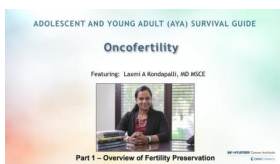


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Introduction



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Adolescent and Young Adult (AYA) Oncofertility Survival Guide

We suggest that you bring your ebook of this guide to meetings with Healthcare Professionals. You can get the ebook from the "Request this Ebook" button above and will then be able to use it on your phone, tablet, computer, or print it out on paper.

Introducing Dr. Kondapalli



Laxmi Kondapalli, MD MSCE

Dr. Laxmi Kondapalli, MD MSCE is board certified in Obstetrics and Gynecology and the subspecialty Reproductive Endocrinology and Infertility, and is a Fellow of the American Congress of Obstetricians and Gynecologists. At the time this Oncofertility eBook was created, she was an Assistant Professor and Women's Reproductive Health Research Scholar in the Division of Reproductive Endocrinology and Infertility at the University of Colorado.

*"My name is **Laxmi Kondapalli**. I'm an assistant professor of reproductive endocrinology and infertility and the director of the Fertility Preservation Program at the University of Colorado in Denver. I would describe myself as a physician/scientist. I see patients in a clinical setting, and I do a lot of research looking closely at clinical outcomes."*

THE MOST IMPORTANT THING I'D SAY TO A NEWLY DIAGNOSED AYA CANCER PATIENT IS...

Dr. Kondapalli, *"When I see a newly diagnosed AYA cancer patient and meet with their family, one of the most important things that I want to get across in our first meeting is that they have choices, and many of these choices were not available even five years ago. The menu of choices and opportunities for fertility preservation, or for assessing a patient's fertility status and new fertility treatments that can be offered to them - even in the survivorship period - has vastly increased and expanded over the last five years."*

Introducing Julie Messina



Julie Messina, PA-C

Julie Messina is a board certified **Physician Assistant** who has worked in oncology with an emphasis in adolescent and young adult patients since her graduation from Western University in 2002. She transitioned to CHOC full time in 2011 and, in collaboration with Lennie Sender, has run the fertility preservation program at CHOC Children's Hospital.

Her greatest pleasure in oncology is watching the progress of the science and the amazing cure rates that have been achieved through advances in chemotherapy and targeted agents. *"It is such a joy to be able to discuss long-term planning such as fertility preservation with patients, because we now know that most of them will survive,"* she says.

THE MOST IMPORTANT THING I'D SAY TO A NEWLY DIAGNOSED AYA CANCER PATIENT'S FAMILY IS...

Julie Messina, *"The most important thing that I want parents of a newly diagnosed patient at CHOC to remember about fertility preservation is that we are thinking about your child's future and life beyond cancer. We are committed to providing you with the most up to date options for fertility preservation, as meaningful survival is our goal."*

Why Fertility Preservation?

Dr. Kondapalli, *"My inspiration for being involved with Fertility Preservation came because I had a serendipitous meeting with my mentor, who is Teresa*

Woodruff at Northwestern University. When I was doing my obstetrics and gynecology training at Northwestern, I came across a talk that she was giving on campus, and I was so inspired by this ovarian biologist who was able to translate very basic science concepts into a clinical application."



Dr. Woodruff, Ph.D., is the Thomas J. Watkins Professor of Obstetrics & Gynecology, the Vice Chair of Research (OB/GYN), the Chief of the Division of Reproductive Science in Medicine, Feinberg School of Medicine and Professor of Molecular Biosciences at the Weinberg College of Arts and Sciences at Northwestern University.

The Oncofertility Consortium

What is the Oncofertility Consortium?

