

YOUR HEALTH & HABITS MATTER



A MAN'S GUIDE TO REPRODUCTIVE HEALTH

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. Small changes to your health and habits now can have a big impact on your sperm, fatherhood, and future.

Educating yourself is a big first step and we're here to help.

Let's get started!

trakfertility.com | dontcookyourballs.com



01

Use the **Trak Testing System** to establish a baseline and measure your progress.

02

Use the **Trak: Sperm Health and Fertility** app to evaluate your sperm health and identify the top ways to improve it.

03

Commit to **sperm-friendly habits** to improve your reproductive health and chances of conception.

REPEAT

Test at least monthly outside of your partner's fertile window (the six-day interval when pregnancy can occur, ending on her ovulation day). **It may take two months or more** to see meaningful changes in sperm concentration following health and lifestyle changes.



50% of fertility issues are attributed to men.

WHAT'S NORMAL?

AVERAGE FLACCID PENIS LENGTH

3.2 – 3.8 inches

AVERAGE ERECT PENIS LENGTH

4.5 – 7 inches



SEMEN VISCOSITY

While thickness changes from day to day, healthy semen initially has a viscosity that's **very similar to egg-whites**. Its natural thickness enables it to stick to the cervix. Over time, semen liquefies to make it easier for sperm to swim.

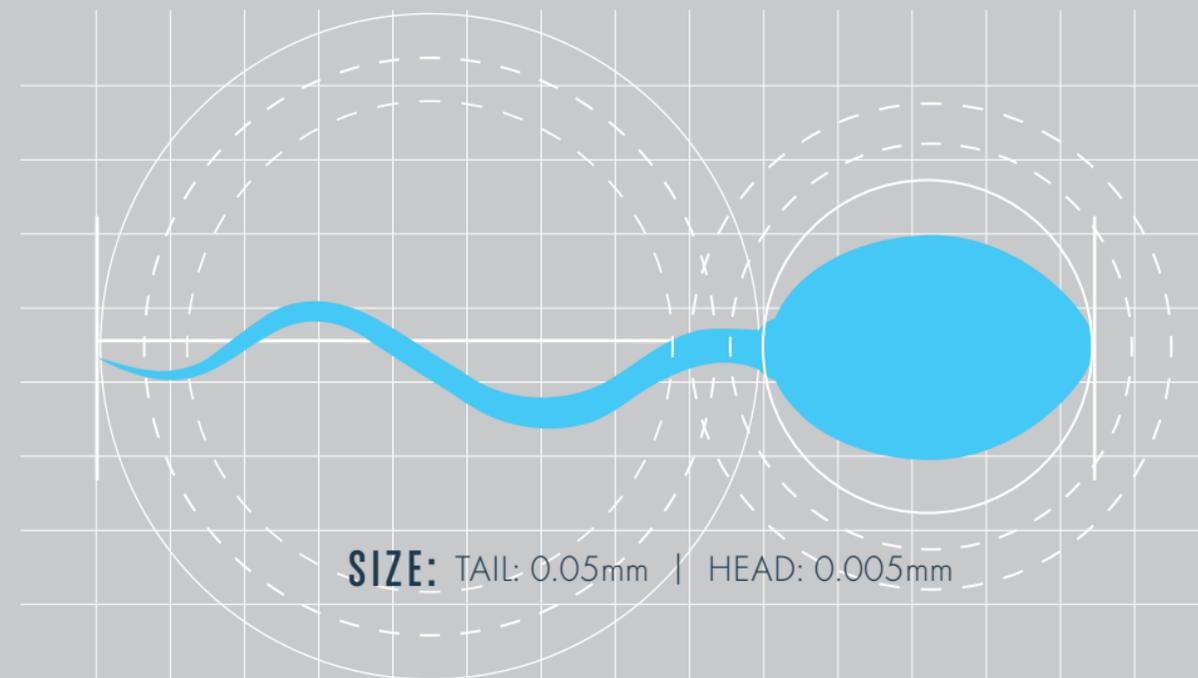
SEMEN VOLUME

1.5 – 6.8mL (Average: 3.7mL)

