



SMRU Statement Regarding Male Reproductive Health and COVID-19

Prepared in conjunction with the Society for the Study of Male Reproduction (SSMR)

The ongoing COVID-19 pandemic has evolved into an unprecedented humanitarian and health crisis. Until either specific treatments and/or vaccines are available, COVID-19 will remain an imposing factor to be managed in our lives and healthcare system.

Regarding the impact of COVID-19 on male reproductive health and in response to concerns of patients and healthcare providers, a joint committee of SMRU and SSMR members was convened to address COVID-19 male fertility-related issues. This committee focused on enhancing practice patterns utilizing telemedicine, opportunities for male fertility testing, ongoing educational needs for the discipline, and reviewing pertinent and available scientific data. What follows are statements generated by this joint committee.

The Presence or Absence of SARS-CoV-2 in Reproductive Fluids and Tissue

One study from Wuhan, China based on PCR testing suggests that the SARS-CoV-2 virus does not appear to be present in the semen of SARS-CoV-2 positive men (N=34) when tested a mean/median 31 days (range 8-75 days) after serum positive testing (1). A second study in patients from Shangqiu, China evaluated the semen of 38 COVID-19 patients; 15.8% of these patients had results positive for SARS-CoV-2 in the semen. The six patients with SARS-CoV-2-positive semen collected their samples 6-16 days after the onset of symptoms. Four of 15 patients (26.7%) were categorized in the “acute stage of infection,” while two of 23 patients (8.7%) were categorized to be in the “recovery” phase (2). Ongoing studies are needed to confirm these findings before specific recommendations can be made.

One study reported testis and/or scrotal pain in 17.9% of SARS-CoV-2 positive patients (1). Further investigation is necessary to evaluate whether this observation is SARS-CoV-2 related.

The effects of medications such as hydroxychloroquine and antivirals on semen quality is unknown when utilized in the SARS-CoV-2 positive population of men. Prior animal models have shown some effects of antiviral medication on reproductive organs. There is no clear data to support or refute the reproductive effects of hydroxychloroquine in men.

Telemedicine and Patient Care

Male reproductive consultations should continue via telehealth or other forms of remote two-way consultation. Physical exam by a qualified professional is a key component of a men's health evaluation. Given that physical examination is not possible during these visits, a follow-up visit should be performed to evaluate for medical pathology and treatable and reversible causes of male infertility.

Physical examination and/or scrotal ultrasound may be utilized in male factor infertility evaluations with the necessary precautions taken to minimize the risk of SARS-CoV-2 exposure in both patient and healthcare staff.

Assessment of Semen Quality

In lieu of the availability of fresh local semen analysis, home sperm testing can be utilized as a basic screening test for male infertility. The committee identified available at-home tests that offer different parameters of evaluation, which include volume, concentration, and motile sperm concentration, but not sperm morphology.

When a fresh semen analysis is unable to be obtained, mail-in semen analysis seems to give reasonable concordance to standard semen analysis. If no sperm is seen, further fresh testing is recommended at a local laboratory in the future to confirm this with a centrifuged sample.

The committee felt that these tests did not preclude the need for evaluation by a urologist if conception did not ensue, including a fresh semen analysis at a local laboratory at some point.

Post Vasectomy Semen Analysis

According to the American Urology Association (AUA) Guidelines (3) "Patients may stop using other methods of contraception when examination of one well-mixed, uncentrifuged, fresh post-vasectomy semen specimen shows azoospermia or only rare, non-motile sperm (rare non-motile sperm [RNMS] or $\leq 100,000$ non-motile sperm/mL). Recommendation (Evidence Strength Grade C)."

None of current home or mail-in tests meet AUA Guidelines for clearance for unprotected intercourse. Waiting for a formal fresh semen analysis within two hours of collection is the standard of care based on AUA Guidelines.

Sperm Cryopreservation During the COVID-19 Crisis

Sperm cryopreservation is warranted for certain situations (see below). Cryopreservation should be continued by centers that allow for sperm cryopreservation of fresh and mail-in samples. Patients that may benefit from cryopreservation include those undergoing treatments that are potentially sperm toxic, such as for cancer or non-malignant disease.

Other patients that may merit sperm cryopreservation include those undergoing treatment for concerns regarding deterioration of sperm quality over time, gender affirming therapy, deployment, or other occupations with a risk of bodily injury. These situations should be addressed on a case-by-case basis.

References

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2. Diangeng Li, Meiling Jin, Pengtao Bao, Weiguo Zhao, Shixi Zhang. Clinical characteristics and results of semen tests among men with coronavirus disease 2019. JAMA Network Open. 2020;3(5):e208292.
3. Sharlip ID, Belker AM, Honig S, Labrecque M, Marmar JL, Ross LS, Sandlow JI, Sokal DC; American Urological Association. Vasectomy: AUA guideline. J Urol. 2012 Dec;188(6 Suppl):2482-91.

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Disclaimer

This statement was developed by the Society for Male Reproduction and Urology (SMRU) in collaboration with the Society for the Study of Male Reproduction (SSMR) under the guidance of the SMRU and SSMR joint committee formed for this purpose as an educational resource and service to members and other practicing clinicians. While this statement reflects the views of members of the SMRU/SSMR joint committee, it is not intended to be the only approved standard of practice or to dictate an exclusive course of treatment. Physicians and clinicians should always use their best judgment in determining a course of action and be guided by the needs of the individual patient, available resources, and institutional or clinical practice limitations. This statement was reviewed and approved by the SMRU.