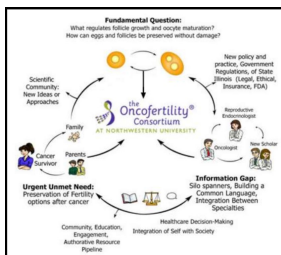
The Oncofertility Consortium is a group of basic scientists, clinical providers, and social scientists who are all committed to advancing the science in considering fertility preservation for cancer patients. The professionals involved in the Oncofertility Consortium seek to address a wide spectrum of issues, including:

- Mechanisms underlying the fertility threat of life-preserving cancer drugs.
- Methods for cryopreservation (freezing), storing and growing ovarian and gonadal tissue.
- In vitro follicle growth and oocyte maturation using a three-dimensional environment.
- Communication barriers between cancer patients and health care providers.
- Ethical and legal concerns regarding the use of fertility preservation technologies in cancer patients.



ONCOFERTILITY CONSORTIUM RESEARCH PROJECTS

- Method for Cryopreservation and Recovery of Female Follicles (<http://oncofertility.northwestern.edu/research/follicle-cryopreservation>)
- Measures of Fertility in Young Cancer Patient (<http://oncofertility.northwestern.edu/research/fertility-measures-after-cancer>)
- Bioengineering Primate Follicles: Immature Eggs to Live Births (<http://oncofertility.northwestern.edu/research/bioengineering-primate-follicles>)
- See more research projects... (<http://oncofertility.northwestern.edu/research-projects>)



Dr. Kondapalli, "I contribute to the Oncofertility Consortium by being a member of the National Physicians Cooperative (NPC), which is a conglomeration of institutions across the country that are committed to advancing the science in fertility preservation techniques and offering these methods to their patients."

- Learn about the NPC (<http://oncofertility.northwestern.edu/resources/national-physicians-cooperative>)
- Learn about the (<http://oncofertility.northwestern.edu/resources/first-registry>) FIRST Registry (<http://oncofertility.northwestern.edu/resources/first-registry>)

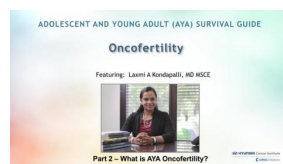
What is Oncofertility?



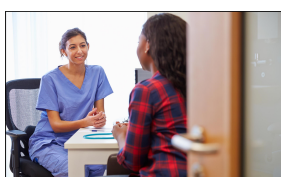
Oncofertility is an interdisciplinary field at the intersection of oncology and reproductive medicine that expands fertility options for cancer survivors.

(Source: <http://oncofertility.northwestern.edu/> (<http://oncofertility.northwestern.edu/>))

Dr. Kondapalli, "My role as an oncofertility specialist is to think, one, about the fertility issues, but also to expand that to consider the whole host of long-term reproductive side effects that may result as an outcome of cancer treatment."



(<https://vimeo.com/149232205>)



HOW IMPORTANT IS IT TO HAVE ONCOFERTILITY TRAINING?

Dr. Kondapalli, "I think it's very important for providers who work with AYA patients to be aware of some of the oncofertility issues that their patients may face. Fertility is consistently considered to be one of the most important quality of life issues for many patients, particularly for AYA patients who are of reproductive age."

ARE THERE ONCOFERTILITY EXPERTS AT CHOC CHILDREN'S?

Julie Messina, "Dr. Sender, the director of our program, is a renowned expert in the field. Together with him we educate the staff so that every member of the team is thinking about fertility preservation for our patients. It is the responsibility of every oncologist to discuss impact of treatment on fertility as a part of informed consent before therapy starts."



Leonard Sender, M.D.

Fertility Preservation is Important for Pediatric and AYA Patients Because...

Fertility preservation is particularly important for AYA patients because some of the cancer treatments that they may receive may actually impair their ability to have children in the future. This consideration is of particular consequence for female cancer patients - natural fertility declines over time for women, even outside of a cancer diagnosis. And so, when you add to a natural decline in fertility these treatments that may actually accelerate that decline, then by the time a patient has completed their cancer treatment their fertility might be substantially reduced, or they may even enter into infertility and not be able to have biological children in the future. Therefore, being able to offer fertility preservation options before they go through their cancer treatment really optimizes the options that a patient has after their treatment.



