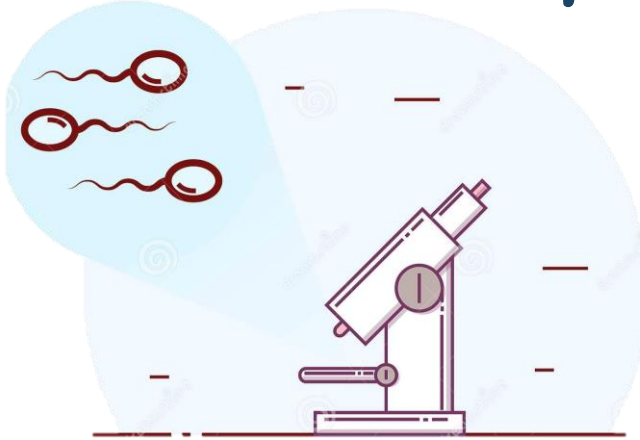


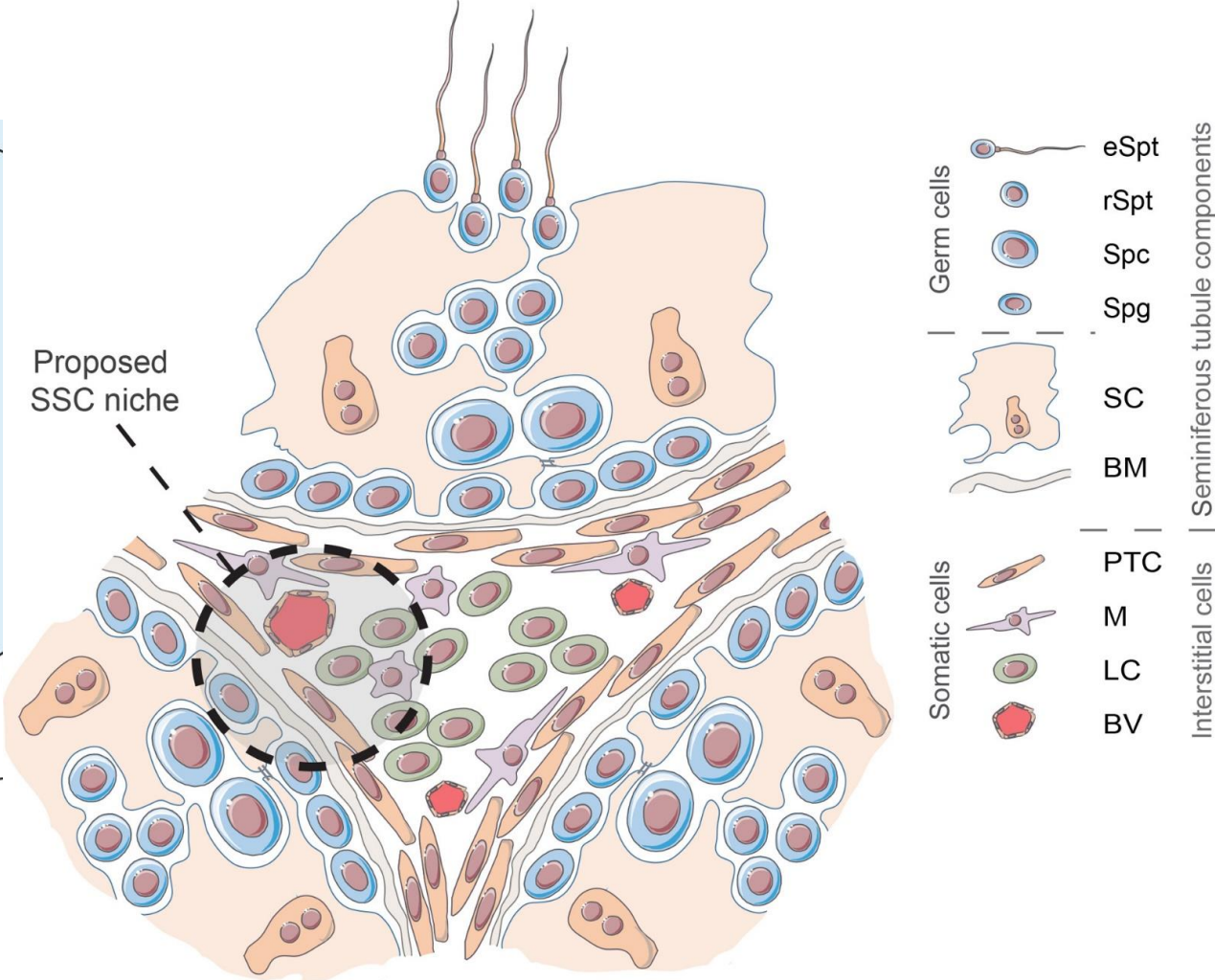
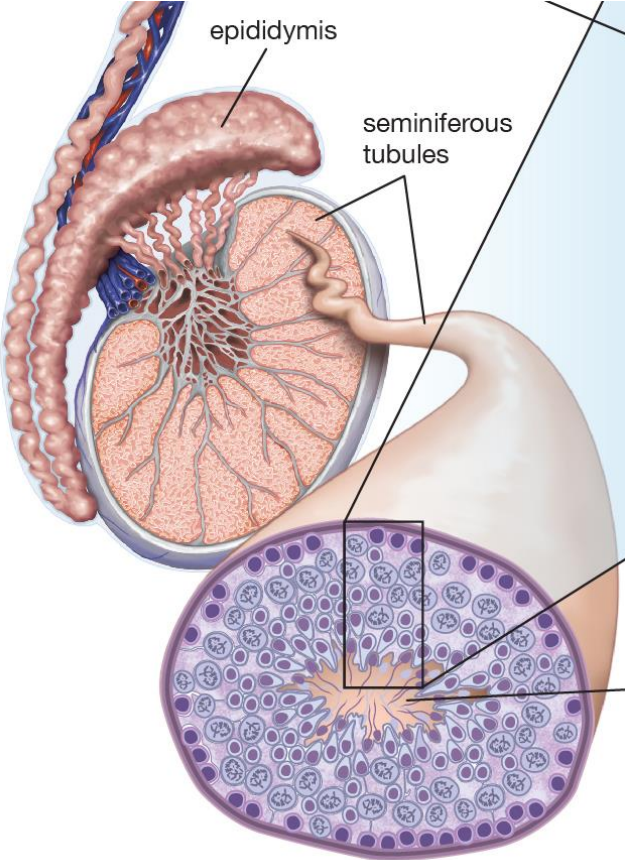
Sperm Analysis

