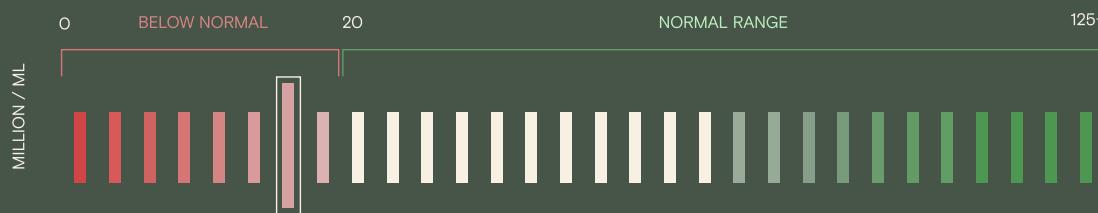


## FERTILITY OVERVIEW

Your sample's total motile count is **below the normal range**.

With 16.4 million moving sperm, this sample is below the normal range as set by the World Health Organization. Total motile count (TMC) is often regarded as the most important indicator for natural conception. A below average count could be an indication of varicocele, infection, or chronic/undiagnosed health problems such as diabetes or celiac disease, problems with ejaculation such as retrograde ejaculation, duct problems, hormonal imbalances, and exposure to toxic substances.

## TOTAL MOTILE COUNT



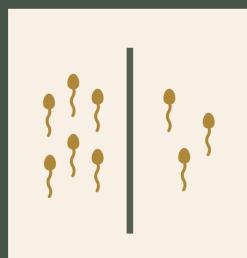
 You have **16.4** million moving sperm in your sample

## Understanding your Results

Your total motile count (the number of moving sperm in your sample) is found by multiplying your sample's concentration, volume, and motility. It's the product of your sample's quantity and quality.

## WHAT IS MOTILE COUNT?

## CONCENTRATION



You have **25.7** million sperm per mL

**NORMAL**

## VOLUME



You have **2.0** mL of semen.

**NORMAL**

## MOTILITY



**32.0%** of your sperm are moving.

**BETWEEN NORMAL**

## MOTILE COUNT



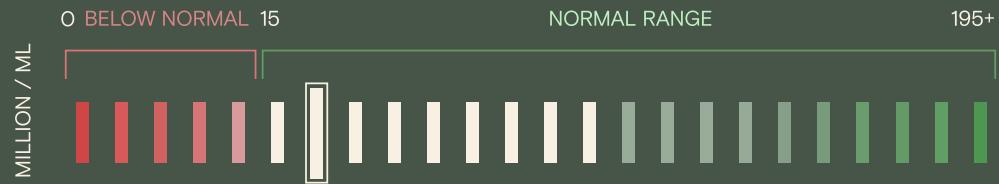
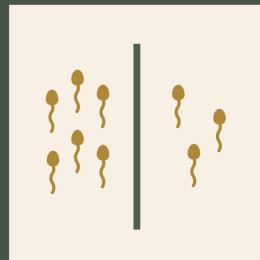
**16.4M** of your sperm are moving.

**BETWEEN NORMAL**

# Concentration

NORMAL

## WHERE YOU STAND



You have **25.7** million sperm per mL

This is considered within the normal range. Although the case for 95% of men, anything above 15 million per mL is considered normal.

## DID YOU KNOW?

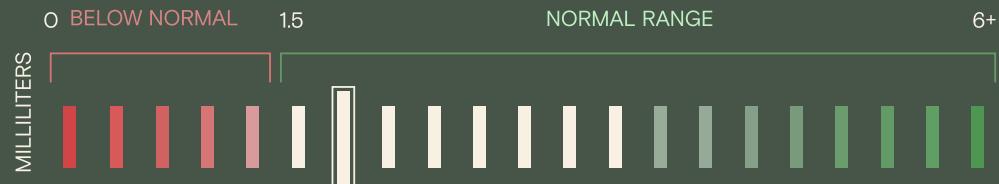


Limited data suggests that some supplements such as D-Asparatic Acid for 3 months have been associated with improved sperm concentration.

## Volume

NORMAL

## WHERE YOU STAND



You have **2.0 mL** of semen.

This is considered within the normal range.