To Learn More:

- Ethics Committee Report (<http://www.asrm.org/ethicsreports/>) - from The Ethics Committee of the American Society for Reproductive Medicine

How Cancer Treatments Impact Fertility

FOR BOYS AND MEN

Chemotherapy kills rapidly dividing cells in the body. This targets cancer cells, but kills healthy ones as well.

FOR GIRLS AND WOMEN

Chemotherapy kills rapidly dividing cells in the body, targeting cancer cells and healthy ones as well, which can

Some chemotherapy agents are more harmful than others, and a male's age, the type of chemotherapy, and the drug dosage can influence the fertility risk.

Radiation kills rapidly dividing cells in and around a target area. Radiation directed at or near the testicles can genetically damage a man's sperm or cause infertility. Radiation to the hormone-producing areas of the brain or the pituitary gland may also cause infertility by disrupting normal hormone production. However, radiation to other areas of the body will not affect fertility.

Bone Marrow/Stem Cell transplants involve high doses of chemotherapy and sometimes, full body radiation. The combination of treatments and their intensity put the patient at high risk of infertility.

Medication targets certain cancer proteins or other cancer characteristics. While the protein-targeting medications may affect fertility, other medications appear to have no effect on male fertility.

Surgery removes cancer-ridden parts of the body. Infertility can result when parts of the reproductive system – such as one or both testicles – are removed.

Fertility and Men with Cancer (<http://www.cancer.org/acs/groups/cid/documents/webcontent/acspsc-041228-pdf.pdf>)



damage or destroy eggs. Age, type of chemotherapy, and the medication dosage can affect risk.

Radiation kills rapidly dividing cells in and around a target area. This can damage the reproductive system when directed at or near the pelvic area. Radiation to the hormone-producing areas of the brain or the pituitary gland may also cause infertility by disrupting normal hormone production. Direction of the radiation and the dose impacts the risk level.

Bone Marrow/Stem Cell transplants involves high doses of chemotherapy and sometimes, full body radiation. This poses a high infertility risk by damaging ovarian and uterine reproductive systems due to the amount and intensity of treatment. In some cases, the damage may eliminate future chances of carrying a pregnancy.

Medication targets certain cancer proteins, which can affect fertility. Medications that target other cancer characteristics appear to have no effect on female fertility, but can impact pregnancy.

Surgery removes reproductive systems if they are found to contain gynecologic cancers, such as ovarian cancer, uterine cancer, or cervical cancer. Removing the ovaries, uterus, cervix or other reproductive organs can cause infertility and can eliminate chances of carrying a pregnancy.

Fertility and Women with Cancer (<http://www.cancer.org/acs/groups/cid/documents/webcontent/acspsc-041244-pdf.pdf>)



How has Fertility Preservation Changed in the Last 3-5 Years?

Over the past few years, we have had great advances in technology, and we are able to offer even newer fertility preservation options for patients. For example, up until last year, oocyte cryopreservation, or what is traditionally known as egg banking, was considered experimental, however, given the advances in the way that we freeze eggs, the pregnancy rates have drastically improved, and the experimental label was taken off of egg banking - it's now considered standard of care. In June 2015, the first birth was recorded from transplanted ovarian tissue. There have been successful pregnancies for women with grafts of ovarian tissue, but this is the first for ovarian tissue removed before the woman started menstruating. These are examples of how our delivery of fertility preservation has changed even in the last three to five years, and research in this area is active and ongoing.



INFORMATION ON EGG BANKING:

- **Egg Freezing Changing Fertility Treatments**
(<http://www.cnn.com/2012/10/22/health/frozen-egg-banks/>)
- **Egg Freezing Puts the Biological Clock on Hold**
(<http://www.npr.org/2011/05/31/136363039/egg-freezing-puts-the-biological-clock-on-hold>)
- **Egg Freezing: A New Frontier In Fertility**
(<http://health.usnews.com/health-news/health-wellness/articles/2013/07/11/egg-freezing-a-new-frontier-in-fertility>)

To Learn More:
- The First Birth from Transplanted Tissue
 (<http://www.popsoci.com/woman-transplanted-ovarian-tissue-gives-birth-baby>)

What Fertility Options are Available?