Dr. Hossein Javid

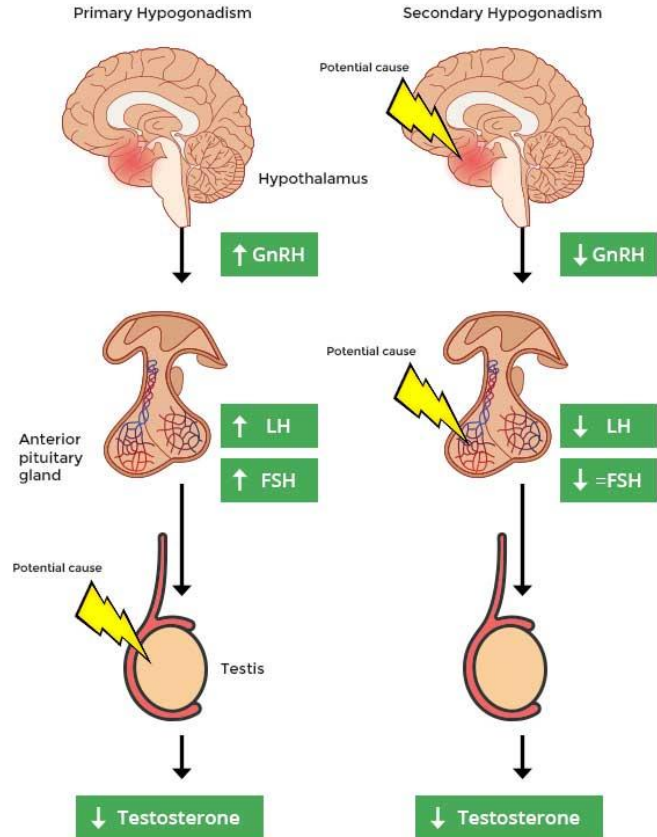
20th September 2023



Testis



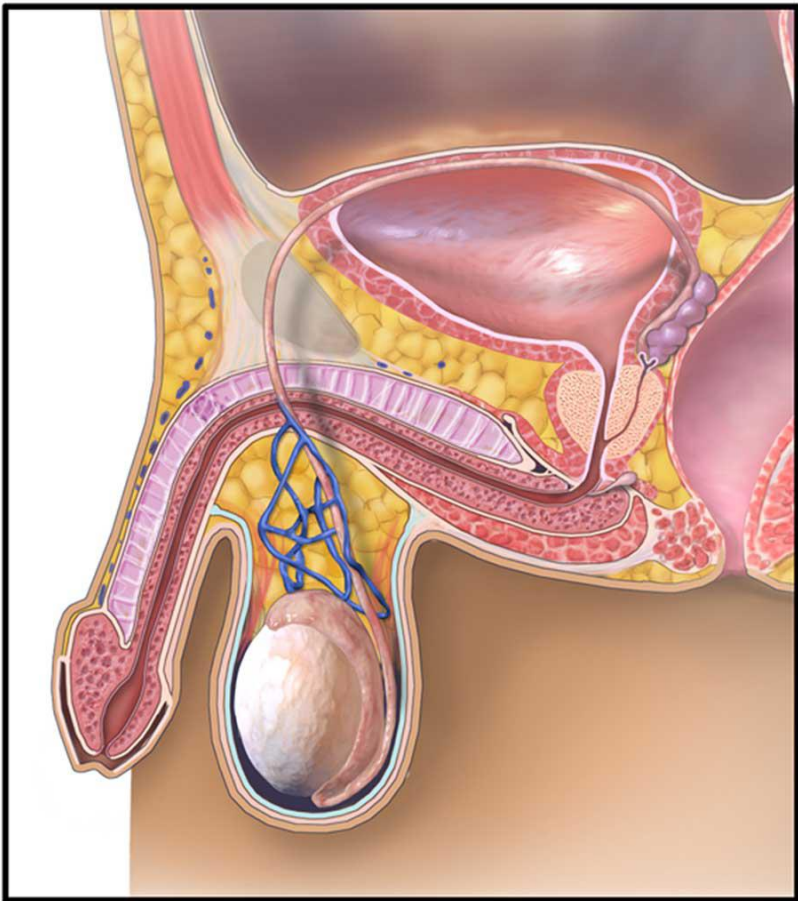
Hypogonadism



هیپوگنادیسم اولیه

نقص اولیه در بیضه
تارسایی در لوله های منی ساز
سندرم کلاین فیلتر
تروما، پرتودرمانی، واریکوسل
ارکیت
کریپتورکیدسم

