

**DID YOU KNOW?**

50% of fertility issues  
are attributed to men.



D O N ' T C O O K Y O U R B A L L S

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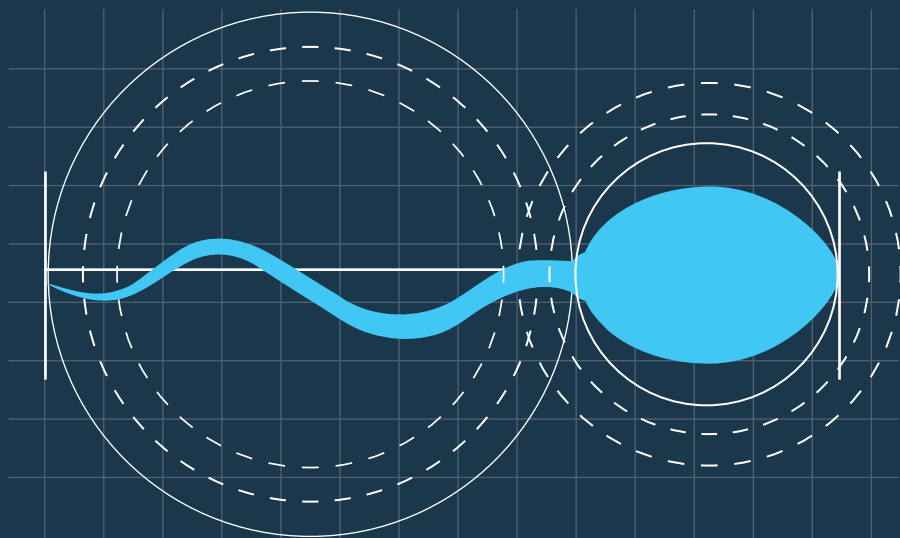
# A MAN'S GUIDE TO REPRODUCTIVE HEALTH

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**Trak**<sup>®</sup>  
male fertility testing system

# MEET THE SPERM

A FINELY CRAFTED BABY-MAKING MACHINE



THE AVERAGE MAN MAKES:

**1500**  
SPERM PER SECOND

**525** BILLION  
SPERM OVER A LIFETIME

## SIZE:

TAIL: 0.05mm  
HEAD: 0.005mm

## SWIM SPEED:

8 MILES PER HOUR

## LIFESPAN:

2–4 WEEKS IN THE TESTICLE  
5–7 DAYS IN A WOMAN  
1–3 HOURS IN A CUP

## GROWTH:

SPERM TAKE 72 DAYS TO GROW

# TESTOSTERONE & FERTILITY

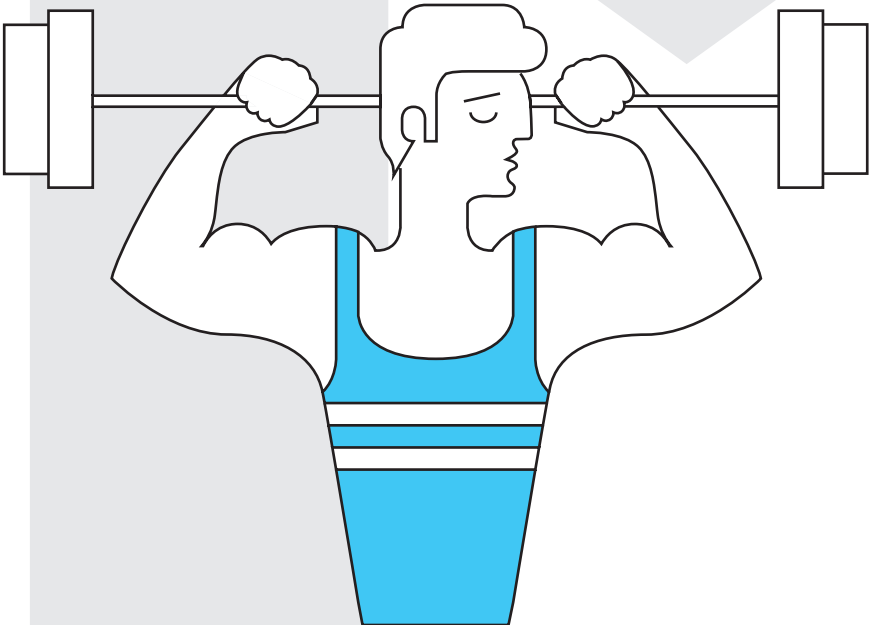
Testosterone doesn't just give you a hairy chest and big biceps—it also plays a crucial role in your fertility by helping create healthy sperm cells.

