

Georges A. de Boccard, M.D.

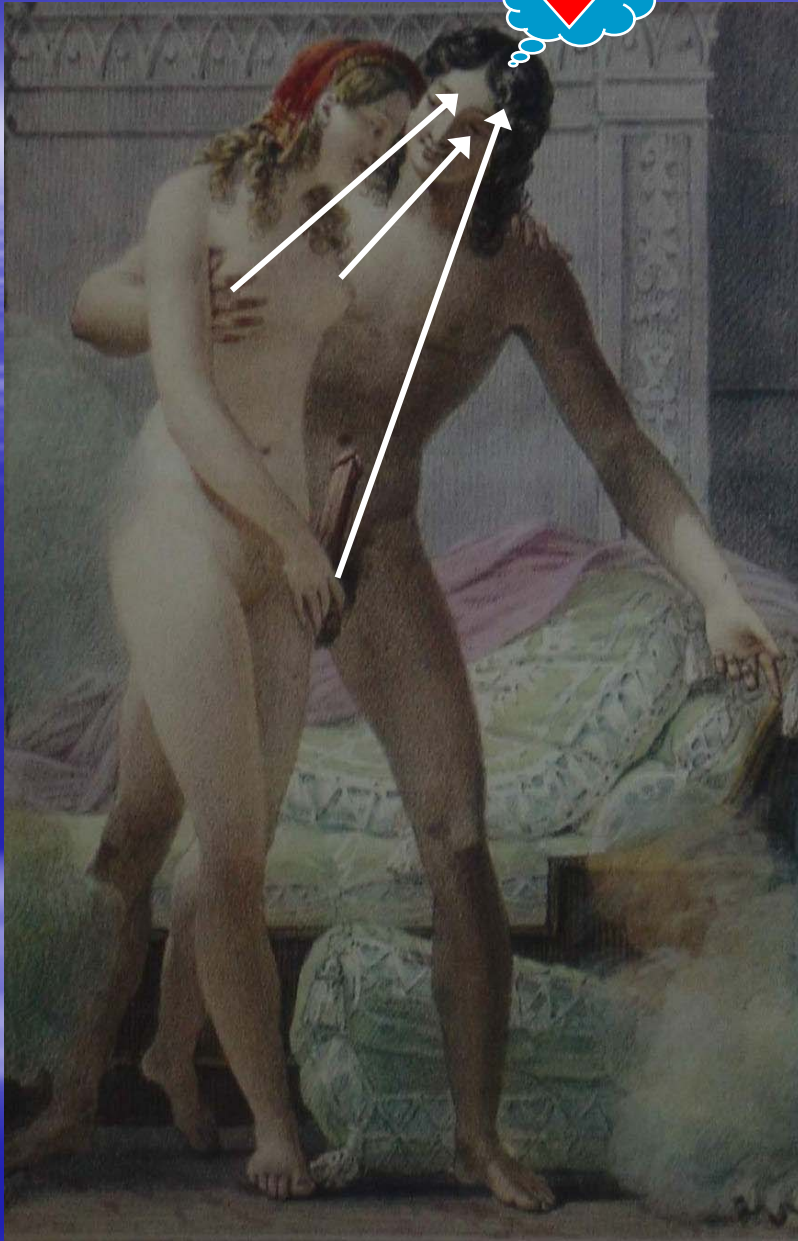
Consultant Urologist F.E.B.U.

*Sexual function
and dysfunction in men*

Training in Reproductive Health Research

Geneva Foundation for Medical Education and Research

Geneva March 15th, 2007.



**The physical
Pathways of a
Normal erection?**

After erotical stimulation

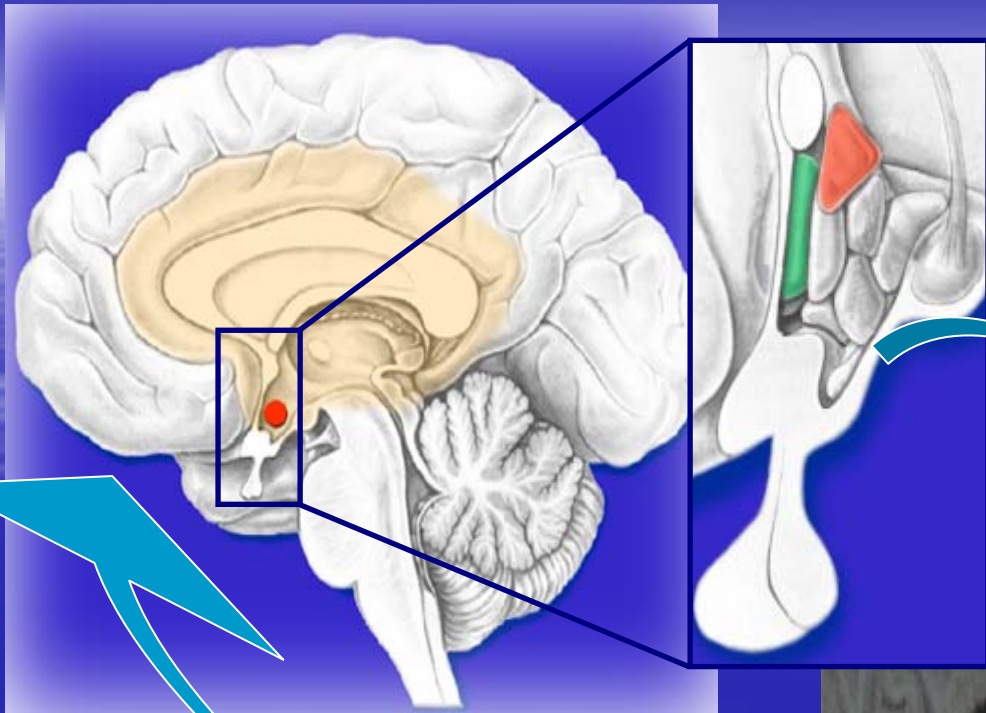
And physical stimulation

visual

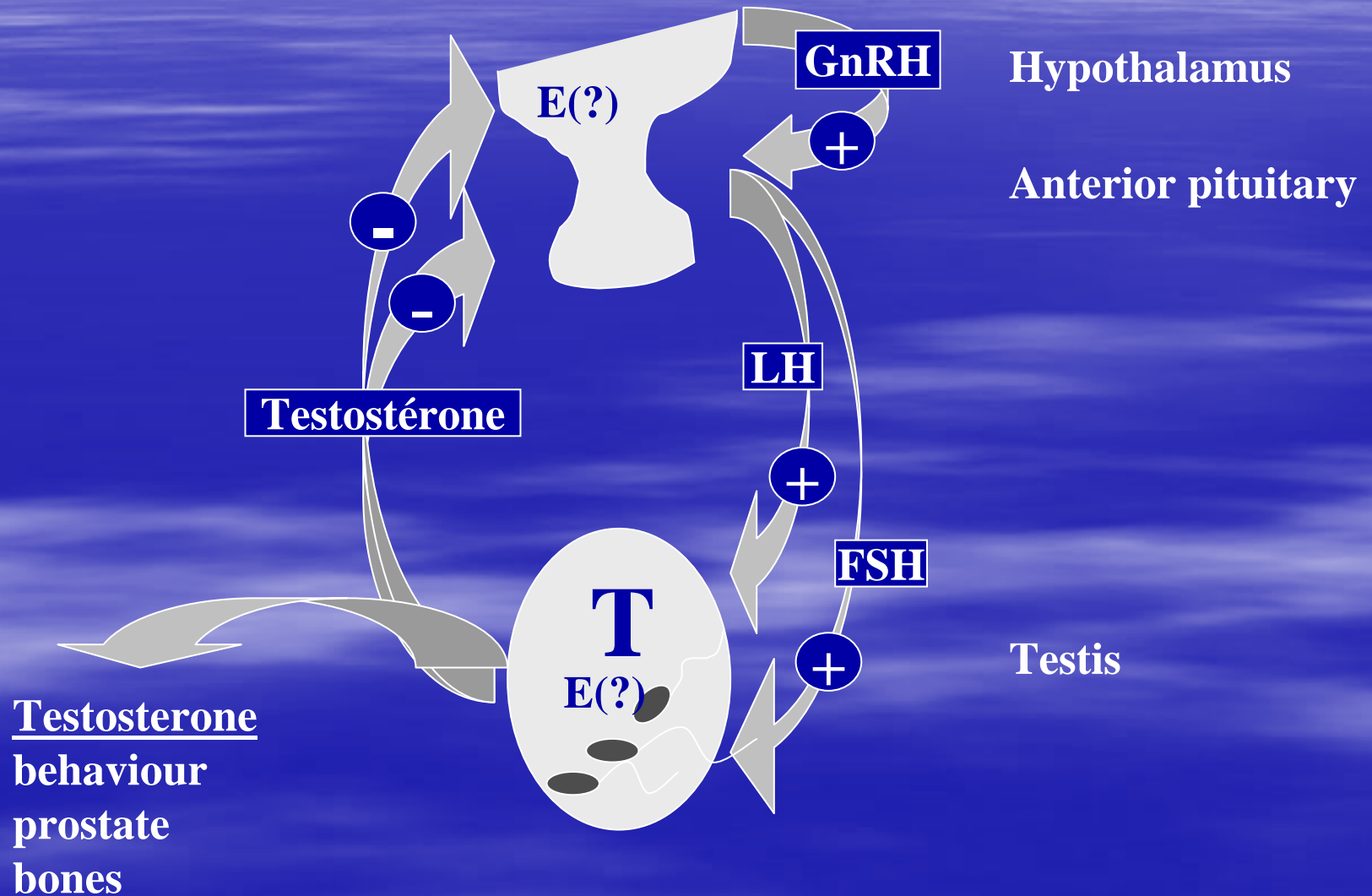
tactile

genital

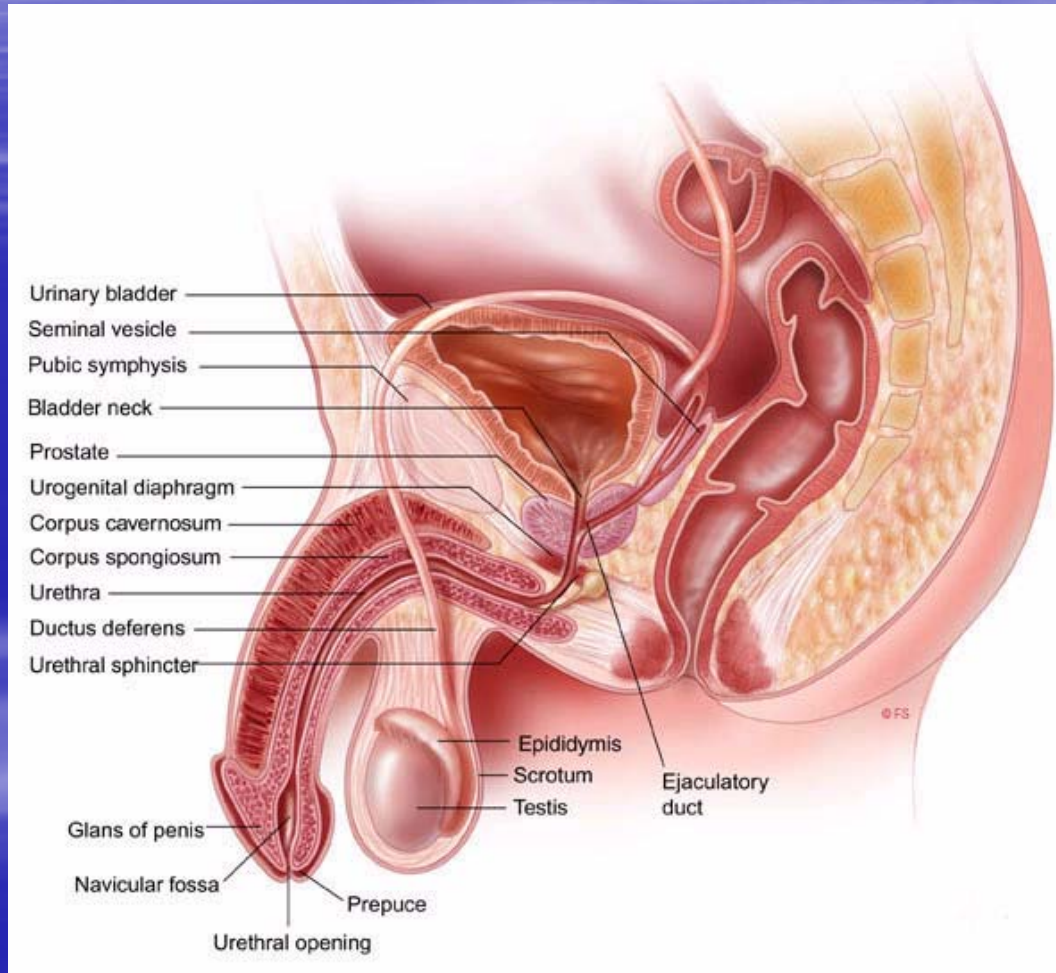
1. Anatomy and physiology of normal erection
2. Incidence of erectile dysfunctions
3. Causes of erectile dysfunctions
4. Diagnostic tools
5. Treatments