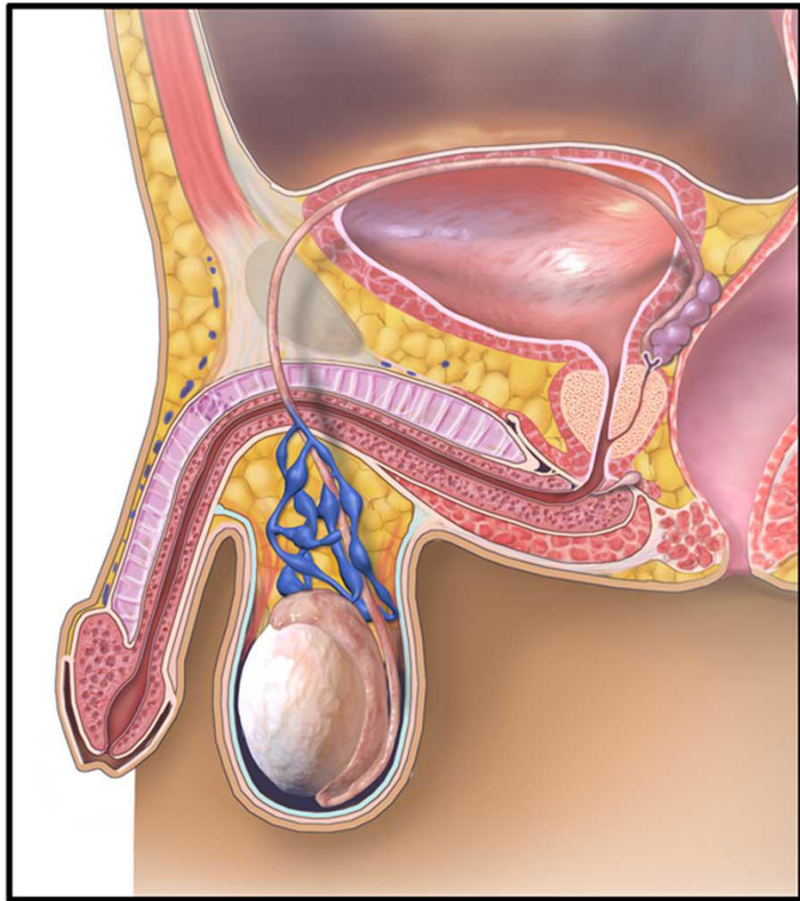




Normal

پیویو

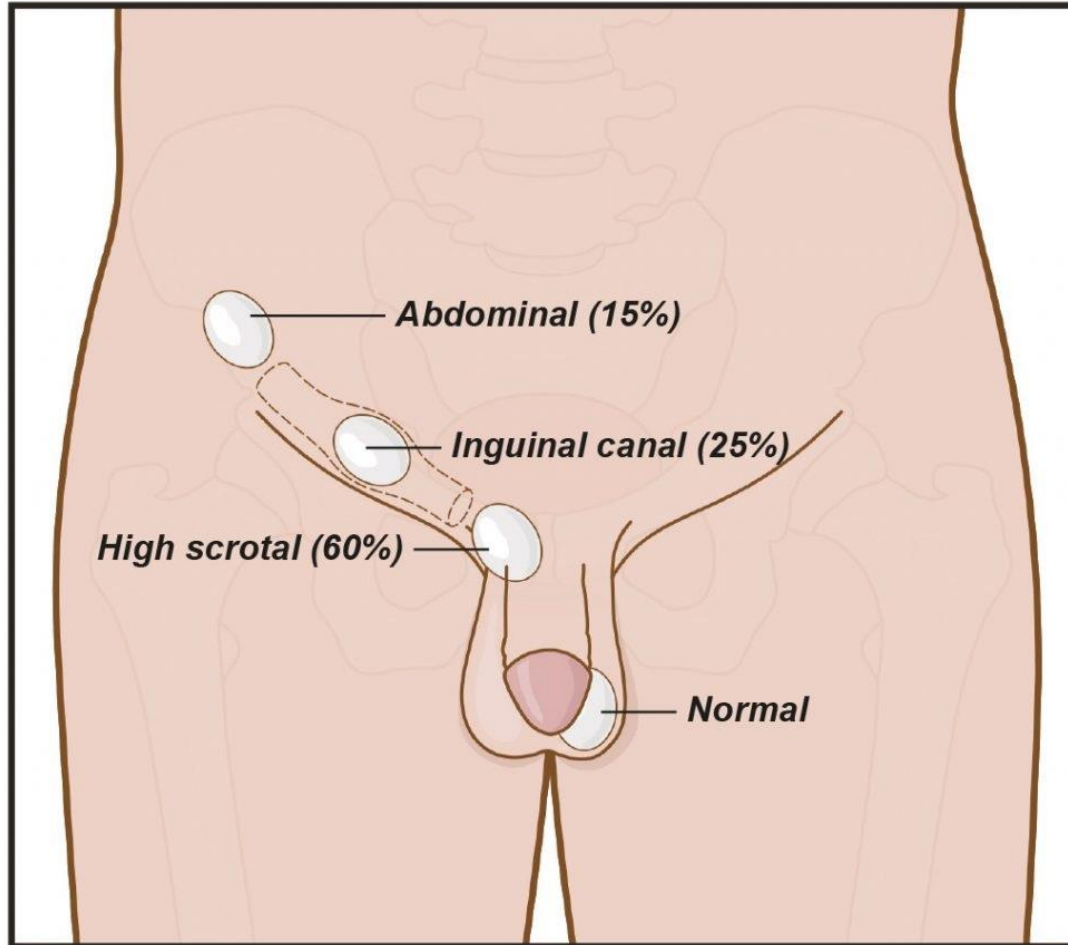
مجله تخصصی پیویو



Varicocele

واریکوسل

کریپتورکیدیسم



هیپوگنادیسم ثانویه

Non-production of GnRH
Olfactory disorder

سندرم کالمن

داروی آرام بخش، سوء تغذیه

ارثی

اکتسابی



Andropause

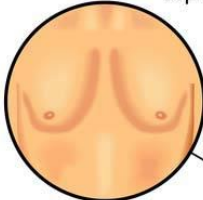
Symptoms and Complications



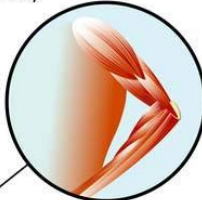
Decline in cognitive function,
depression,



Thinning hair,
