Cytotoxic drug therapy is indicated in resistant cases of some systemic diseases. Some of these patients may wish to have children in the future, and are referred for sperm banking before they start therapy. This study compared the prefreeze and postthaw semen analyses in a group of 14 patients with the following systemic diseases: Wegner's granulomatosis (n = 1), vasculitis (n = 2), kidney transplant (n = 1), rheumatoid arthritis (n = 2), systemic lupus erythematosus (n = 3), systemic sclerosis (n = 2), nephrotic syndrome (n = 2), and psoriatic arthritis (n = 1) with those of a group of healthy donors (n = 50). Patients did not differ from donors in age (P = 0.76) or ejaculate volume (0.86). Total motile sperm count, motility, curvilinear velocity, and linearity was significantly lower in patients than in donors for the prefreeze (P <0.01) and postthaw specimens (P <0.01). However, the percentage change from prefreeze to postthaw analyses for any of the sperm motion characteristics showed no significant difference between patients and donors. Our results indicated that fresh and frozen-thawed semen specimens in the patients with systemic diseases is of poor quality. As chemotherapy may further impair semen quality in these patients, they should be offered the chance to preserve their semen before the start of their therapy. This will allow them the chance to establish pregnancy in the future with assisted reproductive techniques. [Supported by a research grant from the Cleveland Clinic Foundation.]