PhenX Toolkit

Data Collection Worksheet

Please Note: The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

Note that the following information is a summary, the full protocol is in the WHO laboratory manual available here.

Collection of Semen Sample

- Provide the man with clear written and verbal instructions how to properly collect the sample.
- Sperm should be collected after a minimum of 2 days of abstinence or a maximum of 7 days of abstinence from ejaculation.

Instruct him to do the following:

- Urinate
- Wash hands and penis with soap. Rinse. Dry off with fresh disposable towel.
- Masturbate and ejaculate into the sterile specimen container. Cap the container. If some of the sperm is not ejaculated directly into the specimen container it should be recorded how much (% of sample) was not captured. This fraction of the sample should never be collected and processed.
- Ensure that a specimen label with subject's name and identification number is affixed to the side of the container.

He should record the following information at the time of sample collection.

1. Name
2. Birth date
3. ID code
4. Period of abstinence from ejaculation
5. Date and time of collection
6. Completeness of sample
7. Difficulties collecting the sample

Lab staff should record the following:

8. Time between collection and analyses

Keep the sample at 20° to 37° C. The time between the time of collection and delivery to the laboratory should be approximately 1 hour. The laboratory should begin analysis within 3 hours of collection. Ideally the sample is collected at or near the laboratory.

Processing and Analyses of Semen Sample

Normally, semen samples will liquefy within 30 minutes, and once this occurs laboratory staff can proceed with semen analysis.

Follow the detailed instructions in the lab manual to measure and record the following characteristics of the sample.

Semen volume (ml) _____

Total sperm number (10^6 per ejaculate) _____

Sperm concentration (10^6 per ml) _____

Total motility (PR + NP, %) _____

Progressive motility (PR, %) _____

Vitality (live spermatozoa, %) _____

Sperm morphology (normal forms, strict criteria %) _____

Other consensus threshold values that may be reported:

pH _____

Peroxidase-positive leukocytes (106 per ml) _____

MAR test (motile spermatozoa with bound particles, %) _____

Immunobead test (motile spermatozoa with bound beads, %) _____

Seminal zinc (_mol/ejaculate) _____

Seminal fructose (_mol/ejaculate) _____

Seminal neutral glucosidase (mU/ejaculate) _____

Interpreting the Results

The following values represent lower reference limits for the semen parameters (5 centiles and their 95% confidence intervals)

Parameter	Lower reference limit
Semen volume (ml)	1.5 (1.4-1.7)
Total sperm number (10^6 per ejaculate)	39 (33-46)
Sperm concentration (10^6 per ml)	15 (12-16)
Total motility (PR + NP, %)	40 (38-42)
Progressive motility (PR, %)	32 (31-34)
Vitality (live spermatozoa, %)	58 (55-63)
Sperm morphology (normal forms, %)	4 (3.0-4.0)
Other consensus threshold values	
pH	> 7.2
Peroxidase-positive leukocytes (10^6 per ml)	< 1.0
MAR test (motile spermatozoa with bound particles, %)	< 50
Immunobead test (motile spermatozoa with bound beads, %)	< 50
Seminal zinc (_mol/ejaculate)	≥ 2.4
Seminal fructose (_mol/ejaculate)	≥ 13

Seminal neutral glucosidase (mU/ejaculate)	≥ 20

Protocol source: https://www.phenxtoolkit.org/protocols/view/101601