## DID YOU KNOW?

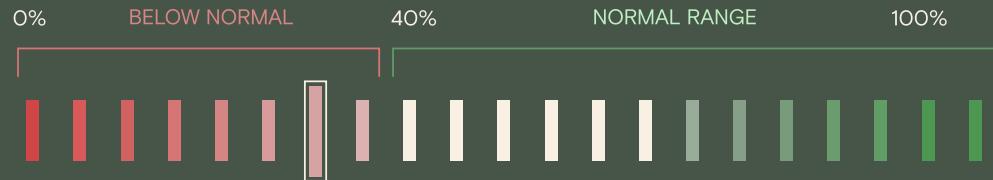


Ashwagandha, or Indian ginseng, has been linked [in some studies](#) with increasing semen volume.

# Motility

BELOW NORMAL

## WHERE YOU STAND



**32.0%** of your sperm are moving.

Motility is a measure of how well your sperm are swimming. Motility may be affected by exposure to chemicals, illness, exposure to heat or cold, habits like smoking, or abnormalities of the male reproductive tract.

Poor sperm motility may also occur if there has been infrequent sexual activity. A study published in 2017 in JBRA Assisted Reproduction found that the duration of abstinence had a positive influence on sperm concentration and volume, but a negative impact on motility. In this case, if the first sample collected shows poor motility, a second sample collected soon after could be better.

## DID YOU KNOW?

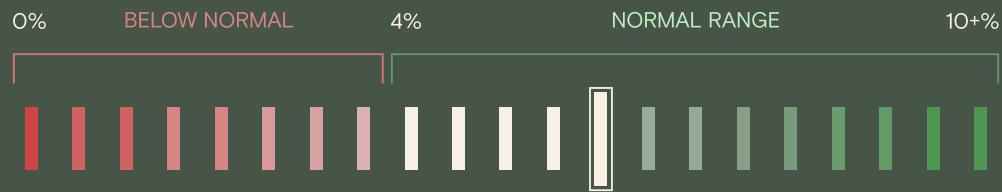


Increasing continuous training like walking, jogging, or running for 30-60 minutes 3 times a week might be correlated with [improved semen motility](#).

# Morphology

NORMAL

## WHERE YOU STAND



METHODOLOGY USED: ■ Kruger □ W.H.O.

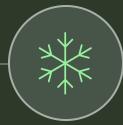
**6% of your sperm are shaped normally**

This is considered within the normal range. Sperm morphology is a highly variable parameter affected by multiple factors including genetic conditions, exposure to toxic chemicals, or increased temperature of the testicles, including by sitting for prolonged periods at your desk. Abnormal morphology can consist of any alteration in the size or shape of the sperm.

## DID YOU KNOW?



Taking [Vitamin C](#) has been associated with increasing the morphology of sperm.



## Viability For Cryogenic Storage

VIABLE

### WHERE YOU STAND

NUMBER OF VIALS  
CRYOPRESERVED



POST - THAW  
CONCENTRATION

25.70 Million/mL

POST - THAW  
MOTILITY

23.00%

### What is post-thaw analysis?

Post-thaw analysis is an additional step taken a day after cryopreservation to ensure that the samples are still viable after thawing and can be used in the future. It is normal for a sample to have lower concentration or motility post-thaw.

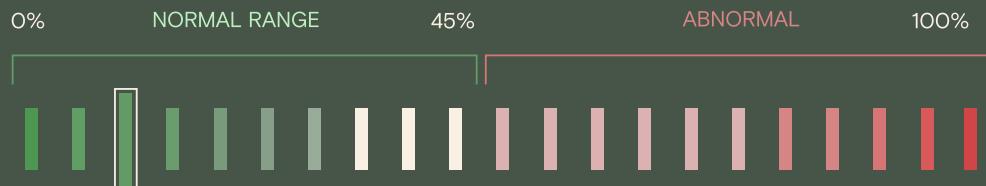
**Your sample is viable for storage, and we recommend freezing.**

The vials of For Tomorrow and Forever patients have been sent for long-term cryogenic storage, where they will be divided into multiple storage tanks across multiple geographic locations. If you have not already selected a storage plan, your sample will be stored in our lab for up to 7 days. If you do not choose to store it, it will be disposed of securely.

# DNA Fragmentation Index

NORMAL

## WHERE YOU STAND



**12.0%** of your sperm show DNA Fragmentation

DNA fragmentation is a reflection of the degree of damage present in the DNA strands of your semen. A normal index has been correlated with positive fertility outcomes like a higher probability of natural conception and better Assisted Reproductive Therapies outcomes. While scientific consensus on the absolute medical value or meaning behind DNA fragmentation indices has not yet been established, many promising studies are currently being conducted.

