
Preface

Cryopreservation of oocytes, sperm, and ovarian and testicular tissues, as well as embryos, is one of the most critical procedures to preserve the reproductive capacity of individuals. To grasp its importance it is essential to know that in the United States alone, there are over forty thousand women younger than 40 years old who develop malignant tumors every year—many of whom do not have children/families and whose fertility capacity is at risk because of the disease or the medical therapy applied against the disease. Their best chance to have children in the future is to cryopreserve their gametes or reproductive tissues/organs. Medical conditions can also affect adult men and adolescents, where sperm or testicular tissue cryopreservation serves as the best option to maintain their future fertility. In addition to men and women with medical conditions healthy individuals may also consider preserving their fertility at a younger age to ensure that when they are ready to have a family, they would be able to have their biological offspring. It is a well-known fact that most countries are facing an infertility “epidemic” because social conditions are changing and individuals are postponing marriage and/or having children. As a result, over 20 % of women at the age of 45 are childless, mostly involuntarily. In the past, cryopreserving ovarian tissue and oocytes were a challenge, but today, with recent breakthroughs in technology, female reproductive cells and tissues can be preserved much more efficiently. Age-related decline in female fertility is well established; however, there are indications that age (ageing) may affect men also. There is an increasing number of studies that show a correlation between paternal age (above 45) and higher incidence of different disorders, including autism and certain mental illnesses. For these reasons, cryopreservation of reproductive cells and tissues is fast becoming a critical part of modern reproductive medicine.

Furthermore, it is for these reasons that we aimed to bring a book to readers of the medical profession that provides a comprehensive and technically detailed presentation on all aspects of cryopreservation of reproductive cells and tissues. This book presents current, well-established procedures, as well as novel techniques with the latest innovations described in detail. This book is extremely valuable because each topic is written by a world-renowned author, who is a leader in their field.

We want to express our sincere gratitude to all of the authors who helped write these outstanding chapters for this book. Our special appreciation goes to the development editor, Mike Koy, for his outstanding support from the beginning to the end. The editors are also thankful to their families for their love and support in this important endeavor.

We are truly honored to be able to bring this book to you.

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