

Post-lumbar puncture headaches Radiation dermatitis Postsurgical	throughout entire gastrointestinal tract Infection may be localized pain from focused infection or generalized (i.e., tissue infection versus septicemia) Severe headache after lumbar puncture Skin inflammation causing redness and breakdown Pain related to tissue trauma secondary to surgery	Chemotherapy Radiation Surgery
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Oral mucositis (ulceration of the oral cavity and throat) may occur in patients undergoing chemotherapy or radiotherapy and in patients undergoing bone marrow transplant. No present therapy adequately relieves the pain of these lesions. Antihistamines, local anesthetics, and opioids provide only temporary relief, may block taste perception, or may produce additional side effects, such as lethargy and constipation. Initial treatment includes single agents (saline, opioids, sodium bicarbonate, hydrogen peroxide, sucralfate suspension, clotrimazole, nystatin, viscous lidocaine, amphotericin B, dyclonine) or mouthwash mixtures using a combination of agents (lidocaine, diphenhydramine, Maalox or Mylanta, nystatin). The mucositis after bone marrow transplantation may be prolonged, continuously intense, exacerbated by mouth care and swallowing, or worse during waking hours. The patient may be unable to eat or swallow. Morphine administered as a continuous infusion or delivered by PCA device may be required until mucositis is resolved ([Hickman, Varadarajan, and Weisman, 2014](#)).

Other treatment-related pain includes (1) abdominal pain after allogeneic bone marrow transplantation, which may be associated with acute graft-versus-host disease; (2) abdominal pain associated with typhlitis (infection of the cecum), which occurs when the patient is immunocompromised; (3) phantom sensations and phantom limb pain after an amputation; (4) peripheral neuropathy after administration of vincristine; and (5) medullary bone pain, which may be associated with administration of granulocyte colony-stimulating factor.

Survivors of childhood cancer describe vivid memories of their experience with repeated painful procedures during treatment. These procedures include needle puncture for IM chemotherapy (L-asparaginase), IV lines, port access and blood draws, lumbar puncture, bone marrow aspiration and biopsy, removal of central