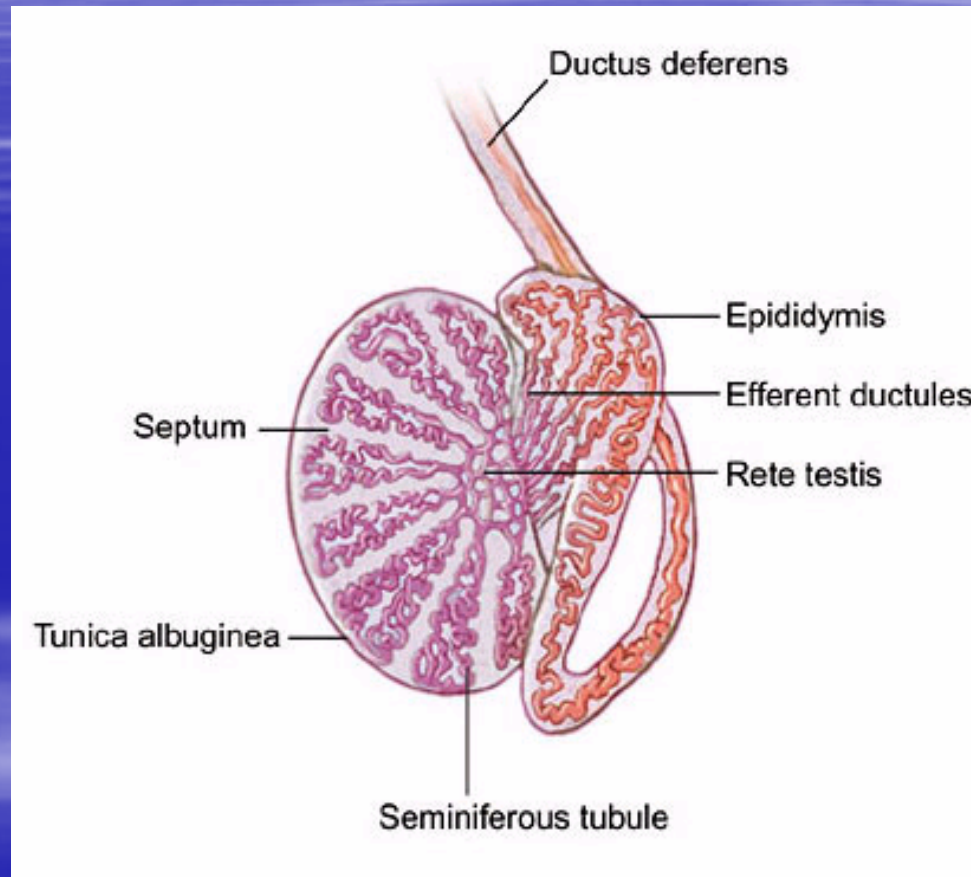
Pituitary & gonadic physiology



Anatomy



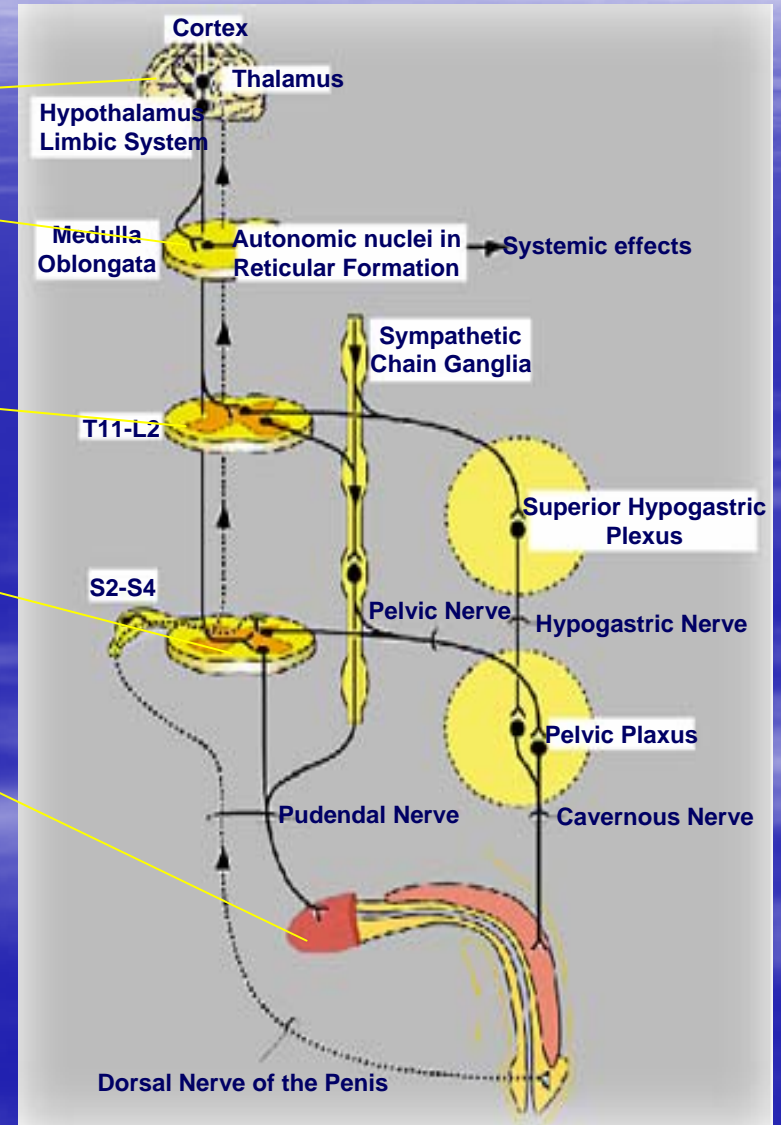
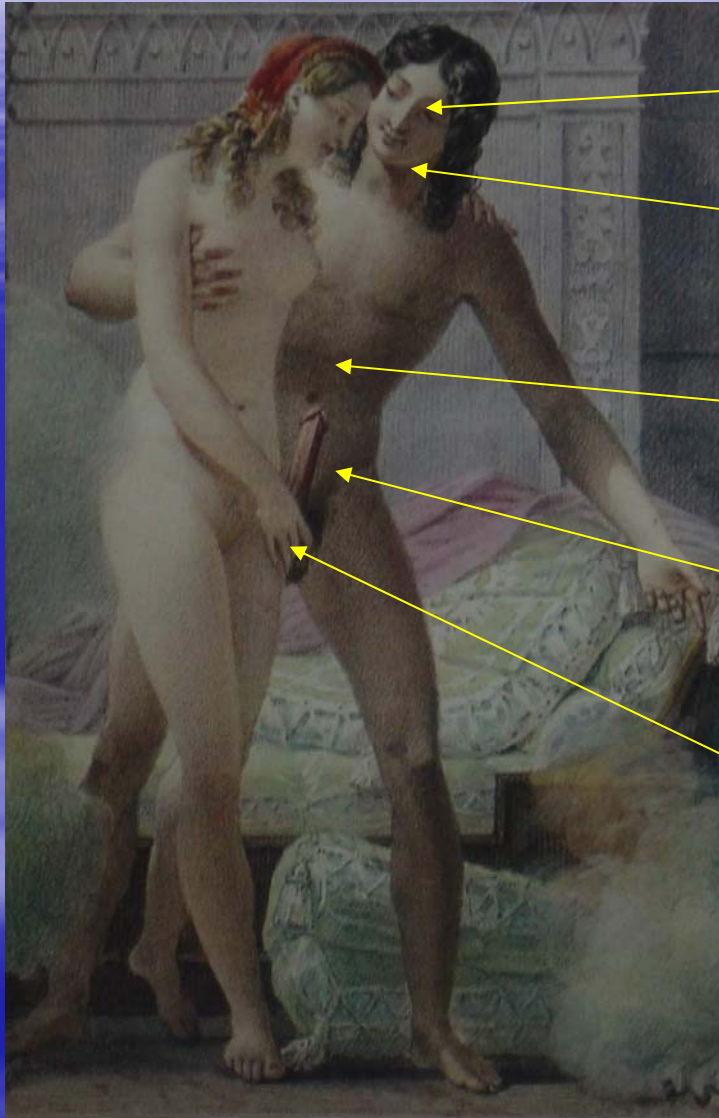
Anatomy

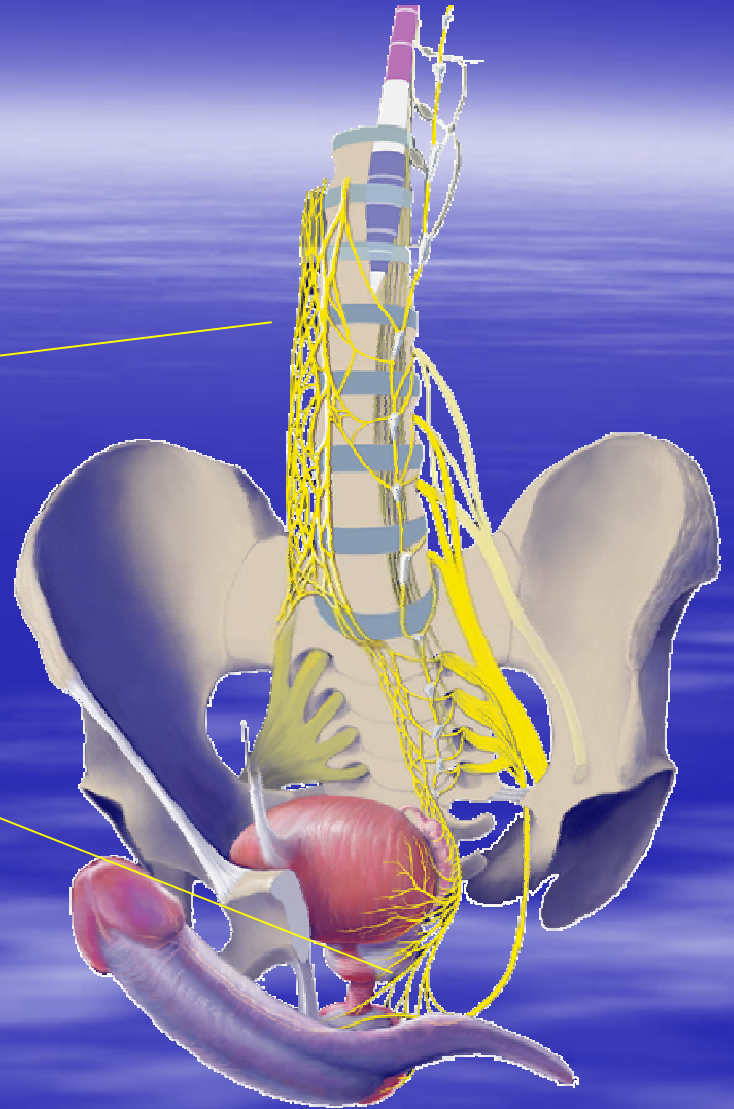
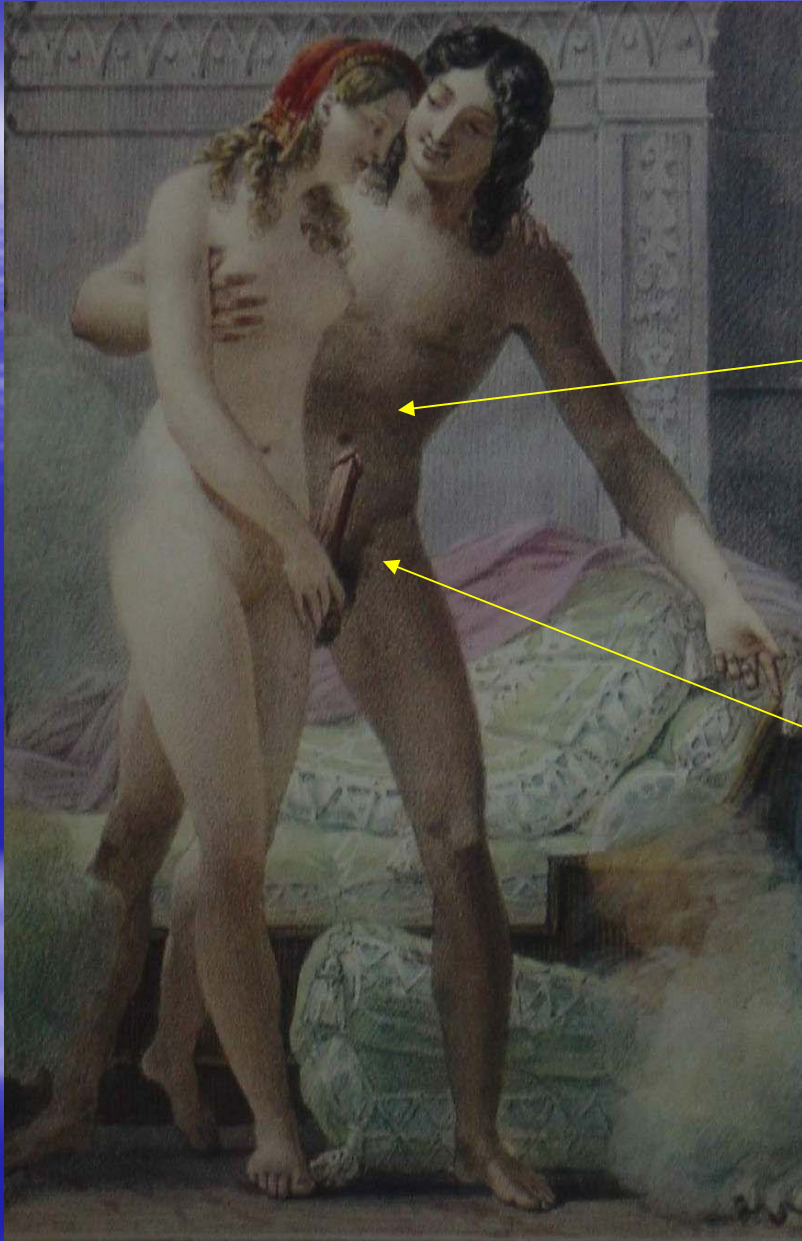


