



YAQEEN BATCH

# PHYSIOLOGY

lecture : 12 part 2

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## Physiology 12 /part 2

### Male sexual act

Erection >> by the parasympathetic

Ejaculation >> by the sympathetic nervous system

### Erection:

#### MALE SEXUAL ACT

##### Stimulation

##### Mechanisms

1. **psychic stimulation** from the brain → Thinking, visual, dreaming (nocturnal emissions)
2. actual sexual stimulation from the **sex organs**

usually it is a combination of both

#### MALE SEXUAL ACT

stimulation from the **sex organs** →

##### Glans Penis –

- most important source of sensory nerve signals for initiating the male sexual act
- contains an especially **sensitive sensory end-organ system** → transmits sexual sensation into CN
- Stimulated by massaging action of intercourse

*Areas adjacent to the penis* - stimulation of the anal epithelium, the scrotum

*Filling of the sexual organs with secretions*- Mild infection and inflammation

1الموضوع ببليش اه هالذكر صارله تحفيز عن طريق نفسي انه شاف اشى فكر بأشى

او كان في لمس جسدي فعلي لاعضائه التناسليه امرات حتى عدوة بكتريه التهاب اي اي بهديك المنطقه بعمل تحفيز لل sexual desire المهم بالحالتين عندي مستقبلات بتاخذ ال erectile signals للدماغ وبتخلي ال

**S1-s2 parasympathetic nerves (pelvic nerves ) will innervate the corpus cavernosum which is a (2 spongy erectile tissue filled with blood vessels this what the pelvic nerve supplies specifically**



## STAGES OF THE MALE SEXUAL ACT

### 1-Penile Erection

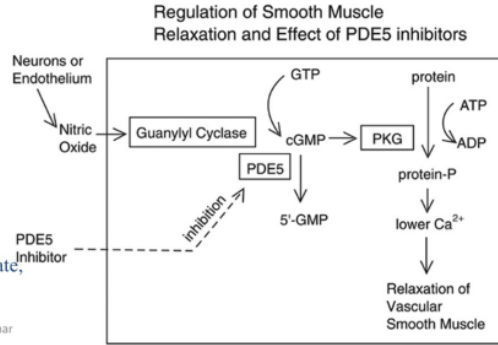
Result from sexual stimulation → **puddental nerve**

Caused by **parasympathetic** impulses from sacral portion **S2-S4** through **pelvic nerves** to penis

NTs: NO and/or VIP + Ach

NO: relaxation of **arteries** of penis and **smooth muscle** fibers in erectile tissue of the **corpora cavernosa** and **corpus spongiosum** → **congestion + impaired venous return** → more NO → erection

sildenafil citrate,  
vardenafil,  
tadalafil  
Dr Imar



هناك حكيما ال NO بعمل توسع للعضلات وارتخاء لانه يقلل الكالسيوم

عنا بالجسم ال phosphodiesterase 5 converts the CGMP to in active 5'-GMP امرات منعطي ادوية زي ال sildenafil اللي هو فياغرا اللي رح يكسر او يثبط ال PDE5 فرح يضلل ال CGMP مستواه عالي ويطللعنا NO فبزيد كفاءة ال SEXUAL ACTIVITY

### Lubrication

- During sexual stimulation → **parasympathetic** impulses → ++ mucus secretion from urethral glands & bulbourethral
- Most of lubrication of coitus is provided by the female sexual organs

طبعا اي اشي في افرازات وغدد مسؤل عنه الجهاز العصبي الشبه ودي

### 2 & 3- Emission and Ejaculation

Emission: movement of ejaculate into internal urethra

**sympathetic** impulse from T12 to L2 through **hypogastric and pelvic sympathetic nerve plexuses** to initiate emission → sequential peristaltic contraction of smooth muscle of vas deferens closing of internal urethral sphincter

Ejaculation: spinal reflex -- triggered by entry of semen into internal urethra causes nerve impulses through the **puddental nerves** to the sacral regions of the cord → to contract **perineal muscles** → expel semen from urethra

emission and ejaculation is called the male **orgasm**.

إذا حركة السائل المنوية داخل القنوات التناسلية للذكر + القذف منسميه orgasm

## Male sexual response

Resolution:

Detumescence: (flaccidity) NE from sympathetics,  
endothelin = contraction of smooth muscle and ++venous outflow

Refractory time

**Flaccidity : NE + ENDOTHELIN ( CONTRACTION OF SMOOTH MUSCLS >> not relaxation >> no further compression of the venous drainage in the penis**

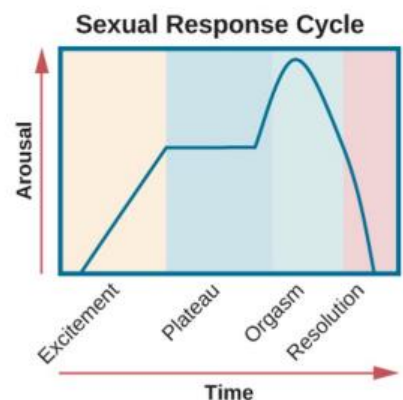
**Men** need recovery time after orgasm, called a **refractory period**, during which they cannot reach orgasm again. The duration of the refractory period varies among men and usually lengthens with advancing age

Some **women** are capable of a rapid return to the orgasm phase with further sexual stimulation and may experience **multiple orgasms**.

**Note the erection : is vasodilatation + smooth muscle relaxation**

### Sexual response cycle -Process is similar in males and females:

- 1) **Excitement phase:** caused by psychological or physical stimulation; engorgement and erection of penis/clitoris+ vaginal congestion  
-- parasympathetic nerves
- 2) **Plateau phase:** intensification of these responses, increased HR, BP, respiratory rate, muscle tension
- 3) **Orgasmic phase:** culmination of sexual excitement, intense physical pleasure
- 4) **Resolution phase:** returns genitalia and body systems to pre-arousal state



سبقنا على الدكتوراة وشرحناهم بالتفصيل بكل التغيرات بمحاضرة 9 اخر صفحتين  
بلامتحان بتجيب سهم على المرحلة وبتقلنا شو التغيرات اللي بتصير بهل مرحلة

**Female orgasm : no ejaculation it's the maximal pleaser accompanied with internal genital contractions**