QUALITATIVE SEMEN ANALYSIS

PRINCIPLE

The qualitative semen analysis is limited to the determination of the presence/absence of sperm and sperm motility. Semen analysis may be performed to evaluate the effectiveness of a vasectomy procedure, evaluate infertility, or to determine the suitability of semen for use in artificial insemination. CDC regulation allows for semen analysis in a doctor's office, i.e., "provider performed microscopy", as long as the reported results is qualitative, i.e., "limited to the presence or absence of sperm and detection of motility".

SCOPE

All McLaren Health Care physicians, including McLaren Medical Group (MMG) Managed sites and practices managed by their subsidiary hospital performing Provider Performed Microscopy testing.

SPECIMEN

Semen

MATERIALS

Microscope

Glass microscopic slides

Microscope cove slips

Clean, dry collection container

Sterile transfer pipet

SPECIMEN COLLECTION

Standard precautions should be taken when collecting and handling blood or body fluid specimens.

Fresh, uncentrifuged semen sample should be collected in a labeled clean, dry container which is sealable and leak proof with patient identifiers, date, and time of collection.

Collection of seminal fluid by masturbation only. The entire ejaculate is collected into the specimen container. Avoid the use of lubricants and other contaminants.

Semen sample should be stored at room temperature. Do not refrigerate or freeze. Semen samples should be evaluated withing 2 hours of collection.

QUALITY CONTROL

Commercial controls are unavailable. Reference material and/or the intranet can be used as a resource for identification.

PROCEDURE

1. **Slide preparation**
    - Label a clean microscope slide with specimen identification
    - Using a sterile transfer pipette, gently mix the specimen with the pipette.
    - Place one drop (approx. 10 ul) on the labeled microscope slide.
    - Immediately put a coverslip over the specimen for examination.
    - Examine the slide to verify that it is not overfilled and leaking once the coverslip is in place.

2. **Microscope Examination**
    - Place the slide on microscope for examination
    - Focus using low power (10X) and low light
    - Observe slide using high power (40X)
    - Examine the entire slide using an "S" shaped viewing pattern
    - Record the number and motility of sperm for each high-powered field

RESULTS

The presence or absence of sperm is determined. The percent (%) of motile sperm (sperm moving in forward direction) is calculated by examination of at least 100 spermatozoa.

1. **NORMAL**: No sperm or very few non-moving sperm
2. **ABNORMAL**: Moving sperm or high numbers of non-moving sperm

Test results must be documented in the patient's chart or (EMR) Electronic Medical Record.

PROCEDURAL NOTES

Causes for rejection: Refrigerated or frozen specimen; samples collected in spermicidal condoms; or specimens greater than 2 hours from collection.

The American Urological Association (AUA) recommends that vasectomized men may be considered sterile when a fresh, non-centrifuged semen analysis done 8-16 weeks after the vasectomy shows 100,000 nonmotile sperm/ml or less.

The presence motile sperm at this time indicates a failure of occlusion of the vans deferens due to a surgical error or, most frequently, to a recanalization.

POLICY

1. The Wet Mount procedure is a moderate complexity test. Staff must follow all Provider Performed Microscopy (PPM) guidelines. See Provider Performed Microscopy (PPM) procedure.

2. An online, image-based program called Med-Training Solutions is used to distribute competency and proficiency assignments, track test completion, test scores, and provide printable reports for documentation. An Email notification is sent to the Providers and provides an autologin link. The Provider clicks on this link to go directly to their test menu and assignments.

3. Results will be documented in the Med Training Solutions online program. Reports can be downloaded to PDF or copied to an Excel file. Real time printable reports and documentation are available by the McLaren System POC Test Manager or Regional POC Coordinators.

4. If staff does not meet the minimum requirements of 80% on the proficiency or competency, the staff will be reassigned training modules with review of testing procedures. Staff will repeat proficiency or competency testing.

5. Competency is assigned annually upon hire, 6 months, and each year thereafter. Alternate Proficiency material will be assigned 2 times per year to staff who perform Provider Performed Microscopy (PPM) testing.

6. MMG and MHG staff upon hire are tested for colorblindness before performing Provider Performed Microscopy (PPM) patient testing.

REFERENCES

Provider-Performed Microscopy Procedures, A Focus on Quality Practices, February 2016. wwwn.cdc.gov/clia/Resources/PPMP.

American Urological Association (AUA), 1000 Corporate Blvd, Linthicum, MD 21090