Neurophysiology

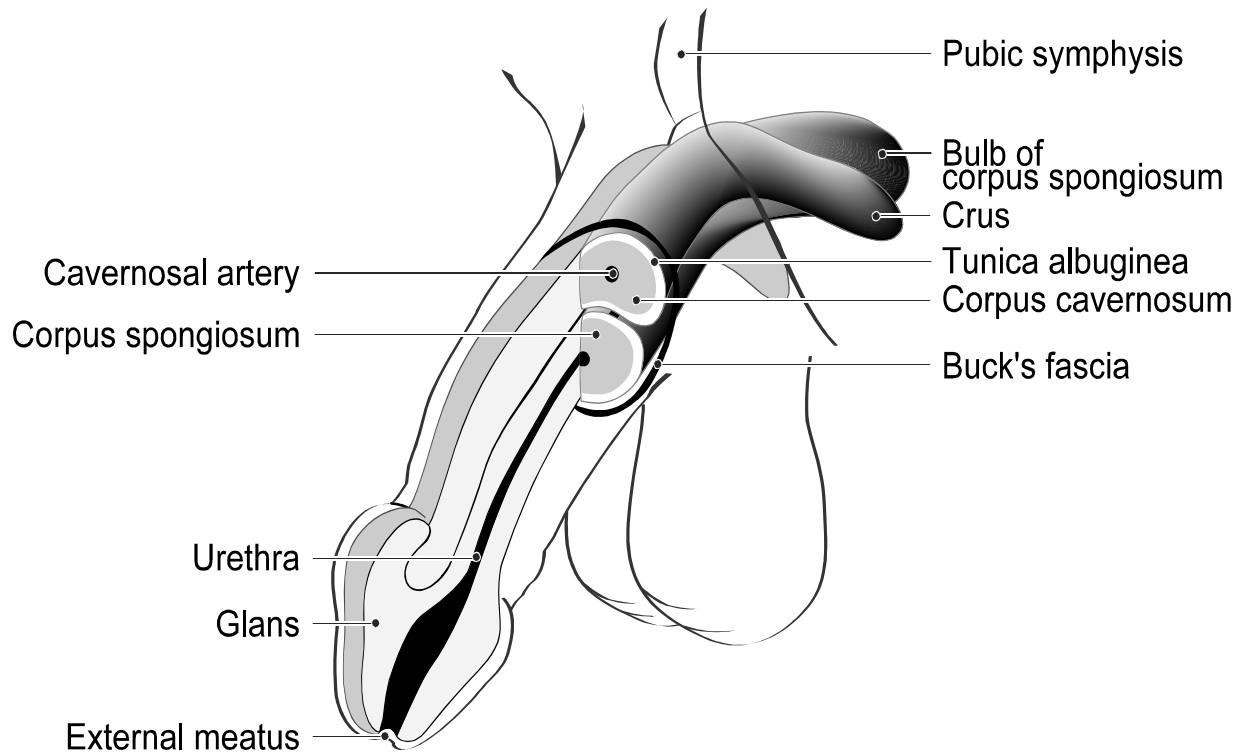
- **cavernous Nerves**
 - Parasympathetic nitrenergic
 - Sympathetic adrenergic
 - control of the blood flow (rigidity- flaccidity)
- **Pudendal Nerves**
 - Sensitive (positive feed-back)
 - motors : contraction of perineal muscles (ischio- and bulbocavernous)