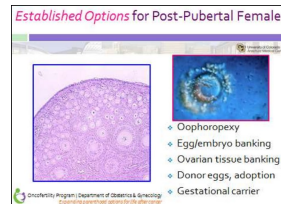


For post-pubertal males (men who have gone through puberty), the mainstay fertility preservation method is sperm cryopreservation, or sperm banking. Pre-pubertal boys (boys who have not gone through puberty) are not yet producing sperm, so research is focused on using testicular tissue. We are studying the best ways to freeze and store that tissue and how to use it in the future to restore the boy's fertility.

To Learn More:

- Fertility and Men With Cancer (<http://www.cancer.org/treatment/treatmentsandsideeffects/physicalsideeffects/sexualsideeffectsinmen/fertilityandmenwithcancer/fertilityandmenwithcancertoc>)

For post-pubertal girls, we can freeze eggs, we can freeze embryos, and an experimental procedure that we can now offer is ovarian tissue transplantation. Pre-pubertal girls (girls who have not begun menstruating) do not produce mature eggs, so they are candidates for ovarian tissue cryopreservation (freezing). This ovarian tissue can be transplanted back after cancer treatment. Though still experimental, this procedure looks very hopeful.



To Learn More:

- Fertility and Women With Cancer (<http://www.cancer.org/treatment/treatmentsandsideeffects/physicalsideeffects/sexualsideeffectsinwomen/fertilityandwomenwithcancer/fertilityandwomenwithcancertoc>)

Dr. Kondapalli, "When I counsel AYA patients about maximizing their future fertility potential, my first approach is to discuss and review with them the fertility preservation options that are available even before they undergo their cancer treatment. In addition, I also share with them that there are many different ways of making a family - sometimes it is using your own eggs and sperm, and sometimes there are opportunities to use donor oocytes or donor sperm or even adoption as alternative options for parenthood."



Diagnosis

The Diagnosis Phase

In the diagnosis phase, pediatric and AYA patients and their parents may have some time pressure to make decisions - momentous decisions about future fertility and their reproductive choices. Oftentimes, they may have an aggressive disease, and our oncology colleagues may feel motivated to initiate chemotherapy or radiation quickly, and patients are left having to make very big decisions in a very short period of time.



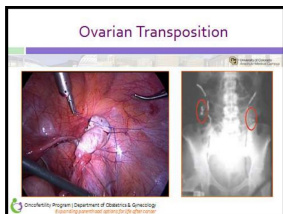
Dr. Kondapalli, *"In my role as an oncofertility specialist, I do my best to provide patients with information without overwhelming them, and the most important thing that I try to convey is that they have options. They're in a situation where many of the things that they're facing are out of their control, but they do have a very specific decision that they can make and that they have a right to make, and that's about their fertility."*

- Fertility Preservation Options Before Cancer Treatment
(<https://arm.coloradowomenshealth.com/services/cancer/preservation/>)

Fertility Preservation at a Glance

- Before undergoing cancer treatment, men and women can preserve their reproductive potential through cryopreservation: men may freeze a sample of their sperm, and women can preserve their eggs or create and freeze embryos.
- Women may also surgically reposition their ovaries to avoid radiation, depending on the area of the body being targeted.
- There are also fertility preservation options for children who will be going through cancer treatments.

