Dear Patient,

New Hope Fertility Center is a global leader in gentle, assisted reproductive methods that reduce stress on mothers and increase the chances of a healthy birth.

We emphasize personalized care and offer a full range of assisted reproduction services. Our practice combines cutting-edge technology with a commitment to low-drug methods of assisted conception. This approach offers a high level of success without the trauma and stress of heavy-dose hormone therapy integral to Conventional IVF treatment.

When you enter our facility, you will be greeted by a world-class team that uses the most advanced, yet gentle, treatments available. As you begin your treatment, we encourage you to keep a journal of your thoughts and note questions to ask during your appointments. Our team is here to provide support and ensure your experience is simple, successful, and stress-free.

We have designed this IVF Handbook to serve as a step-by-step treatment guide and a resource for information. We invite you to review the materials and contact our fertility team with any questions. This journey will be one of the most important and rewarding experiences of your life and we are here to support you every step of the way.

Warmly,

Dr. John Zhang,
MD, MSc, PhD,
Founder & Director
New Hope Fertility Center
Patients Come first at New Hope Fertility Center.

We understand that the journey to parenthood can be challenging. That’s why our staff is dedicated to supporting you through every stage of the journey. We are truly honored that you are considering New Hope Fertility Center and consider it our duty to provide you with the absolute best fertility care possible.

At New Hope Fertility Center, we custom-design our fertility treatments to each individual. Each person’s unique fertility plan is designed to ensure that they are receiving the comprehensive care that is right for their body. Each person’s protocol is specially designed to ensure the patient is receiving the highest quality care at the most optimal times for their body. We achieve this through blood testing and constant monitoring.

Our treatments at New Hope offer minimal stimulation and result in a gentler and more physiologically supportive experience. With a Conventional IVF cycle, numerous shots and medications simultaneously shut down the body’s naturally occurring fertility system and create an artificial one, forcing the ovaries to create many eggs. Our Mini-IVF™ and Natural Cycle IVF protocols allow us to learn about your body so that we can help you augment and enhance your own, naturally occurring fertility. New Hope diligently monitors and adjusts treatment protocols to nurture your body’s highest quality eggs, allowing for high IVF success rates with Single Embryo Transfer. Our advanced technique for cryopreservation (vitrification) has over 90% thaw-survival-rate, providing you the option to freeze additional embryos.

Patients from around the world and of all ages, ethnicities, and sexual orientation are seen 365 days a year. Schedule a consultation today to get started with your customized fertility plan.

Whether you are exploring IVF options or looking to preserve your fertility, New Hope can assist you with your family planning. We are ready to provide you with a full range of both male and female assisted reproduction services.
Timed Intercourse

Over the course of your menstrual cycle, your core body temperature fluctuates slightly. During the follicular phase of your cycle, your core body temperature is lower than during the luteal phase of your cycle, and a sustained shift in temperature (0.4 to 0.6 degrees Fahrenheit) indicates that ovulation has occurred. Planning intercourse to synchronize with this sustained shift in body temperature, when you are most fertile, is called timed intercourse. This can be accomplished by charting your basal body temperature (BBT) which is taken at the same time each morning before getting out of bed.

Your expected ovulation may also be monitored in 2-4 office visits. During these office visits you will have sonograms and blood tests to measure hormone levels. When ovulation is expected, you will be instructed on the ideal days to engage in sexual intercourse.
Intrauterine Insemination (IUI)

Intrauterine insemination (IUI), also known as artificial insemination, involves using a catheter to place a number of washed sperm directly into the uterus. This method increases the number of sperm that reach the fallopian tubes and therefore the chance of fertilization. IUI is often selected by couples who have been trying to conceive for at least one year but who have no known reasons for their infertility. It may also be selected for conditions such as low sperm count, decreased sperm motility, requirement of donor sperm, a poor cervical environment, or sexual dysfunction.

Although IUI still requires the sperm to reach and fertilize the egg on its own, it is important to make sure that the sperm is healthy and motile. IUI provides the sperm an advantage by giving it a head start, but it still has to seek out the egg on its own. For patients with tubal blockages or damage, ovarian failure, menopause and severe male factor infertility, IUI would not be suitable.