Functional neuroanatomy of erection

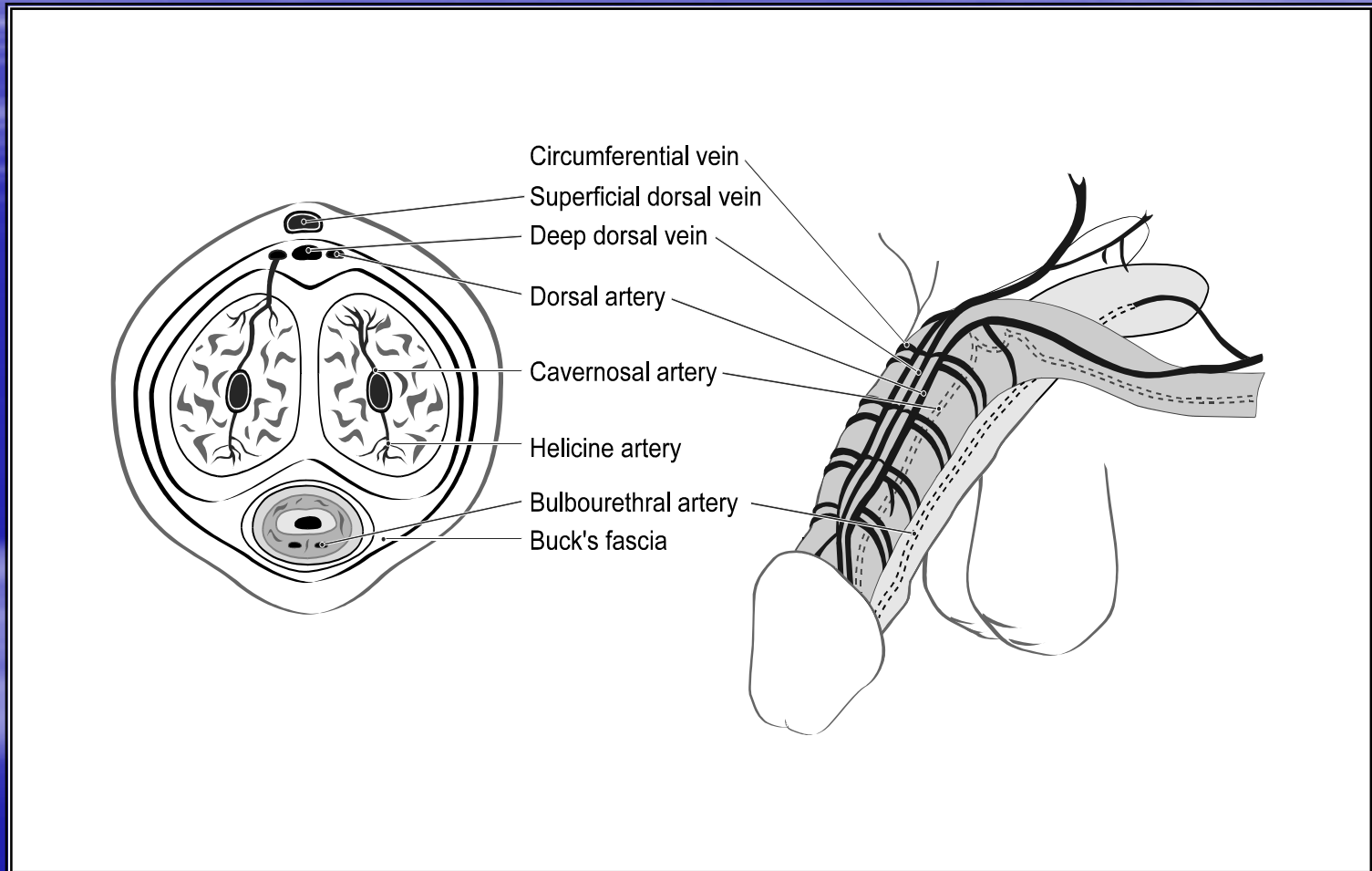




Penile anatomy



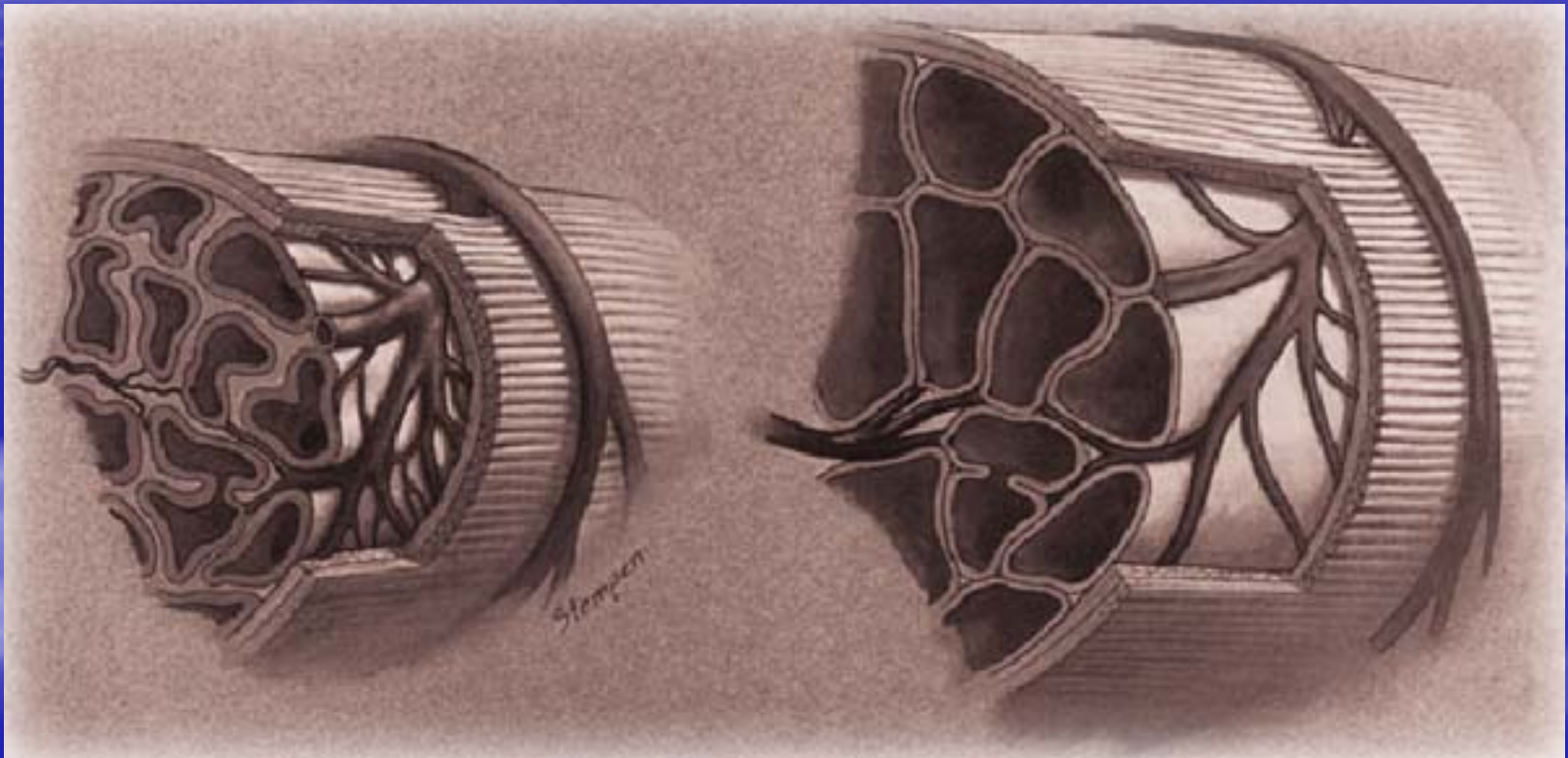
Vascularisation



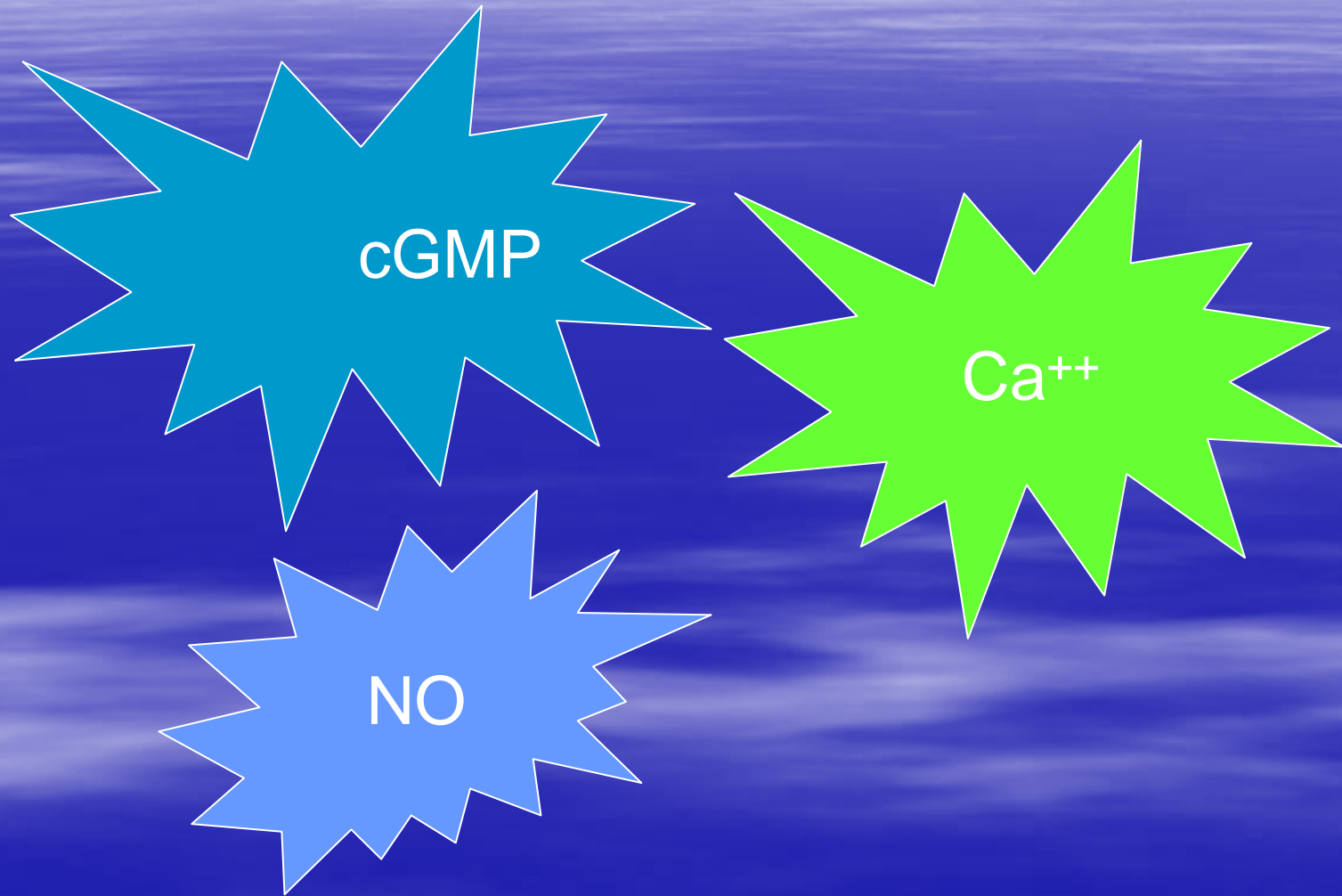
Anatomy of corpus cavernos

Flaccidity

Erection

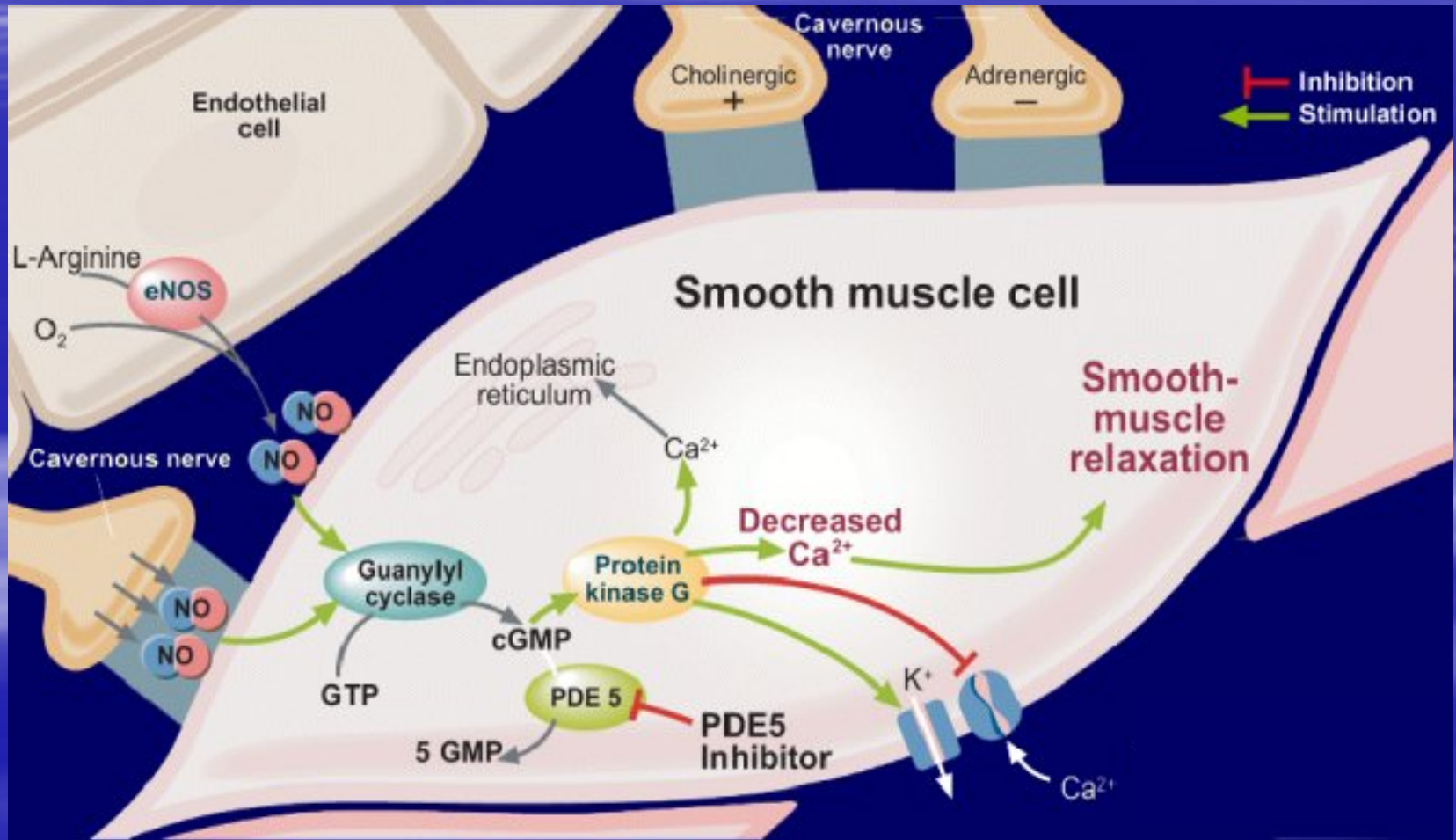


Erectile Physiology



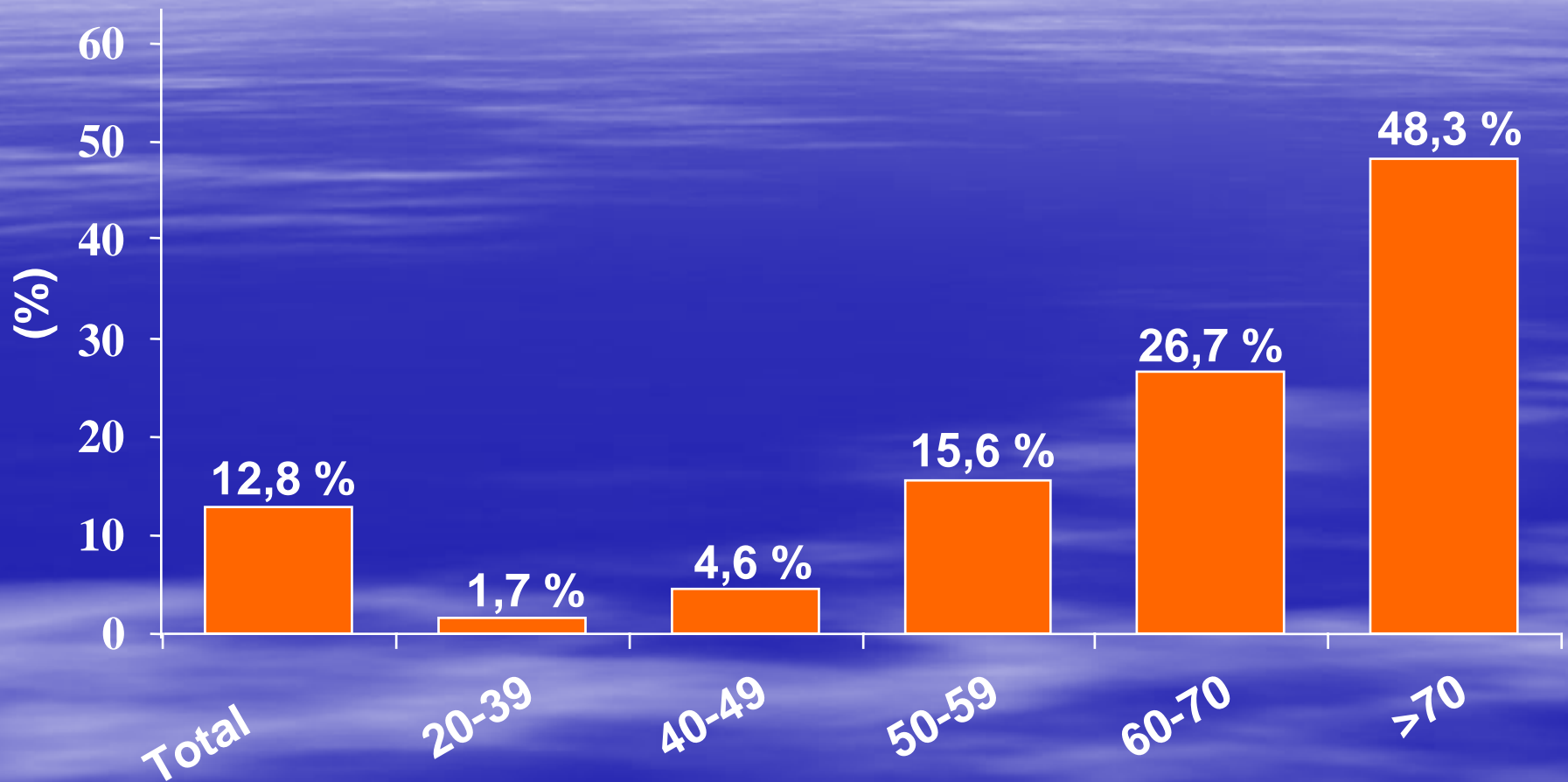
NO - cGMP

relaxation of the cavernous smooth muscle inducing erection



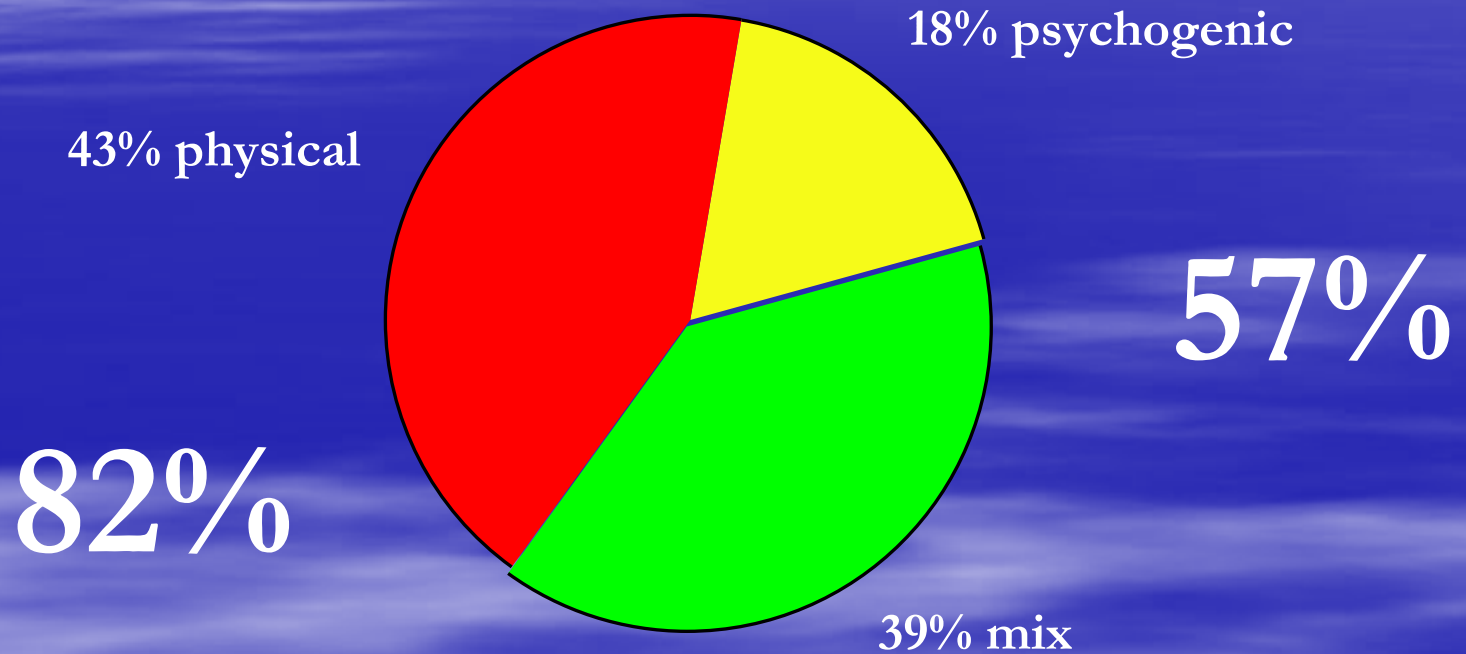
1. Anatomy and physiology of normal erection
2. Incidence of erectile dysfunction
3. Causes of erectile dysfunction
