



METADATA

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Abstract

The laboratory manual "Basic analyses and handling of human semen" focuses on basic analyses performed on human semen according to ISO 23162 and the sixth edition of the WHO manual for the analysis and processing of human semen. This book describes in detail all the analyses that must be done in clinical laboratories not only for basic sperm analysis but also for other analyses such as biochemical analyses, DNA fragmentation, antisperm antibodies. It also describes methods of the separation of healthy spermatozoa from the rest of the sample in order to use them for insemination procedures as well as methods of cryopreservation of the sperm. The book concludes with two chapters dedicated to the quality of the analyses as well as the total quality management of the spermatology laboratory. In particular, there is a separate

analytical chapter on the statistical techniques (tests and charts) which is used to detect random and systematic errors of semen analysis and the possibilities offered by internal and external quality control to limit them. Another chapter summarizes the requirements of ISO 15189:2022 and describes in detail specific statistical techniques such as uncertainty calculation, quality objectives and indicators, and risk assessments in spermatology laboratories. All chapters are accompanied by diagrams, figures, photographs, examples and comprehension questions. In addition to the laboratory-oriented chapters, there is also an introductory chapter that describes the male reproductive system, the causes of infertility, the process of spermatogenesis, the structure of healthy spermatozoa and the parameters of the spermodiagram.