Different Cancers and Oncofertility Considerations



Julie Messina, *"This is a very challenging area because we know that many diseases such as leukemia cause malignant cells to invade into the ovary, so preserving ovarian tissue with a plan to re-implant one day brings the risk of reintroducing cancer to the patient. Current strategies to eliminate malignant contamination are underway in both boys' and girls' tissue."*

Dr. Kondapalli, *"Depending on the type of cancer a patient has, their fertility preservation options and the way that I approach them from an oncofertility standpoint can be quite different. For example, patients who have a large abdominal or pelvic tumor may require pelvic radiation. With these patients, I would discuss a procedure called ovarian transposition, where we can actually surgically suspend the ovaries to try and remove them outside of the radiation field."*

For a patient who has a hematologic cancer such as leukemia or lymphoma, the options that I discuss with them might be a little bit different. For example, ovarian tissue freezing is an option that is available for leukemia or lymphoma patients, even in a pediatric population. However, the successful pregnancies that have occurred from using frozen tissue have resulted from transplantation. Unfortunately, patients who have blood-borne malignancies really aren't candidates for transplantation. The last thing that we would want is for an AYA patient to overcome their cancer and then potentially reintroduce those malignant cells through the transplanted tissue."

Having a Fertility Conversation With Your Doctor

Dr. Kondapalli, *"Conversations about reproductive issues and fertility concerns are often challenging when discussing them with a newly diagnosed patient and their family. One of the ways that I approach it is that I often ask if I can speak with the patient by him or herself so that we can have a private conversation. Then, patients, especially the young adolescents, will oftentimes have incredibly smart questions that they feel free to ask. I discuss with them any concerns that they have - not just about fertility, but also about safe sex practices, about contraception, and about reproductive health. Patients will often feel comfortable speaking with me privately about those issues and the other things that are on their minds,*



Julie Messina, *"When it comes to fertility preservation, since parents are part of the decision making process we often do talk with them in the room, but also give the patient the opportunity to have a private discussion with their healthcare practitioner."*

where they may not feel as comfortable discussing those issues in front of their families. At the end of that conversation, I always regroup with the family as a whole and summarize the points that we discussed during the consultation. However, patients do know that they have a confidential relationship with me as their provider.”

- 5 Questions to Ask Your Partner’s Doctor Before Starting Treatment (http://www.myoncofertility.org/documents/5_questions_ask_your_partners_doctor/)

- 5 Questions to Ask Your Child’s Doctor Before Starting Treatment (http://www.myoncofertility.org/documents/5_questions_ask_your_childs_doctor/)

Cultural and Religious Barriers



Julie Messina, “We always try to take into consideration that religion and culture will play into a patient’s decision as to whether to participate in fertility preservation. For example, some religious groups place child bearing at the highest level of importance, and others may forbid masturbation, which is necessary for sperm collection. We make an effort to be sensitive to patients in all these situations.”

Dr. Kondapalli, “The kinds of goals that I would ask my patients to consider, especially in the diagnosis phase, are, one, to really consider what their desires are for children in the future; two, to seek as much information and ask as many questions as they can about the specific impact of their particular cancer treatment on long-term fertility; and, three, to make time to talk with friends and family and loved ones or partners who are their support network to communally come to a decision about fertility preservation and how to proceed with fertility preservation.”

Goals to consider during the Diagnosis Phase:

1. Think about what your desires are for children in the future
2. Ask questions about the impact of your cancer treatment on long term fertility
3. Talk to a support network about fertility preservation

NOTE: The general Health Goals at the end of each phase are suggestions only. Develop specific goals in collaboration with your patient care team.

[Click here to learn more about setting achievable health goals. \(https://www.mybridge4life.com/node/7623\)](https://www.mybridge4life.com/node/7623)

Treatment

The Treatment Phase

During the treatment phase, consideration of oncofertility issues can be quite difficult. The best opportunity for patients to optimize their fertility preservation options is to pursue some sort of banking prior to starting chemotherapy or radiation.

Dr. Kondapalli, "The way that I approach patients who are currently in treatment and desire fertility preservation is not through thinking about the cancer subtype itself, but about what treatment they've received. One example would be a patient who receives cyclophosphamide, an alkylating chemotherapeutic agent that is widely used in a variety of different cancers. Cyclophosphamide can have an impact on the eggs that remain within the ovary. So, regardless of the type of cancer a patient has, a woman who has been exposed to cyclophosphamide may not respond to fertility medications once she's initiated that cancer therapy."