For an IUI, we often, though not always, stimulate ovulation with medication to encourage multiple egg development, and then time insemination to coincide with ovulation. Semen is collected for insemination after 2-3 days of ejaculatory abstinence and then “washed” in the laboratory (separating sperm from the naturally accompanying seminal plasma). Washed sperm is then placed into a very thin sterile flexible catheter, which is inserted through the woman’s cervix and then injected into the uterine cavity (see Figure 2.2).

Figure 2.2 IUI: Washed sperm is injected into the uterine cavity.
In-vitro Fertilization (IVF)

In-vitro fertilization is an assisted reproduction technique in which an egg is fertilized outside of a woman’s body. Many IVF treatments involve administering fertility medications to a woman to mature more than one egg in each cycle. Immediately before ovulation, a doctor retrieves the eggs and unites them in the laboratory with sperm either from the patient’s partner or from a donor. The resulting embryo is then transferred to the woman’s uterus for implantation. If successful, pregnancy is confirmed with a blood test 1-2 weeks later. Below is a brief overview of common IVF protocols and their distinguishing features.

Click on each link for more info.

**Natural Cycle IVF**
Natural Cycle IVF is a drug and chemical-free protocol. It avoids fertility drugs that would otherwise stimulate your ovaries to produce multiple eggs. The underlying principal of this procedure is to capture the single egg your body naturally produces each month during your menstrual cycle.

**Minimal Stimulation IVF (Mini-IVF™)**
Mini-IVF™ stimulates the ovaries with minimal medications (oral tablets with 3-6 injections), to try to obtain “quality” eggs sometimes. It also uses a nasal spray trigger (Synarel) for ovulation induction instead of hCG (human chorionic gonadotropin) resulting in fewer side effects when Compared to conventional IVF. For an egg retrieval during a Mini-IVF™ cycle, we use a uniquely thin, flexible needle to retrieve the eggs resulting in briefer, less painful egg retrievals.

**Hyper-Stimulation (Conventional) IVF**
Conventional IVF protocols are designed to produce a high quantity of eggs by treating patients with multiple high doses of daily injections.

**Donor Egg IVF & Donor Sperm IVF**
If your egg or your partner’s sperm is not viable for pregnancy, donor eggs and sperm offer an alternative route to pregnancy. Donor Egg IVF cycles generally use conventional IVF treatments to maximize the number of eggs that the donor can provide each cycle. Those eggs can then be fertilized with either a partner’s sperm or donor sperm.

**Surrogate IVF (Using a Gestational Carrier)**
When you do not have a functioning uterus or have difficulty sustaining a pregnancy to term, you may opt to use a surrogate or gestational carrier to carry your child to term. Gestational carriers undergo an embryo transfer procedure using your egg (or donor eggs) fertilized by your partner’s sperm (or a sperm donor). Since the embryos are created through IVF, your gestational carrier does not have any genetic link to your child.
Vitrification (cryopreservation) and embryo banking:
Vitrification is an innovative, flash-freezing technique for oocytes, embryos and ovarian tissue. Unlike conventional, slow-dunk, freezing methods, vitrification has a 99% survival rate and allows you to store surplus embryos for later use.

Genetic testing:
Numerous diseases and disorders classified as chromosomal disorders, single gene defects, and sex-linked disorders, can be tested through a technique called pre-implantation genetic diagnosis (PGD). PGD involves the removal and biopsy of cell(s) from the embryo. A day-3 embryo consists of just six to eight cells. At that stage, a single cell is removed. Biopsies taken at the day-5 stage, when the embryo has about 100 cells, are more at the day 5 stage, your doctor can remove three or four cells from the trophectoderm, the part of the blastocyst that will become the placenta. PGD is performed for all single gene defects where the specific mutation is identifiable. Analysis of the cells occurs by fluorescent in situ hybridization (FISH), a diagnostic method used to show the number and arrangement of chromosomes. PGD is an early screening technique and it does not entirely rule out the chance of a defect being present. For this reason, PGD should be followed up with first-trimester screenings. Additionally, our center may use a technique called Array-Comparative Genomic Hybridization (aCGH) to screen all 24 chromosomes to look for aneuploidy, including gender in embryos. This technique is especially useful in women with a history of recurrent pregnancy loss to rule out chromosomal abnormalities before the embryo transfer. indicative. At the day 5 stage, your doctor can remove three or four cells from the trophectoderm, the part of the blastocyst that will become the placenta.

