Analyzing the Jing:
A Contemporary Approach to the Treatment of Male Infertility

Peter Kington
BA (UQ), MLitt (UNE),
BHS (Acupuncture) (ACNM), GCHEd
(UQ).

<table>
<thead>
<tr>
<th>AUTHOR/SOURCE</th>
<th>PATTERNS OF DISHARMONY - Infertility</th>
</tr>
</thead>
</table>
2. Kidney yang deficiency  
3. Damp-heat  
4. Blood and qi stagnation |
| Andreas Noi & Sabine Wilm, Chinese Medicine in Fertility Disorders, Thieme, Stuttgart. | 1. Kidney yin deficiency  
2. Kidney yang deficiency  
3. Damp-heat  
4. Qi stagnation  
5. Blood stasis  
6. Lower Jiao Blood stasis |
   a. Kidney yang deficiency  
   b. Kidney jing consumption  
   c. Qi & Blood deficiency  
2. Azospermia (no sperm)  
   a. Kidney jing deficiency  
   b. Kidney yin deficiency  
   c. Damp-heat  
3. Dead “Spermia”  
   a. Kidney Qi deficiency  
4. Non-liquidfication  
   a. Kidney yin deficiency  
5. Insufficient Seminal Fluid  
   a. Kidney jing deficiency  
   b. Qi & Blood deficiency  
   c. Sperm duct blockage - Blood stasis  
6. Immunosensitivity (Anti-sperm antibodies)  
   a. Kidney yin deficiency  
   b. Kidney yang deficiency |
2. Kidney yang deficiency  
3. Spleen & Kidney qi deficiency; Heart & Liver blood deficiency  
4. Damp-heat pouring downward  
5. Pilem turbidity  
6. Blood stasis (obstruction)  
7. Cold stagnating in the Liver channel |
What happens when your client
• Young men (<30 years old)
• Sedentary lifestyle
• Generally very healthy
• Physically fit/robust
• Struggle to find a diagnosis
**Are Men in Crisis?**

- Conflicting evidence about the decline of semen quality and quantity
- Male birth rates are declining in most developed countries
- Increase in testicular cancer and cryptorchidism (absence of one or both testes) – contributing to testicular cancer spike
- Increased prostate cancer in most countries – most commonly diagnosed cancer in Western men
- Rapid rise in hypospadias – genital defect where urinary meatus is misplaced

**BITS & STATS**

- Between 1 in 6 and 1 in 10 couples seek medical help for subfertility
- 30-40% relate exclusively to female partner
- 20-25% relate exclusively to male partner
- 30% relate to both partners
- 15% are “unknown” – neither man, nor woman.

- Fecundability: probability of conception after one cycle (15-20%)
- Cumulative Fecundability: ongoing probability of conception are several cycles

<table>
<thead>
<tr>
<th>No. of factors</th>
<th>Mean fecundability (proportion)</th>
<th>Pregnant in 2 years %</th>
<th>Pregnant in 3 years %</th>
<th>Mean time to pregnancy y</th>
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</tr>
</tbody>
</table>
NOMENCLATURE

STERLITY/COMPLETE INFERTILITY: no chance of pregnancy
  · Primary infertility

INFERTILITY/RELATIVE-SUB INFERTILITY: an arbitrary distinction between normal fertility and low fertility
  · Secondary infertility

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>aspermia</td>
<td>no semen (no or retrograde ejaculation)</td>
</tr>
<tr>
<td>asthenozoospermia</td>
<td>percentage of progressively motile (PR) spermatozoa below the lower reference limit</td>
</tr>
<tr>
<td>asthenoteratozoospermia</td>
<td>percentages of both progressively motile (PR) and morphologically normal spermatozoa below the lower reference limits</td>
</tr>
<tr>
<td>azoospermia</td>
<td>no spermatozoa in the ejaculate (given as the limit of quantification for the assessment method employed)</td>
</tr>
<tr>
<td>crypzoospermia</td>
<td>spermatozoa absent from fresh preparations but observed in a centrifuged pellet</td>
</tr>
<tr>
<td>haematospermia</td>
<td>presence of erythrocytes in the ejaculate</td>
</tr>
<tr>
<td>leukospermia (leukocytespermia)</td>
<td>presence of leukocytes in the ejaculate above the threshold value</td>
</tr>
<tr>
<td>necrozoospermia</td>
<td>low percentage of live, and high percentage of immotile, spermatozoa in the ejaculate</td>
</tr>
<tr>
<td>normozoospermia</td>
<td>total number (or concentration, depending on outcome reported) of spermatozoa, and percentages of progressively motile (PR) and morphologically normal spermatozoa, equal to or above the lower reference limits</td>
</tr>
<tr>
<td>oligoasthenozoospermia</td>
<td>total number (or concentration, depending on outcome reported) of spermatozoa, and percentage of progressively motile (PR) spermatozoa, below the lower reference limits</td>
</tr>
<tr>
<td>oligoasthenoteratozoospermia</td>
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</tr>
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</tr>
<tr>
<td>oligozoospermia</td>
<td>total number (or concentration, depending on outcome reported) of spermatozoa below the lower reference limit</td>
</tr>
<tr>
<td>teratozoospermia</td>
<td>percentage of morphologically normal spermatozoa below the lower reference limit</td>
</tr>
</tbody>
</table>
What is Infertility?

- 12 months of unprotected, twice weekly sexual intercourse with the same partner.
- Male infertility diagnosed by way of semen analysis and/or chromosome counselling/blood work
- Sub-fertility – infertility of no known cause (ie no known medical reason)

Myths of Sexuality

University of Alberta Health Centre (2001):

1. Men have a higher sex drive than women
2. Fewer men than women are virgins
3. Sex requires erection
4. Sex ends when a man ejaculates
5. All orgasms are mind-blowing
6. Men in relationships don’t masturbate
7. Size – “normal”? 
PENIS FACTS

• Erect: 16cm (6.3”)
• Erect: 90% somewhere between 14.5cm (5.6”) and 17.5cm (7”)
• Flaccid: somewhere between 7.5cm (3”) and 15cm (6”)

• Average increase in length between flaccid and erect is 5cm
• Shorter flaccid penises grow more than longer flaccid penises

• 1970s: 90% of infant males circumcised
• 2011: 15% of infant males circumcised for health, religious or personal choice

Male Anatomy - Overview

• Testicles
• Vas Deferens
• Urethra
• Bladder
• Seminal Vesicle
• Prostate Gland
• Cowper’s Gland
• Penis
Male Anatomy - Overview

Testicles – testis, epididymis & scrotum

- Testis
  - Sertoli Cells create sperm
  - Reproductive capacity
  - Leydig Cells source of testosterone
    - Male secondary sex characteristic
  - Puberty
  - Libido
- Epididymis
  - Three parts: caput (head), corpus (body), cauda (tail)
  - Spermatozoa develop motility after entering the caput and

Male Anatomy - Overview

Vas Deferens

- Form part of spermatic cord
  - 30 cm long
  - Surrounded by smooth muscle
- Transport sperm during ejaculation – peristalsis of smooth muscle
- Joins with the urethra