ABOUT 1/2 TEASPOON 

MEET THE SPERM

A FINELY CRAFTED BABY MAKING MACHINE



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

THE AVERAGE MAN MAKES:

1500
SPERM PER SECOND

525 BILLION
SPERM OVER A LIFETIME

SPERM CONCENTRATION

MORE SPERM =
FASTER CONCEPTION

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

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

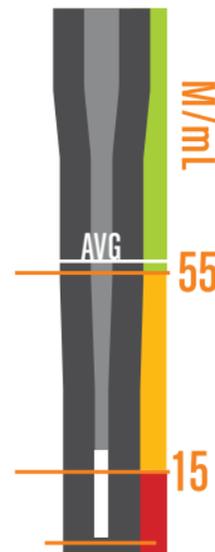
- sperm motility
- sperm morphology
- semen volume
- semen viscosity
- anti-sperm antibodies
- genetic abnormalities



HAVE A SEMEN ANALYSIS REPORT?

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

TRAK MEASURES WHERE YOU FALL WITHIN 3 CATEGORIES:



OPTIMAL: Sperm concentrations above 55 M/mL are linked to faster time to pregnancy.¹

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.²



36.4%

37.2%

26.4%

U.S. POPULATION DATA FROM TRAK CLINICAL STUDY

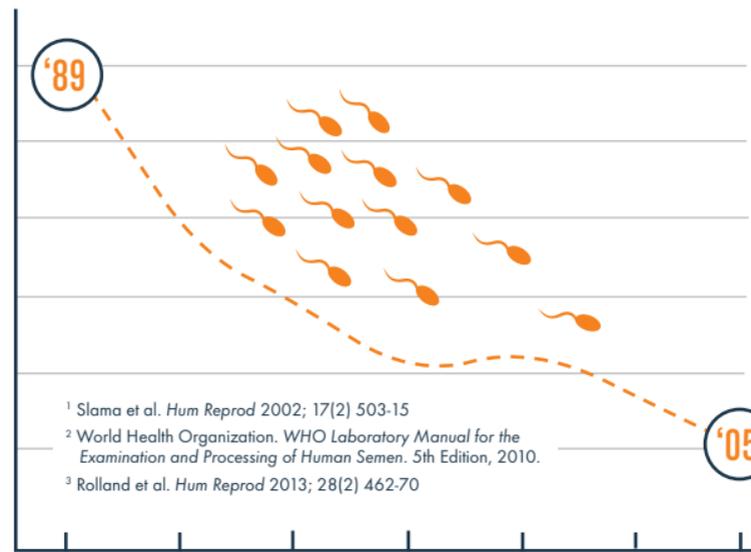
YOUR HEALTH & HABITS MATTER

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

SPERM CRISIS? SPERM COUNTS ARE PLUMMETING

One study showed that from 1989-2005, the average sperm concentration

DROPPED BY
32%³



¹ Slama et al. *Hum Reprod* 2002; 17(2) 503-15

² World Health Organization. *WHO Laboratory Manual for the Examination and Processing of Human Semen*. 5th Edition, 2010.

³ Rolland et al. *Hum Reprod* 2013; 28(2) 462-70



WELLNESS

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



BALANCED HORMONES

are crucial to healthy sperm production.



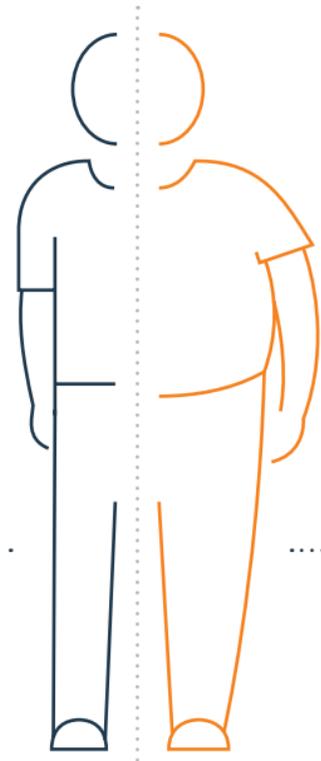
A HEALTHY HEART

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.

