

## Catalyzing Oncofertility Through Comprehensive Educational Strategies

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## Introduction

Reproductive health is critically important to overall health, but largely under-represented in secondary and formal training. The Oncofertility Consortium (OC) supports education and outreach activities that serves patients and their families, the scientific and medical community, and the general public. To provide education about the importance of reproduction and science and to demystify the sometimes-taboo topic of fertility, the OC has created a variety of useful websites, courses, and other tools. To centralize education initiatives, the OC developed Reptopia, a single, easy-to-navigate website. Reptopia represents the current state of knowledge and best initiative on education and outreach within the Consortium and provides individuals of all ages with authoritative reproductive health education; from K to Gray. More than 1,000 unique visitors access this site annually, educating young children, teenagers, parents, students and educators about reproductive health across the entire spectrum, both in wellness and during times of illness.

The current OC education portfolio targets learners from all categories of Neil Fleming's VARK model which identifies modalities used when learning information; Visual, Aural, Read/write, and Kinesthetic, representing visual learners (those who understand and retain information including diagrams, graphs, charts, and demonstrations), aural learners (who process information through hearing or speaking), read/write learners (those who comprehend written materials and benefit from note taking and reading them as a method of recall and study), and kinesthetic learners (who learn by performing hands-on activities) (1). Upon review, the OC portfolio contains each of these types though gaps in kinesthetic learning opportunities (Figure 1). We are now creating visual aids for fertility preservation consultation and consenting, infographics to explain high-level scientific achievements for dissemination to patients, the public, and the press, include closed captioning for our video portfolios, translate education materials into native language and expand access to educational workshops throughout the year. With the help of our diverse population of stakeholders, from providers to patients, the OC is able to connect

with, and educate, patients early in their diagnosis when fertility preservation is most beneficial. Our growing network of patients, families, and advocates provides us with important insights on how to better serve our community.

Patients, families, and the general public need an understanding of reproductive health in order to make complex decisions regarding their options for future health and family building (2, 3). Historically, the OC has educated clinicians and healthcare providers through hands-on laboratory courses and didactic sessions at the annual Oncofertility Conference supplemented with online content (Virtual Grand Rounds and Oncofertility Conference presentations, laboratory training materials, IRB protocol and consent templates, Repropedia), scientific publications, and printed materials (brochures, Oncofertility books) (4, 5). Patient and public education is coordinated through the newly developed Reptopia, SaveMyFertility, social media channels (YouTube, Twitter, Facebook, LinkedIn), printed brochures and the Oncofertility Science Academy (6, 7). The education community has identified pathways for retention and education for learners from a range of backgrounds, education levels, and languages. The goal of the OC is to ensure that the material we create is not only available, but also accessible to a variety of learners with a range of needs.

In order to be more inclusive of community members that may have visual or hearing impairments, the OC is including closed captioning on media products, detailed photo captioning across our web presence, and including compatibility with screen readers. As the OC expands globally, and members increase their international collaborations, special attention will be paid to cultural competency and health literacy. All of our patient-facing tools are created with individuals of low health literacy in mind and the OC is targeting continued translation of materials into the native language of our global constituents and for use within the United States for patients with limited English proficiency (8, 9). The OC is utilizing alternative methods for communicating high-level scientific information to the broader community through creation of easily-understood infographics and visual aids. Complicated scientific and medical concepts are often difficult to

understand without a science background and infographics and visual aids distill information down to a visual representation in a pleasing, easy-to-share format that is easily understood and remembered (10). These graphics help broadcast scientific achievements outside of the traditional academic silo and into the community where it is needed by patients and the public and, furthermore, serve as a unique educational tool that will influence the public before they even become a patient. Moreover, visual aids serve as an important educational tool for use in the consent and assent process during a high-stress, time-sensitive situation. Visual aids are not intended to take the place of traditional written consent or in-person discussion, but rather be used as a supplementary material to increase the patient and/or family's understanding of the procedure and future options for family-building.