Urethra

- Approximately 15cm long
  - Pre-prostatic urethra (from testis to prostate)
  - Prostatic urethra
  - Membranous urethra (sphincter)
Male Anatomy - Overview

Bladder
- Muscular, elastic organ
- Stores urine
  - Enters via ureters
  - Exits via the urethra
  - Approximately 500ml
- Detrusor muscle
  - Controlled by parasympathetic nervous system
  - Internal (involuntary) and external (voluntary)

Male Anatomy - Overview

Seminal Vesicle
- Comprises 60% of semen
- Function not known

Prostate Gland
- Produces alkaline fluid – 10-30% of semen
- Regulated by testosterone (testicles & adrenal glands)
- Contains muscles within and outside which produce peristalsis during ejaculation

Cowper’s Gland
- Produces pre-ejaculate
  - Neutralises residual urine in urethra
  - Cleans residual sperm from
Male Anatomy - Overview

Penis

Internal Anatomy
- Corpora cavernosa (x2) – dorsal side
- Corpus spongiosum – ventral side
- Urethra

Male Anatomy - Overview

Penis

External Anatomy
- Glans penis
- Foreskin
- Frenulum
- Meatus (opening of urethra)
- Shaft
SPERMATOGENESIS

Definition: formation of sperm

Occurs deep within the testes:
   Spermatogonia: 300K at birth, stored in germ cells

Due to cellular division (mitosis) 600 million at puberty

100-200 million produced in a day at adulthood; total of 1 trillion in life of average male

Initiated by Y chromosome genes

70 days to complete + 12-21 days to transport sperm from testes to ejaculatory ducts = total of about 80-90 days

Spermatogenesis not complete without capacitation
Physiology of Male Reproduction

**HYPOTHALAMUS**
- Becomes active at Puberty and produces a carrier hormone
- GnRH: Gonadotropin Releasing Hormone
- GnRH communicates with the Anterior Pituitary Gland (APG)

**ANTERIOR PITUITARY GLAND**
- Responds to GnRH from hypothalamus
- Produces:
  - LUTEINIZING HORMONE (LH):
    Stimulates testosterone secretion in the Leydig Cells located between seminiferous tubules in testes.
  - FOLLICLE STIMULATING HORMONE (FSH):
    With testosterone produces Androgen Binding Protein (ABP): spermatogenesis in
TESTOSTERONE

Two types of testosterone regulate gene transcription in the target cells:
- Testosterone
- Dihydrotestosterone

Effects of these androgens:
- Prenatal development:
  - T: reproductive system ducts, descent of testes and converted in brain to oestrogen for neural development
  - D: development of external genitals
- Development of male sexual characteristics:
  - Both T & D bring about development of secondary sexual characteristics at puberty (within hereditary limits)
- Development of sexual function: male sexual behaviour and libido in men
- Spermatogenesis
- Stimulation of anabolism: protein synthesis creates heavier muscles and bone mass in men: closing of epiphysial plates

TESTOSTERONE REGULATION

When testosterone levels in the blood become too high, a message is sent to the Hypothalamus to stop secreting GnRH. This has a flow-down effect.

If blood testosterone levels are too low, a message is sent to the Hypothalamus to start producing GnRH.

When sufficient spermatogenesis has taken place, Sertoli Cells release INHIBIN.

Inhibin is a protein which stops the APG secreting FSH.

If Spermatogenesis is occurring too slowly less Inhibin is released and therefore more FSH is secreted and
STRUCTURE OF SPERM

- ACROSOME:
  - Contains enzymes which enable the sperm to penetrate the secondary oocyte (egg)

- HEAD/NUCLEAS
  - Contains nuclear material (DNA)

- NECK
  - Connect the head to the tail; contains centrioles which break off after fertilization

- MIDPIECE
  - ATP production – energy for motion

- TAIL
  - AKA the Flagellum – like the rudder that

EJACULATION & FERTILIZATION

72 days after commencement of spermatogenesis the sperm reach the caudal epididymis (stores sperm for ejaculation)

Storage allows for repetitive fertile ejaculations
  - Adequate testosterone
  - Normal scrotal temperature (35°C)

Semen
  - Alkaline substance to neutralize acidity of vagina
  - Immediately after ejaculation, semen liquefies due to prostatic enzymes (complete within 30 minutes)

Movement
  - Requires cervical mucus + β-de-fensin126 protein acquired in caudal epididymis
  - Correct morphology
EJACULATION & FERTILIZATION

Sperm movement:
- 90 seconds to cervix
- 5 minutes to Fallopian tube
- Assisted by colonization in cervical mucus
  - First 24 hours a constant level of sperm in CM
  - After 48 hours most sperm gone from CM
- Fertile sperm have been found in Fallopian tubes in excess of 80 hours post ejaculation

Attrition of Sperm:
- 200-300 million deposited in vagina
- Few hundred to 1000 get close to egg
- Many get lost in vaginal introitus
- Many are ingested by vaginal enzymes, phagocytosis and endometrial cells
  - Many sperm but the events and not lost is monitored

EJACULATION & FERTILIZATION

Capacitation:
- A 2 hour process sperm undergo to potentiate fertilization

Three stages:
1. B-defensin 126 (acquired in caudal epididymis) allows sperm to better bind to ovum in Fallopian tube
2. Acrosomal reaction at outer layer of ovum play a role in sperm-egg penetration
3. Hypermobility
  - Increased velocity assists with penetration of zona pellacuda

How:
- All line about sperm, H© regulation about Fallopian
EJACULATION & FERTILIZATION

Egg membrane engulfs sperm head

Fusion of egg and sperm membrane

Process mediated by specific proteins which permit binding of sperm to zona pellacuda and fusion with oocyte

Meiosis completed 3 hours after fertilization

2nd polar body is released; diploid (egg) formed

1st cellular division

CONCEPTION IS A MIRACLE

Pregnancy loss before and including fertilization is 46%

Pregnancy loss after fertilization is 30%

Spontaneous 1st trimester miscarriage is 15% (50%-60% of these are due to abnormalities in the chromosomal structure)

20%-30% of normally fertile couple achieve pregnancy

30% of pregnancies survive to birth
CM Andrology & Male

nan ke = “specialised knowledge in Chinese medicine that describes the physiology of men, as well as the prevention, pathology and treatment of men’s diseases” (Damone, p1)

Recent medical speciality, but common condition to treat throughout history

Traditional Understanding of

Huang Di Nei Jing (Yellow Emperor’s Inner Cannon)

Cycles of Men’s Lives

- 8 years old, Kidney qi is replete, development of teeth continues
- 16 years old, Tian Gui flows, essential qi overflows and drains, yin and yang are harmonious and reproduction is possible
- 24 years old, Kidney qi completely balanced, the sinews and bones are powerful, true teeth (wisdom teeth) develop to the utmost
- 32 years old, sinews and bones developed, flesh is full and resplendent
- 40 years old, kidney qi is debilitated, the hair falls out, teeth desiccated
- 48 years old, yang qi debilitated above, face is parched and temporal hair turns grey
- 56 years old, liver qi is debilitated, sinews are unmovable, tian gui exhausted – essence scant, kidney viscus debilitated and bodily form begins to decline
- 64 years old, teeth and hair fall out – all over, red rover

♫ Profound role of the Kidney Jing in growth and decline of men AND
Traditional Understanding of

Huang Di Nei Jing (Yellow Emperor’s Inner Cannon)

Male Secondary Sexual characteristics

- Development of facial hair and ejaculation = puberty
- “at two times eight, heavenly tenth flows and essential qi overflows and drains...” (Damone, p 5)
  - Heavenly tenth = tian gui = trigger for male reproduction
  - Essential qi = semen
  - Overflowing and draining = ejaculation

When tian gui supply is ample, the male is fertile.

