Introduction and Objectives: With increasing success of anticancer treatments, most men in their reproductive ages are surviving their malignancy. The purpose of our study was to assess the prefreeze and postthaw semen quality in a large series of patients diagnosed with different types of cancers who banked their sperm at the Cleveland Clinic Foundation.

Methods: From 1984 to 1998, 333 men with different types of malignant disease were referred to the Andrology laboratory for sperm banking prior to their treatment for cancer. Patients were divided into 5 groups based on the type of neoplasm: group I: testicular cancer (n = 157), group II: leukemia (n = 25), group III: lymphoma (n = 107), Group IV: sarcoma and carcinoma (n = 35), and group V: rare tumors (n = 9). Semen specimens from 50 normal healthy men were used as controls. Semen analysis was performed both before cryopreservation in TEST-yolk buffer media with glycerol and after thawing.

Results: The prefreeze and postthaw total motile sperm count and sperm motility were lower in patients with cancer irrespective of the type of malignancy when compared to the donors (P <0.05). Sperm motility in patients with sarcoma and carcinoma was similar to values in the donor group. The prefreeze and postthaw curvilinear velocity was lower in patients with testicular cancer, leukemia and lymphoma compared to donors (P <0.05). Similarly, the prefreeze and postthaw sperm linearity was lower in patients with testis cancer and lymphoma compared to donors. Patients with testicular cancer, leukemia and lymphoma had the worst seminal quality compared to other cancer groups (P <0.05).

Conclusions: Patients with malignant diseases in general have lower motile sperm count and motility compared to donors. However, with the availability of intracytoplasmic sperm injection, these men should be encouraged to bank their specimens for future reproductive use.