

SUMMARY
SUMMARY OF PROPOSED RESEARCH
(250 words or less)
Do not exceed the space provided

Describe clearly and concisely, in language readily understandable to a biomedical scientist who may not be a specialist in the research project's field, the broad objectives, specific aims, general procedures, and the potential significance of the research.

SUMMARY

Testicular tumors and Hodgkin's disease are amongst the most common tumors affecting young men. In the 1990s, testicular cancer has become one of the most curable solid neoplasms. Dramatic improvements in survival with almost total reversal from a 10% survival rate in the 1970s to a 90% survival rate in the 1990s, has resulted from a combination of the effective diagnostic techniques, improvement in serum tumor markers, effective multidrug chemotherapeutic regimens, and modifications of surgical techniques. These advances have led to a decrease in morbidity and mortality rates. These improvements have enabled the patient to recover and resume their pre-illness lifestyles, numerous young patients in particular, are surviving to adulthood, raising concerns about long-term effects of cancer treatment on future reproduction. Azoospermia in 90% of the men is a common adverse consequence of treatment and infertility is the price these patients pay to survive the onslaught of the disease. Loss of the ability to parent a child is fraught with psychological connotations that cannot be ignored. Preserving the childbearing capability although not a life-or-death situation for a patient therefore assumes a greater moral imperative. Sperm banking may be indicated as "fertility insurance" in men with malignancies. Although pregnancies have been reported using semen samples from testicular cancer and Hodgkin's disease patients, poor semen quality after freezing the samples is a main challenge and a major impediment in the success of cryobanking.

The goals of our study are: 1) predict the post-thaw sperm quality in patients with poor pre-freeze semen characteristics, 2) improve the post-thaw semen quality by artificial motility stimulants, 3) reduce sublethal sperm membrane damage by antioxidant addition, and 4) study the relationship between the extent of the disease and its influence on the sperm fertilizing capacity.

Please provide five key words that best describe your project:

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| (1) <u>Cancer patients</u> | (2) <u>Lipid peroxidation</u> | (5) <u>Artificial stimulation</u> |
| (2) <u>Cyropreservation</u> | (4) <u>Acrosome reaction</u> | |