/184762682)

(<https://vimeo.com>

To Learn More:

- More information on Cyclophosphamide and its Effects

(<https://medlineplus.gov/druginfo/meds/a682080.html>)

Counseling Patients About Pregnancy



Dr. Kondapalli, "One of the challenges that I face is counseling patients about the interval of time to delay pregnancy or consider beginning pregnancy after they finish their cancer therapy. Unfortunately, we don't have a lot of data about what the optimal time period is. Oftentimes, oncologists and reproductive medicine specialists like myself advise patients to wait 12 to 24 months after finishing therapy before thinking about pregnancy. One of the challenges, though, is that we don't have specific data to support that recommendation."

Goals to consider during the Treatment Phase:

1. Physical health
2. Mental health
3. Social health and support

NOTE: The general Health Goals at the end of each phase are suggestions only. Develop specific goals in collaboration with your patient care team.

Click here to learn more about setting achievable health goals. (<http://www.mybridge4life.com/node/7623>)

Healing



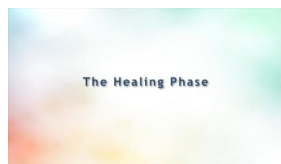
The Healing Phase

After a patient has completed their therapy and is in the healing phase, from a reproductive standpoint they may still be facing some of the long-term side effects of their cancer therapy.

Dr. Kondapalli, "For many of my female young adolescent and young adult patients, they may stop getting their period during chemotherapy or radiation, and their period may not come back for 6 to 12 months after their therapy. During the time when their periods have not started again they don't feel like a normal patient or a normal peer, and so they may have undue or unnecessary concern or anxiety about the fact that their body hasn't gotten back to normal."

- Perception of Fertility Affects Quality of Life in Young, Female Cancer Survivors (<http://www.coloradocancerblogs.org/perception-of-fertility-affects-quality-of-life-in-young-female-cancer-survivors/>)

- Life After Cancer Treatment & Ways to Manage Physical Changes (<http://www.cancer.gov/publications/patient-education/facing-forward>)



(<https://vimeo.com/184759593>)

Family Planning Conversations During the Healing Phase



Dr. Kondapalli, "Patients do come see me after they've completed their therapy so that we can regroup and talk about their reproductive concerns and their reproductive goals now that they're in the survivorship period. For example, we may readdress issues about fertility, and whether there are fertility treatments that we can offer to a survivor after they've overcome their cancer. I also discuss with them contraceptive concerns and contraceptive options, particularly since many oncologists advise patients to postpone pregnancy for about one to two years after completion of their therapy. That can be a challenging conversation to have because some of the contraceptive options may not be appropriate for a particular AYA patient. In particular, patients who have had different types of chemotherapy may not be appropriate candidates for certain types of contraceptive methods."

- Pregnancy & Children After Cancer (<http://www.cancer.net/survivorship/life-after-cancer/having-baby-after-cancer-pregnancy>)

- Managing Pregnancy After a Cancer Diagnosis

(<http://oncofertility.northwestern.edu/blog/2013/02/managing-pregnancy-after-cancer-diagnosis>)

MONITORING FERTILITY

Julie Messina, "The initial evaluation of fertility usually occurs between one year and 18 months after the completion of cancer treatment. If the initial evaluation shows decreased fertility, ongoing assessments can occur approximately every 6 months to a year, up to 5 years post-treatment, until the effects are better understood."

TEEN SEXUAL HEALTH

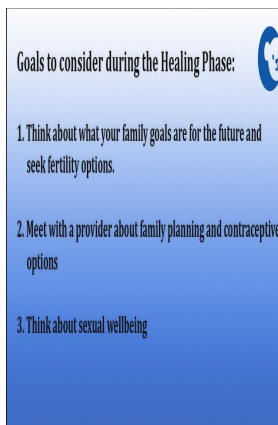
Julie Messina, "After cancer treatment patients often complain of sexual dysfunction and low libido. At CHOC we work with a multi-disciplinary team including psychologists, OBGYNs, and urologists to help address these issues."