4. Diagnostic tools
5. Treatments

Incidence of erectile dysfunction in Europe

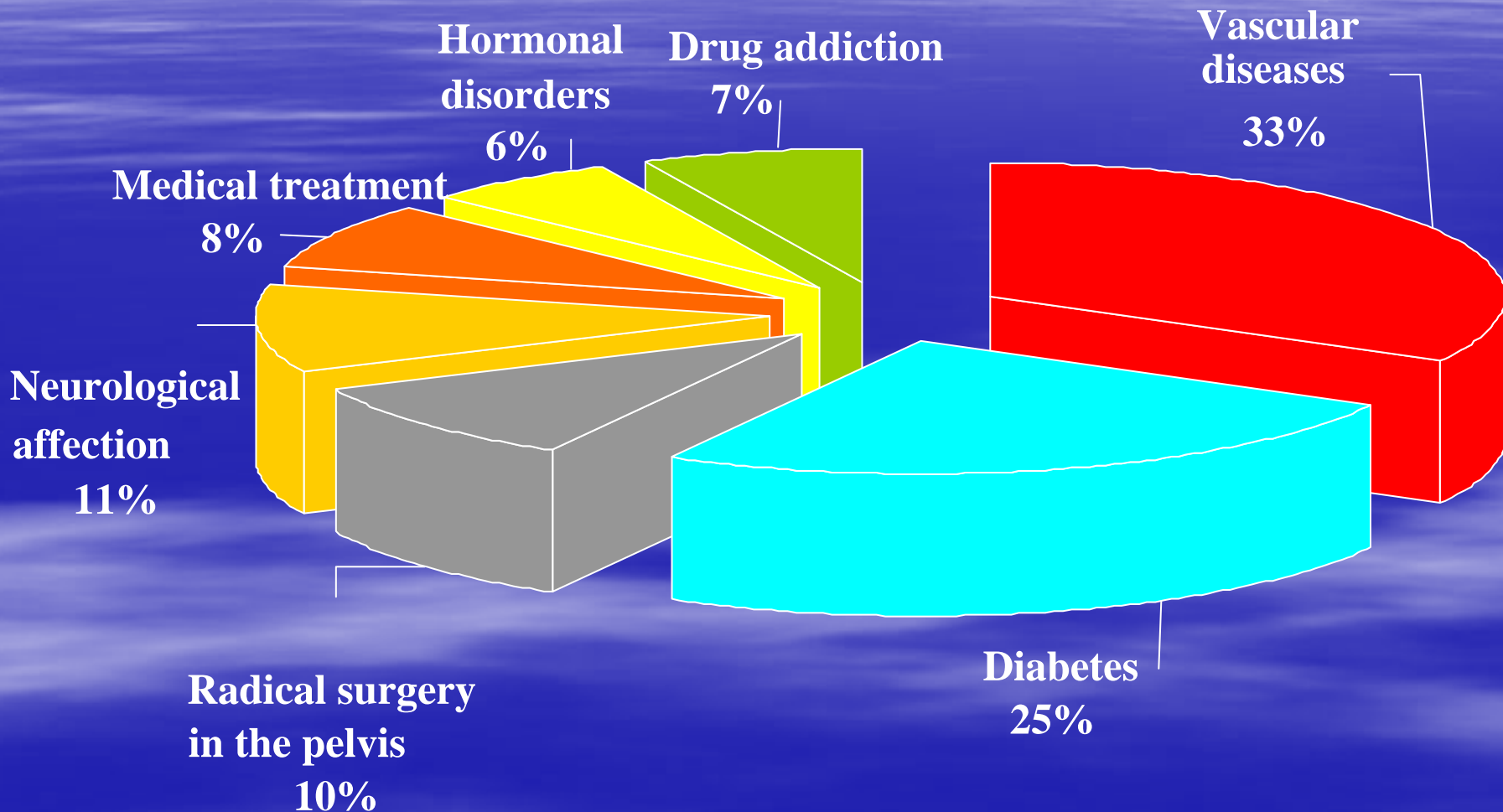


1. Anatomy and physiology of normal erection
2. Incidence of erectile dysfunctions
3. Causes of erectile dysfunctions
4. Diagnostic tools
5. Treatments

Causes of erectile dysfunctions



Causes of erectile dysfunctions



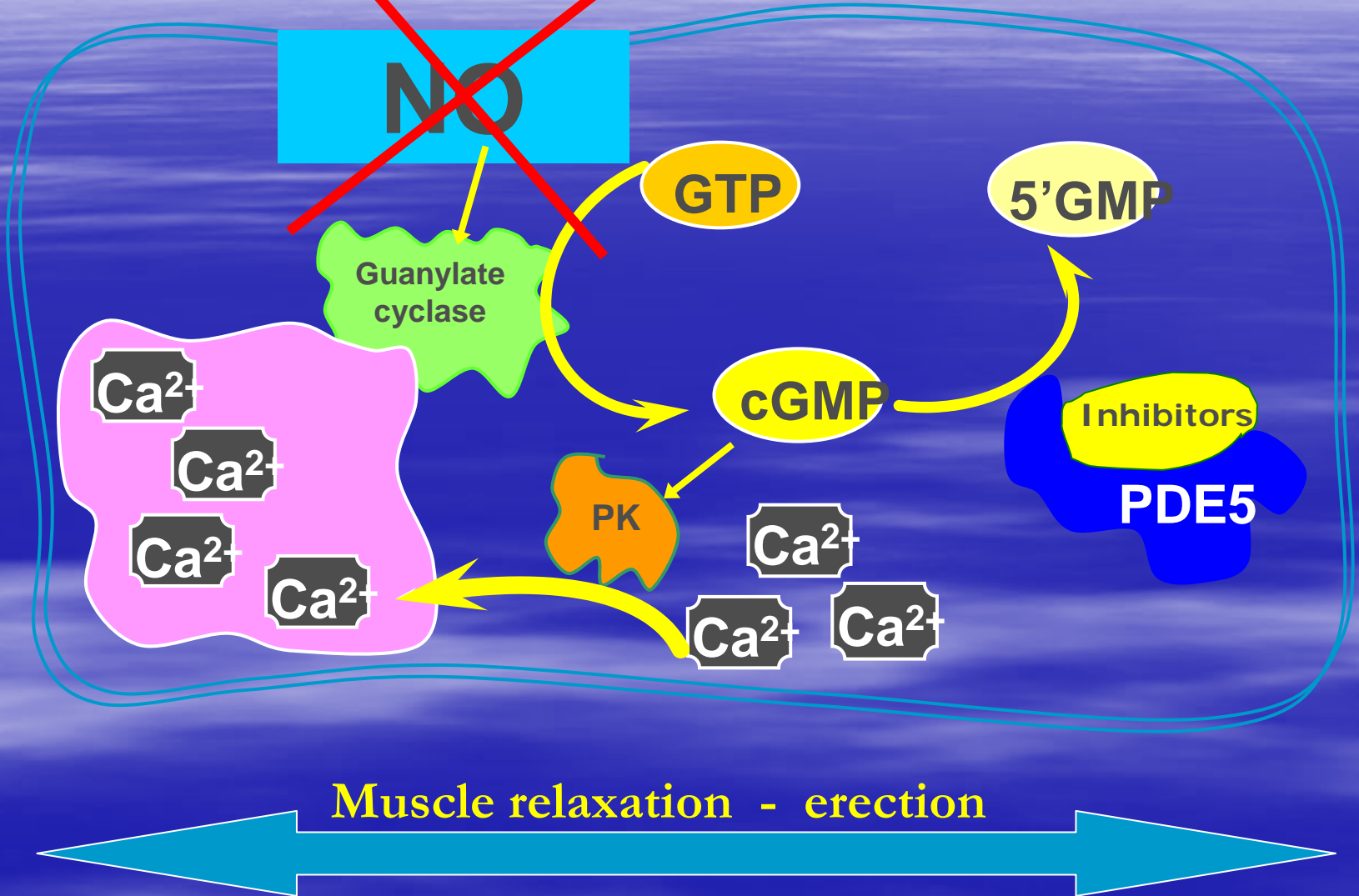
Causes of erectile dysfunctions

Role of the vascular endothelium

Any condition that induces a lack of NO production from the vascular endothelium may be a cause of erectile dysfunction.