Traditional Understanding of

Huang Di Nei Jing (Yellow Emperor’s Inner Cannon)

Facial Hair

- Tian huan – eunuch – a male who doesn’t develop secondary sexual characteristics
  - Undersized penis
  - Facial/body hair
  - Insufficient Tian Gui
  - Insufficient Chong and Ren Mais
  - Lack of formation of ancestral sinew
  - Blood xu fails to nourish lips and mouth – no beard

Sexual maturation = tian gui + Chong filled with blood to produce supple tissues

Jing Shen = essence mind; abundant essence is necessary for
Traditional Understanding of

*Nan Jing (Classic of Difficult Issues)*

- Develops the idea that the *Ming Men (Gate of Vitality)* exists in the Right Kidney
- Right Kidney stores essence in men and is related to the uterus in women
- Theory developed later that Ming Men is involved in many “cold” male fertility diseases
- Evaluation of Ming Men crucial
Foundations of Andrological

**Zang**
- Kidney
- Liver
- Spleen
- Heart [emotional component]

**Channels**
- Chong
- Ren
- Du
- Dai

Imbalance of Qi & Xue

Organ & Channel Theory

**Kidney**

- **Channel:** intersects with the Chong (Ki-4 + K-11 +++) & Du (Du-1)
- **Zang:**
  - **Explanation**
    - Jing: basis of qi, blood, fluids – physiological function
    - Jing: reproductive essence; semen
    - Qi: holding essence & ejaculation
    - Sexual maturation

- **Pathology**
  - Insufficient sexual maturity
  - Premature ejaculation and seminal efflux
Organ & Channel Theory

Liver

Channel: connects with the genitals and penis

Zang:

Explanation
- Liver stores blood = provides nourishment & form
- Liver moves qi = function
- Liver yang keeps blood warm, controls upbearing and the qi dynamic, maximizes free flow.
- Abundant liver blood – stored as essence

Pathology
- Stagnant qi, xue xu, fire flaring downward or damp-heat: priapism, prostatitis, inability to ejaculate, hematospermia
- Xue xu leads to undernourishment of genitals leading to impotence, scanty semen, genital retraction

Organ & Channel Theory

Spleen

Channel: nourishes the genitals and makes luxuriant; Sp-6 meeting point of three leg yin & Sp-21 invests the connecting channels with blood.

Zang:

Explanation
- Post natal qi production
- Formation of blood, marrow, fluids and jing
- Formation of male anterior yin
- Movement of fluids – prevention of damp
- Upward movement of fluids (prevent counter-flow)

Pathology
- Any disorder of the genito-urinary system involving qi and xue
Organ & Channel Theory

**Heart**

**Channel:** Ht-5 (urinary problems), Ht-7 (impotence) & Ht-8 (genital itching, pain); no major channel problems

**Zang:**

**Explanation**
- Engenders blood (fire element); moves blood
- Spirit – physiological and psychological performance

**Pathology**
- Impotence: Qi or xue xu; yin xu, shi heat (dries blood, disturbs shen)
- Shi heat, yin xu (with heat): dream emissions and hematospermia

Organ & Channel Theory

**Lung**

**Channel:** Lu-7 confluent point of the Ren Mai

**Zang:**

**Explanation**
- Lung governs qi:
  - nourishment to entire body – inc. genitals
  - normal urinary function
  - helps heart move blood

**Pathology**
- impotence
- premature ejaculation
- low libido
Organ & Channel Theory

Pericardium

Channel:
- Channel connections between pericardium channel, heart channel and triple burner relates to heart organ and channel being supplied with qi and blood
- Pericardium channel helps provide flow of qi and blood to all three burners (especially lower burner)

Indication:
- PC-6 used for men experiencing emotional symptoms due to sexual dysfunction, infertility and andropause
- PC-5 used for impotence due to its function of treating phlegm disorders
- PC-5 & 7 treat dribbling urinary block, strangury or inhibited

Channel Theory

Stomach

Channel:
- Relationship with the Chong Mai
  - Intersects @ St-30
  - Relates to blood flow (Sea of Blood)
  - Key points: St-30, St-36, St-37 (lower he sea) & St-39
- Mostly relates to channel function, not so related to fu function except that the Stomach contributes to post natal qi and therefore blood production

Gall Bladder:

Channel:
- Crosses the Dai Mai @ GB-26/27/28
- Divergent channel connects to the Heart
- Interior/exterior relationship with the Liver
- Front Mu of the Kidneys @ GB-25
Channel Theory

Chong Mai

- Starts behind Ren-4 and intersects with Ren-1; emerges @ St-30
- Works with Liver to nourish the penis; connects with Du

K 11-16: impotence, infertility, penile pain, scrotum and testes
St-30: regulates Qi & Xue
UB-11/St-37 & St-39: influence sea of blood
Ren-1: crossing point

Channel Theory

Ren Mai

- Starts behind Ren-4 and intersects with Ren-1; one branch emerges @ Du, another at Ren-2
- Regulates Yin throughout body
- Influences Yang via Du Mai

Ren 1/2/3/4/5/6/7: enriches entire genito-urinary system
Ren 1/2/3/4/5/6/7/8/9: distributes yin qi to prevent accumulation
Access to Mu points: Ren 3 (UB), Ren 4 (SI), Ren 5 (SJ), Ren 12 (St), Ren 17 (Pc)
Channel Theory

Dai Mai

Encircles and gathers all other
channels at the waist
Connected with the penis

GB-26/27/28 are crossing points to
treat lower abdominal pain,
prostatitis, BPH and impotence

Channel Theory

Du Mai

Connects with the genitals, travels to
perineum and connects with the
Ren Mai; qi and blood flow in the
area
Connects with brain and spirit
Sea of yang qi – warming function

Du-1/3/4/14 to treat all conditions
Channel Theory

Yin & Yang Wei/Linking
Regulate and harmonise yin and yang throughout the body
Classically not used for primary diseases

Yin & Yang Qiao/Heel
Ki-6 for genital pain, swelling and pain of the testes, sweating of genitals, BPH, prostatitis, lower abdo pain
Ki-8: Xi-cleft point, nourishes

