# What is coming next for home semen testing?

The semen analysis is the key element in the determination of male reproductive potential, where it has largely remained under the auspices of the formalized andrology laboratory. The manuscript by Schaff et al. (1) describes the Trak System as a promising device for analyzing semen concentration at home (1). This innovation is particularly welcome because men may now self-assess semen concentration in a semiquantitative fashion as low (<15 million/mL), moderate (15–55 million/mL), and optimal (>55 million/mL). Thus, the Trak System provides a new solution for global users to rapidly screen for male-factor infertility without having to ever visit an andrology laboratory.

In a similar manner, our team developed the ball-lens microscope equipped with a smartphone to perform a similar semen analysis (2). A single ball-lens microscope is inexpensive and easy to use for acquiring digital microscopic video, which can then be analyzed for both semen concentration and motility. We are presently designing a smartphone application for the automated determination of semen concentration and motility with the use of the ball-lens microscope. We are now, truly, in the era of higher-quality home semen testing. What's coming next?

The advent of such new technologies and the democratization of fertility testing may upend the traditional approach to couples. Now, with such ease of access to home screening for abnormal bulk semen parameters, the male partner may pursue formal evaluation by a reproductive specialist before the female partner. With the use of a high-quality home semen test, even if the results are only semiquantitative, traditional attitudes toward male-factor infertility are already changed. Infertile couples will begin to initiate their own evaluations.

Indeed, infertility affects 15%–20% of reproductive age couples, and 50% of these cases are due (at least in part) to the male partner. Although the significant burden of male-factor infertility is underscored by such percentages, public awareness of this fact is limited at best. Popular media has often neglected the male factor other than to focus on its sexual nature (3). Wider access to simple male infertility assessments may help to solve this problem of awareness. Due to its accessibility, home semen testing may offer the potential to expand the public understanding of male-factor infertility.

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