The spermatozoa and oocyte represent the personalized, hands-on ART training course offered annually since 2003 and the opportunity to learn the latest techniques in the fast changing subspecialty of Assisted Reproduction at one of the world’s premier ART Training Centers. 187 candidates from more than 32 countries have participated in this course.

The DNA strand represents the essence of the research fellowship in human reproduction, andrology and male infertility, offered at the ACRM since 1993. More than 500 scientists/physicians from over 50 countries have trained at the ACRM. The Center is currently focusing on the use of proteomics and bioinformatics to elucidate biomarkers of male infertility.

The microscope and a hand holding the test tube represent the routine and advanced diagnostic testing offered to infertility patients at the Andrology Center and Reproductive Tissue Bank, one of the largest state-of-the-art facilities in the country. Our staff has more than 3 decades of experience in assisting patients with male infertility.

The open book and beaker represent the Summer Internship program, offered annually since 2008. Nearly 220 interns have experienced bench research and scientific writing under the personalized mentorship of scientists/physicians and reproductive biologists worldwide.
Cleveland Clinic's Glickman Urological and Kidney Institute is recognized worldwide for excellence in patient care, teaching and research. It merges Cleveland Clinic's urology and nephrology programs. Urology and nephrology physicians and scientists at Cleveland Clinic are recognized worldwide for excellence in patient care, teaching and research. This year, U.S. News & World Report ranked our urology program No. 1 and our kidney disease program No. 2 in the nation.

Please visit us at: clevelandclinic.org/services/urology-kidney/about-urology-nephrology

About Cleveland Clinic

Cleveland Clinic is ranked as one of America's Top 2 Hospitals by U.S. News & World Report. Located in Cleveland, Ohio, Cleveland Clinic is a nonprofit, multispecialty academic medical center that integrates clinical and hospital care with research and education. Founded in 1921 by four renowned physicians with a vision of providing outstanding patient care based upon the principles of cooperation, compassion and innovation, it is the second largest group practice in the world with 3,432 physicians and scientists practicing and researching in more than 130 medical specialities. Today with more than 1400 beds on the Cleveland Clinic main campus and 4,450 beds system-wide, Cleveland Clinic is one of the largest and most respected hospitals in the country.

In addition, the main hospital campus, located near downtown Cleveland, occupies 167 acres and 44 buildings. It includes a hospital, an outpatient clinic, a children's hospital, cancer institute, eye institute, research institute, a medical school and supporting labs and facilities. The Cleveland Clinic operates nine regional hospitals, a children's hospital, and 18 full-service family health centers in Ohio, as well as hospitals in Florida, Las Vegas, Canada, and Abu Dhabi, employing more than 49,000 individuals and providing global world class medical care. Last year alone, 6.62 million patients from 150 countries and all 50 states received their care at the Cleveland Clinic.

Our locations are linked by health information technology and critical care transport, getting patients to the right facility, at the right time, for the right care. Cleveland Clinic is organized into patient-centered institutes based on single diseases or organ systems. Each institute combines medical and surgical services at the same location under the same leadership to improve patient care and experience. Each institute is required to establish benchmarks and measure and improve quality. Institutes are also required to publish annual outcomes books showing volumes, results, innovations, publications and other information relevant to patients and referring physicians. Cleveland Clinic integrates its far-flung system with an extensive electronic medical records system. This system includes participating community physicians and patients, who are able to access test results and portions of their medical record remotely via the Internet. Cleveland Clinic's model of medicine has made it possible for us to achieve cost savings on a vast scale over the past several years. Our mantra is “Patients First.” Our motto is “To Act as a Unit.” Our goal is to give every patient the best outcome and experience. That’s the Cleveland Clinic way.

Visit: clevelandclinic.org
Andrology Center Staff

Dr. Ashok Agarwal, Ph.D., HCLD | Director
Dr. Ashok Agarwal, PhD, HCLD, is the Director of the Andrology Center and Reproductive Tissue Bank and the Director of Research at the American Center for Reproductive Medicine. He is a Staff member in the Glickman Urological and Kidney Institute, Obstetrics-Gynecology and Women's Health Institute, Anatomic Pathology, and Immunology. Dr. Agarwal is also on the faculty of the Cleveland State University.