## BOOSTS YOUR T:

- + Staying active
- + Cutting back on sugar
- + Maintaining a healthy weight
- + Getting enough sleep
- + Taking time to de-stress
- + Lifting weights
- + Eating fiber, Omega-3's, and Vitamin C
- + Cheering on your team
- + Getting competitive
- + Having sex

## CRASHES YOUR T:

- Missing out on sleep
- Stressing out
- Drinking too much
- Packing on extra pounds
- Eating too much sugar
- Overtraining
- A beer belly
- Eating too much soy
- Juicing up



# BABY-MAKING TIME

## BENEFITS FOR HIM

**Healthier sperm.** The better the sex, the deeper down the body draws fresher and healthier sperm.

**Boosts production.** Regular sex boosts sperm production. Try to have sex at least once a week to maintain good sperm production.

**Improves cardiovascular health and energy.** Good sex gets the blood flowing. Healthy heart = happy sperm.

**Reduces stress.** Physical intimacy (including cuddling) releases oxytocin, which naturally reduces stress. Quality time together both in and out of bed can improve your relationship, fertility, and overall health.

**Increases testosterone.** Sex drive is connected to men's overall health. Better sex can boost testosterone which will improve sperm production, increase energy, and help you feel manlier.

# WHAT'S NORMAL?

## AVERAGE FLACCID PENIS LENGTH

3.2 – 3.8 inches

## AVERAGE ERECT PENIS LENGTH

4.5 – 7 inches

01

02

03

04

05

# GOOD SEX = BETTER CHANCES OF CONCEPTION

## BENEFITS FOR HER

**Natural lubrication.** Good sex increases cervical mucus production which provides sperm a nice channel to swim to the egg.

**Draws sperm towards cervix.** Female orgasms cause spasms in vaginal muscles which will draw sperm up towards the egg.

**Reduces stress.** Stress can lead to hormonal imbalances which impact fertility for both women and men. Physical touch releases oxytocin to naturally reduce stress and anxiety.

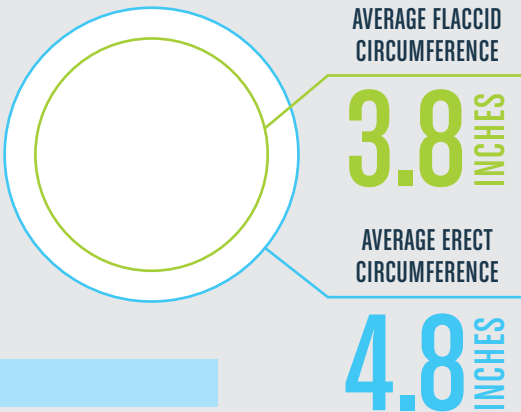
## Timing is Everything

Sex tips when trying to conceive:

**For her:** The best time to get pregnant are the 6 days before ovulation, called the fertile window.

**For him:** Optimal frequency of ejaculation is every 2-7 days.

- Try to have sex at least once a week. During the fertile window, bump it up to every other day.
- Have fun. Be spontaneous. Enjoy each other. It helps.