Intracytoplasmic Sperm Injection (ICSI):
Intracytoplasmic sperm injection is a micromanipulation technique used in cases of male factor infertility where normal sperm quantity and motility is impaired. With ICSI, a single sperm is selected on the basis of its shape and size and then injected into the cytoplasm of a mature egg to achieve fertilization (see Figure 2.4).

Figure 2.4 Sperm is injected into the cytoplasm of mature egg using ICSI.
Female Surgeries and Procedures

As discussed in the previous chapter, infertility can result from a number of mechanical and structural problems with the reproductive system that surgery may be able to correct. Some common procedures are detailed in the following pages.

**Hysterosalpingogram (HSG)**
This diagnostic radiology procedure is used to examine the inside of the uterus, the fallopian tubes, and their surrounding environment. A dye is inserted in a thin tube through vagina and into the uterus. Images are taken using a fluoroscope as the dye passes through the uterus and fallopian tubes. The resulting images are used to find any injuries, blockages, or anatomical abnormalities.

**Hysteroscopy**
A hysteroscopy is a procedure used to look at the inside of the uterus. A camera is inserted through the vagina into the neck of the uterus and attached to a light source and a hysteroscope for visualization. This surgical technique allows doctors to view the internal structures of the uterus without the need for an abdominal incision.

**Myomectomy**
A camera is inserted through the a small abdomen incision to assist in the removal of uterine fibroids and improve the health of the uterus. This procedure can be done abdominally or hysteroscopically.

**Ovarian Tissue Transfer**
If you are unable to produce viable eggs, ovarian tissue transfer is one donor option you might consider. Tissue transfer involves removing ovarian tissue from one woman, microsurgically dissecting the tissue, and subsequently transplanting it into another woman. It can be a preferable alternative to egg donation because ovarian tissue has potentially thousands of eggs, and the tissue continues to function as a normal healthy ovary in your body long after the transfer.
Male Surgeries and Procedures

Microsurgical sperm aspiration procedures (MESA and TESE) are used to retrieve sperm directly from different areas of the testicle. Both procedures are performed under local anesthesia. The sperm can then be used in conjunction with IVF and Intracytoplasmic Sperm Injection (ICSI).

Microsurgical Epididymal Sperm Aspiration (MESA):
MESA is used when infertility is caused by blockage. Using an operating microscope, reproductive specialists isolate the epididymis and then retrieve fluid from an epididymal tubule. The fluid obtained is then processed in the laboratory to ensure that sperm is present. Afterwards, the tubules are closed microsurgically. The sperm can either be used immediately or frozen for later use.

Testicular Sperm Extraction (TESE):
TESE involves removing a small piece of testicular tissue through an incision in the testes. The tissue is then processed to extract sperm in the laboratory. As opposed to MESA, this process usually results in fewer specimens since they are more difficult to work with and do not freeze as well as. TESE is only used in severe cases where it is the only method to deal with poor sperm.
Glossary
Glossary

The following terms either appear in this handbook or will be used commonly by your Personal Care Team

**Androgen**: A male sex hormone that is produced in the testes and is responsible for typical male sexual characteristics.

**Anovulatory cycle**: A cycle during which the ovaries fail to release an oocyte. Therefore, ovulation does not take place. Chronic anovulation is a common cause of infertility.

**Anesthesia**: Loss of bodily sensation with or without loss of consciousness.

**Antral follicle count**: The number of follicles detected by the ultrasound at the beginning of the menstrual cycle. This indicates the size of your ovarian reserve.

**Assisted hatching**: A procedure performed after fertilization and prior to implantation in which the zona pellucida of the embryo is partially opened by application of a laser to facilitate embryo implantation.

**Assisted reproductive technology (ART)**: All fertility treatments that include the handling of eggs and sperm.

**Basal Body Temperature (BBT)**: Body temperature in the morning before rising, moving about or eating.

**Blastocyst**: An embryo usually five days after fertilization that has formed a fluid-filled cavity. At this stage the cells begin to form the early placenta.