To Learn More:

- Preserving Fertility In Adolescent Cancer Patients

(<http://blog.chocchildrens.org/preserving-fertility-adolescent-cancer-patients/>)

Dr. Kondapalli, "Health goals that I would like patients to consider in the healing phase are, one, to really think about what their family goals are for the future and to seek information about fertility options if that's something that they'd like to pursue; two, is to meet with either their primary care physician or another provider and discuss family planning contraceptive options as well; and three is to really consider their sexual wellbeing, as well."



Goals to consider during the Healing Phase: 

1. Think about what your family goals are for the future and seek fertility options.
2. Meet with a provider about family planning and contraceptive options
3. Think about sexual wellbeing

NOTE: The general Health Goals at the end of each phase are suggestions only. Develop specific goals in collaboration with your patient care team.

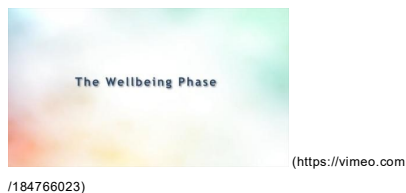
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Wellbeing

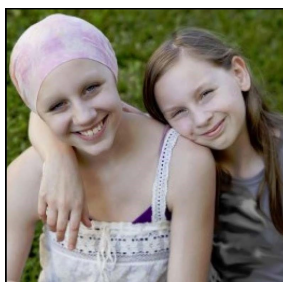
The Wellbeing Phase

In the wellbeing phase, I would advise patients to consider identifying what their current fertility status is.

Dr. Kondapalli, *"They can get information from their primary care physician or seek a fertility specialist to find out and assess what long-term impact their cancer treatment may have had on their fertility. If a patient has pursued fertility preservation methods prior to their cancer therapy, the wellbeing phase may be an opportunity for them to actually utilize some of their banked eggs or embryos or sperm. In that stage, I would advise my female patients to follow up with their obstetrician, and for some of them, I recommend seeking the advice and consultation of a maternal fetal medicine doctor. These are doctors who specialize in high-risk obstetrics and really specialize in thinking about how patients who have a whole host of medical illnesses might still have a safe pregnancy."*



Wellbeing Phase for Different Cancer Subtypes

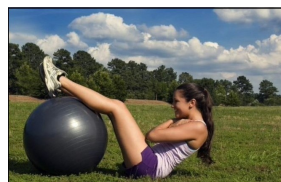


Dr. Kondapalli, *"Some of my young Hodgkin's/lymphoma patients have been exposed to certain types of chemotherapy that can have toxic effects either on their lungs or even on their heart. During pregnancy, the blood volume is increased by fifty percent because so much of that blood volume and nutrients are there to support the growing pregnancy. And for my young patients who have been exposed to Adriamycin, there are baseline tests that we can do to assess their cardiac function even before considering pregnancy so that we can be sure to monitor them and be aware of any complications that they may be at risk for during their pregnancy. In addition, for my patients who have had pelvic radiation, one thing that I discuss with them is that radiation exposure can predispose them to certain pregnancy complications, such as pre-term birth or having a small baby, and those are pregnancy complications that patients need to be aware of before even embarking on their fertility journey."*

Will the Lives of AYA Patients Ever be the Same Again?

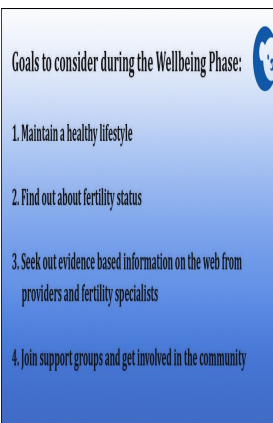
Dr. Kondapalli, *"For AYA patients in the wellbeing phase, they may have trouble resuming their normal lives because they've undergone a tremendous experience. My goal as a fertility specialist is to provide them fertility options to normalize their lives as much as possible and enable them to achieve their goal of having a family if that is what they want."*

