### Specimen Collection and Macroscopic Assessment

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The evaluation of semen (Latin translation: *seed*) and spermatozoon (ancient Greek translation: *living being*) is a field that has evolved rapidly over the last 30 years but still exhibits a wide variation between laboratories and observers. For the last 20 years, the College of American Pathologists Reproductive Medicine Committee has been directly observing and evaluating laboratory performance for this high-complexity test. Our experience, both as quality control providers and as reproductive laboratory directors, has led us to believe that a benchtop reference guide with an emphasis on morphology would be helpful for laboratorians performing this test. For a more extensive review of policies and procedures, we refer the reader to the most recent World Health Organization publication, *WHO Laboratory Manual for the Examination and Processing of Human Semen*.

We owe a great debt to Dr. Thinus Kruger, father of the modern morphologic evaluation known as Strict criteria, for reviewing our publication and agreeing with our assessment of the spermatozoa images. He has also been instrumental in offering online tutorials and quality control products through his collaboration with the website www.strict123.com, if readers seek further training. We also owe special thanks to Dr. Eric Glassy for creating the Spermatogenesis diagram in this publication.

Understanding the fundamental components of semen and spermatozoa is essential for reproductive laboratories. While new scientific advances and disruptive technologies will inevitably render some evaluation techniques obsolete, the importance of recognizing a normal sperm cannot be understated. Many morphologic defects are related to lethal or debilitating genetic and epigenetic factors in the developing embryo. Additionally, the increasing use of advanced reproductive technologies such as intracytoplasmic sperm injection (ICSI) requires the embryologist to choose a spermatozoon without morphologic abnormality for the procedure. The chance of a successful outcome increases when we understand which “seed” may grow into a “living being.”