**Cervix**: The narrow entrance to the uterus.

**Clinical pregnancy**: A pregnancy confirmed by hormone levels and visible by ultrasound.

**Clomiphene citrate challenge test (CCCT)**: A common test of ovarian reserve in which FSH is checked on days three and ten of the menstrual cycle and Clomid is taken on days five through nine.

**Cryopreservation**: Freezing at a very low temperature to keep embryos, eggs, or sperm viable for further transfer or fertilization. Vitrification is an advanced type of cryopreservation.

**Corpus albicans**: The regressed form of the corpus luteum.

**Corpus luteum**: A yellow mass of cells that forms from an ovarian follicle during the luteal phase of the menstrual cycle.

**Cyst**: An abnormal, closed, sac-like structure within a tissue that contains either fluid or tissue. A cyst can occur anywhere in the body and can vary in size.

**DNA**: The hereditary, material in humans and almost all other organisms.

**Dominant follicle**: The follicle that outgrows all other follicles in the ovary. In a natural cycle only one follicle becomes dominant and this results in only one egg being released.

**Ectopic pregnancy**: A pregnancy where the embryo is not embedded in the uterine lining. Usually it is lodged in the fallopian tubes.

**Egg**: The female sex cell produced and matured by the ovary, also called an ovum or oocyte.

**Egg retrieval**: A procedure performed right before ovulation in which eggs are removed from the ovaries via an ultrasound-guided needle and suction.

**Ejaculation**: The discharge of semen.

**Ejaculatory duct**: A canal formed by the union of the vas deferens and the duct from the seminal vesicles.

**Embryo**: A fertilized egg that has begun cell division.
**Embryo bank:** A collection of stored embryos.

**Embryo transfer:** Placement of an embryo into the uterus.

**Endometriosis:** A condition in which tissue resembling the lining of the uterus grows outside the uterus. It is often associated with infertility.

**Endometrium:** Layer of fine tissue completely covering the inside of the uterus. It is very sensitive to hormones and there is a window of time when the embryo can attach and start growing into it.

**Epididymis:** A tubule in each testicle that carries sperm to the vas deferens.

**Estradiol:** The most common estrogen (hormone) produced by the ovaries.

**Estrogen:** The female hormone largely responsible for the development of female secondary sex characteristics, the thickening of the endometrium and regulating the other aspects of the menstrual cycle.

**Fallopian tubes:** Part of the female reproductive system where sperm and egg meet in normal conception. This pair of tubes leads from each ovary to each side of the uterus.

**Female factor infertility:** Infertility caused by the female reproductive system.

**Fertilization:** The union of sperm and egg to form one cell with the genetic material of both parents.

**Fibroids:** Non-cancerous growths of the uterine wall that can cause abnormal uterine bleeding and pain.

**Fimbria:** Thin finger-like projections lining the fallopian tubes.

**Fluorescent in situ hybridization:** A technique that uses fluorescent markers to detect changes in the genetic material.

**Fluoroscopy:** An imaging technique that uses X-rays to cast shadows of an internal structure in motion on a fluorescent screen; the shadows vary in intensity according to the density of the structure.

**Follicle:** A fluid-filled sac in the ovary containing an egg.

**Follicle-stimulating hormone (FSH):** The pituitary hormone responsible for stimulating the growth and maturation of follicles. It acts in concert with LH.

**Frozen egg bank:** A collection of stored eggs.

**Frozen embryo transfer (FET):** The transfer of a once cryopreserved embryo, now thawed, into the uterus.

**Genome:** The total genetic information of a particular organism.

**Gestation:** The period during which an embryo develops.

**Gestational surrogate:** A woman who carries a pregnancy for another woman. The surrogate does not have a genetic relationship to the resulting child. The pregnancy is derived from the egg and sperm of the intended parent and her partner or donor, not the surrogate.

**Gonadotropin releasing hormone (GnRH):** Hormone secreted by the hypothalamus, a control center in the brain, that prompts the pituitary gland to release FSH and LH.