## **Conclusion**

The OC's tradition of education and outreach is apparent in the width and breadth of education materials and training sessions available to both the scientific and medical community as well as patients, families and the general public. However, there is much work to be done to ensure that reproductive health information is not only created, but accessible and available to all who need it, in whatever format will be best understood by our stakeholders.

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## Figure and Figure Legend

	<b>Educational Material</b>	<b>Visual Learning</b>	<b>Aural Learning</b>	<b>Read/Write Learning</b>	<b>Kinesthetic Learning</b>	<b>URL</b>
<b>Children</b>	Oncofertility Coloring Book	X			X	<a href="http://reprotopia.northwestern.edu/projects/osa-coloring-book">http://reprotopia.northwestern.edu/projects/osa-coloring-book</a>
	New You, That's Who	X	X	X		<a href="http://reprotopia.northwestern.edu/projects/new-you-thats-who">http://reprotopia.northwestern.edu/projects/new-you-thats-who</a>
<b>High School and College-aged</b>	Oncofertility Science Academy	X	X	X	X	<a href="http://reprotopia.northwestern.edu/projects/womens-health-science-program-oncofertility-saturday-academy">http://reprotopia.northwestern.edu/projects/womens-health-science-program-oncofertility-saturday-academy</a>
	Introduction to Reproduction Massive Open Online Course	X	X	X		<a href="http://reprotopia.northwestern.edu/projects/introduction-reproduction-mooc">http://reprotopia.northwestern.edu/projects/introduction-reproduction-mooc</a>
<b>Trainees</b>	Fellow Education Symposium	X	X	X		<a href="https://oncofertility.northwestern.edu/fellow-education-day">https://oncofertility.northwestern.edu/fellow-education-day</a>
<b>Professionals</b>	OC-Scientific Help Agreement for Research Endeavors	X	X	X	X	<a href="https://oncofertility.northwestern.edu/oncofertility-consortium-scientific-help-agreement-research-endeavors-oc-shares-program">https://oncofertility.northwestern.edu/oncofertility-consortium-scientific-help-agreement-research-endeavors-oc-shares-program</a>
	Oncofertility Books	X		X		<a href="https://www.woodrufflab.org/oncofertility-books">https://www.woodrufflab.org/oncofertility-books</a>
	ASRM E-Learning Modules	X	X	X		<a href="http://reprotopia.northwestern.edu/projects/asrm-fertility-preservation-course">http://reprotopia.northwestern.edu/projects/asrm-fertility-preservation-course</a>
	Laboratory Training Videos	X	X	X		<a href="https://oncofertility.northwestern.edu/resources/dissection-whole-ovary-preparation-cryopreservation">https://oncofertility.northwestern.edu/resources/dissection-whole-ovary-preparation-cryopreservation</a>
	Research Protocol and Consent Templates				X	<a href="https://oncofertility.northwestern.edu/search/site?f[0]=im_field_type_of_material:586&amp;solrsort=score%20desc">https://oncofertility.northwestern.edu/search/site?f[0]=im_field_type_of_material:586&amp;solrsort=score%20desc</a>
	SaveMyFertility Website and Pocket Guides					<a href="https://www.savemyfertility.org/">https://www.savemyfertility.org/</a>
<b>General Public</b>	Oncofertility Conference Presentations	X	X	X		<a href="https://oncofertility.northwestern.edu/media?field_media_category_tid=6&amp;field_target_audience_tid=All">https://oncofertility.northwestern.edu/media?field_media_category_tid=6&amp;field_target_audience_tid=All</a>
	Virtual Grand Rounds	X	X	X		<a href="https://oncofertility.northwestern.edu/media?field_media_category_tid=11&amp;field_target_audience_tid=All">https://oncofertility.northwestern.edu/media?field_media_category_tid=11&amp;field_target_audience_tid=All</a>
	Repropedia	X	X	X		<a href="http://reprotopia.northwestern.edu/projects/repropedia">http://reprotopia.northwestern.edu/projects/repropedia</a>

**Figure 1:** Comprehensive review of current Oncofertility Consortium educational portfolio

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