



## Semen Analysis: Understanding Male Fertility through Laboratory Examination

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### Description

Semen analysis is a vital diagnostic test used to evaluate male fertility and reproductive health. It provides essential insights into the quality and quantity of sperm present in a man's semen, which plays a significant role in the fertilization process. This comprehensive examination is often one of the first steps taken by couples facing difficulties in conceiving a child. We will explore what semen analysis entails, its importance, the procedure involved, and what the results signify.

Semen analysis, also known as a sperm count test, is a laboratory analysis of a man's semen, the fluid that contains sperm. The test assesses various parameters related to sperm health, such as sperm count, motility (movement), morphology (shape), and overall semen volume. These factors are precarious for natural conception, as they determine the sperm's ability to reach and fertilize the female egg successfully.

### The importance of semen analysis

Semen analysis is a fundamental tool in diagnosing male infertility issues. It is estimated that male factors contribute to approximately 40% of infertility cases in couples. By analyzing the semen, healthcare professionals can identify potential problems and recommend appropriate treatments or interventions to improve the chances of conception.

### Procedure for semen analysis

**Collection:** Semen is usually collected through masturbation into a

clean, sterile container provided by the laboratory. Abstinence from ejaculation for 2 to 5 days before the test is typically recommended to obtain an accurate representation of sperm quality.

**Sample processing:** Once collected, the semen sample needs to be examined within a specific timeframe to ensure accurate results. To avoid temperature fluctuations that may harm sperm, the sample should be kept close to body temperature during transport to the laboratory.

**Microscopic examination:** A qualified laboratory technician analyzes the semen sample under a microscope. Various parameters, such as sperm count, motility, and morphology, are assessed during this process.

### Parameters analyzed in semen analysis

**Sperm count:** This measures the number of sperm present in one milliliter of semen. A healthy sperm count typically ranges from 15 to 200 million sperm per milliliter.

**Sperm motility:** It indicates the percentage of sperm that exhibit forward movement, which is essential for successful fertilization. Motility rate of 40% or higher is considered normal.

**Sperm morphology:** The morphology assessment examines the shape and structure of sperm. Ideally, at least 4% of the sperm should have a normal shape.

**Semen volume:** This refers to the total amount of semen produced during ejaculation. A normal volume typically ranges from 1.5 to 5 milliliters.

Interpreting semen analysis results requires the expertise of a healthcare professional. If any parameters fall outside the normal range, it may indicate potential fertility issues or other underlying health concerns. However, a single abnormal result does not necessarily mean that a man is infertile, as semen parameters can vary due to factors such as illness, stress, or recent changes in lifestyle.

In such cases, additional tests or a repeat semen analysis may be recommended to confirm the findings. Furthermore, the female partner's fertility should also be evaluated to get a comprehensive picture of the couple's fertility potential.

Semen analysis is an essential tool for assessing male fertility and diagnosing potential infertility issues. Understanding the quality and quantity of sperm through this laboratory examination helps healthcare professionals provide appropriate guidance and interventions to improve the chances of conception.

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