeleton for the spread of cancer to bone as well as benign conditions.

Brachytherapy – Implanting radioactive material into the tumor or close to it. Also called internal radiation therapy, interstitial radiation therapy or seed implant therapy.

Calcium – Major mineral component of bone, important for normal function of nerves and other organs.

Cartilage – A dense, elastic connective tissue, which cushions bones at joints, connects muscles with bones, and provides structure to the nose and other body parts.

Chemotherapy – Drugs that kill cancer cells.

Chondrosarcoma – Second most common type of cancer to arise from bones, accounting for 20 to 25 percent of all primary bone cancers, most often found in adults.

Clinical trial – Research study involving volunteers, designed to answer medical questions and find better ways to prevent or treat disease.

Compression fracture – A fracture that occurs when a tumor causes the vertebra to fracture and collapse on itself.

CT scan (computerized tomography or CAT scan) – Series of detailed pictures of areas inside the body, created by a computer linked to an x-ray machine.

Cyberknife treatment – A precise, non-invasive procedure that directs highly focused radiation beams to tumors in the lungs, prostate, spine, kidney, pancreas and other areas to destroy tumors and relieve pain.

Digital rectal examination – Procedure in which the doctor inserts a gloved finger into the rectum to examine the rectum and prostate.

DXA or DEXA scan (dual energy x-ray absorptiometry) – An imaging test that measures bone density with special X-rays to measure how much calcium and other bone minerals are contained in a segment of bone. A DEXA scan can measure the bone

mineral density of the whole skeleton, as well as specific points that are more likely to break, such as the hip, spine and wrist. Also called BMD scan or bone mineral density scan.

Endocrinologist – A doctor who specializes in treating disorders of the endocrine system, the organs whose primary function is hormone secretion.

Ewing's sarcoma – The second most common form of malignant bone tumor in children and adolescents.

External beam radiation – Use of a machine to aim high-energy beams at cancer cells.

Graft – Replacement of diseased bone tissue with the patients' own tissue (autograft) or tissue from a donor (allograft).

Growth Factor – A substance that promotes growth, especially cellular growth.

Hormones – Body chemicals secreted by glands. These hormones circulate in the bloodstream and control the actions of certain cells or organs. Male hormones (including androgen and testosterone) play an important role in a man's sexuality and may fuel the growth of prostate cancer. Estrogen is a female sex hormone.

Hormone therapy – Hormones that change the environment of cancer cells in ways that can stop them from growing. In prostate cancer, hormone therapy may include surgical removal of the testes to prevent male hormones from stimulating further growth of the cancer.

Hypercalcemia – A higher than normal level of calcium in the blood. Symptoms include thirst and frequent urination, constipation, irregular heart beat, development of kidney stones, loss of appetite, sleepiness and confusion.

Intravenous – Into a vein.

Kyphoplasty – A procedure using bone cement to stabilize a fracture in the vertebra and reduce pain. Small balloons are used to correct vertebral deformities, restore the height of the collapsed vertebra and create space for the deposit of the bone cement.

Li-Fraumeni syndrome (LFS) – A rare cancer syndrome that runs in families. LFS is caused by a gene mutation. Family members who have LFS are at risk for many different cancers, including breast cancer and osteosarcoma.

Limb-sparing surgery – The surgical removal of tumor from the arm or leg so that the limb is preserved.

Lymph nodes or lymph glands – Small bean shaped organs that are part of the body's immune system that fights infection. They are located throughout the body along the channels of the lymphatic system.

Malignant fibrous histiocytoma (MFH) – A type of cancerous tumor that can originate in either bone or, most often, in the soft tissues that connect, support or surround organs and other body structures.

Marrow – Tissue found in the hollow interior of the bones that forms the cells in the blood.

Medical oncologist – A doctor trained in the diagnosis and treatment of cancer.

Metastasis (plural: metastases, verb: metastasize) – The spread of cancer cells throughout the body. Cells that have spread to other parts of the body are the same as those in the original tumor. Lytic metastases are the thinned areas of bone that are found when cancer cells spread into and grow within bone tissue and cause the bones to thin. Blastic metastases are the thicker-than-normal bone that may occur because of tumor growth or when a lytic bone metastasis heals.

MRI (Magnetic resonance imaging) – Imaging technique that produces detailed pictures of areas inside the body by linking a computer with a powerful magnet.

Multiple myeloma – A cancer of the bone marrow that causes certain cells to grow out of control and break down bone.

