Our study aimed to determine the need for semen banking in-patients with cancer by evaluating their fertility outcomes with assisted reproductive techniques (ART) using pre-treatment semen specimens. Our sperm bank records were used to identify individuals who withdrew semen specimens for assisted reproduction. Study subjects were men recently diagnosed with cancer that sperm banked prior to undergoing therapy. All patients (n = 25) had their specimens transferred to various assisted reproduction programs of their choice. Information on fertility potential indices was obtained from medical records and by direct interviews. Patients were stratified by their cancer, testicular cancer (n = 9), Hodgkin’s disease (n = 10), and others (n = 6). The pregnancy and live birth rates (LBR) were 27.3% and 33.3% for IUI (n= 13 cycles); 33.3% and 100% for IVF (n= 12 cycles); 46.1% and 66.6% for ICSI (n= 12 cycles); and 35.6% and 66.6% for overall ART (n= 37). The pregnancy and LBR by cancer were 66.6% and 66.6% for testicular cancer (n= 9); 40% and 75% for Hodgkin’s disease (n= 10); 50% and 100% for other cancers (n= 6); and 52.2% and 80.5% for overall cancers (n= 25). See the table below for details of the assisted reproduction outcome by malignancy. Ours is the first large series documenting the fertility of sperm from cancer patients by ART. These patients showed significantly high rates of pregnancy and live births irrespective of the type of ART or malignancy. Babies born in our series had no birth defects. Our findings emphasize the need for physicians to encourage all reproductive age males to cryobank semen prior to antineoplastic therapy.