Dr. Agarwal is a board-certified Clinical Laboratory Director in Andrology by the American Board of Bioanalysis and an Inspector for the College of American Pathologists “Reproductive Laboratory Program” for accreditation of Andrology & IVF Laboratories. He served as the Chairman of the Board of the American College of Embryology from 2009 to 2012. He was the recipient of a 2011 Innovator Award for the development of “Remote Sperm Banking Kits” from Cleveland Clinic Innovations and a recipient of 2011 to 2017 Star Awards from the American Society for Reproductive Medicine. Dr. Agarwal received the 2011 and 2013 “Scholarship in Teaching Award” for his innovative Summer Internship Course and the 2013 Teaching Award for the Training Program in Advanced Reproductive Techniques from the Case Western Reserve University School of Medicine. Dr. Agarwal has published over 663 scientific papers and review articles in peer-reviewed scientific journals, authored over 180 book chapters, and presented over 750 papers at both national and international scientific meetings. Dr. Agarwal is the recipient of about 100 research grants. His current research interests are in identifying biological markers of oxidative stress, DNA damage and apoptosis using proteomic research tools and bioinformatics analysis as well as preserving fertility in patients with cancer. Dr. Agarwal is actively involved in laboratory and clinical studies assessing the efficacy of certain antioxidants in improving the fertility of male patients.

Dr. Sajal Gupta, MD | Supervisor
Dr. Gupta holds the position of Assistant Professor at the Lerner College of Medicine of Case Western Reserve University and Project Staff in the Glickman Urological Institute and has served as the Assistant Coordinator of Research at the American Center for Reproductive Medicine since 2006. Dr. Gupta is the Technical Supervisor of the Andrology Center since 2008. She has done her residency in Obstetrics and Gynecology from University of Delhi. Sajal has received “Dr. Tommaso Falcone Award for Excellence in Female Infertility and Women's Health Research” and the 2011 and 2013 Scholarship in Teaching Award from the Case Western Reserve Medical School.

Dr. Gupta has done masters in Reproductive Clinical Science from Jones Institute For Reproductive Medicine, EVMS. She is a member of several professional societies. Dr. Gupta is an investigator on over 18 research grants. Her current research interests include the role of free radicals in male and female infertility, endometriosis, assisted reproductive techniques and gamete cryobiology.

Dr. Rakesh Sharma, Ph.D. | Coordinator
Dr. Sharma is an Associate Professor at the Lerner College of Medicine of Case Western Reserve University and serves as the Coordinator of the Andrology and the American Center Center for Reproductive Medicine.

Dr. Sharma received his Ph.D. degree from Panjab University, Chandigarh, India. He completed his postdoctoral training at the Cleveland Clinic. Dr. Sharma has published over 200 scientific papers and 25 reviews in peer-reviewed scientific journals, authored two dozen book chapters and presented 400 abstracts at both national and international scientific meetings. He is a member of several professional societies. Dr. Sharma is an investigator on 60 research grants. He is the recipient of the Cleveland Clinic Innovator Award, the 2011 and 2013 Scholarship in Teaching (SIT) Award from the CASE Medical School for his innovative Summer Internship Course and the 2012-2016 Star Award from the American Society for Reproductive Medicine.

His current research interests include the role of free radicals in the pathophysiology of male and female infertility, oxidative stress and DNA integrity, alterations in oxidative stress-related proteins, sperm proteomics apoptosis, and fertility preservation.
Cleveland is the second largest city in the state of Ohio, after Cincinnati. Located on the southern shores of Lake Erie, Cleveland lies at the outflow of the Cuyahoga River into Lake Erie. The main campus of Cleveland Clinic is situated 5 miles east of downtown Cleveland. Case Western Reserve University and University Hospitals are within one mile of Cleveland Clinic. Cleveland State University and John Carroll University are also within a short distance of the Cleveland Clinic main campus. Nearby the Cleveland Clinic is University Circle, which serves as the cultural, medical and education center of Cleveland and Northeast Ohio. Medical research in the University Circle institutions places Cleveland as one of the major medical research environments in the country.