## SEMEN VOLUME

1.5 – 6.8mL  
(Average: 3.7mL)



ABOUT 1/2 TSP

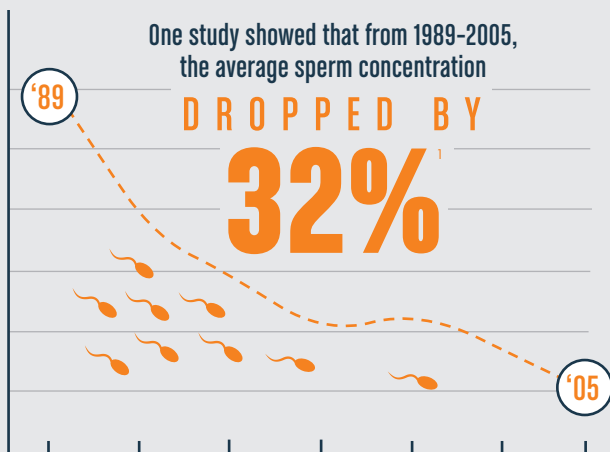


# TRYING TO CONCEIVE

50% OF FERTILITY ISSUES ARE ATTRIBUTED TO MEN

## SPERM CRISIS?

SPERM COUNTS ARE PLUMMETING



### What's the difference between sperm concentration and sperm count?

Sometimes used synonymously, *sperm count* refers to the total number of cells in the ejaculate:

$\text{sperm concentration} \times \text{semen volume}$



### LABORATORY TESTS

Laboratory tests can measure other sperm parameters that may impact fertility, including:

- sperm motility
- sperm morphology
- semen volume
- semen viscosity
- anti-sperm antibodies
- genetic abnormalities



### HAVE A SEMEN ANALYSIS REPORT?

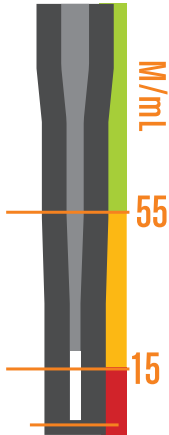
Enter it into the Trak app to better understand your results.

# WHY TRAK?

Infertility is a growing problem that quietly affects millions of men every year. It's time we reverse the trend.

Powered by cutting-edge technology and clinical research, Trak is a comprehensive approach to help you take control of your reproductive health.

[trakfertility.com](http://trakfertility.com) | [dontcookyourballs.com](http://dontcookyourballs.com)



## TRAK MEASURES WHERE YOU FALL WITHIN 3 CATEGORIES:

**OPTIMAL** Sperm concentrations above 55 M/mL are linked to faster time to pregnancy.<sup>2</sup>

**MODERATE** Men with sperm concentrations 55 M/mL or below may take longer to conceive.

**LOW** Men with sperm concentrations 15 M/mL or below may be at risk for infertility, and should consult a physician.<sup>3</sup>

## YOUR HEALTH & HABITS MATTER

Small changes can make a big difference. Read on to optimize your sperm health.

<sup>1</sup> Rolland et al. *Hum Reprod* 2013; 28(2) 462-70

<sup>2</sup> Slama et al. *Hum Reprod* 2002; 17(2) 503-15

<sup>3</sup> World Health Organization. *WHO Laboratory Manual for the Examination and Processing of Human Semen*. 5th Edition, 2010.



# The Good Stuff

## Sperm-Friendly Superfoods

NUTRIENT

SUPERFOOD

<b>Antioxidants</b>	Dark chocolate
<b>Coenzyme Q-10</b>	Avocado, Lean beef, Olive oil, Seafood
<b>Folic Acid</b>	Greens, Lentils
<b>L-Carnitine</b>	Avocado, Broccoli, Lean beef, Poultry
<b>Lycopene</b>	Tomatoes
<b>Omega-3 Acids</b>	Salmon
<b>Selenium</b>	Lean beef, Mushrooms, Poultry, Seafood
<b>Vitamin A</b>	Greens, Sweet potatoes
<b>Vitamin B</b>	Asparagus, Garlic
<b>Vitamin C</b>	Bell peppers, Berries, Citrus fruits
<b>Vitamin E</b>	Avocado, Greens, Nuts, Salmon, Seafood
<b>Zinc</b>	Beans, Lean beef, Oats, Poultry, Seafood



Eating right can supercharge your sperm.