hair loss,



Gynecomastia



Reduced muscle mass,
loss of muscle strength,



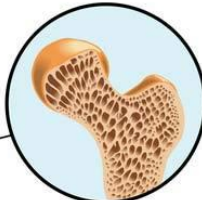
Loss of elasticity and
thinning of the skin



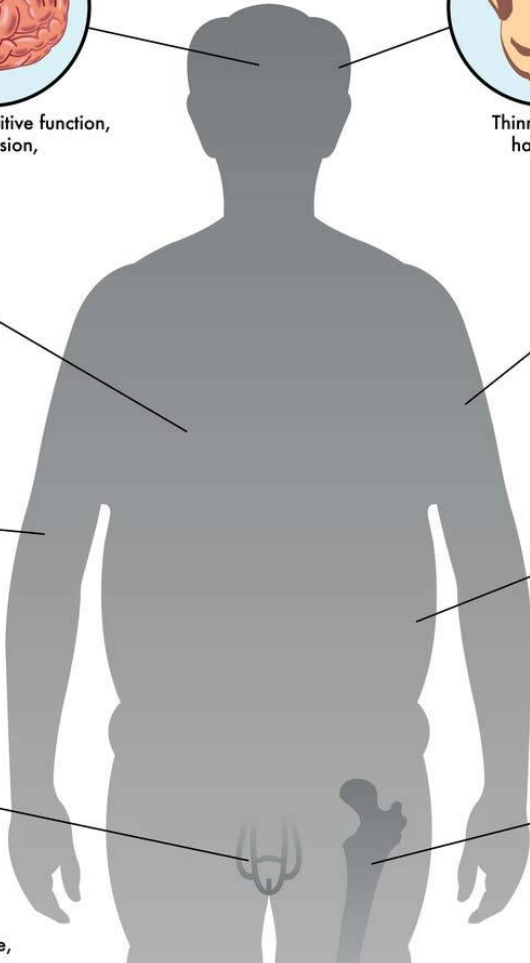
Increased fat mass,
abdominal obesity,



Testicular atrophy,
decreased sexual desire,
reduced levels of testosterone,

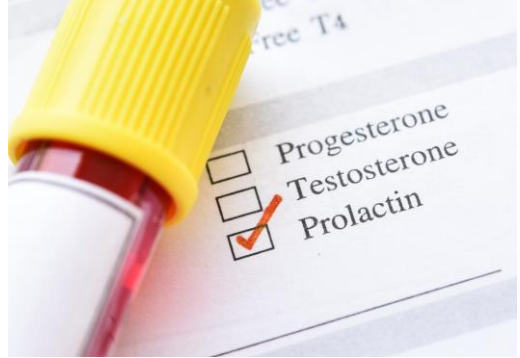
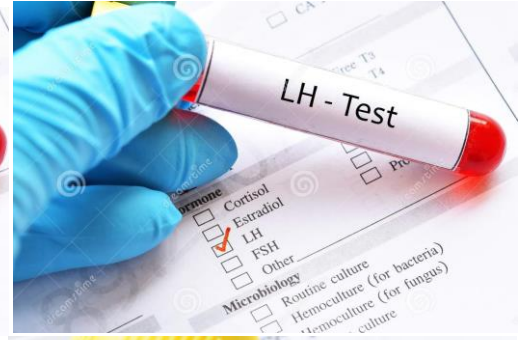
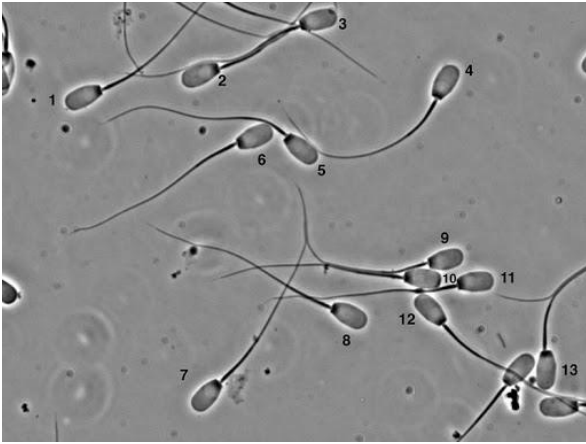