University Circle is also the home to the Cleveland Museum of Art, the Cleveland Institute of Music, the Cleveland Institute of Art, and the Museum of Natural History. The Cleveland Museum of Art houses one of the country’s most highly acclaimed art collections. The world-famous Cleveland Orchestra, performs regularly in the elegant Severance Hall. Playhouse Square is the home to several large theaters that host traveling Broadway plays and various other performances.

The University Circle area is walking distance from Cleveland’s historic Little Italy with its brick streets, a quaint and charming area of intimate Italian restaurants, antique and craft shops, and art galleries. The Coventry Village area is close to the Clinic’s main campus and popular with its shops and restaurants.

Cleveland hosts the Rock and Roll Hall of Fame and Museum, and the Great Lakes Science Center. Outdoor enthusiasts of all ages enjoy the ‘Emerald Necklace’, the Cleveland Metroparks network of parks that encircles the city, which offer a variety of recreational opportunities. When it comes to professional sports, Cleveland is the proud home to the Browns football, Cavaliers basketball, Indians baseball and Lake Erie Monsters hockey teams respectively. As the Great Lakes city on America’s North Coast, Cleveland offers abundant lakeshore for different activities.

Cleveland and its surrounding suburbs are home to nearly 3 million residents. A vibrant and versatile metropolitan area, Cleveland has nearly 80 residential communities. Fine residential areas are located within minutes of the Cleveland Clinic campus. Recognized as one of the best places to live and visit, Cleveland and North-East Ohio is bustling with exciting things to do for people of all ages.
Andrological Evaluation of Male Infertility: A Laboratory Guide
Ashok Agarwal, Sajal Gupta, Rakesh Sharma (Editors)
Publication Date: 2016

Table of Contents

This state-of-the-art laboratory manual includes 20 clinical protocols used daily for the investigation of the infertile male, presented with easy to understand, step-by-step methodology. The protocols are arranged from routine to advanced laboratory procedures common to clinical practice, including computer-assisted semen analysis, sperm preparation for IUI by density gradient and swim-up, sperm cryopreservation, and sperm DNA fragmentation test by TUNEL method, among others. The methodology in each protocol follows best practice guidelines made clearer by professionally hand-drawn illustrations covering most of the important steps and equipment. The authors, hailing from the world-renowned Andrology Center at Cleveland Clinic, have over 50 years of combined first-hand experience in managing very busy diagnostic and research facilities in male infertility and andrology. The book will be an indispensable resource for thousands of laboratory technologists, clinicians and reproductive professionals (andrologists, embryologist, etc.) engaged in the diagnosis and management of infertile men around the world.

Foreword

This state-of-the-art laboratory manual contains protocols that can be used daily in the investigation of male infertility. In its 24 chapters, the book covers most of the common routine and advanced testing that is available at the present time. This text is unique in its emphasis in presenting test protocols in detail that allow immediate use in a clinical laboratory setting. It has a number of hand-drawn, artistic presentations of key equipment and procedures which add to the clarity. At the beginning of the text, information is presented to place clinical aspects of male infertility in context of the role of semen testing.

Drs Agarwal, Gupta, and Sharma combine their over 50 years of experience in running a state-of-the-art clinical andrology laboratory to provide an indispensable resource for thousands of clinicians, reproductive professionals (andrologists, embryologists), laboratory technicians, as well as other students of andrology lab testing. This experienced team has authored dozens of texts related to all aspects of male fertility. Their current book is a one of a kind work—a must-read for all with an interest in providing the highest quality and most accurate andrology testing for their patients.

Edmund Sabanegh, Jr., MD | Chairman, Department of Urology
Cleveland Clinic, USA