## THE NOT-SO-GOOD STUFF

### FRIED FOOD.....

High in calories, fat, and cholesterol

### FAST FOOD.....

High in sodium and calories

### SOY.....

Can raise estrogen levels and reduce sperm count

### SWEETS, SODAS, & ENERGY DRINKS.....

Too much sugar can spike your insulin and increase levels of aromatase, an enzyme that converts testosterone to estrogen



Men with high saturated fat intake had

**31%**

**LOWER**  
sperm concentration.<sup>1</sup>

Caffeinated sodas tied to

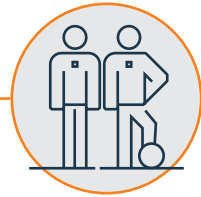
**54%**

**DROP**  
in men's fertility.<sup>2</sup>



## GET THE BLOOD PUMPING

Cardio improves blood flow, reduces toxins in the testicle, and strengthens erections.



## GET COMPETITIVE

Team sports encourage physical activity and can boost testosterone levels.

Men who watch more than **20 hours** of TV per week had

# 44%

**LOWER**  
sperm count than those who watched very little TV.<sup>1</sup>

**GET MOVING!**



Exercise can help increase blood flow, lower your BMI, and increase your testosterone level.

### AVOID THE JUICE

Steroid abuse inhibits natural testosterone production and torches sperm production.



### GET SWOLE, BRO

Exercising large muscle groups helps boost testosterone levels.



### GET OFF THE BIKE

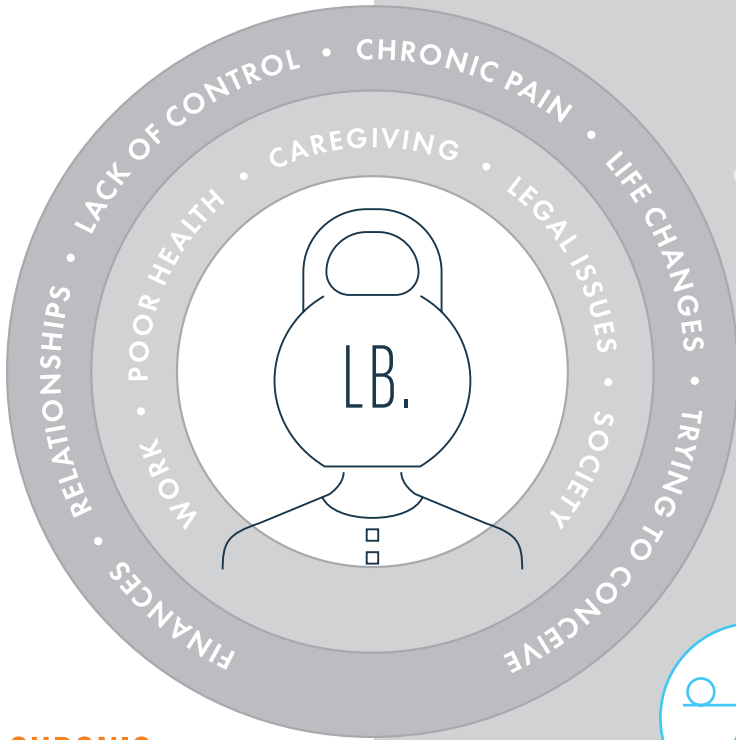
Biking is a great form of cardio, but bicycle seats can place stress on your testicles and frequent/long bike rides have been shown to reduce sperm production. Limit ride duration and frequency.