Obese men are **20X MORE LIKELY** to have a **LOW sperm count!**¹

SUDDEN CHANGE IN SHAPE OR SIZE

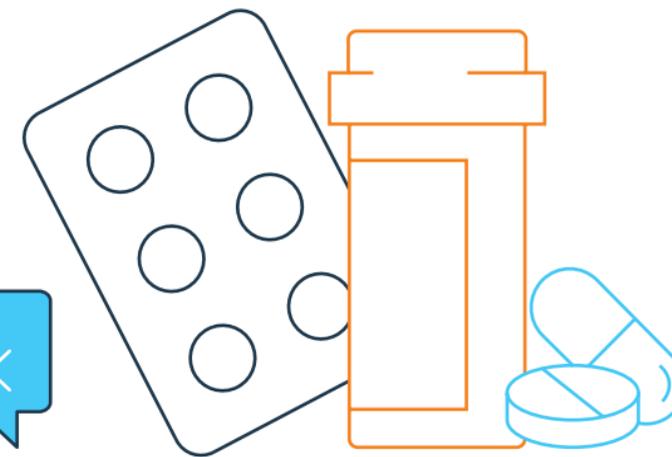
of testicles could mean that something is wrong.



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.

AM I TOO OLD?

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

96 YEARS OLD



¹ Eisenberg et al, *Hum Reprod*, 2014 Feb;29(2):193-200



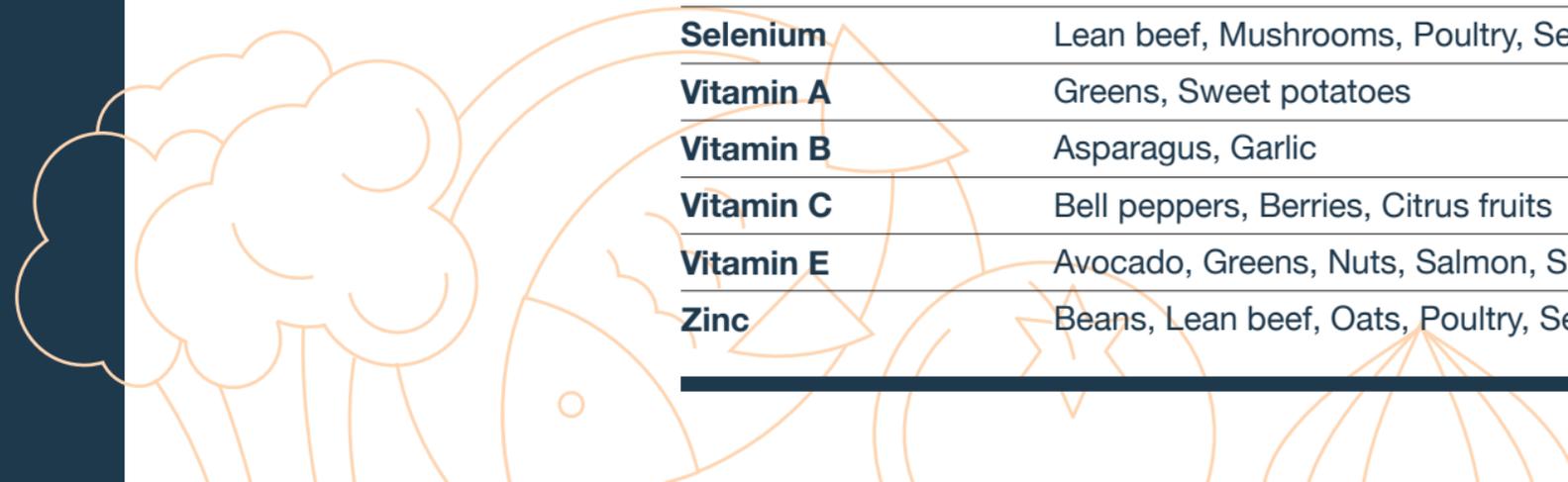
DIET

Eating right can supercharge your sperm.