FIRST CONSULTATION

Getting men to talk about their genitals and their sexuality.....
• Pre survey – ice breaker
• Direct – hit them between the eyes
• Forewarn them: “I’m going to ask you some questions about your....”
• Explain accurate answers are important for you to make a correct diagnosis
CLINICAL MANAGEMENT MODEL - BIOMEDICINE

HISTORY
  ↓
PHYSICAL EXAMINATION
  ↓
SEMEN ANALYSIS
  
NORMAL PARAMETERS
  ↓
ABNORMAL PARAMETERS
  
ENDOCRINE TESTS
  
FSH/LH/Testosterone
  ↓
GENETIC TESTS
  
Karotype, Y Chromosome studies

MEDICAL HISTORY

• Duration of infertility; previous fertility
• Coital frequency; sexual dysfunction (eg erectile dysfunction, ejaculation etc)
• Results of previous medical examination (test results)
• Childhood illnesses and developmental history
• Previous surgeries; systemic medical illnesses
• Past exposure, current STIs
• Exposure to environmental toxins, including heat
• Current medications and allergies
• Occupation(s)
• Use of tobacco, alcohol and other drugs
PHYSICAL EXAMINATION
Scope of practice issue, however....

- Identify and locate urethral meatus
- Palpation of testes; measurement of their size (orchidometer)
- Presence and consistency of vasa and epididymides
- Presence of varicocele
- Secondary sexual characteristics – distribution of pubic hair, ‘man boobs’, facial hair, voice

AETIOLOGY OF INFERTILITY

- Genetic Factors
  - chromosomal abnormalities
- Heavy Metals & Toxins
  - Cadmium, lead, zinc, arsenic
  - Cigarette smoke
  - Herbicides & pesticides
- Environments Causes
  - Heat exposure
- Infection
  - Chlamydia family
- Primary Testicular Failure
  - Sertoli Cell dysfunction
- Varicocele
  - Obstruction
  - Elevated testicular temperature

- Systemic & Iatrogenic
  - Chromosomal disorders
  - Testicular maldescent
  - Kartagener’s Syndrome
  - CF
  - Androgen receptor deficiency
  - Coeliac disease
  - Endocrine: thyrotoxicosis, diabetes, hepatic failure, renal failure, pituitary failure
  - Respiratory Disease: bronchiectasis, sinusitis and bronchitis
  - Neurological disease: paraplegia, myotonic dystrophy
KEY CONSIDERATIONS

Ageing
  - Unlike women, men undergo mitotic divisions throughout life which replenish sperm
  - Semen volume, sperm motility and morphology decrease with age
  - Sperm concentration does not decline
  - Higher risk of spontaneous abortion, birth defects, congenital diseases and mutations, schizophrenia, autism
  - Serum total and free testosterone decreases with age:
    - Decreased libido; +/- erectile dysfunction
    - Decreased strength, energy and stamina
    - Increased irritability
  - Other minor disorders

DIAGNOSING INFERTILITY

IS SEMEN ANALYSIS RELIABLE?

  • Chalk and cheese
  • Frequency of testing - baseline
  • Ameliorating factors
    • Stress
    • Excessive exercise
    • Alcohol consumption
    • Dietary considerations
Volume
pH
Count
Morphology
Motility
Anti-Sperm Antibodies
Agglutination
Delayed Liquefaction
Non-Liquefaction
SEmen Analysis

1. Total number of spermatozoa
   - Testicular sperm production
   - Patency of post-testicular duct system
2. Total fluid volume of ejaculate reflects functionality of accessory glands
3. Motility of sperm (how they move)
4. Vitality of sperm (health of sperm)
5. Morphology (shape of sperm)
FACTORS AFFECTING

• Variance between laboratory-collected semen and home collected semen
  • Specimens collected at the lab are poorer quality than those collected at home using non spermicidal condoms
• Complete or partial sample
• Functioning of accessory sex glands: concentration v volume dependent on output
• Period of abstinence
• Retained (old) sperm

FACTORS AFFECTING

Things to remember:
• One semen sample does not accurately reflect a man’s semen quality

• True baseline data can only be established after two or three samples
COLLECTING THE SAMPLE

• In a laboratory with between 2-7 days abstinence prior to collection
• At home – requires strict compliance to instructions around collection
• By condom – NOT LATEX; gathered during intercourse

INITIAL MACROSCOPIC

• LIQUEFACTION – sample becomes thinner and watery within 15 minutes of ejaculation
• VISCOSITY - assessing the ‘stringiness’ after liquefaction
• APPEARANCE – grey/opaque, blood-stained or yellow?
• VOLUME – amount of semen.
INITIAL MACROSCOPIC

- VOLUME – amount of semen. Ejaculatory duct obstruction in low amounts or collection problems; high volume = inflammation of accessory organs
- SEMEN pH – relates to ‘balance’ in the semen; prostate acidic and other glands alkaline.

INITIAL MICROSCOPIC

- Mucus strand formation
- Other cells: epithelial cells, ‘round cells’ (leukocytes and immature germ cells), isolated sperm heads or tails
- Motility
- Preparation of mix for determining sperm number
INITIAL MACROSCOPIC

- AGGREGATION: where immotile spermatozoa group together or motile spermatozoa cling to mucus strands, non-sperm cells or debris
- AGGLUTINATION: where the spermatozoa stick together:
  - Head-to-head
  - Tail-to-tail

AGGLUTINATION OF SPERMATOZOA

<table>
<thead>
<tr>
<th>GRADE 1</th>
<th>Isolated</th>
<th>&lt;10 spermatozoa per agglutinate, many free spermatozoa</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRADE 2</td>
<td>Moderate</td>
<td>10-50 spermatozoa per agglutinate, free spermatozoa</td>
</tr>
<tr>
<td>GRADE 3</td>
<td>Large</td>
<td>Agglutinates of &gt;50 spermatozoa, some spermatozoa still free</td>
</tr>
<tr>
<td>GRADE 4</td>
<td>Gross</td>
<td>All spermatozoa agglutinated and agglutinates internconnected</td>
</tr>
</tbody>
</table>
A. Head-to-head
B. Tail-to-tail
C. Tail to-to-tail tip
D. Mixed (clear head-to-head AND tail-to-tail agglutinations)
E. Tangle (heads and tails enmeshed)

SPERM MOTILITY

- MOTILITY: how a sperm moves
- Assess 30 mins (up to 1 hour) after liquefaction
- Prolonged assessment affected by dehydration, pH, temperature changes
- CATEGORIES:
  - Progressive
  - Non Progressive
SPERM MOTILITY

- PROGRESSIVE: move actively either linearly or in a large circle
- NON PROGRESSIVE: all other forms of movement NOT involving advancement
- IMMOTILE: no movement

SPERM VITALITY

- Assess 30 mins (up to 1 hr) after liquefaction
- Involves assessment of dead spermatazoa
- Especially significant in samples with fewer than 400 progressively motile spermatazoa
  - Vital but immotile: structural defects in flagellum
  - Immotile and non-viable cells: epididymal
SPERM NUMBER