Regular weightlifters and outdoorsmen had

**42%**  
**HIGHER**  
sperm counts than other guys.<sup>2</sup>

<sup>1</sup> Gaskins et al, *Br J Sports Med*, 2015 Feb;49(4):265-70

<sup>2</sup> Gaskins et al, *Human Reproduction*, 2014 Nov;29(11):2575-82



## CHRONIC HIGH STRESS CAN LOWER TESTOSTERONE

How “in control” you feel is often a sign of how stressed you are.



## FIND HEALTHY WAYS TO MANAGE STRESS

It can do wonders for your health and sperm.

<sup>1</sup> Jensen et al, *Am J Epidemiol*, 2013 May;177(10):1027-37

<sup>2</sup> Lampiao, *Malawi Med J*, 2009 Dec; 21(4): 166-7

Everyone has stress – work, relationships, finances, etc. Chronic high stress can lower testosterone. Lack of sleep may also impact both your testosterone and sperm production.



## GET A GOOD NIGHT'S SLEEP

Don't sleep near any active electronic screens.



Try sticking to a routine sleep schedule—even on the weekends.

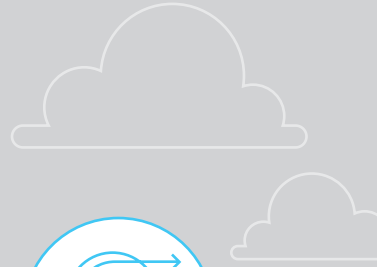


Avoid caffeine after 3PM.



## BLOW OFF STEAM

Exercise and participate in hobbies you love.



## FOCUS ON PROBLEMS THAT YOU CAN RESOLVE

Try not to worry about problems you have no control over.

Poor sleep quality tied to

**29%**

**LOWER**  
sperm count among  
953 men.<sup>1</sup>

The average sperm count  
in medical students

**DROPPED**

from 55 M/mL at semester  
start to 39 M/mL  
at stressful exam time.<sup>2</sup>



Sperm counts tend to be

**LOWER**

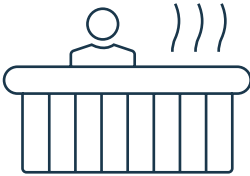
in the summer than in the winter.<sup>1</sup>



**HIGHER TEMPERATURE  
LOWER SPERM COUNT**

Heat exposure can negatively impact your sperm production.

**HOT TUBS**



Stopping regular hot tub use caused sperm counts to

**INCREASE BY  
500%**<sup>2</sup>

LAPTOPS

SITTING

GRILLING/  
STOVES

SAUNAS

SEAT  
WARMERS

BIKE  
RIDING

TIGHT  
CLOTHING

Sperm are very sensitive to temperature and need to remain a few degrees cooler than the rest of your body.

**LOWER TEMPERATURE  
HIGHER SPERM COUNT**



Testicular cooling has been shown to  
**DOUBLE**  
sperm count.<sup>3</sup>

**What's testicular cooling?**

Reducing your testicles to a temperature 5 or more degrees Fahrenheit below body temp for an extended period of time.

**Benefits of cooling**

Testicular cooling undoes the daily heat damage to your testicles, improving your sperm production.

**ICE PACK/  
FROZEN PEAS**



**98.6°F  
BODY TEMP**

**<93.6°F FOR  
TESTICULAR COOLING**

**COLD  
SHOWER**

**TESTICULAR  
COOLING DEVICE**

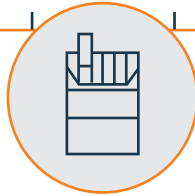
<sup>1</sup> Levitas et al, *Amer J Ob Gyn*, 2013 May;208(5): 406  
<sup>2</sup> Shefi et al, *Int Braz J Urol*, 2007 Feb;33(1):50-6  
<sup>3</sup> Jung et al, *Reproduction*, 2001 121: 595-603



## RECREATIONAL



**THC** (the chemical found in marijuana that gives you the high) impacts sperm production and fertilization.



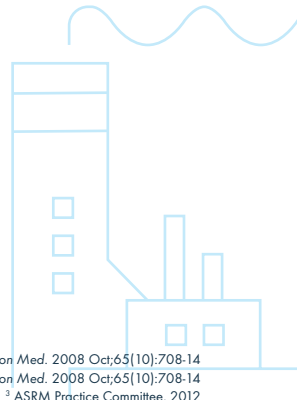
**Smoking** has been linked to poor sperm quality.



