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Edited by Patrick Quinn

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To my wife Kay and my family for their
support and love throughout my career

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Foreword

Patrick Quinn came from humble beginnings as an Australian reproductive biologist with a strong interest in biochemistry. With the rapid expansion of in vitro fertilization (IVF) technologies worldwide, Patrick found his career motivating research shift into the area of preimplantation embryo culture in vitro. When he moved to the USA, he was able to convert his research interests into the full-scale demands of producing high quality media for use in assisted reproductive technologies. He has been extremely successful in the design and production of quality products that have met the high demands of maximizing embryo viability for research and clinical medicine. This book *Culture Media, Solutions, and Systems in Human ART* contains all the ingredients necessary to understand the requirements, pitfalls, and demands of commercial products. These media must meet the highest quality hurdles necessary for an extremely delicate process of maturing, fertilizing, and developing the embryo in the laboratory; the beginnings of human life.

Since the oocyte and early embryo are not merely passive traffickers in isotonic media, Quinn and his collaborating authors take the reader on a journey that all embryologists and students of cell biology should take. The needs of an oocyte to be fertilized properly, to activate the embryonic genome, and to convert the maternal oocyte cell machinery into a developmentally competent and fully functional organism is no mere spontaneous feat. There are many default pathways to abnormality and degeneration, and this book describes many of them. Knowing where this developmental process can go wrong creates the opportunity to ensure that an optimum environment can be created for the developing embryo.

There are excellent authors and coauthors who have contributed to the book; many of them are internationally recognizable from their excellent published research. Many are also involved in clinical IVF and provide a very practical perspective to the issues raised in various chapters. Perhaps this is not the last word written on the design and requirements of optimized IVF culture media but it does address the vast majority of matters that need consideration. A while ago I asked Patrick to design a simple IVF medium that could withstand the rigors of demand in primitive communities where electricity and refrigeration were luxuries that could not be counted on. He, as usual, responded with enthusiasm to meet my request and this is a work in progress. The book will help scholars and practitioners understand the environment they themselves need to work in, make requests of Patrick and his colleagues for situational improvements, and will continue to assist the field to evolve to that perfect “drop” that Patrick has in mind.

Alan Trounson PhD

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