

The ART of Reproductive Medicine: Oncofertility Introduction

Oncofertility is a new approach in medicine for working with cancer patients under 40 years old and encompasses comprehensive medical approaches to preserving fertility in these patients before their cancer treatment begins. The term Oncofertility comes from oncology which is the study of cancer cell formation, diagnosis, and treatment, and from fertility which is the ability to produce offspring. In the past, aggressive treatment of cancer through surgery, chemotherapy, and/or radiation treatment was the only objective for these patients. However, with improved and more targeted therapies available, the overall cure rate for childhood cancers is approaching 80% (*Human Reproduction*, Vol. 00, No. 0, pages 1-5, 2009). Since infertility can result from the cancer treatment, especially chemotherapy containing alkylating agents and radiation, cancer patients under 40 years old are now being counseled about ways eggs and sperm can be harvested and stored for the future prior to beginning the cancer treatments (www.myoncofertility.org).

This ART of Reproductive Medicine Curriculum: Oncofertility was initially developed as part of a 5-year National Institutes of Health (NIH) Interdisciplinary Research Consortium grant which funded the Oncofertility National Science Education Network (ONSEN), initiated by Dr. Teresa Woodruff of Northwestern University. The grant supported outreach in science education to high school students at four partner sites including Northwestern University in Chicago, Illinois and Oregon Health & Science University (OHSU) West Campus (Oregon National Primate Research Center (ONPRC)) in Portland, Oregon. More recently, the curriculum has been expanded and refined as part of a 5-year NIH National Centers for Translational Research in Reproduction and Infertility (NCTRI) grant which funds research and educational outreach at 12 research universities, including Northwestern University and OHSU at ONPRC.

The ART of Reproductive Medicine: Oncofertility Curriculum is designed to enhance current biology courses rather than to replace them. The curriculum is most appropriate for advanced biology courses in high school and introductory biology and anatomy/physiology courses in junior colleges or 4-year institutions. However, some of the lessons could be used in middle school and high school general biology courses, such as those lessons focusing on cancer prevention and cell division. While all of the lessons are related to the topic of oncofertility and infertility, each one can be used as a stand-alone unit or out of sequence. Each chapter of the curriculum includes a Teacher Background Section, a PowerPoint slide show for the students, and instructions for supporting activities. The Teacher Background Section is meant to provide information for the teacher about the topic and is tied very closely to the PowerPoint slide show. For greater understanding, the teacher may want to play the



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slide show as he/she reads the background section. For the students, the slide show can be used in its entirety or can be edited as necessary for a given class. Alignment to the NGSS for each chapter is provided at the end of each chapter.

We invite you to send us your feedback about the curriculum as you use it; we will incorporate your ideas into future drafts. Please note that images are either public domain or are copyrighted with permission granted to us to reproduce them for educational purpose.

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