Dr. Kondapalli, *"During the wellbeing phase, I would advise patients to maintain certain health goals. One is to maintain a healthy lifestyle. So eating well, exercising, and making sure that they are able to enjoy doing their normal activities. Two, I would advise patients to find out their fertility status if pregnancy and future fertility are of concern to them. And three would be to seek out information - there are phenomenal web resources, they can discuss next steps with their primary care physician, and they can also seek the expertise of a fertility specialist. I would also advise patients to join support groups or get involved in their community."*



- National Cancer Institute Organizations & Resources for AYA Patients (<http://www.cancer.gov/types/aya>)

There are phenomenal peer-to-peer programs where they can also shepherd another young person who's newly diagnosed and has been through or will go through many of the same experiences that they have. It's a great opportunity for those young people to provide that same type of support to future patients."



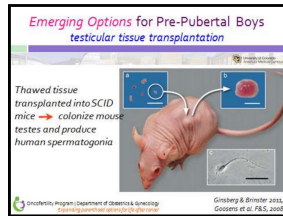
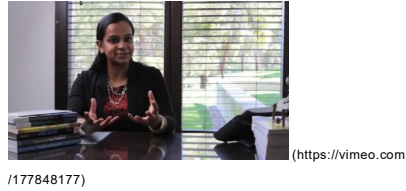
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[Click here to learn more about setting achievable health goals. \(http://www.mybridge4life.com/node/7623\)](http://www.mybridge4life.com/node/7623)

Looking Toward the Future



Dr. Kondapalli, *“There are promising future fertility preservation options that are coming down the pike. For example, we are now able to isolate individual eggs from the outer layer of the ovary, which is called the cortex, and there are opportunities to actually grow those immature eggs completely in an in vitro or lab system. That is a technology that has advanced over the last three to five years, and great advancements are continuing to happen in this area. In addition, on the male side, there are new technologies to actually biopsy or remove portions of the testes in prepubertal young males, and then that tissue can be frozen and then transplanted back into the testes, and mature human sperm can be created. Both of these treatment options are still experimental, and there are institutions that are making great headway, and I do believe that over the next few years these options are going to be a reality.”*



MOST EXCITING WORK...

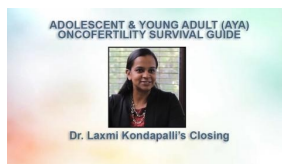
Dr. Kondapalli, *“The most exciting work that I am aware of is the emergence of science and research into the long-term side effects of cancer therapy. While we’ve made great strides in providing new technology for fertility preservation, one of the questions that still remains unanswered is what the long-term impact is of many of the chemotherapies and radiation therapies that we are utilizing now. There are new studies that are looking at some of the longterm side effects, not only on fertility and reproductive function, but also on the impact on hormonal production and how that may predispose young patients to early diabetes or early heart disease, as well as the impact on bone health. Researchers are really thinking from a fertility standpoint about how the area of hormonal production can impact other important body systems.”*

MY DREAM IN 10 YEARS...

Dr. Kondapalli, *“My dream as an oncofertility expert is that I don’t have a job in ten years because we’ve had such great advances in targeted therapy to combat malignant cells and kill off the tumor cells and relatively preserve all the other normal cells. So my dream would be that, in ten years, oncofertility wouldn’t exist.”*

- So Others May Benefit: Young Cancer Patients and Survivors Take Part in Oncofertility Research
 (<http://www.cancer.gov/about-cancer/treatment/research/young-adults-fertility-research>)

Closing



(<https://vimeo.com/174882845>)



"As an oncofertility specialist, the most important thing to communicate to a newly diagnosed patient is that they have options available to them, and these options are choices we can work on together to make really informed decisions about their reproductive health in the future; and that there are experts and professionals available to help them and shepherd them through a very difficult process."

- Laxmi Kondapalli, M.D.



"I love discussing fertility preservation with patients because it means that we are planning for their life beyond cancer. It is seen as a discussion of hope. I know that it will be important to them one day and, although there are many ways to make a family, I want them to have the option of biological children if they choose."

- Julie Messina, PA-C

