

## From the Editor

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This issue of JARG takes one more step towards realizing the goals of Springer and ASRM for the field of reproductive medicine. The transition that will bring JARG into the limelight for our readership will be a gradual one. It has begun with a new statement of purpose to educate, guide, and inform clinicians and basic scientists keen on keeping abreast of the latest advances in technology and their relevance to the fundamental biological mechanisms that drive human development. Thus, we welcome with open arms contributions on novel approaches that will accelerate safe and efficient implementation of currently practiced protocols and those that loom on the horizon. A particular example of this evidenced in this issue is the growing utility of cryopreservation in ARTs.

From the Kenichiro group in Japan comes a remarkable case report on the birth of a child after rounds of successive vitrification at both the cleavage stage and blastocysts. Vitrification has generally entered the vernacular of cryopreservation in ARTs and will continue to do so given biological, practical, and economic factors as they pertain to storage of gametes, embryos of various stages, and even gonadal tissues. This latter application is actively being pursued within the purview of fertility preservation programs in which long term storage of ovarian or testicular tissues is being sought for restoration of fertility in young patients that have been subjected to sterilizing therapies. Here too, an example of the long road ahead and the technical challenges that remain appears in a paper describing the use of apoptosis inhibitors to limit the

damage incurred upon oocytes during cryopreservation of mouse ovarian tissues. JARG expects to publish the work from laboratories leading the fertility preservation effort and welcomes your contributions and opinions as this field evolves over the next 5 years.

Another frontier in reproductive medicine comes from the extraordinary technological breakthroughs being made in the field of human genetics. It was not so long ago that the promise of sequencing the human genome appeared to be a formidable "venture." The thought of genetically mapping reproductive disorders, especially those of a multigenic nature such as PCOS, seemed remote at best in the long list of life threatening disease conditions that would likely take priority. Instead, advances in rapid sequencing make it likely and in fact predictable that the genetic bases of diseases affecting our reproductive health and fertility will be systematically resolved over the next decade. In the meantime, and reflecting a long term strength of JARG, papers that are pushing the threshold of pre-implantation genetic diagnosis/screening (PGD/PGS) will continue to appear. To wit, this issue reveals the use of this technology in three distinct genetic disorders by drawing upon methodological variations on the theme of PGD.

In the end, it is our collective goal to not only bring new technology into the care and management of patients but assist specialists in reproductive medicine as to the biological underpinnings that determine the overall health and developmental competence of gametes and embryos. Time is short in achieving this goal. In future issues, a series of reviews will appear on the hefty topics of ARTs, lifestyle, and environmental exposure as they relate directly to our organisms's ability to build and store gametes capable of contributing to the next generation. We look forward to exploring the rapidly growing field of epigenetics in the context of ARTs and our general reproductive well-being. Stay tuned!

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