**GnRH agonists:** A GnRH analog that initially stimulates the pituitary gland to release LH and FSH. It can be used at the beginning of an IVF cycle to help stimulate follicular growth.

**GnRH analogs:** Synthetic hormones similar to the naturally occurring gonadotropin releasing hormone used to prevent premature ovulation. There are two types of GnRH analogs: GnRH agonists and GnRH antagonists.

**GnRH antagonists:** Synthetic hormones similar to the naturally occurring gonadotropin releasing hormone, that are used to prevent premature ovulation. These
medications have an immediate suppressive effect on the pituitary gland.

**Human chorionic gonadotropin (hCG):** A hormone produced by the placenta, the detection of which is the basis for most pregnancy tests. It induces ovulation and follicular maturation.

**Hormone replacement therapy (HRT):** The administration of estrogen, progesterone, or a combination of the two to counteract the hormonal effects and the decrease in these hormones during menopause.

**Hyperthyroidism:** Over production of thyroid hormones due to an overactive thyroid.

**Hypothyroidism:** Under production of thyroid hormones due to an underactive thyroid.

**Hypothalamic pituitary disorder:** The loss of function in an endocrine gland due to a failure of the pituitary gland to secrete hormones that stimulate the endocrine gland’s function.

**Hypothalamus:** A specific area of the brain that regulates many basic functions in the body including temperature, blood pressure, and satiety.

**Hysterectomy:** This refers to the surgical removal of a woman’s uterus.

**Implantation:** The process in which the embryo attaches to the endometrium and starts growing into it, inducing blood vessel growth.

**Incubator:** An apparatus consisting of a box designed to maintain a constant temperature by the use of a thermostat.

**Intracytoplasmic sperm injection (ICSI):** A procedure in which a single sperm is injected directly into an egg.

**Insemination:** The placement of sperm into the uterus.

**In-vitro fertilization (IVF):** A process in which an egg and sperm are united in a laboratory dish to facilitate fertilization.

**In-vitro maturation:** The technique of allowing ovarian follicles to mature in vitro.

**Intrauterine insemination:** Also known as artificial insemination, this procedure involves placing washed sperm directly into the uterus.

**IV sedation:** Sedation or anesthetic medications delivered through an intravenous (IV) line.

**Laser-assisted hatching:** A method for softening the zona pellucida of the egg to facilitate implantation.

**Laparoscopy:** A diagnostic procedure in which a long narrow fiber-optic instrument, called a laparoscope, is inserted through an incision in or below the woman’s navel so that the internal organs may be observed.

**Luteinizing hormone (LH):** The pituitary hormone that controls the length and sequence of the menstrual cycle, including ovulation and follicular maturation.

**Male factor infertility:** Infertility caused by a problem in the male reproductive system.

**Menopause:** The period when the menstrual cycle ceases.

**Menstruation:** Monthly discharge of the endometrial lining from the uterus in non-pregnant women from puberty to menopause.

**Motility:** Sperm cells’ ability to move spontaneously and independently.

**Oocyte:** See “egg.”

**Ovarian Hyperstimulation Syndrome (OHSS):** A condition that can result from ovulation induction. OHSS is a particular concern in conventional IVF. It is characterized by enlargement of the ovaries, ovarian tenderness, fluid retention and weight gain.

**Ovarian reserve:** A woman’s fertility potential, measured by the number of eggs she has remaining.

**Ovary (Ovaries):** The two female sex glands in the pelvis, located on each side of the uterus near the end of the fallopian tubes. The ovaries produce eggs and...
various hormones.

**Ovulation:** Release of an egg from the ovary.

**Penis:** The external part of the male reproductive system.

**Pituitary gland:** A small gland just beneath the hypothalamus in the brain that secretes many hormones regulating body processes, including FSH and LH.

**Placenta:** The membranous vascular organ that develops during pregnancy, lining the uterine wall and partially enveloping the fetus. It is attached by the umbilical cord. Following birth, the placenta is expelled.

**Preimplantation genetic diagnosis (PGD):** A genetic screening test in which a few cells are removed from an embryo on day three or from a blastocyst on day five.