Reduction in bone mass,
osteoporosis risk,
fracture risk,



Andropause

Semen Analysis



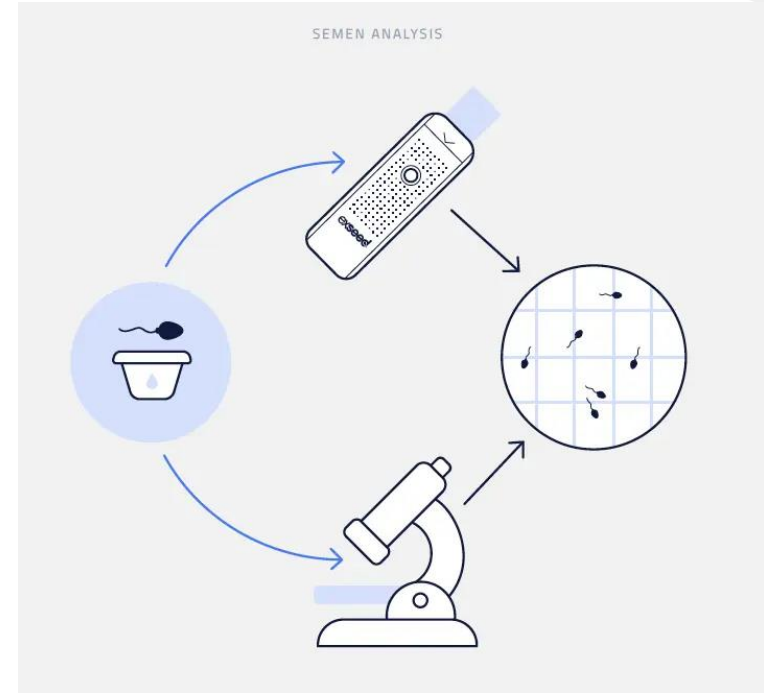
Sperm= Healthy testicles
No Sperm= Testicle problem



Laboratory Test

introduction

- ✓ A semen analysis, also known as sperm test or spermogram, is a type of test to evaluate the quality of a sperm sample and the sperm count. In other words, it is an effective method for determining male fertility.



Indication of Semen Analysis

- ✓ Assessment of fertility/infertility (most common)
- ✓ Determination the effectiveness of vasectomy
- ✓ Determination of suitability of semen for artificial insemination
- ✓ Follow up of fertility after cancer treatment by radio- or chemotherapy

How to Collect a Semen Sample

- ✓ 1-Refrain from ejaculating for 2-3 days before collecting your sample. For the same reason, do not refrain from ejaculating for more than 5 days.
- ✓ 2-Acquire a clean container from the lab to collect your sample
- ✓ 3-Make an appointment to return your sample within 5-10 minutes.
- ✓ 4-Clean your hands and penis beforehand with water and dry thoroughly. Do not use soap or oils when cleaning yourself
- ✓ 5- pass urine



How to Collect a Semen Sample

- ✓ 6-Obtain the sample with masturbation without using lubricants or gels.
- ✓ 7- Avoid interfering with the contents of the container afterwards. Do not place your fingers or any foreign objects inside the container
- ✓ 8-Bring the container back within 5-10 minutes, keeping it close to your body
- ✓ 9- Inform the staff at the lab if any of the sample was lost.



Macroscopic Examination

- Appearance
- Liquefaction
- Volume
- Viscosity
- pH

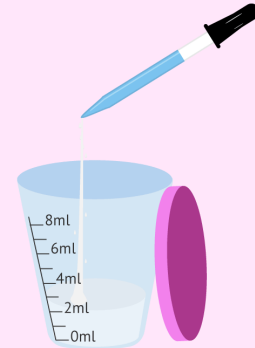


Volume

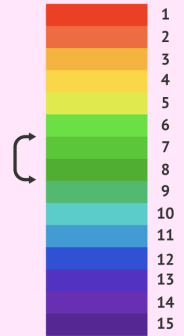
20min



Liquefaction



Viscosity



pH

Oyster white



Macroscopic Examination

WHO criteria		Description
Appearance	Normal:	Whitish to grey opalescent/oyster white
<i>Yellow (urine, jaundice); Pink/Reddish/Brown (RBCs)</i>		
Liquefaction	Normal:	15–30 minutes after collection
<i>Lumpy >60 min – sperms may be trapped in unliquefied jelly; maybe sign of prostatic infection, lack of prostatic protease</i>		
Viscosity	Normal	Smooth and watery
<i>Abnormal –, thick with long threads. High viscosity impede sperm movements</i>		

Macroscopic Examination

Volume	Normal:	1.5 ml per ejaculation
--------	---------	------------------------

Low volume (<1ml) reflect a problem with the seminal vesicles and prostate – a block, retrograde ejaculation, infection or lack of androgen.