Since NO secretion is centrally modulated (brain), any relational disturbance will negatively affect the corpus cavernous, The same way as a vascular or neurological disorder.

Causes of erectile dysfunctions



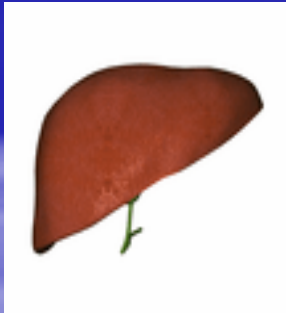


Hormones and aging



Pituitary

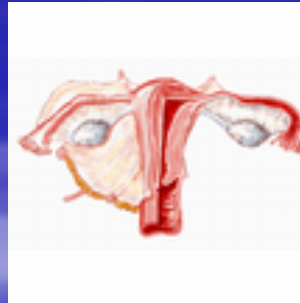
GH ↓



IGF-1 ↓

Somatopause

LH / FSH ↓



E₂ ↓ / T ↓

Menopause / Androclysis



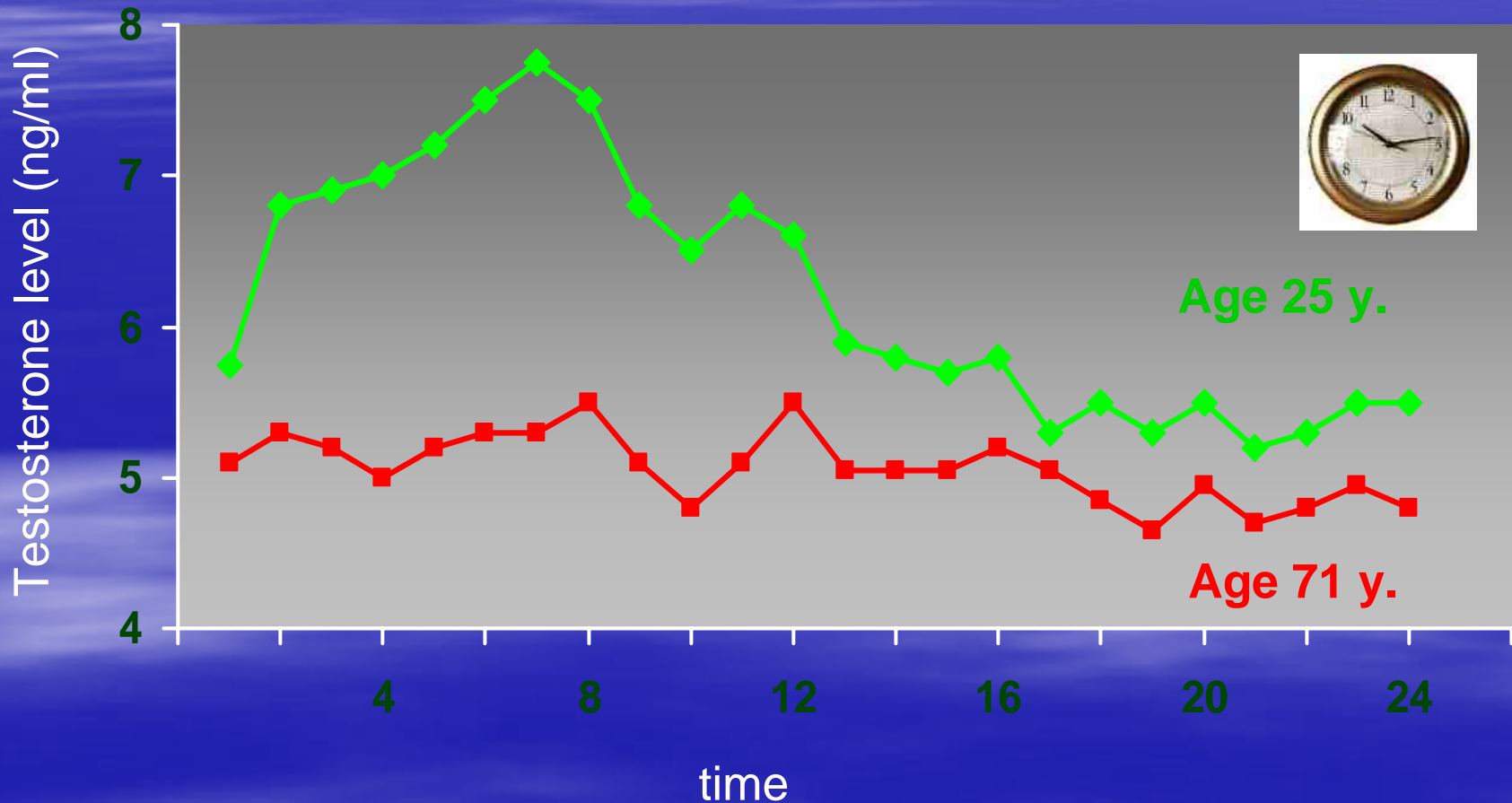
ACTH =



DHEA ↓

Adrenopause

Day-night testosterone level



1. Anatomy and physiology of normal erection
2. Incidence of erectile dysfunctions
3. Causes of erectile dysfunctions
4. **Diagnostic tools**
5. Treatments

Diagnostic tools

Special investigations

**Duplex sonography
with pharmacostimulation**

Intra cavernous injection test

Lab. Blood and hormonal status

Physical examination

History

History

- Onset, nature, duration
- Rigidity, shape of the penis
- External factors (psych. or prof. stress)
- Associated diseases
- Former therapies
- Expectations regarding the treatment.

Physical examination

- General condition
- Blood pressure, pulsations
- External genitals
- Inflammatory diseases (teeth)
- DRE
- Neurological evaluation

Lab tests

- Fasting glycaemia (HbA1c)
- Lipidic profile
- Blood formula
- Liver enzymes
- Hormones
 - Testosterone (free)
 - (PRL – TSH – T4)
- PSA
 - % free PSA
- urine