**Drinking excessively** lowers testosterone levels and can lead to erectile dysfunction. It's also directly toxic to sperm.

Smokers are

**54%**  
**MORE LIKELY**  
to be infertile.<sup>1</sup>



<sup>1</sup> Cherry et al, *Occup Environ Med.* 2008 Oct;65(10):708-14

<sup>2</sup> Cherry et al, *Occup Environ Med.* 2008 Oct;65(10):708-14

<sup>3</sup> ASRM Practice Committee, 2012

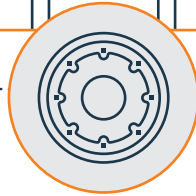


Certain toxins can attack your reproductive system and affect your production of healthy sperm. Be aware of what you're exposed to, and your sperm will thank you!

## OCCUPATIONAL

### At-Risk Occupations

- Construction
- Machining
- Pesticide application
- Soldering
- Steel workers
- Printers
- Oil workers
- Coal miners
- Recycling & waste workers
- Mechanics
- Firefighters
- Manufacturing



### Known Offenders

- LEAD
- CADMIUM
- PESTICIDES
- BENZENE
- TOLUENE
- GLYCOL ETHERS
- BISPHENOL A (BPA)

Men exposed to organic solvents at work are

**25x**  
MORE LIKELY  
to have a low sperm count.<sup>2</sup>

Men exposed to agricultural pesticides had up to

**30x**  
POORER  
sperm quality.<sup>3</sup>



### BALANCED HORMONES

are crucial to healthy sperm production.



### A HEALTHY HEART

is often a sign of healthy sperm.



### LOW CHOLESTEROL & BLOOD PRESSURE

promote healthy erectile function.



### IMBALANCED HORMONES

could be a sign of an unhealthy lifestyle or medical condition.



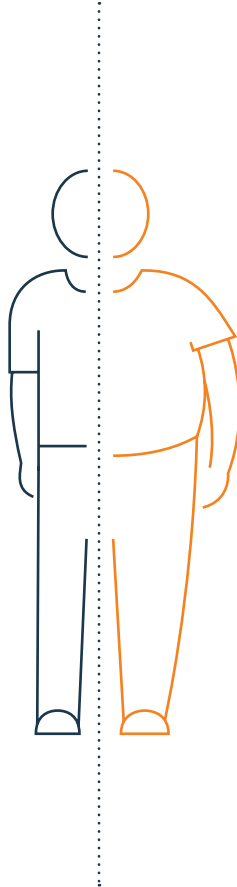
### A LARGE WAIST

circumference is linked to lowered sperm concentration.



### SUDDEN CHANGE IN SHAPE OR SIZE

of testicles could mean that something is wrong.



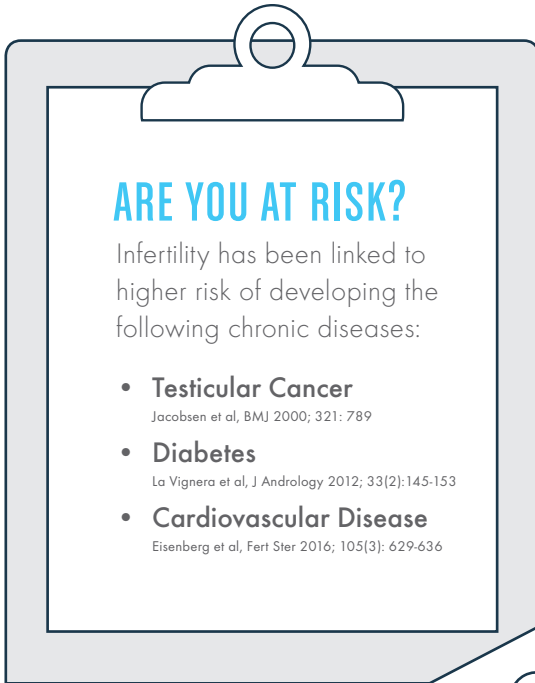
Obese men are

# 20X

## MORE LIKELY

to have a LOW sperm count.<sup>1</sup>

Sperm provides a window into a man's overall health and wellness.