Low semen volume cannot neutralize vaginal acidity

High semen volume dilute sperms/ active infection

pH	Normal:	7.2 - 8 (alkaline)
----	---------	--------------------

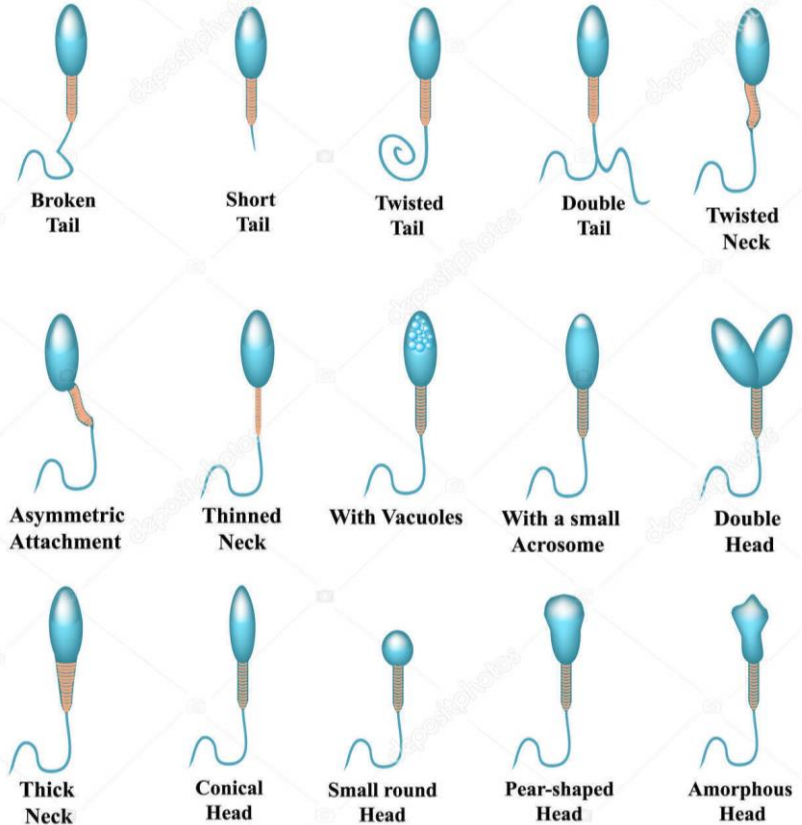
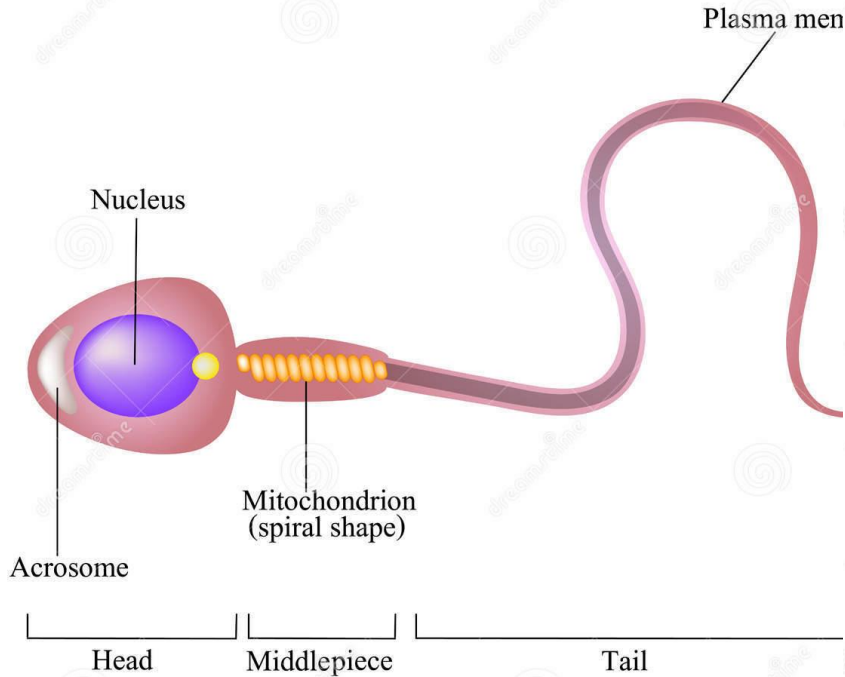
Acidic pH (<7.0) in a low volume & density sample indicates –congenital bilateral absence of vas deferens (in which seminal vesicles are also poorly developed) and ejaculatory duct obstruction. pH increases with time as natural buffering capacity of semen decreases – therefore high ph is not clinically useful

Microscopic Examination

- ✓ Sperm count
- ✓ Sperm motility
- ✓ Sperm morphology
- ✓ Sperm Vitality
- ✓ Agglutination