**Pregnancy:** The period from conception to birth when a woman carries a developing fetus in her uterus.

**Progesterone:** A female hormone secreted during the luteal phase of the menstrual cycle that prepares the lining of the uterus for embryo implantation.

**Prolactin:** A hormone produced by the pituitary gland that controls milk production (lactation).

**Prostate:** A chestnut-sized gland in males at the neck of the urethra which produces the fluid part of semen.

**Rh:** Rhesus factor is a blood group antigen found on red blood cells of Rh positive individuals.

**Scrotum:** A pouch of skin that contains the testes, epididymis and lower portions of the spermatic cords.

**Semen:** The fluid containing sperm, also known as seminal fluid.

**Seminal vesicles:** A pair of pouch-like glands located on either side of the urinary bladder that secrete seminal fluid.

**Sonogram:** A diagnostic medical image of internal organs or an unborn fetus created using an ultrasound.

**Sperm:** The male reproductive cells that can fertilize a woman’s egg.

**Sperm washing:** A procedure to separate out sperm from seminal fluid.

**Spermatogenesis:** The formation and development of sperm.

**Subcutaneous:** Beneath the skin.

**Sexually transmitted disease (STD):** An illness that is passed on by means of sexual contact.

**Testes:** Male reproductive glands that produce sperm and secrete androgens.

**Testicular sperm extraction (TESE):** Operative removal of testicular tissue in an attempt to collect living sperm for use in an IVF-ICSI procedure.

**Testosterone:** A steroid hormone primarily secreted in the testes and the ovaries that is responsible for male traits.

**Timed intercourse:** Planning intercourse to sync with the sustained shift in body temperature that occurs during a woman’s menstrual cycle.

**Traditional Surrogate:** Used in cases of female factor infertility. A traditional surrogate is a fertile woman who carries a pregnancy intended for another family, conceived from her egg and the sperm of the infertile woman’s partner. The resulting child carries the surrogate’s genes.

**Transvaginal ultrasound aspiration:** An ultrasound-guided technique for egg retrieval whereby a long, thin needle is passed through the vaginal and ovarian walls and into the ovarian follicle. Egg retrieval occurs when suction is applied.

**Trophectoderm:** Outer cell layer of a blastocyst.

**Turner’s syndrome:** A chromosomal disorder in females who have only one X chromosome. The disease is characterized with dwarfism, heart abnormalities,
and underdeveloped sex organs.

**Ultrasound:** A technology that uses high-frequency sound waves to create an image of internal organs on a monitor. Fertility specialists use it to monitor the growth of ovarian follicles, to retrieve eggs from follicles, and to evaluate a pregnancy.

**Urethra:** A duct in males and females through which urine is discharged. The urethra in males also serves as the genital duct.

**Uterus:** The hollow, muscular, female reproductive organ located in the pelvis that houses the embryo during pregnancy. The lining of the uterus is shed each month during menstruation when pregnancy has not occurred.

**Vagina:** The canal in the female reproductive system that leads to the cervix.

**Vaginal culture:** A sample of the bacteria in the vagina.

**Vas deferens:** The two muscular tubes in the male reproductive system that carry sperm from the epididymis to the urethra.

**Vitrification:** An advanced form of cryopreservation that uses cryoprotectants and a flash-freezing method to preserve eggs, sperm and embryos. It has a thaw success rate of 99%, largely because the method does not allow damaging ice crystals to form in the preserved specimen.

**Zona pellucida:** The egg’s outer layer that a sperm must penetrate in order to fertilize the egg. In assisted hatching the zona pellucida is punctured.

**Zygote:** A fertilized egg before cell division begins. It is a single cell that contains the genetic material of both parents.
Meet Our Doctors
Doctor Zhang is the Founder/CEO of New Hope Fertility Center in New York City where he has served as the Medical Director since opening in 2004, and oversaw the expanding fertility network internationally to China, Russia, and Mexico.

A true pioneer in the area of minimally invasive (Natural Cycle and Mini-IVF™) fertility care, Dr. John Zhang is an active researcher and medical technology developer. He has been behind several notable achievements in the area of assisted reproductive technology (ART), including the birth of a child by a 49 year-old using her own eggs, helping to restore a young woman’s fertility through a recent ovarian tissue transplant surgery in February of 2012, and being named one of New York’s Top Doctors. In 2016 Dr.Zhang confirmed the birth of the world’s first 3-person baby from spindle nuclear transfer.

