

# Fall Risk in Adult Inpatients With Leukemia Undergoing Induction Chemotherapy

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Falls are a major concern for patients with acute myeloid leukemia who are admitted to the hospital for induction chemotherapy. Patients with cancer are at risk for rapidly changing health status and, therefore, need a different kind of fall surveillance than those in other inpatient units. Fall risk most likely will change throughout an inpatient's stay. Oncology nurses can start addressing this issue by reviewing the documented data of falls in this patient population.

R.W., a 46-year-old man, was newly diagnosed with acute myeloid leukemia (AML). He stated that he was shocked to discover he had leukemia because he was a tri-athlete and always had been in good health. R.W. was admitted to the inpatient oncology unit for 7 + 3 induction chemotherapy (ICT), which contains a combination of daunorubicin and cytarabine (Kohrt & Coutre, 2008).

He tolerated the chemotherapy fairly well and maintained a high activity level during the treatment. He frequently walked laps around the unit and was provided a stationary bike in his room for structured exercise. The staff praised him for his enthusiasm and energy. R.W. took pride in his ability to maintain his athleticism and, most importantly, in his ability to care for himself. However, in the days following his last dose of chemotherapy, R.W. noticed that he moved a bit slower and became more tired after fewer laps. As an independent person who valued his physical stamina, R.W. did not focus on his diminishing endurance capacity.

One night, R.W. needed to use the bathroom. He rose from the bed, walked to the bathroom, and en route, he stumbled as his legs went out from under him. A nearby nurse heard the crash and rushed into R.W.'s room. R.W. had fallen and hit his head, so the nurse called for help. The team arrived, assessed his condition, and ordered appropriate diagnostic tests to rule out head trauma. R.W. had a mild concussion that prolonged his stay in the hospital and complicated his recovery.

## Treatment of Acute Myeloid Leukemia

AML is a disorder of haemopoietic progenitor cells ("blasts") and is the most common malignant myeloid disorder in adults (Estey & Döhner, 2006). Most patients with AML are hospitalized emergently for ICT. Patients remain in the hospital for a minimum of four weeks for ICT and recovery. ICT generally lasts 10 days and includes the infusion of specific cytotoxic agents known to combat the disease. The most common regimen for AML is 7 + 3 ICT. Daunorubicin is infused through IV push for three days (days 1-3), and cytarabine is administered as a continuous IV infusion for a period of seven days (days 1-7). Different institutions may use protocols for ICT that contain doxorubicin, VP-16, teniposide, mitoxantrone, idarubicin, carboplatin, or gemtuzumab ozogamicin. The goal of ICT is to achieve complete remission of the leukemia, which occurs in about 60%-80% of adults younger than 60 (Wadleigh & DeAngelo, 2010).

The 7 + 3 treatment is highly toxic, and an expected side-effect sequelae associated with this regimen requires intensive

supportive care for patients, including the administration of packed red blood cells and platelets to treat anemia and prevent bleeding issues, antibiotics and other antimicrobials for prophylaxis and treatment of infection, administration of antiemetics to prevent and treat nausea, and pain medication, if indicated. Colony-stimulating factors also are used to stimulate growth of white and red blood cells. Fatigue and weakness are common symptoms during and after ICT. Blood counts usually return to normal about three weeks after treatment is completed. Patients are discharged when their counts have stabilized in accordance with facility protocols.

## Inpatient Falls on Oncology Units

Inpatient falls are a major concern for patients with AML who are admitted to the hospital for ICT. Patients are particularly at risk near the end of or following ICT as a result of the toxicity from chemotherapy, which leads to lower levels of physical functioning. Patients with cancer may enter the hospital with high levels of physical functioning that are abruptly

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