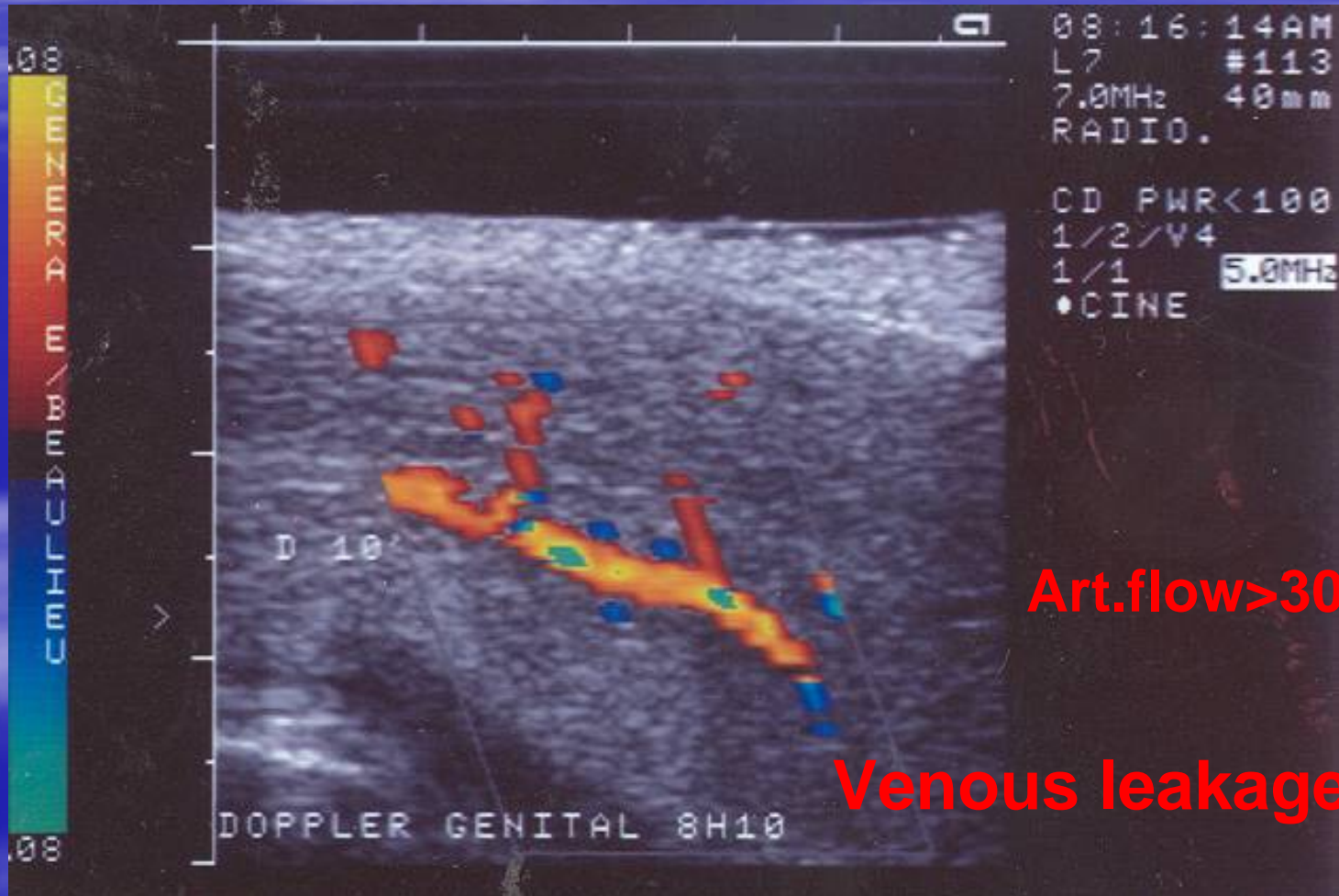
Specific tests

- **Duplex sonography**
+intracavernosal prostaglandin

- Nocturnal Penile tumescence test
- Vascular imaging
- Neurological testing

Duplex sonography

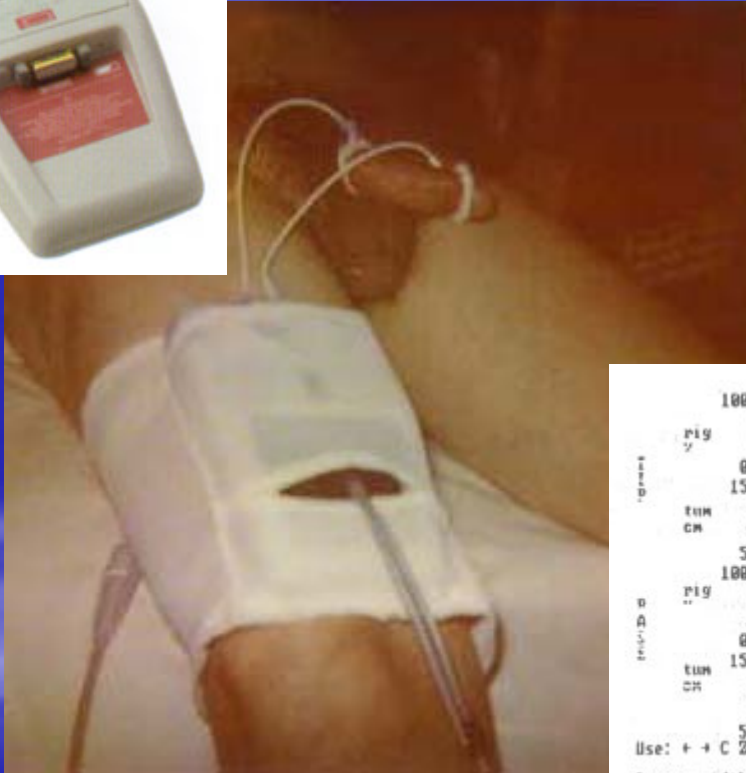
PGE1 injection



Art.flow>30cm/s

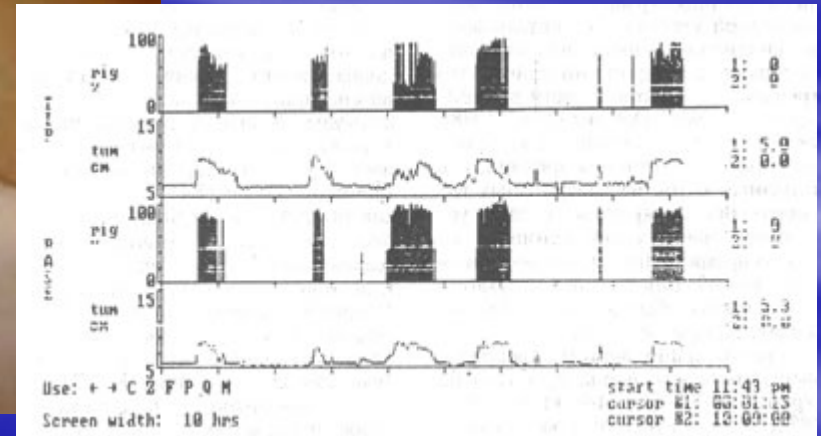
Venous leakage

NPT



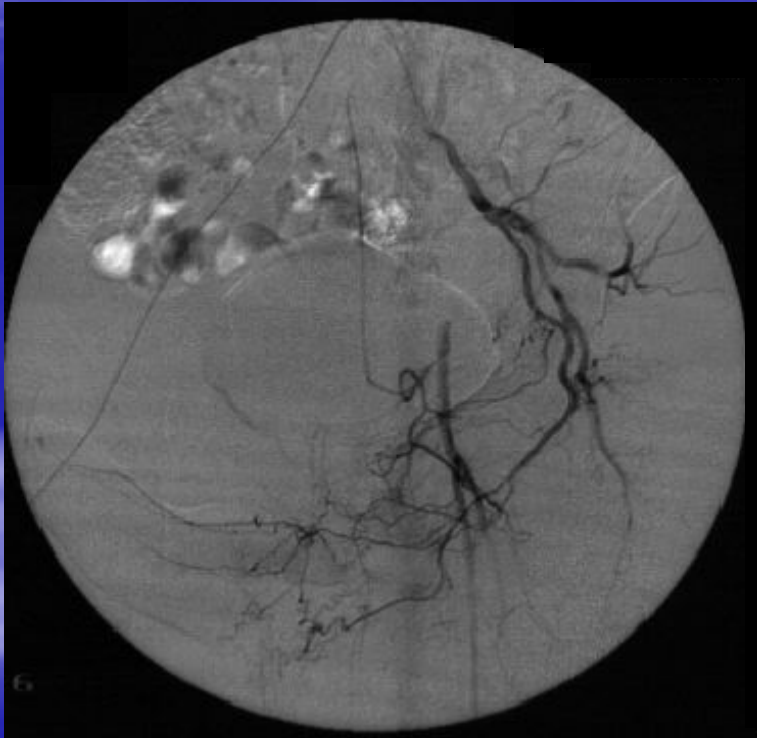
REM sleep phases

History

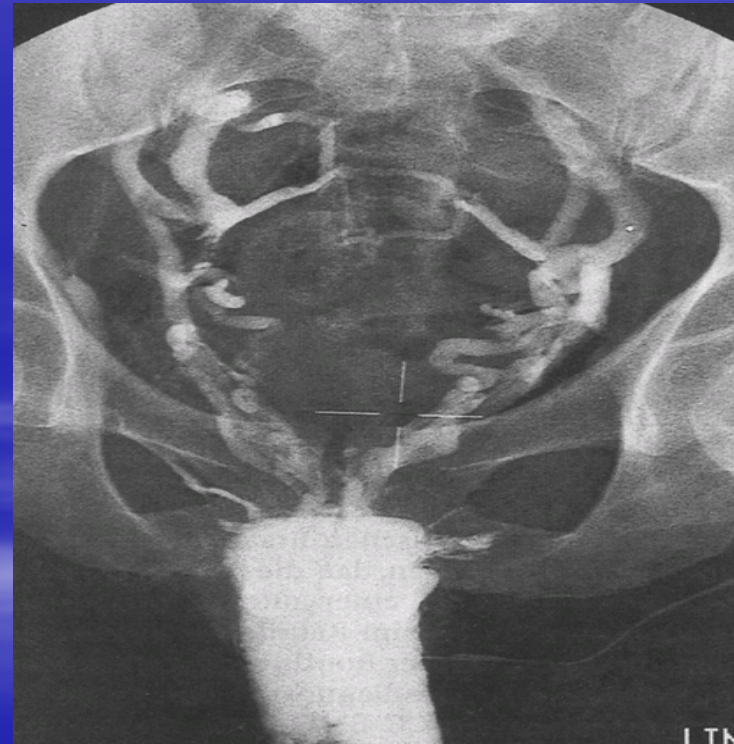


Vascular radiology

arteriography



cavernosography



Anxiety / fibrosis

1. Anatomy and physiology of normal erection
2. Incidence of erectile dysfunctions
3. Causes of erectile dysfunctions
4. Diagnostic tools
5. **Treatments**

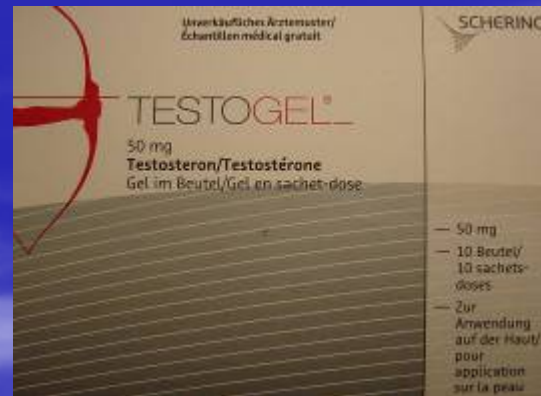
Hormonal treatment

- Testosterone injection
- Testosterone oral
- Testosterone transdermal



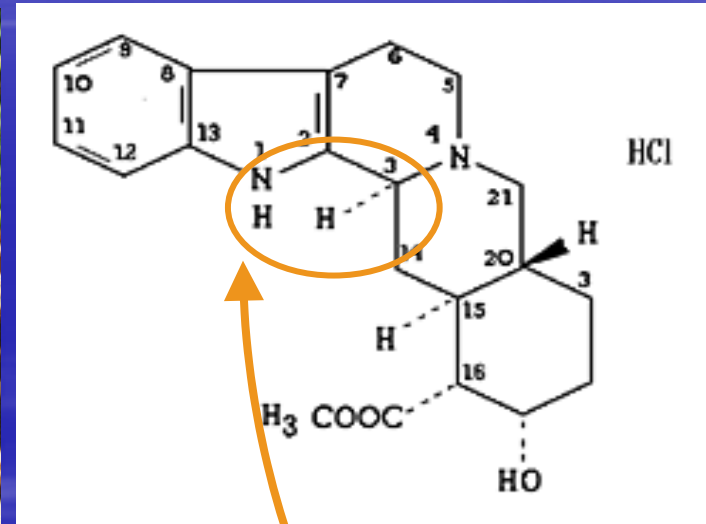
testosterone undecanoate

testosterone enanthate

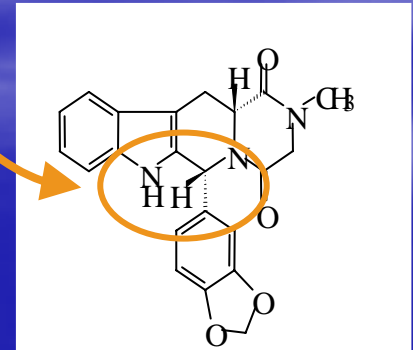


Testosterone gel

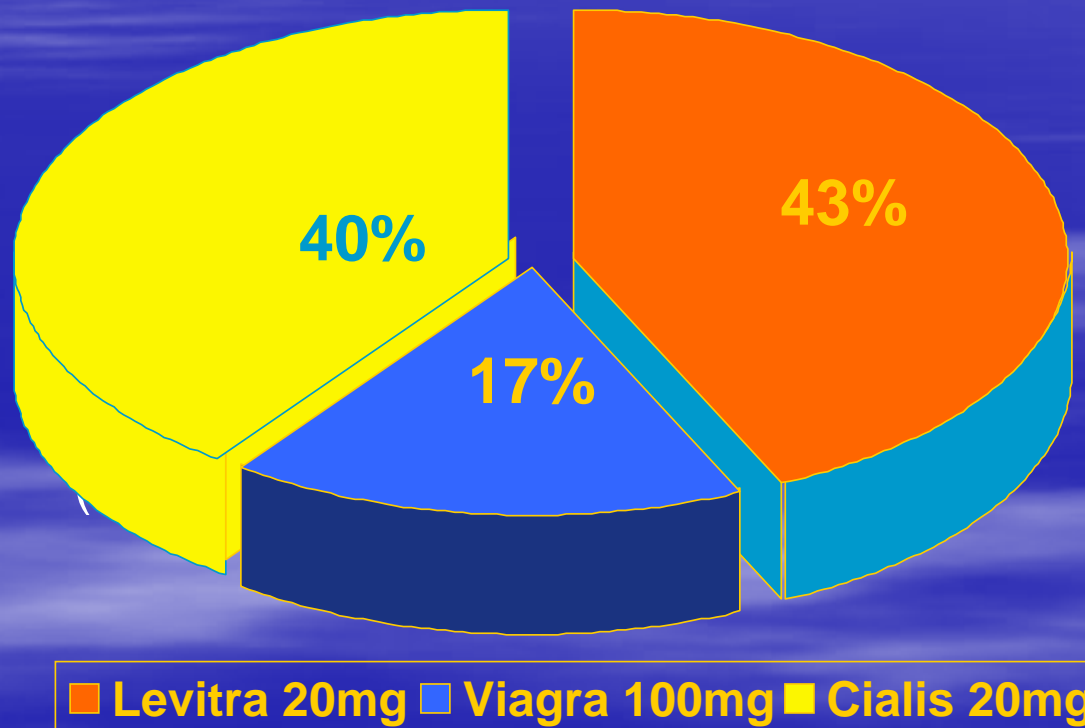
yohimbini



Tadalafil (Cialis)



PDE5 inhib. preferences



MACA (Lepidium Meyenii)



Gonzales G. & al. 2002. Effect of *Lepidium Meyenii* (MACA) on sexual desire and its absent relationship with serum testosterone levels in adult healthy men. *Andrology* 34, 367-372.

PDE5 inhibitors, what dosage?

- Occasional treatment
 - 1 tabl. 30 to 60 min before planned intercourse
- Long term treatment
 - Tadalafil (Cialis): 1-2 x 20 mg per week during 2-8 weeks
 - Vardenafil (Levitra): 2-3x 5 or 10 mg per week during 2-8 weeks
 - Sildenafil (Viagra): 2-3x 25 or 50 mg per week during 2-8 weeks

PDE5 inhibitors, tips

- It is important to separate the intake of the pill from the intercourse in order to avoid a medically generated performance anxiety.
- The medication shall not necessarily induce a rigid erection
- It should facilitate an erection following a normal love process.