Nonsteroidal Anti-inflammatory Drugs (NSAIDs) – Drugs such as acetaminophen, aspirin, and ibuprofen used to treat pain and inflammation.

Oncology – Branch of medicine dealing with cancer.

Osteoclasts and Osteoblasts – Osteoclasts are bones cells that break down and remove or resorb bone. Osteoblasts are bone cells that make and deposit new bone at the site of bone removal. In people that have no disease, these are normal ongoing processes. These processes are disrupted in people whose cancer affects the bone.

Osteomalacia – A softening of the bones due to a disorder of the bone mineralization, most often a deficiency of Vitamin D.

Osteonecrosis of the jaw (ONJ) – A rare dental condition where an area of exposed jaw bone shows no sign of healing after 8 weeks. ONJ is more likely to occur after an invasive dental procedure. Many of the cases that have been reported recently were cancer patients who were treated with intravenous bisphosphonate drugs.

Osteoporosis – Loss of and thinning of bone that increases the risk of fractures, especially in the spine, wrist, and hip.

Osteosarcoma – A cancerous tumor that appears on a bone. This is a primary cancer which arises from within the bone.

Paget's disease of bone – A chronic skeletal disorder which may result in enlarged or deformed bones in one or more parts of the skeleton.

Pathologic fracture – The fracturing of a bone weakened by a pre-existing benign disease such as Paget's disease of bone, osteoporosis, osteomalacia or by the spread of cancer to the bone.

PET Scan (Positron emission tomography) – A nuclear medicine imaging technique which produces a three-dimensional image of metabolism processes in the body.

Pituitary gland – Master gland in the brain that makes hormones that control hormone production in other glands, such as the testes.

Primary cancer – Cancer can begin in any organ or tissue of the body. The original tumor is called the primary cancer or primary tumor. It is usually named for the part of the body or the type of cell in which it begins.

Prostate – A walnut sized gland at the base of the bladder in men. The prostate produces fluid that forms part of the semen.

Prostate-specific antigen (PSA) – Protein produced by the prostate gland. PSA circulates in the blood and can be measured with a blood test. PSA levels go up in some men who have prostate enlargement, inflammation, infection or prostate cancer.

Prostatectomy – Surgery to remove the prostate gland.

Prosthesis – A synthetic device used to replace a missing body part.

Radiation oncologist – A doctor who specializes in using radiation to treat cancer.

Radiation therapy – Treatment with radiation to kill cancer cells.

Radiopharmaceuticals – Drugs given by intravenous infusion to target radiation to bone metastases.

Radiofrequency ablation – A procedure used to treat cancer in multiple bone sites, when the tumor has not responded to radiation therapy. A small needle is used to transmit an electric current into the tumor to destroy the tumor and relieve pain.

Retinoblastoma – A cancer in the retina of one or both eyes. It usually occurs in young children.

Rotation-plasty – A limb salvage technique. The doctor removes a portion of the leg, including the knee. The lower part of the leg is rotated and reattached so that the ankle becomes the new knee, and a prosthetic device is attached to replace the ankle and foot.

Scrotum – External skin pouch containing the testes.

Secondary cancer – Cancer which has spread (metastasized) from another part of the body.

Steroids – A natural or synthetic compound that reduces inflammation and can decrease growth or survival of some types of cancer cells.

Syndrome – A group of symptoms that indicate or characterize a disease, psychological disorder, or other abnormal condition.

Testes – Pair of egg-shaped glands contained in the scrotum that produce sperm and male hormones. Also called testicles.

Total androgen blockade – Complete blockage of androgen production. Also called combination hormone therapy.

Tumor – Abnormal mass of tissue. A tumor can be malignant (cancerous) or benign (noncancerous).

Urologist – A doctor who specializes in disorders of the urinary and male reproductive systems.

Vertebra – The bony segments that make up the spinal column.

Vertebroplasty – A minimally invasive procedure to treat cancer that has spread to the bones of the vertebra (spine). Vertebroplasty is the injection of bone cement into the collapsed vertebra to stabilize the fracture and reduce pain.

Vitamin D – Known as the “sunshine vitamin”, Vitamin D is a hormone that plays an important part in many normal body functions, including bone formation, muscle strength and immune function. Vitamin D deficiency is an important issue for cancer patients.

Watchful waiting – In patients with prostate cancer, the practice of monitoring the patient closely, postponing aggressive therapy unless signs of the disease progressing are found.

Online glossary updated as of 3/2/2010.
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