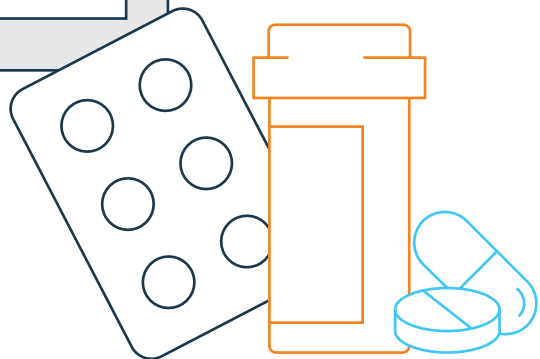
**ARE YOU AT RISK?**

Infertility has been linked to higher risk of developing the following chronic diseases:

- **Testicular Cancer**  
Jacobsen et al, BMJ 2000; 321: 789
- **Diabetes**  
La Vignera et al, J Andrology 2012; 33(2):145-153
- **Cardiovascular Disease**  
Eisenberg et al, Fert Ster 2016; 105(3): 629-636



**Some medications** have been shown to impact sperm quality. Most of the time the effect is temporary. Ask your doctor if your medications could be impacting your sperm quality, and whether there may be alternatives.



<sup>1</sup> Eisenberg et al, Hum Reprod, 2014 Feb;29(2):193-200



While sperm quality does decrease with age, **the oldest father on record was**

**96 YEARS OLD**

# WHAT CAN GO WRONG?

There's a lot that can go wrong with your sensitive reproductive system. Your doctor can help identify potential problems with your fertility, such as...



## VARICOCELE: THE INTERNAL BALL COOKER

Varicoceles are enlarged (or varicose) veins in the scrotum. They're very common (approximately 15% of all men have them). These larger veins increase blood flow and raise the temperature of the testicle which can sometimes reduce sperm production. Varicoceles are commonly repaired through simple surgeries that improve blood flow and "cool off" the testicle.

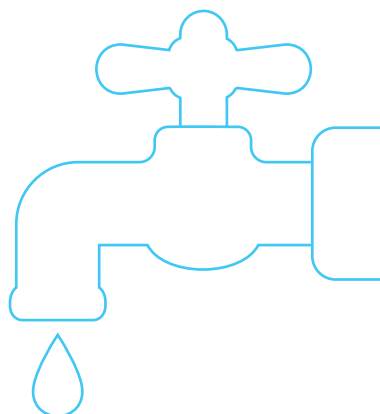


### Check yourself

Varicoceles often cause your scrotum to feel like a "bag of worms."

## PLUMBING PROBLEMS

Many conditions can prevent sperm from getting out of the body. Some, such as retrograde ejaculation, will cause a complete absence of semen. Others are further up the pipeline leaving sperm stranded in the testicle. Most plumbing problems are a result of either a birth defect or an infection (including STDs).





## AZOOSPERMIA: SHOOTING BLANKS

Azoospermia is more common than one would think. About 1% of men have no sperm in their ejaculate. It is important to figure out the underlying cause. Sometimes it is caused by treatable conditions like a varicocele, use of steroids, low testosterone, or an untreated infection. Other causes can include injury, genetic disorders, or congenital defects.