• Not a specific measure of testicular function
• Correlates to testicular volume when the male tract is unobstructed and abstinence time prior to ejaculation is short = demonstrates testes ability to produce spermatozoa
  • Sperm Concentration: number of spermatozoa per unit of volume of semen
  • Sperm Number: total number of spermatozoa in the

SPERM NUMBER:

• Presence of non-sperm cells:
  • Testicular damage (immature germ cells)
  • Pathology of the efferent ducts
  • Inflammation (leukocytes)
SPERM MORPHOLOGY

- The standard is set against sperm taken from post-coital endo-cervical mucus – ‘morphologically normal’

CLASSIFICATION

- HEAD: smooth, regularly contoured and oval in shape; well defined acrosomal region
- MIDPIECE: slender, regular and same length as head

SPERM MORPHOLOGY

- AETIOLOGY – epididymal pathologies and defective spermatogenesis
- Lower fertilizing potential
- Potential for abnormal DNA and DNA fragmentation
- Emphasis given to the head as this is where the DNA is contained; tail considered
A. Head defects
(a) Tapered
(b) Pyriform
No acrosome
Small
(c) Round
(d) Amorphous
(e) Vacuolated
Small acrosomal area

B. Neck and midpiece defects
(g) Bent neck
(b) Asymmetrical
(i) Thick insertion
(j) Thin

C. Tail defects
(k) Short
(l) Bent
(m) Coiled
(n) > one third head

D. Excess residual cytoplasm

SEmen analysis:
W.H.O. lower reference limits

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Lower reference limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semen volume (ml)</td>
<td>1.5 (1.4–1.7)</td>
</tr>
<tr>
<td>Total sperm number (10^6 per ejaculate)</td>
<td>39 (33–46)</td>
</tr>
<tr>
<td>Sperm concentration (10^6 per ml)</td>
<td>15 (12–16)</td>
</tr>
<tr>
<td>Total motility (PR + NP, %)</td>
<td>40 (38–42)</td>
</tr>
<tr>
<td>Progressive motility (PR, %)</td>
<td>32 (31–34)</td>
</tr>
<tr>
<td>Vitality (live spermatozoa, %)</td>
<td>58 (55–63)</td>
</tr>
<tr>
<td>Sperm morphology (normal forms, %)</td>
<td>4 (3.0–4.0)</td>
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<tr>
<td>Other consensus threshold values</td>
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</tr>
<tr>
<td>pH</td>
<td>≥7.2</td>
</tr>
<tr>
<td>Peroxidase-positive leukocytes (10^5 per ml)</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>MAR test (motile spermatozoa with bound particles, %)</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Immunobead test (motile spermatozoa with bound beads, %)</td>
<td>&lt;50</td>
</tr>
<tr>
<td>Seminal zinc (µmol/ejaculate)</td>
<td>≥2.4</td>
</tr>
<tr>
<td>Seminal fructose (µmol/ejaculate)</td>
<td>≥13</td>
</tr>
<tr>
<td>Seminal neutral glucosidase (mU/ejaculate)</td>
<td>≥20</td>
</tr>
</tbody>
</table>
ANTI-SPERM ANTIBODIES

Aetiology
- Testicular/epididymal infection
- Trauma
- Scar tissue from surgery
- Large varicoceles

Consequences
- Impedes movement of sperm through cervical mucus
- Inhibits binding and/or penetration of egg by sperm

ENDOCRINE SERUM ANALYSIS
~indicated when abnormal Semen Analysis~

1. Follicle Stimulating Hormone: FSH
   - Induces spermatogenesis in Sertoli Cells
   - Measures spermatogenesis
2. Luteinizing Hormone: LH
   - Triggers testosterone production in the Leydig Cells
3. Sex Hormone Binding Globulin: SHBG
   - Synthesized in the liver
   - Transports 44% of testosterone and biologically activates it
4. Bound and Unbound Testosterone
   - Relates to SHBG
   - Bound testosterone indicates testicular activity relating to spermatogenesis
   - Unbound testosterone relates to non spermatogenic activity of the testes
INTERPRETING THE RESULTS

1. Low FSH + Low LH + Low T = hypogonadotrophic hypogonadism
   (Pituitary function)

1. High FSH + High LH + Low T = hypergonadotrophic hypogonadism
   (Testicular failure; Klinefelter’s Syndrome)

1. Normal FSH + Normal LH + Normal T = no central dysfunction and
   possible obstruction azoospermia + retrograde ejaculation (Physical
   examination, Testicular biopsy, Vas Deferens exploration)

1. High FSH + Normal LH + Normal T = Primary germinal tubular
   failure (Chronic regnal failure, post chemotherapy, post oestrogen
   therapy)

1. High FSH + High LH + High T = Target tissue unresponsive (Partial
   androgen sensitive syndrome; Partial Klinefelter’s Syndrome)

GENETIC INVESTIGATIONS

1. Karyotype
   • Determines if there is a sex chromosome or autosomal
     anomaly
   • Chromosomal abnormalities account for 7% of male
     infertility
     • 10-15%: azoospermia
     • 5%: oligospermia
     • <1%: men with normal semen quality
   • Klinefelter’s Syndrome
   • Genetic counselling before A.R.T.

2. Y Chromosome Deletion
   • Relates to deleted segments on the long arm of the Y
     chromosome; zone (a), (b) [poor prognosis] and (c)
     [reasonable prognosis with cession]

GENETIC INVESTIGATIONS

3. Cystic Fibrosis
   • CBAVD: Congenital Bilateral Absence of the Vas Deferens
   • Screen for CFTR
     • All men with CFTR have CBAVD
     • 85% of men with CBAVD have CFTR
     • Genetic counselling for couples before A.R.T.

4. Androgen Receptor
   • Presence of an androgen receptor in the testes allows for protein synthesis, sexual development and spermatogenesis
   • Would involve under-masculinization

SCREENING

1. TRUS: Trans Rectal Ultrasonography
   • Ejaculatory duct obstruction +
     • Azoospermia or oligospermia
     • Palpable vasa
     • Low volume ejaculate
     • Normal testis volume
       • Acidic sperm
       • Low fructose

2. Transscrotal ultrasonography
   • Detects scrotal masses

3. Testis biopsy
   • Azoopermia
   • Prognosis for A.R.T
TREATMENT OPTIONS

INTRAUTERINE INSEMINATION (IUI)
- Most useful for men who have mild ‘infertility’ usually involving problems with motility
- Sperm are collected and then separated from the seminal fluid
- Undergo a “washing” procedure which cleans the sperm and activates their motility
- Active sperm inserted into the uterus
- Increases the chances of conception by increasing the number of motile sperm that reach the egg

TREATMENT OPTIONS

IN VITRO FERTILISATION (IVF)
- Recommended when there is either a ‘problem’ with the woman’s fertility and/or mild-moderate dysfunction with the male partner
- Semen is collected, washed with buffer solution and concentrated.
- Sperm and egg placed together under laboratory conditions
TREATMENT OPTIONS

INTRACYTOPLASMIC SPERM INJECTION (ICSI)

- Performed as part of IVF
- Recommended for more severe male factor infertility
  - non progressive sperm;
  - sperm affected by antibodies
- Involves injecting one sperm into an egg

TREATMENT OPTIONS

SPERM ASPIRATION

MESA: Micro Epididymal Sperm Aspiration
- Collects large amounts of sperm for freezing
- Minimal damage

PESA: Percutaneous Sperm Aspiration
- Small amount of sperm aspirated
- Risk damage to the epididymis

TESE: Testicular Sperm Extraction
- Wide bore needle aspiration
WHAT CAN “WE” TREAT?