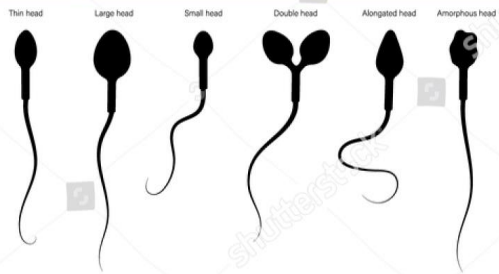
Pathological Forms of Sperm Ejaculate

Sperm Anatomy

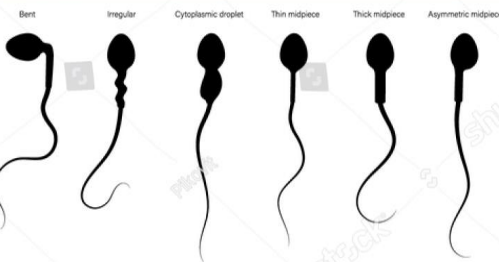


SEM MORPHOLOGY

Head defects



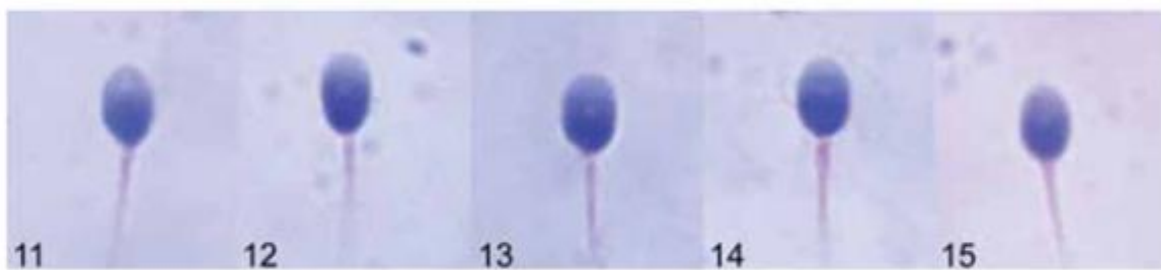
Midpiece defects



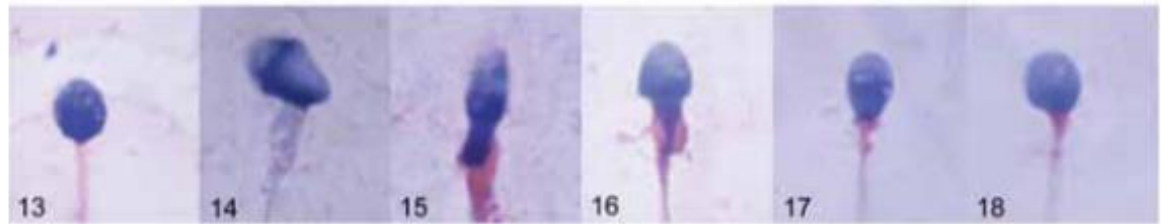
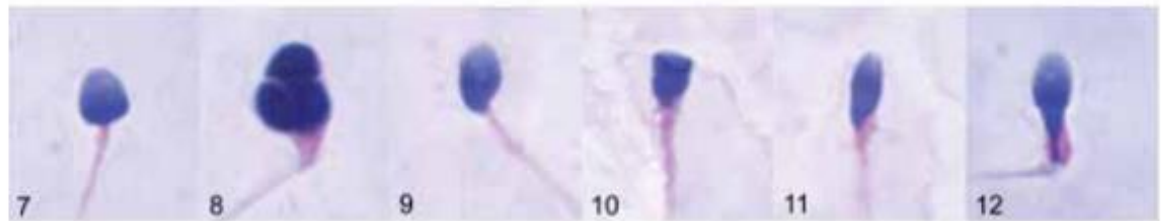
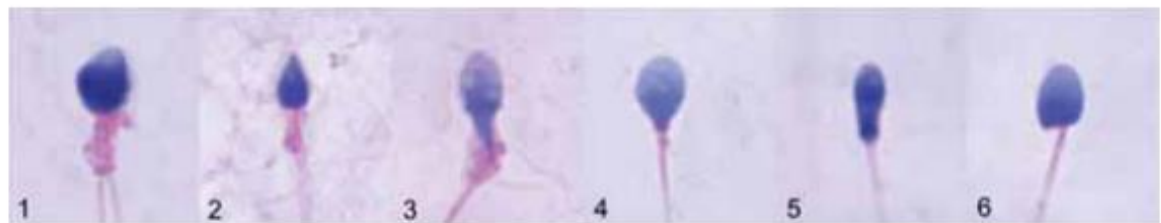
Tail defects