Note: Our protocol has been validated by our medical team. In a study of 50 patients, a 33.4 percent increase in DNA fragmentation was observed. Therefore, the Legacy normal range for DNA fragmentation – up to 45% – is higher than WHO standard of up to 30%. This modified compensatory range differentiates between elevated and normal ranges of DNA fragmentation in our samples.

## DID YOU KNOW?



Quitting smoking might reduce your DNA fragmentation index by decreasing the oxidative stress on the sperm production process.

# Personalized Recommendations

Your fertility is in great shape, but you may be able to improve it even more.

## Recommendation #1

Are you sleeping enough?



Getting sufficient rest can be beneficial to your sperm. According to the American Academy of Sleep Medicine, you need to be sleeping at least 7 hours, and you should feel rested in the morning. Read more about improving your sleep habits [here](#), or talk to your doctor.

## Recommendation #2

Keep an eye on your BMI.



There is some evidence that excess weight might harm sperm. We calculated your BMI to be 28.2 kg/m<sup>2</sup> according to the World Health Organization. To preserve your sperm's health quality, try to achieve a BMI between 18.5 kg/m<sup>2</sup> and 24.9 kg/m<sup>2</sup>.

## PROFESSIONALLY REVIEWED



These personalized recommendations have been reviewed by Legacy's Chief Medical Officer Dr. Ramy Abou Ghayda.

## Resources



Your fertility is personal.  
We're here for you at any point you need us.

### Speak with a Legacy Specialist



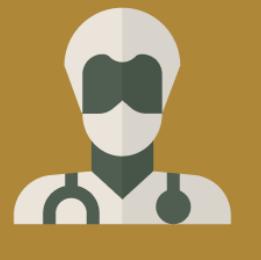
We have a team of andrologists, nurses, and fertility specialists available 5 days a week available as a complementary resource to you. If you have any question, schedule a call with an expert today.

### Learn more about fertility



If you're curious about what more you can do to improve and protect your ability to conceive, our clinicians have written guides and shared cutting edge medical research. You can access them [here](#).

### Consult your doctor



If you'd prefer to speak with your doctor in-person, download this PDF and share the one page medical report with them. We can help direct you to qualified urologists in your neighborhood.

## For Medical Professionals

SEMEN ANALYSIS	
ANALYSIS INFORMATION	
Date and Time of Collection	02/15/2021 14:15 PM
Date and Time of Analysis	02/15/2021 00:00 AM
Days of Abstinence	5
5 KEY METRICS	
Volume	2 mL
Count	51.4 M
Concentration	25.7 M/mL
Motility	32%
Morphology	23%
LAB INFORMATION	
Patient Name	Matthew Wozny
Date of Birth	05/19/1992
Lab	-
Technologist	Tony Anderson
Observations	-
MOTION ANALYSIS	
Total Motility	32%
Progressive Motility	30%
POST-THAW ANALYSIS	
Vials Cryopreserved	4
Post-Thaw Concentration	25.7 M/mL
Post-Thaw Motility	23%

## Percentiles Of Parameters For WHO5th



Distribution of values for semen parameters from men whose partners became pregnant within 12 months of discontinuing contraceptive use:

PARAMETER (UNITS)	N	CENTILE									
		2.5	5	10	25	50	75	90	95	97.5	
Semen Volume (mL)	1941	1.2	1.5	2	2.7	3.7	4.8	6	6.8	7.6	
Total sperm number (Million per ejaculate)	1856	23	39	69	142	255	422	647	802	928	
Sperm Concentration (Million per mL)	1859	9	15	22	41	73	116	169	213	259	
Total Motility (PR + NP, %)	1781	34	40	45	53	61	69	75	78	81	
Progressive Motility (PR, %)	1780	28	32	39	47	55	62	69	72	75	
Non-Progressive Motility (NP, %)	1778	1	1	2	3	5	9	15	19	22	
Immotile spermatozoa (IM, %)	1863	19	22	25	31	39	46	54	59	65	
Vitality (%)	428	53	58	64	72	79	84	88	91	92	
Non-Progressive Motility (NP, %)	1851	3	4	5.5	9	15	24.5	36	44	48	



Your results were analyzed at a CLIA-certified laboratory in San Antonio, Texas and were approved by Legacy's attending physicians on site.