The Good Stuff

Sperm-Friendly Superfoods

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



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.¹

Caffeinated sodas tied to

54%
DROP
in men's fertility.²

¹ Jensen et al, *Am J Clin Nutr.* 2013 Feb;97(2):411-8

² Wesselink et al, *Reproductive Toxicology.* 2016 Jul;62: 39-45



EXERCISE

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



GET THE BLOOD PUMPING

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

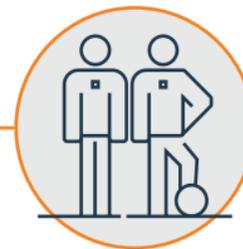
Men who watch more than **20 hours** of TV per week had

44%

LOWER

sperm count than those who watched very little TV.¹

GET MOVING!



GET COMPETITIVE

Team sports encourage physical activity and can 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.



GET SWOLE, BRO

Exercising large muscle groups helps boost testosterone levels.

Regular weightlifters and outdoorsmen had

42%

HIGHER

sperm counts than other guys.²

AVOID THE JUICE

Steroid abuse inhibits natural testosterone production and torches sperm production.



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

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



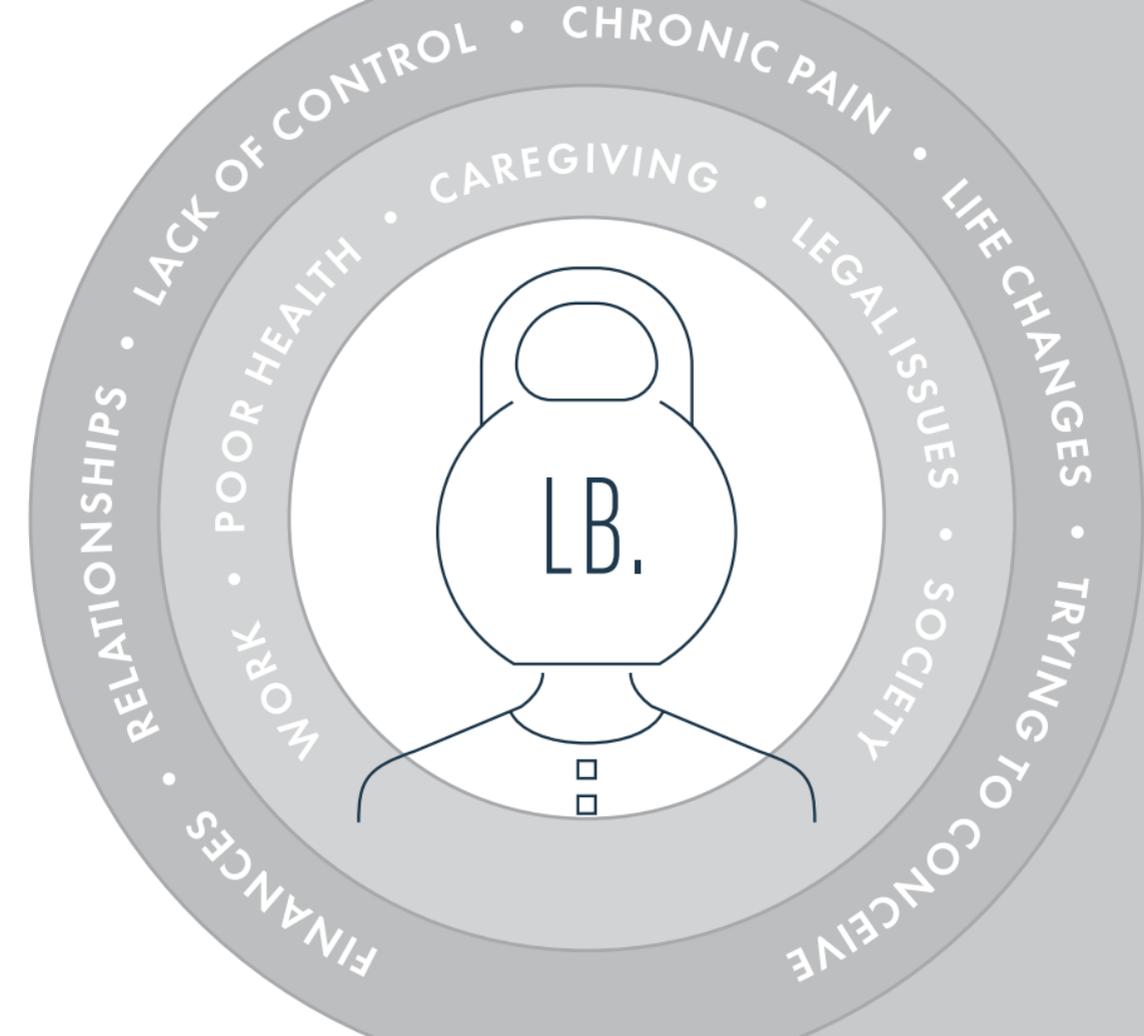
STRESS

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.

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.



GET A GOOD NIGHT'S SLEEP
Don't sleep near any active electronic screens.



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.¹

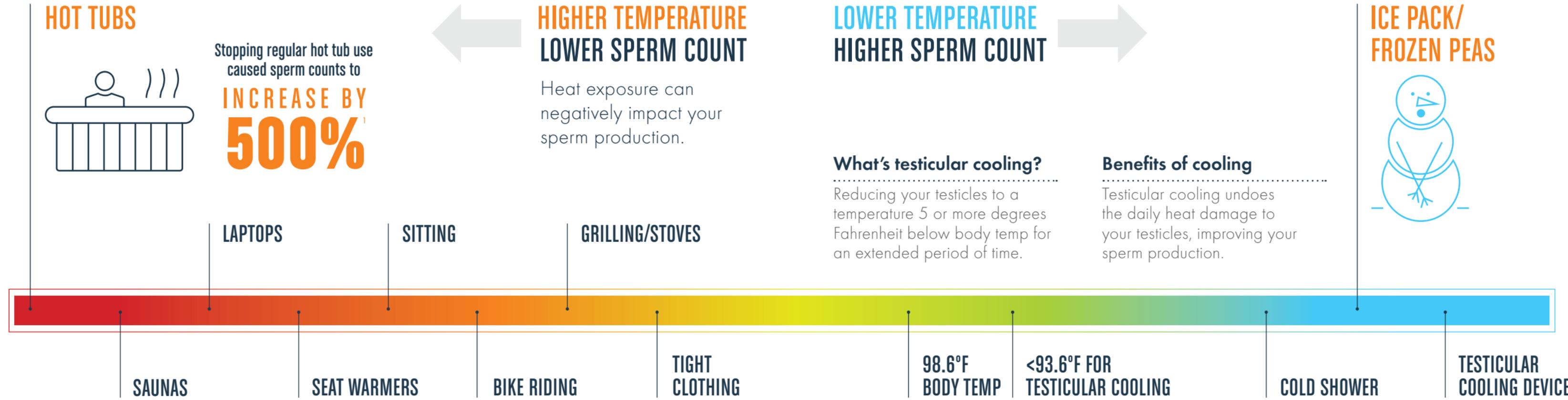
The average sperm count in medical students
DROPPED
from 55 M/mL at semester start to 39 M/mL at stressful exam time.²

¹ Jensen et al, Am J Epidemiol, 2013 May;177(10):1027-37
² Lampiao, Malawi Med J, 2009 Dec; 21(4): 166-7



HEAT

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



Sperm counts tend to be **HIGHER** in the winter than in the summer.²

Testicular cooling has been shown to **DOUBLE** sperm count.³

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



TOXINS

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!

