

**James O. Armitage, MD**

Professor, Department of Internal Medicine  
University of Nebraska Medical Center  
Omaha, Nebraska

**What are the risks to consider when treating a patient with Hodgkin lymphoma?**

Hello, my name is Jim Armitage. I am a professor of medicine at the University of Nebraska Medical Center. I am often asked, "What risks should be taken into account when treating a patient with Hodgkin lymphoma?" This has become an increasingly pertinent question because we cure most people that we treat with this disease and so you would like to leave them with the least injury in the long term. Now I would argue that risks come in several categories. The first are the immediate risks from the therapy and these are usually infection related. So if you are giving them medicine, a combination of medicines, that lead to severe myelosuppression then trying to anticipate or prevent sepsis is a big goal. Obviously you would like to treat the unpleasant side effects of therapy, but today most of our worries about risk are actually long-term risk. And the two most serious long-term risks that patients treated for Hodgkin lymphoma have, once you get by the disease itself of course, you do not want to die of the lymphoma, then the two long-term risks that are most important are second cancers and cardiac or cardiovascular disease. Patients also can have a number of other less life-threatening long-term risks like hypothyroidism for example or osteoporosis. But to try to minimize the two most important most lethal long-term risks you have to consider modifying the therapy based on the characteristics of that individual patient. For example, for second cancers when you have a young woman you want to be careful about radiating the breast, in fact you would like to not irradiate the breast if you can possibly avoid it. You would like to not use alkylating agents, which have the advantage of reducing the risk of secondary leukemias but also reducing the risk of infertility, which while not lethal can be a very important side effect to patients.

Cardiovascular risks are much more related to radiation than they are to the drugs probably, although doxorubicin has potential long-term heart failure as a risk of therapy. When we can reduce or eliminate the amount of radiotherapy to the heart and major vessels to the neck, we can eliminate much of the long-term cardiovascular risks. By the way, we cannot always eliminate those treatments and all of our treatments have long-term risks. It is very important thinking about cardiovascular disease to also anticipate the risk of heart disease. And so you should have your patients on the right kind of diet, they should know it is important to exercise, at the appropriate time they might have screening tests for coronary artery disease, they should be examined intermittently to make sure they do not develop valvular heart disease, and as regards to second cancers, women should start mammograms earlier, particularly if they have had radiotherapy, and so forth. These are patients who should have more, not less, ongoing health care with a focus on trying to not only prevent but also identify early any long-term adverse events related to the therapy of Hodgkin lymphoma.