Dr. Zhang completed his medical degree in at the Zhejiang University School of Medicine, and subsequently received his Master’s Degree at Birmingham University in the UK. In 1991, Dr. Zhang earned his Ph.D. in In-Vitro Fertilization (IVF), and, after studying and researching the biology of mammalian reproduction and human embryology for nearly ten years, became the first Fellow in the Division of Reproductive Endocrinology and Infertility of New York University’s School of Medicine in 2001.

Today, Dr. Zhang continues his research in non-embryonic stem cell research, long-term cryopreservation of oocytes, and oocyte (human egg cell) reconstruction by nuclear transfer.

Keep up with the latest from Dr. Zhang on his blog where he talks about trending topics in the field of Assisted Reproductive Technologies and IVF.

Dr. Zhang speaks English and Chinese.

“Every woman is unique and therefore customized treatments will give each couple the highest chance of success—a more tailored approach in combination with the latest IVF technology will give you the family you hope for.”

John J. Zhang, MD, MsC, PhD

Dr. Zhang is the Founder/CEO of New Hope Fertility Center in New York City where he has served as the Medical Director since opening in 2004, and oversaw the expanding fertility network internationally to China, Russia, and Mexico.
Dr. Merhi is an internationally recognized fertility doctor, guest lecturer and grant reviewer. With a strong background in Reproductive Endocrinology and Infertility, his research focuses on “needle-free IVF”. The purpose of needle-free IVF is to use oral medications instead of the daily injections and also to measure hormones in the urine and saliva rather than in the blood. His research also focuses on obesity-related infertility, Polycystic Ovary Syndrome (PCOS), Minimal Stimulation IVF (Mini IVF), and Natural IVF for women with low ovarian reserve.

Dr. Merhi attained his Bachelor of Science degree in Biology and a medical degree from the American University of Beirut in Lebanon. He completed his residency in Obstetrics and Gynecology at Maimonides Medical Center in Brooklyn, New York after which he did a two-year Postdoctoral Fellowship in Reproductive Endocrinology at Albert Einstein College of Medicine in Bronx, New York. Subsequently, he completed a three-year Clinical Fellowship in Reproductive Endocrinology and Infertility at Albert Einstein College of Medicine/Montefiore Medical Center in Bronx, New York. Board-certified in Reproductive Endocrinology and Infertility by the American Board of Obstetrics and Gynecology, Dr. Merhi is an Assistant Professor in Reproductive Endocrinology and Infertility. As an active researcher and honoree of many awards, Dr. Merhi has published over 60 manuscripts in respected medical journals such as Journal of Clinical Endocrinology and Metabolism, Fertility and Sterility, and Human Reproduction, as well as many book chapters. He continues to present his research at national and international scientific conferences. Various media outlets have reported on his research including ABC News, Medscape, and dietsinreview.com.

Dr. Merhi serves as a Chair, Moderator, Reviewer, and Member on several committees such as American Society for Reproductive Medicine (ASRM), New England Fertility Society, Society for Reproductive Investigation, and Endocrine Society. He has also served as a grant reviewer for the National Institute of Health (NIH). He evaluates, edits, and reviews manuscripts for over 60 scientific journals. Dr. Merhi uses his extensive research background to provide the most up-to-date medical advances in infertility treatments. Dr. Merhi speaks English, Arabic, French and Spanish.

“I look to form a personal relationship with patients to establish confidence and provide superior fertility and endocrinology care.”

ZAHER MERHI, MD, FACOG
Dr. Zitao Liu is a world-renowned fertility doctor with a deep understanding of the field of Assisted Reproduction Technology (ART). His focus is on the development and implementation of individualized patient protocols in order to maximize a patient’s chance of conception. He received his medical degree from the Norman Bethune University of Medical Sciences in China, then went on to earn his PhD from Wayne State University, studying pre-implantation embryonic development and completed his post-doctoral research on uterine responses to embryo implantation at Vanderbilt University. He completed his residency training in Obstetrics and Gynecology at Bronx-Lebanon Hospital Center, an affiliate of the Albert Einstein College of Medicine and, before joining New Hope Fertility Center in New York City, he practiced academic medicine as an attending physician in the Department of Obstetrics and Gynecology at Tufts Medical Center.