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

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

RECREATIONAL



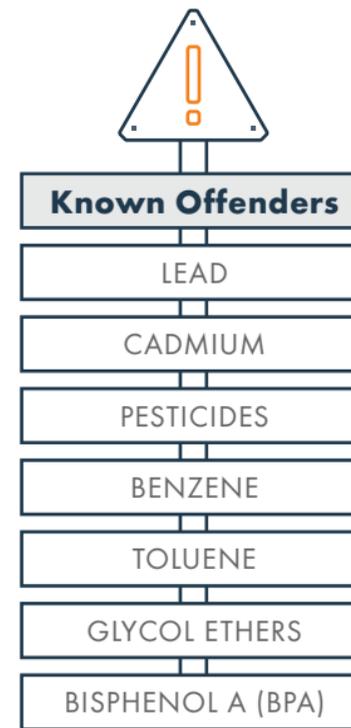
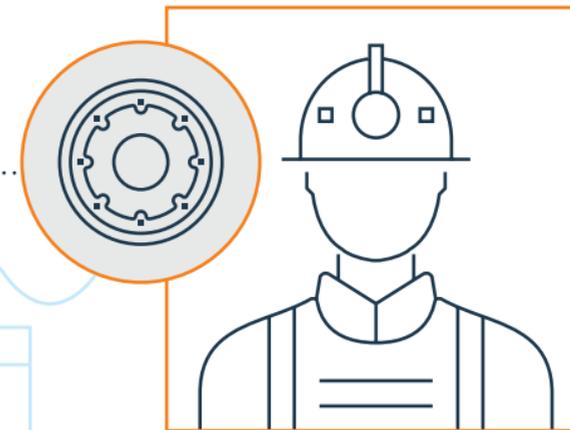
Smoking has been linked to poor sperm quality.

Smokers are **54% MORE LIKELY** to be infertile.¹

At-Risk Occupations

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

OCCUPATIONAL



Men exposed to organic solvents at work are

25x MORE LIKELY to have a low sperm count.²

Men exposed to agricultural pesticides had up to

30x POORER sperm quality.³

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

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

³ ASRM Practice Committee, 2012

SEX AND HORMONES

GOOD SEX = BETTER CHANCES OF CONCEPTION

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.

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.

SIGNS OF LOW TESTOSTERONE

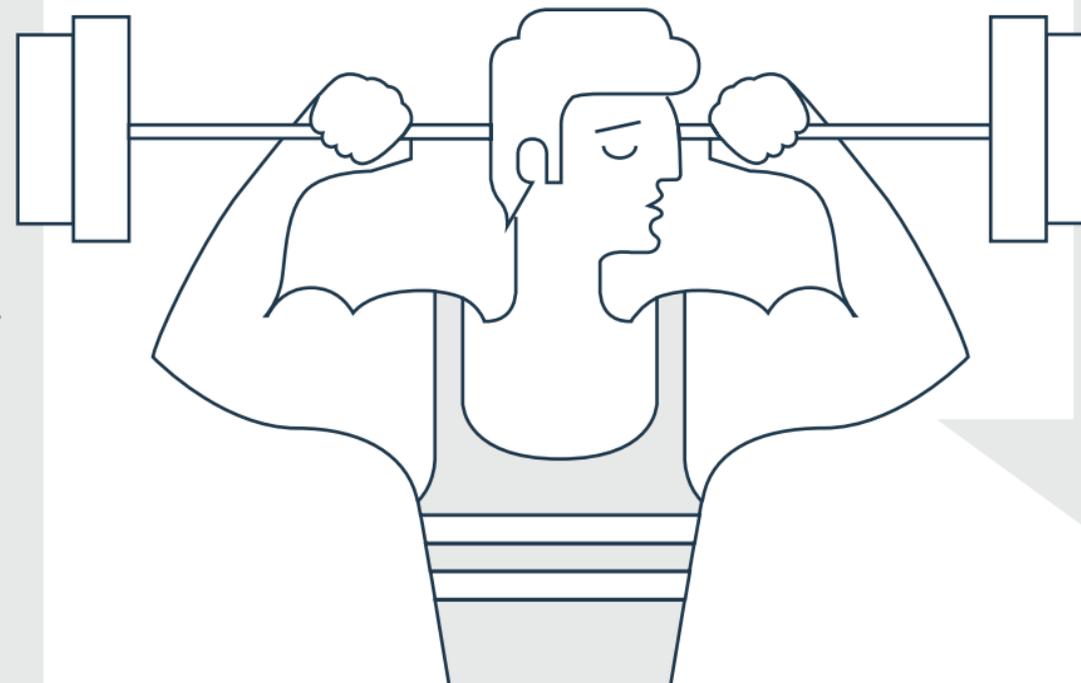
- Low sex drive
- Erectile dysfunction
- Sparse facial/body hair
- Delayed puberty
- Reduction in testicular size
- Poor muscle growth/muscular atrophy
- Gynecomastia (man boobs)