HISTORICALLY:

Acupuncture: Impotence (Erectile Dysfunction), Seminal Emission, Male Infertility, Hernia (Lin Syndrome)

Acupuncture & CHM: Prostatitis, Benign Prostatic Hyperplasia (BPH), Prostate Cancer, Erectile Dysfunction, Premature Ejaculation (PE), Priapism, Haematospermia, Male Infertility, Peyronie’s Disease, Andropause.

RESEARCH

Quantitative evaluation of spermatozoa ultrastructure after acupuncture treatment for idiopathic male infertility

OBJECTIVE: To evaluate the ultramorphologic sperm features of idiopathic infertile men after acupuncture therapy.
PATIENTS: 40 men with idiopathic oligospermia, asthenospermia or teratozoospermia
INTERVENTION: 28 received acupuncture twice/week for 5 weeks; randomized with semen samples from the 12 men in untreated control
RESULT: statistically significant increase after acupuncture in the percentage of number of sperm without ultrasstructural defects in the total ejaculate
CONCLUSION: treatment of idiopathic male infertility could
RESEARCH

Does Acupuncture Treatment Affect Sperm Density in Males with Very Low Sperm Count? A Pilot Study.

OBJECTIVE: To determine the effect of acupuncture on men with very poor sperm density.

PATIENTS: 40 men; 20 with a history of azoospermia. Control group of 20 bearing similar profile to sample group.

INTERVENTION: Two semen analyses conducted on both groups one month apart.

RESULT: Control group had no change in parameters. Marked improvement in sperm counts in all men; men with history of genital tract infection significant increase in sperm density

CONCLUSION: acupuncture may be a useful treatment for men with poor sperm density especially following

---

RESEARCH

Effects of Acupuncture and Moxa Treatment in Patients with Semen Abnormalities

OBJECTIVE: To determine the effect of acupuncture on men with abnormalities in concentration, morphology and/or progressive motility

PATIENTS: 19 men; 9 in the study group and 10 in control group.

INTERVENTION: 25 minutes of acupuncture (ST 30/36, K3, LI4, SP 4/6, LIV3, P6) and 20 minutes of moxabustion, twice a week for 10 weeks (UB23, 52, 22, 32, 20, 21, 13, 14, 15; DU4; CV6, 4, 3, 5; LU9; Qimen, Zigong). Semen analysis before and after. Control, non-specific acupuncture

RESULT: Significant increase in percentage of normal form sperm. No significant improvement in other parameters

CONCLUSION: acupuncture and moxa significantly increases the
RESEARCH

Influence of Acupuncture on Idiopathic Male Infertility in Assisted Reproductive Technology

OBJECTIVE: To determine the clinical effects of acupuncture on idiopathic male infertility in sperm parameters(sic) and on therapeutic results in assisted reproductive technology.

PATIENTS: 22 men using ICSI had sperm concentration, motility, morphology, fertilization rates and embryo quality observed.

INTERVENTION: Twice weekly treatment for 8 weeks.

RESULT: Significant improvement in motility and sperm ratio. Fertilization rates increased as well. No significant difference in sperm concentration and general sperm motility. Embryo quality improved.

CONCLUSION: acupuncture can improve sperm quality and fertilization rates in ART

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RESEARCH

Effect of Acupuncture on Sperm Parameters of Males Suffering from Subfertility Related to Low Sperm Quality

OBJECTIVE: To assess the effect of acupuncture on the sperm quality of males suffering from subfertility related to sperm impairment.

PATIENTS: 32 men; 16 men in treatment group and 16 in the control.

INTERVENTION: Twice weekly acupuncture for 5 weeks, tested before and one month after. The control was 16 men tested at an interval of 2 and 8 months.

RESULT: Fertility index increased significantly; improvement in total functional sperm fraction, percentage of viability, total motile spermatozoa per ejaculate and integrity of axonema.

CONCLUSION: Patients exhibiting a low fertility potential due to
CM SPERMATOGENESIS

- **ACROSOME: YANG**
  - Contains enzymes which enable the sperm to penetrate the secondary oocyte (egg)

- **HEAD/NUCLEAS JING (YIN)**
  - Contains nuclear material (DNA)

- **NECK**
  - Connect the head to the tail; contains centrioles which break off after fertilization

- **MIDPIECE YANG (QI)**
  - ATP production – energy for motion

- **TAIL YANG (QI)**
  - AKA the Flagellum – like the rudder that

AETIOLOGY OF INFERTILITY

- Genetic Factors
  - JING XU
- Heavy Metals & Toxins
  - DAMP HEAT
- Environments Causes
  - EXTERNAL HEAT/INTERNAL HEAT
- Infection
  - DAMP HEAT
- Primary Testicular Failure
  - JING XU
- Varicocele
  - BLOOD STASIS

- Systemic & Iatrogenic
  - JING XU
  - KIDNEY, SPLEEN, LIVER XU
ENDOCRINE SERUM ANALYSIS
~indicated when abnormal Semen Analysis~

1. Follicle Stimulating Hormone: FSH
   • More YIN in nature because FSH triggers spermatogenesis in the Sertoli Cells

2. Luteinizing Hormone: LH
   • More YANG in nature because LH triggers the Leydig Cells to start producing testosterone to complete spermatogenesis

3. Sex Hormone Binding Globulin and Bound and Unbound Testosterone
   • More YANG in nature

VOLUME
• Primarily relates to the Yin fluids (+ deficiency fire)

Why might the yin fluids be consumed?

EXTERNAL INFLUENCES
• Hot pathogen (infection) that consumes the Jing-yin
• Cold pathogen that turns hot and consumes the Jing-yin

INTERNAL INFLUENCES
DEFICIENCY
• Yin xu (scant)
  • Kidney
  • Liver
  • Heart

EXCESS
• Liver Fire (via Liver channel) – very scant
• Damp-Heat (pathogen)
HIGH pH
What causes acidic sperm?
   The issue is if the semen analysis demonstrates high acidity
   Acidic sperm causes death of sperm

   • First place to investigate is the GIT
   • Stomach Yin Xu
   • Stomach Fire
   • Liver Yin Xu
   • Liver Fire

   • Secondary considerations include
   • Kidney-Liver Yin Xu – but less likely, unless more
     definitive yin xu signs and symptoms exist

COUNT
What might reduce the number of sperm in a sample?
   • Jing xu
      • Constitutional

   • Yin xu
      • Absence of yin fails to produce sperm

   • Phlegm Damp causes obstruction in testes and
     prevents sperm from ejaculating; adequate semen.
   • Blood stasis causes obstruction (maybe with heat)
     and causes anti-bodies to form against sperm
MORPHOLOGY
What might cause sperm to be deformed?
• Jing xu
  • Constitutional abnormality
• Yin xu (deficiency fire)
  • Acquired abnormality
• Blood Stasis
  • Blood Heat damaging sperm
  • Anti-sperm antibodies
• Damp-Heat
  • Causes obstruction, inflammation and infection which damages structure of the sperm

MOTILITY
Motive force in the sperm primary relates to the mid piece, flagellum or the ability of the sperm to move without obstruction.