Dr. Liu has received many teaching awards from the Albert Einstein College of Medicine, the Tufts University School of Medicine, and the American College of Obstetricians and Gynecologists. Years of clinical practice and academic research have shown Dr. Liu the limitations of conventional IVF. He is not only a strong advocate of minimal stimulation IVF protocols (Natural IVF and Mini-IVF™) for indicated patients, but is an accomplished surgeon for minimally invasive procedures as well.

Dr. Liu still actively continues his clinical research in embryo implantation and trophoblast differentiation. At the same time, he is constantly pursuing the development of new medical devices, novel medications, and advanced diagnostic approaches.

Dr. Liu Speaks English and Chinese.

“I would like to integrate the results of the cutting-edge research into clinical practice and find the best protocol for each individual woman I work with.”
Dr. Yang is an internationally celebrated, NY infertility doctor, board certified in Obstetrics and Gynecology. He specializes in minimally invasive procedures with a strong interest in treating patients with PCOS, diminished ovarian reserve, Mini-IVF™, Natural IVF, and uterine lining issues. Since joining New Hope Fertility Center in 2008, he has actively participated in groundbreaking research projects as well as daily clinical procedures. He has been selected as a Top Obstetrician & Gynecologist in the United States since 2009.

Dr. Yang received his MD with high honors from Henan Medical College in 1983, and his Masters and Ph.D. in Toxicology from Tongji Medical University in China in 1986 and 1989. While working in Beijing, Dr. Yang was appointed Associate Director of the Molecular Biology Laboratory at the Institute of Occupational Medicine with the Chinese Academy of Preventive Medicine. He was subsequently appointed as Assistant Professor in the Department of OB/GYN at New York University’s School of Medicine in 1998. He has published more than 30 papers in internationally recognized journals.

Doctor Yang completed his internship and residency training in Obstetrics & Gynecology at NYU’s School of Medicine and the New York Downtown Hospital. Upon graduating, he was appointed as teaching attending in the Department of OB/GYN at New York Downtown Hospital affiliated with New York-Presbyterian Healthcare System and Weill Cornell Medical College. He received the National Faculty Award for Excellence in Resident Education in 2006 by the Council on Resident Education in Obstetrics and Gynecology. In 2005, he also received an award for Special Excellence in Endoscopic Procedures by the American Association of Gynecologic Laparoscopists.

Dr. Yang speaks English and Chinese.
Department directory

If you would like to contact one of our departments directly please use the numbers below:

NEW PATIENTS
If you would like to schedule a consultation or learn about becoming a patient at New Hope Fertility Center, call us at 917-525-5496 or contact us online.

GENERAL INQUIRIES
If you are an existing patient or a referring physician with questions about our practice, please contact us at 212.517.7676

OFFICE ADDRESS
4 Columbus Circle, 4th Floor
New York, NY 10019
(corner of W. 58th St. and 8th Ave. next to Duane Reade in the Steel Case Building)

OFFICE HOURS
Monday-Friday: 7am – 5pm
Saturday-Sunday: 7am – 3pm

MONITORING HOURS
Monday-Friday: 7am – 2pm
(by appointment only)
Saturday-Sunday: 7am – 2pm
(by appointment only)

HOLIDAY HOURS
7:30am – 10:30am

Information Disclaimer
Medical information published for New Hope Fertility Center is strictly for informational purposes and does not replace or preclude medical advice provided by licensed health care professionals. While special consideration has been made to ensure correctness, currency and completeness, errors are possible and the medical field is dynamic. The reader assumes full and sole responsibility for any action taken based on information provided in this handbook. All information should be carefully reviewed with your health care provider and as such, New Hope Fertility Center is not liable for any explicit, implicit, exceptional or otherwise harmful incidence. This handbook and all components and elements thereof cannot be reproduced, duplicated, distributed, or modified in any form without New Hope Fertility Center’s explicit written permission.