PDE5 inhibitors: warning

- Simultaneous treatments with NO donors (nitro-glycerine etc) that will induce a possibly dangerous hypotension
- Contra indication to sexual activity
- Cardiovascular diseases like
 - Recent myocardial infarction or angina
 - Ictus
 - Arrhythmia, uncontrolled hypertension

Muse

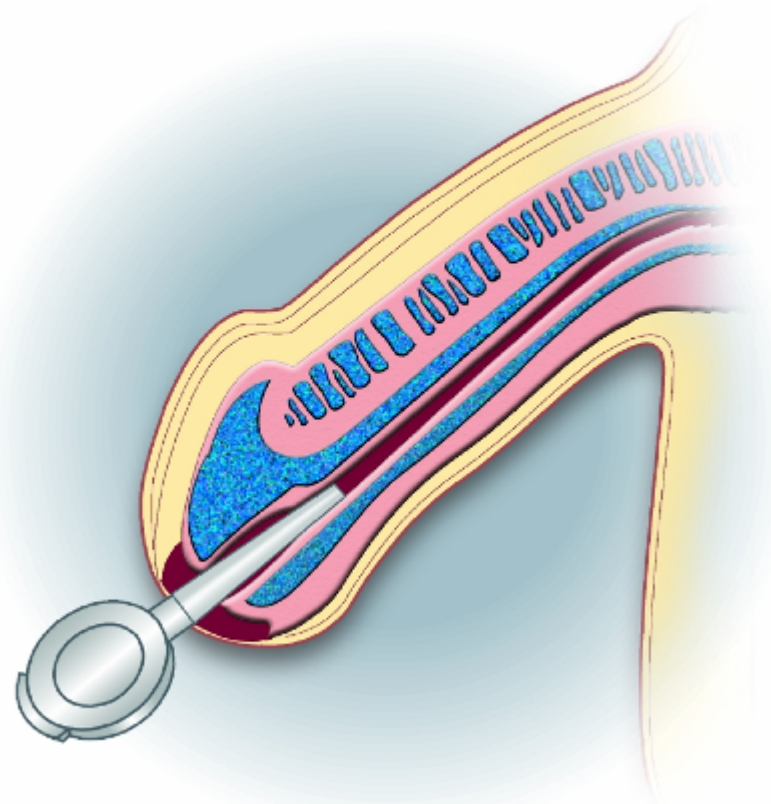
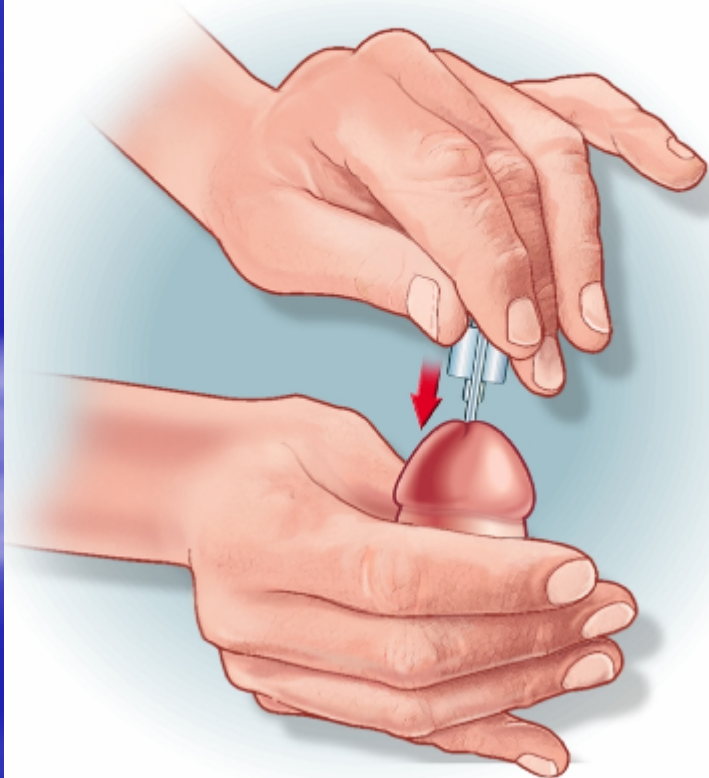
Alprostadil



MUSE

Alprostatil

MUSE (= **M**edical **U**rethral **S**ystem for **E**rection):



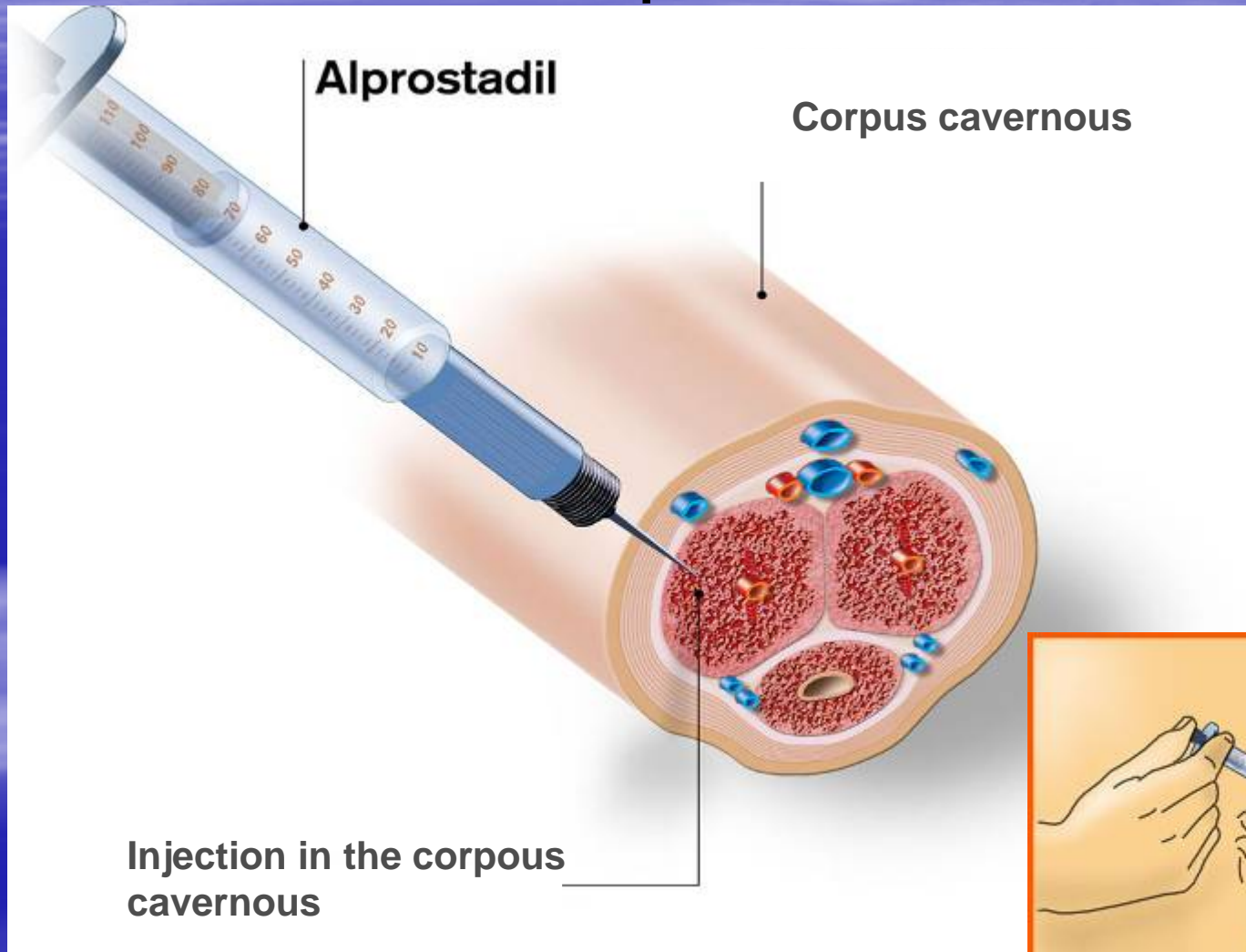
Caverject

Alprostatil



Caverject

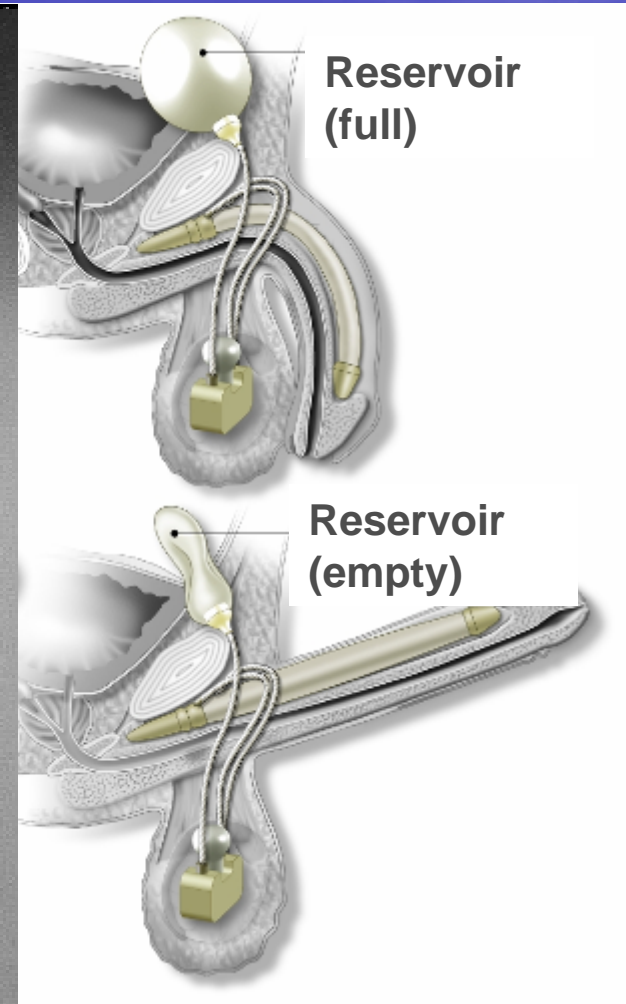
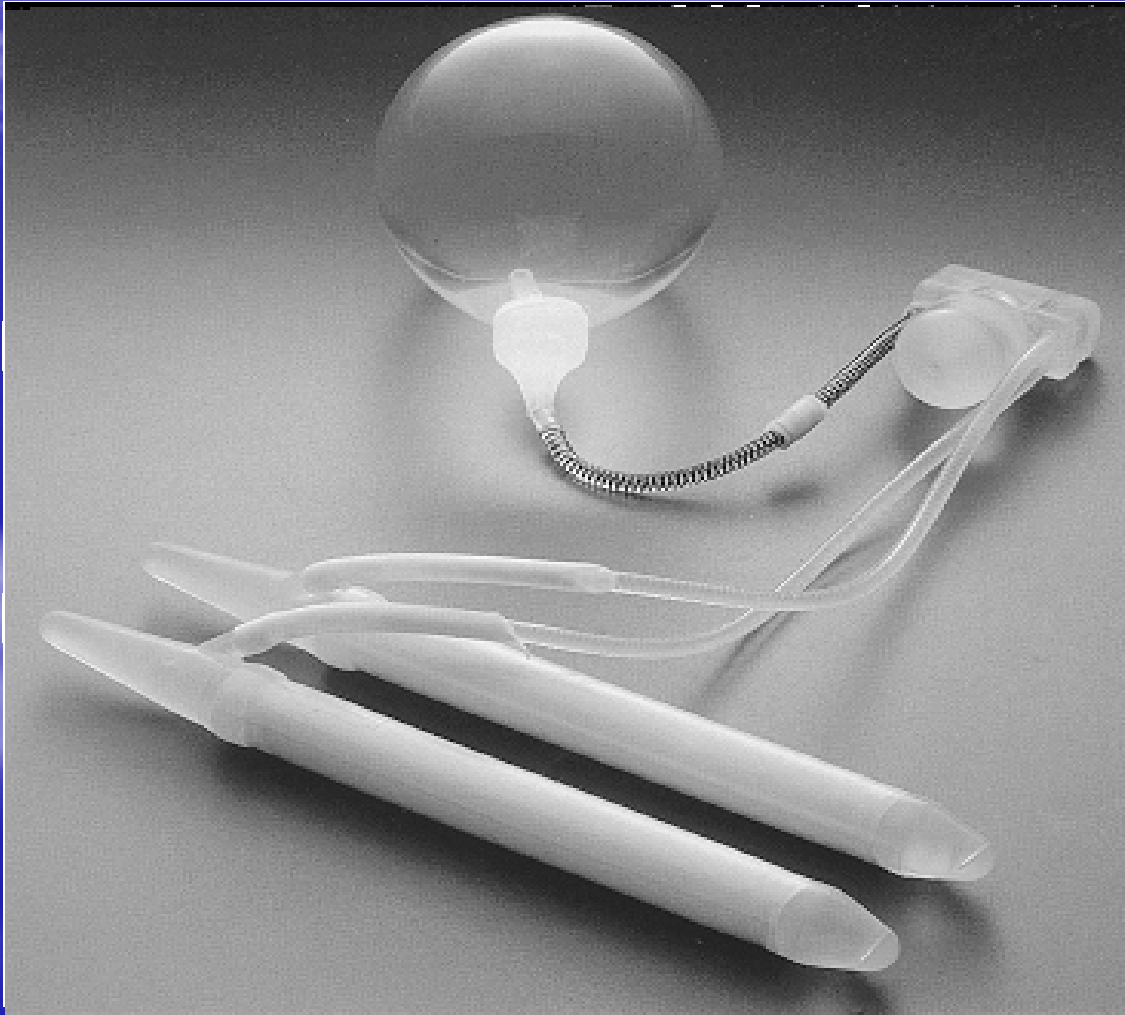
Alprostadil



Semi rigid implant Acuform (Mentor)



Inflatable implant (AMS 700)



What's in a man's mind

Dr Georges-A. de Boccard
March 10th, 2006