What might cause sperm to not move?
• Deficiency of motive force.

When thinking of motive force what are we drawn to?
  Lack of propulsion due to lack of force:
  • Qi xu
  • Yang xu

  Lack of propulsion due to obstruction:
  • Damp Heat
  • Phlegm-damp
ANTI-SPERM ANTIBODIES
What causes anti-sperm antibodies to form?
  • Acute infection
  • Trauma, scar tissue, varicocele

How do these correlate in Chinese medicine theory?
  • Acute infection:
    • Pathogen
      • Hot
      • Cold (becomes hot)
    • Trauma, scar tissue, varicocele
      • Blood stasis

AGGLUTINATION
Relates to sperm that “clump” together

What might cause sperm to “clump” together?

  Chronic infection or inflammation presenting as Damp Heat which congeals the fluids

  Presence of damp without heat which congeals and obstructs

  Yang (or qi) deficiency which makes for “cold” semen

  Cold pathogen lodged in the Liver channel.
DISORDER IN LIQUEFACTION

SLOW OR NON LIQUEFACTION

• HEAT
  • Yin Xu – lack of yin fluids
  • Damp Heat – increased viscosity

• COLD
  • Yang xu – lack of ministerial fire to promote the process either delays or doesn’t produce liquefaction

BUILDING A DIAGNOSIS

Palpation & Observation

• Meridians to feel for presence of hot and cold; obstruction and discomfort
• Changes in skin tone on meridians – especially below the joints
• Feel for cold/heat over abdomen and lower back
• Observe for fluid accumulation at the knees and ankles, lower back, face
• What do the eyes tell you?
BUILDING A DIAGNOSIS

Does infertility ALWAYS involve the Kidneys?

1. Establish the Ben and Biao:
   • Biao: Semen Analysis results
   • Ben: Underlying Chinese Medicine differential diagnosis

2. Develop a treatment principle which addresses the Ben to correct the Biao

3. Develop a treatment plan based on client availability/compliance

BUILDING A DIAGNOSIS

In my practice I look to the symmetry of the 8-Extra Meridian system to form the basis of my Ben treatment:

• Ren Mai to influence the Yin
• Du Mai to influence the Yang
• Chong Mai to influence the blood
• Dai Mai
REN MAI - YIN

LU-7 + K-6

POINTS ON THE REN TO INFLUENCE THE YIN
CV 4 – Guanyuan: acts on yuan/original qi and benefits the essence; nourishes and tonifies the Kidneys

POINTS FROM THE THREE LEG YIN CHANNELS
SP 6
KI 2
KI 3
KI 6

POINTS FROM THE BACK SHU
UB 23

DU MAI – YANG

SI 3 + UB 62

POINTS ON THE DU TO INFLUENCE THE YANG – WITH MOXA
DU 2

POINTS ON THE REN TO INFLUENCE THE YANG – WITH MOXA
CV 6
CV 4

POINTS FROM THE BACK SHU – WITH MOXA
UB 23
UB 20
CHONG MAI – YANG

SP 4 + P 6

ST 30 – needled towards the genital region

DAI MAI

SJ-5 + GB-41

GB-26 to drain dampness and regulate the Dai
GB-27 to regulate the Dai and transform stagnation (useful for genital pain and cold genitals involving the foot-jueyin Liver)
Other points added accordingly:

Qi xu: Lu 1 + CV 6 + K3
Blood xu: Sp 6
Yang xu: CV 6 + St-36 + Ki 3 (moxa)
Yin xu: Sp 6 or Ki 6
Clear heat: LI-11
Points to affect the genitals: Liv 5
Blood stasis: Sp-10, St-29

ACUPUNCTURE PROTOCOLS

1. Low semen volume, low sperm count
   • Disorder of the yin/jing
   • Ren Mai treatment + Sp-6 + Ki-2 if xu fire

2. Highly acidic sperm
   • Full or empty heat
     a. Stage one: clear heat: LI-11, Liv-2, St-44 etc
     b. Stage two: nourish yin: Ren Mai treatment + Sp-6

3. Poor motility
   • Du Mai treatment + Du-2 + CV-4 & 6 + St-36 – moxa applicable (Yang xu)

4. Anti-sperm antibodies
   • Chong Mai treatment + Sp-10 + St-29/30 + Liv-5 (Blood stasis)
ACUPUNCTURE PROTOCOLS

5. Agglutination
   - More Damp presentation Dai Mai + GB-26 + Liv-5
   - More Yang Xu: Du Mai treatment + CV-6 + CV-4 – moxa applicable + Liv-5

6. Poor liquefaction
   - Heat type
     - Yin Xu: Ren Mai treatment + Sp-6
     - Damp-Heat: Dai Mai treatment + GB-26
   - Cold type
     - Yang Xu: Du Mai treatment + CV-6 + UB-23 + CV-4 – moxa applicable

7. Poor morphology
   - Ren Mai treatment + Sp-6 + Ki-2 if xu fire
   - Chong Mai treatment + Sp-10 + St-29/30 + Liv-5 (Blood stasis)

HERBS

WU ZI YAN ZONG WAN
~Five Seeds Eugenic Supporter~

INGREDIENTS:

Gou Qi Zi: nourishes the yin, secures the essence. Neutral temperature. Sweet flavour.

Tu Si Zi: warms the yang, secures the essence. Neutral temperature. Pungent and sweet flavour.

Fu Pen Zi: tonifies the jing, warms the yang, harmoizes and tonifies the yin. Neutral temperature. Sweet and astringent flavour.

Che Qian Zi: promotes urination, cools heat and clears damp-heat. Cold temperature. Sweet flavour.