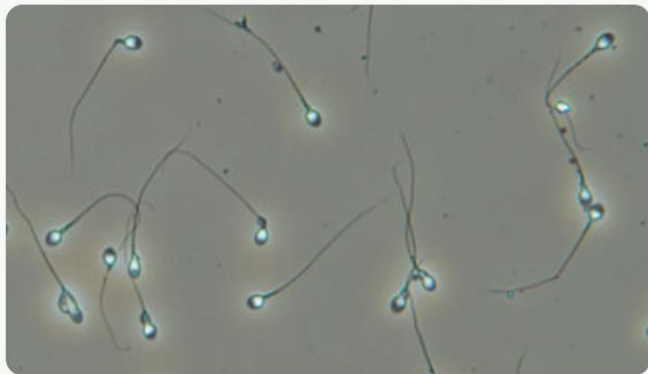


Normal



Abnormal





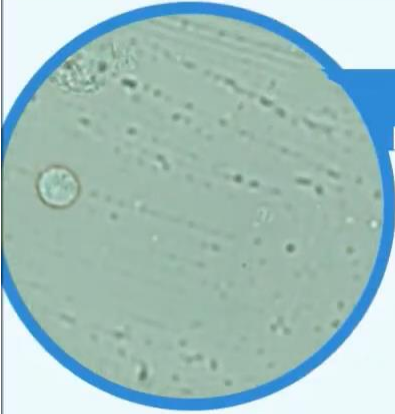
Semen sample with no round cells



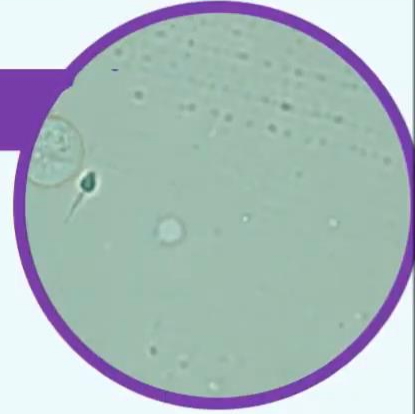
Semen sample with round cell examples

Sperm Motility Grading System: Four Categories

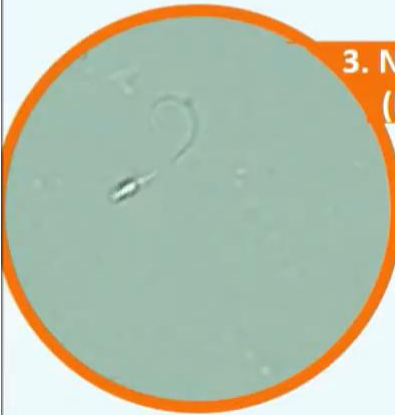
Dr. Amer Al-Jawabreh



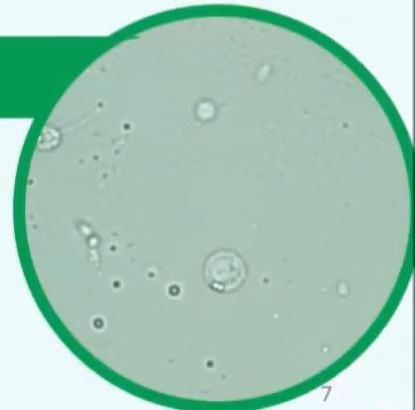
1. Rapidly progressive (RP)



2. Slowly Progressive (SP)



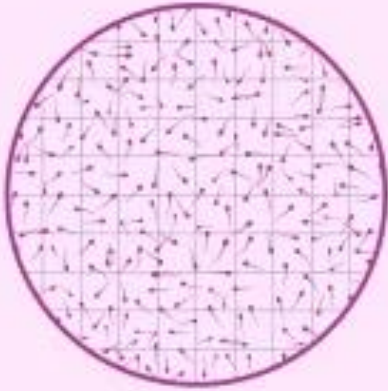
3. Non-progressive (NP)



4. Immotile (Im)

Dr. Amer Al-Jawabreh

Agglutination



Extremely high
concentrate



Changes in
the semen's pH



Fever

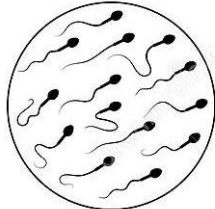


Bacterial
infections

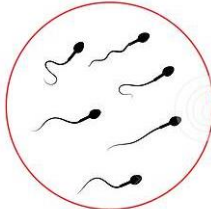
A few terms about spermogram



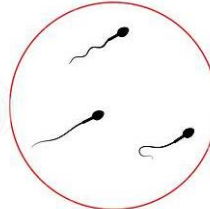
SPERMOGRAM



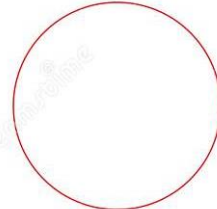
Normal sperm



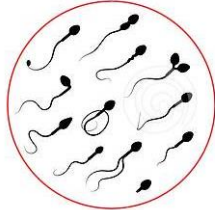
Oligozoospermia
low sperm count
تعداد اسپرم کمتر از رفرنس



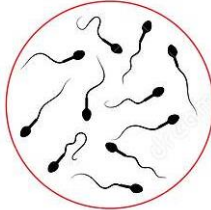
Cryptozoospermia
تعداد اسپرم بسیار کم
100/000



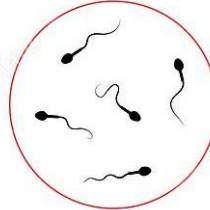
Azoospermia



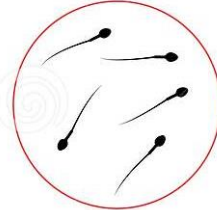
Teratozoospermia
abnormal morphology



Asthenozoospermia
abnormal motility



Oligoasthenoteratozoospermia



Necrozoospermia
no live spermatozoa



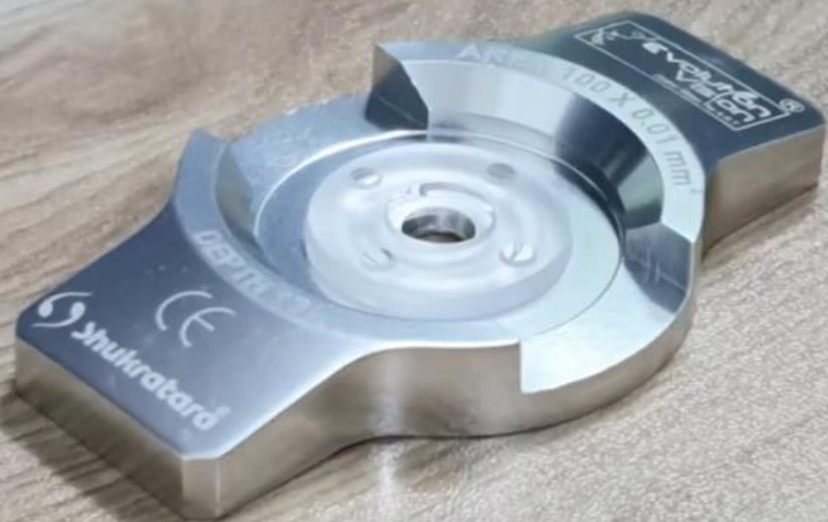


Sperm analysis method

Four Grades of sperm motility (*Motility Grades*)

Calculated in Percentage by counting 100/200 random sperm cells

1. **Grade A** or Motility IV or Rapid Progressive Motility.
Strongest. Swim fast in a Straight line.
2. **Grade B** or Motility III or Slow/Sluggish/Non-Linear Progressive Motility
Also move forward but in a Curved/ Crooked motion.
3. **Grade C:** Motility II. Non-progressive motility.
Move their tails but do not move forward.
4. **Grade D:** Motility I. Immotility.
Immotile. Fail to move at all.



Backspace



Thank You!