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

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.

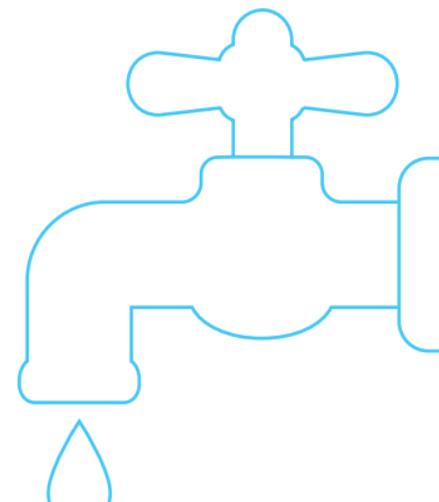


Check yourself

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.

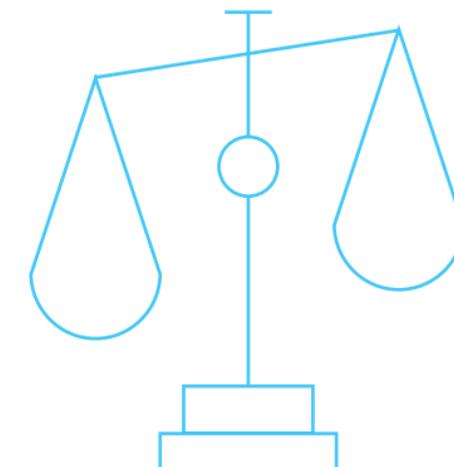


Take it to the bank

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

CHECKING UNDER THE HOOD

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

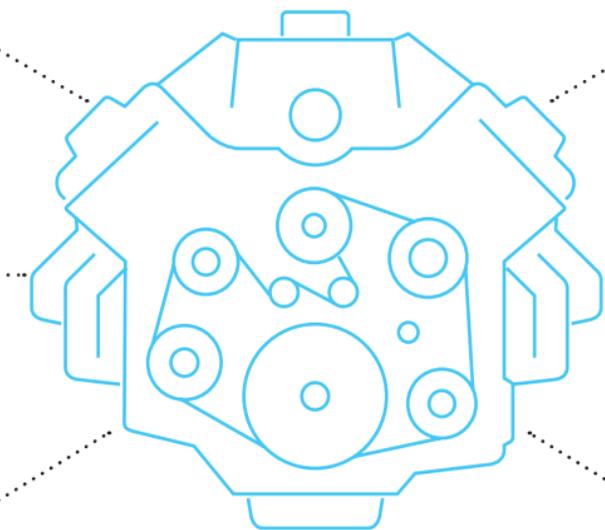
Your wife or partner **hasn't conceived after a year of trying**. Even if sperm counts are normal there may be other issues.



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



You have **difficulty achieving an erection**.



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.

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?



To find a highly specialized urologist in your area, visit:

dontcookyourballs.com/doctors

- ▶ 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 (≤ 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



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

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