Wu We Zi: harmonizes and tonifies yin, harmonizes and tonifies the qi, clears heat (cools the spirit). Wu We Zi treatment. Sweet and astringent.
## Analysis of Wu Zi Yan Zong Wan

<table>
<thead>
<tr>
<th>HERB</th>
<th>FAMILY</th>
<th>QI</th>
<th>BLOOD</th>
<th>YIN</th>
<th>YANG</th>
<th>DAMP</th>
<th>OTHER</th>
<th>JING</th>
<th>TASTE</th>
<th>TEMP</th>
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<tbody>
<tr>
<td>GOU QI ZI (Lycium)</td>
<td>Nourish Yin</td>
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<td>TÜ SI ZI (Cascuta)</td>
<td>Warm Yang</td>
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<td></td>
<td>Sour</td>
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</tbody>
</table>

### Treatment according to Semen Analysis discovery:

**Low Volume/Low Count:**

supplement yin and blood, support essence with Nu Zhen Zi, Han Lian Cao, He Shou Wu, Shu Di Huang

**Low Motility:**

boost qi with Huang Qi, Dang Shen, Bai Zhu or Ren Shen and/or warm yang with Tu Si Zi, Yin Yang Huo, Ba Ji Tian, Xian Mao, Du Zhong, Xu Duan, Lu Rong;

## Analysis of Wu Zi Yan Zong Wan

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### Treatment according to Semen Analysis:

**Highly Acidic:** clear heat and nourish the yin. If more Liver related herbs to clear heat and nourish yin like Sheng Di Huang, Long Dan Cao, Zhi Zi, Huang Lian, Mu Dan Pi, Chi Shao. If more Stomach related consider Shi Gao, Huang Lian

**Agglutination:** herbs that dry dampness like Yi Yi Ren or resolve Damp-Heat in the lower jiao like Long Dan Cao and Huang Bai; for the colder/ Yang Xu patterns consider Yin Yang Huo, Ba Ji Tian or Rou Gui or Rou Cong Rong or Gui Zhi Fu Ling Wan for Cold in the Liver Channel
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<tr>
<td>Tu Si Zi</td>
<td>Warm Yang</td>
<td>Harmonize</td>
<td>Tonify</td>
<td>Raising</td>
<td>Warms</td>
<td>Secures</td>
<td>Pungent</td>
<td>Sweet</td>
<td>Neutral</td>
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</tr>
<tr>
<td>Fu Pen Zi</td>
<td>Stabilize &amp; Bind</td>
<td>Harmonizes</td>
<td>Nourishes</td>
<td>Warms</td>
<td>Harmonizes</td>
<td>Nourishes</td>
<td>Promotes urination</td>
<td>Tonifies</td>
<td>Sweet</td>
<td>Astringent</td>
</tr>
<tr>
<td>Che Qian Zi</td>
<td>Drain &amp; Transform Damp</td>
<td>Clear</td>
<td>(#heat)</td>
<td>Promotes urination</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Wu Wei Zi</td>
<td>Stabilize &amp; Bind</td>
<td>Harmonize</td>
<td>Tonify</td>
<td></td>
<td>Harmonizes Nourishes</td>
<td>Secures</td>
<td>Sour</td>
<td>Sweet</td>
<td>Warm</td>
<td></td>
</tr>
</tbody>
</table>

Treatment according to Semen Analysis:

**Liquefaction:** to treat the more Hot style restore the yin and clear heat with Sheng Di Huang, Huang Bai/Lian/Qin according to location of heat; resolve Damp-Heat with Yi Yi Ren, Long Dan Cao etc; Yang Xu add Ba Ji Tian, Rou Gui and enhance Tu Si Zi.

**Anti-Sperm Antibodies:** either expel the pathogen; chronic resolve blood stasis with Dan Wan

**Varicocele:** Gui Zhi Fu Ling Wan

### Analysis of Wu Zhi Yan Zong Wan

<table>
<thead>
<tr>
<th>Herb</th>
<th>Family</th>
<th>Qi</th>
<th>Blood</th>
<th>Yin</th>
<th>Yang</th>
<th>Damp</th>
<th>Other</th>
<th>Jing</th>
<th>Taste</th>
<th>Temp</th>
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<tbody>
<tr>
<td>Gou Qi Zi</td>
<td>Nourish Yin</td>
<td>Nourishes</td>
<td>Secures</td>
<td>Sweet</td>
<td>Neutral</td>
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<td></td>
</tr>
</tbody>
</table>

Treatment according to Semen Analysis:

**Poor Morphology:**
Treatment depends entirely on the origins of the Morphology. If due to obstruction then treatment would be directed towards resolving Phlegm and moving Blood.

If the issue is due to secondary heat damage, clear heat and nourish the Yin.

If the issue is more jing related assess whether Yin Xu or Yang Xu in nature then Zuo Gui Wan or You Gui Wan (consider adding to guiding formula
PATENT HERBS

YIN XU:
Zuo Gui Wan, Liu Wei Di Huang Wan or Zhi Bai Ba Wei (Di Huang) Wan

YANG XU:
You Gui Wan, Fu Gui Ba Wei Wang

QI XU:
Bu Zhong Yi Qi Tang

BLOOD STASIS:
Xue Fu Zhu Yu Tang

WARM CHANNEL COLD:
Gui Zhi Fu Ling Wan

QI STAGNATION:
Xiao Yao San, Jia Wei Xiao Yao San

DAMP HEAT IN LOWER

NUTRITION

FOLIC ACID & ZINC SULPHATE: has been demonstrated to significantly increased total sperm count by 74% (Wong,Merkus and Thomas et al (2002)).

CARNITINE: are amino acids found in the epididymis and play a role in sperm maturation and motility. 3g/day has been shown to improve sperm motility (Agarwal & Said (2005) and Balercia, Regoli and Koverich et al (2005)).

VITAMIN E & SELENIUM: are antioxidants. A study demonstrated that three months of treatment at 400mg/day improves motility( Kessouppoulu, Powers & Sharma (1995) and Kesskes-Ammar & Feki-Chakroun et al (2003)).

VITAMIN C & BETA-CAROTENE: demonstrate an ability to improve overall sperm quality (Eskenazi & Kidd, 2005)

B-VITAMIN MULTI
LIFESTYLE

- Stop smoking
- Stop drinking alcohol
- Stop taking drugs
- Identify and avoid environmental toxins (pesticides, cleaning chemicals, radiation)
- Wear loose or no underwear
- Avoid saunas and hot baths
- Do not ride bicycles or motorbikes
- Do not sit for long periods – take breaks during work
- Ejaculate at least 3 x per week

BUILDING A MALE FERTILITY PRACTICE

COMMUNICATION
1. Speak the language of Western medicine
2. Think and practice in the language of Chinese medicine
3. Identify your client and communicate in a language that works for them
BUILDING A MALE FERTILITY PRACTICE

KNOWLEDGE
1. UNDERSTAND KEY MEASURES OF MALE FERTILITY
2. UNDERSTAND MEDICAL TREATMENT OPTIONS
3. DISCRIMINATE BETWEEN PRIMARY & SECONDARY INFERTILITY
4. KNOW SCOPE OF PRACTICE

BUILDING A MALE FERTILITY PRACTICE

INTEGRITY
1. PROVIDE REALISTIC AND HONEST PROGNOSIS
2. EXPLAIN TREATMENT STRATEGY – MEAN NEED AN END DATE.
BUILDING A MALE FERTILITY PRACTICE

BUSINESS DEVELOPMENT
1. TALK TO WOMEN – THE PRIMARY POINT OF CONTACT
2. HANDOUTS OF CLINICAL EVIDENCE
3. WEBSITE
4. RESPECT TREATMENT OPTIONS – DEMONSTRATE CM AS A HISTORICALLY PROVEN MEDICAL

Thank you &
The End

Peter Kington
info@peterkington.com.au

www.malenaturalfertility.com.au
www.peterkington.com.au
www.conceivehealth.com.au