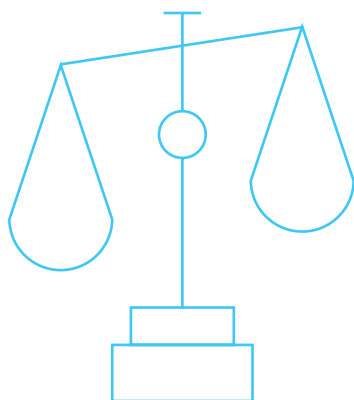


### Take it to the bank

Sperm cryopreservation prior to events that put your fertility at risk, such as cancer treatment, gives you the best chance of having children in the future.

## HORMONE IMBALANCES

Hormones greatly affect sperm production. The headline hormone is testosterone, but men also need healthy levels of follicle stimulating hormone (FSH), luteinizing hormone (LH), estrogen, and prolactin. A simple blood test can provide a lot of insight into what could be impacting your fertility.



## GENETICS: BLAME YOUR PARENTS

There are a lot of genetic causes of infertility in men. For instance, carriers of the cystic fibrosis gene are sometimes born with a natural vasectomy. Some men are missing key genes on the Y chromosome responsible for sperm production, and a smaller number of men who have an extra X chromosome which can sometimes decrease sperm count.

### Leading Genetic Offenders:

Klinefelter's Syndrome  
Y Microdeletions  
Prader-Willi Syndrome  
Cystic Fibrosis  
Noonan Syndrome  
Kallman Syndrome  
Myotonic Dystrophy  
Kartagener's Syndrome

# CHECKING UNDER THE HOOD

IT'S TIME TO SEE A DOC IF...

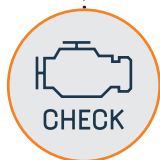
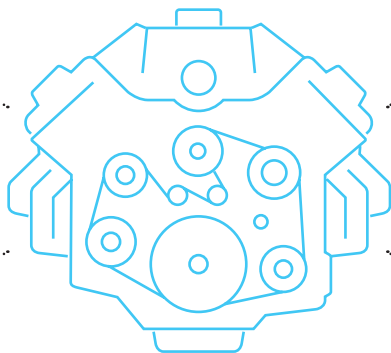
Your **sperm concentration remains consistently low** despite implementing a sperm friendly lifestyle.



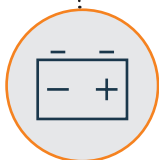
There is an **absence of semen** when you ejaculate.



You have **abdominal pain, heaviness, lumps, or the feeling of a "bag of worms"** inside your testicles.



Your wife or partner **hasn't conceived after a year of trying**. Even if sperm counts are normal there may be other issues.



You have an **untreated STD** or other infection of the reproductive tract.



You have **difficulty achieving an erection**.

# VISITING THE UROLOGIST

Finding a doctor who specializes in male fertility can be tricky. Male fertility issues are commonly handled by urologists.

## WHY ARE YOU VISITING THE DOC?

- ▶ Testicular pain
- ▶ Change in testicular shape/texture (swelling, lumps, or bumps)
- ▶ Sores on genitals/infection

- ▶ Drop in libido/difficulty achieving erection
- ▶ Lack of semen after ejaculation
- ▶ Testicular shrinking

- ▶ You're having trouble conceiving
- ▶ Your Trak result is LOW ( $\leq 15$  M/mL)

## WHAT TO EXPECT

### Physical exam

Answering questions about medical history

### Physical exam

Answering questions about medical history

Hormone test

### Physical exam

Answering questions about medical history

Semen analysis

Possible hormone test



To find a highly specialized urologist in your area, visit: [dontcookyourballs.com/doctors](https://dontcookyourballs.com/doctors)



## HOW TO PREPARE FOR A SEMEN ANALYSIS

- 1 Abstain for 2–7 days.
- 2 Avoid heat exposure for a few days before your appointment.
- 3 When collecting a sample, don't use lubricants.
- 4 Make sure to collect the first few drops of ejaculate—most sperm live in these drops.



[trakfertility.com](http://trakfertility.com) | [dontcookyourballs.com](http://dontcookyourballs.com) | [#dontcookyourballs](https://twitter.com/dontcookyourballs)

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