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Causes and Treatments for Long-Term and Late Effects

Pain

Symptoms: Burning; tingling; aching; stabbing sensation

Cause: Pain can occur when tumors press on nerves or organs, and can also be caused by radiation, chemotherapy and surgery that results in nerve damage, mouth sores or other painful side effects

Treatment/Intervention: Opioids [morphine; codeine; OxyContin® (oxycodone), Duragesic® (fentanyl)]; anticonvulsants [Neurontin® (gabapentin)]; antidepressants; Prialt® (ziconotide); nerve blocks; radiation therapy; integrative treatments, such as relaxation techniques, acupuncture and hypnosis

Fatigue

Symptoms: Lack of energy; feeling tired even after a good night's sleep; difficulty concentrating; irritability

Cause: Anemia; depression; thyroid dysfunction; new research shows that women with a history of breast cancer and chronic fatigue may have overactive immune systems that do not shut down after treatment

Treatment/Intervention: Erythropoietin for anemia; exercise; stimulants [Ritalin® (methylphenidate); Provigil® (modafinil)]; antidepressants

Neuropathy

Symptoms: Numbness; tingling sensation; muscle weakness; pain in the extremities

Cause: Damage to peripheral nerves can result from cancer, radiation or chemotherapy drugs, including Taxol® (paclitaxel), Oncovin® (vincristine) and Velcade® (bortezomib)

Treatment/Intervention: Anticonvulsants [Neurontin® (gabapentin)]; antidepressants [nortriptyline; Elavil® (amitriptyline)]; Lidoderm® (lidocaine patch); drug-free options include transcutaneous electrical nerve stimulation (TENS) and acupuncture

Lymphedema

Symptoms: Swelling and pain in the affected area

Cause: When lymph nodes are removed or damaged by radiation, anything that causes an increase in lymphatic activity, such as injury, infection or overuse, can lead to a backup of fluid in the tissues “downstream” from the missing nodes

Treatment/Intervention: Manual lymph drainage [a type of massage]; compression device to reduce swelling; keeping the area healthy and free of cuts,

infection or overexertion

Bone Loss

Symptoms: Bone pain; susceptibility to fractures and breaks

Cause: A change in hormone levels, such as suddenly stopping hormone therapy; bone metastases, which cause small holes in the bone or a calcium buildup that increases the risk of fractures or breaks; and cancer cells, which release factors that stimulate osteoclasts (cells that break down bone tissue)

Treatment/Intervention: Bisphosphonates [Actonel® (risedronate); Fosamax® (alendronate); Zometa® (zoledronic acid)]; selective estrogen receptor modulators [Evista® (raloxifene); tamoxifen]

Sexual Dysfunction

Symptoms: Loss of sexual desire or libido; erectile dysfunction; painful intercourse

Cause: Reduced hormone levels due to surgery or treatment; prostatectomy; depression

Treatment/Intervention: Phosphodiesterase-5 inhibitors [Viagra® (sildenafil); Levitra® (vardenafil); Cialis® (tadalafil)]; penile prosthesis; prostaglandin penile injections; vacuum erection devices; counseling