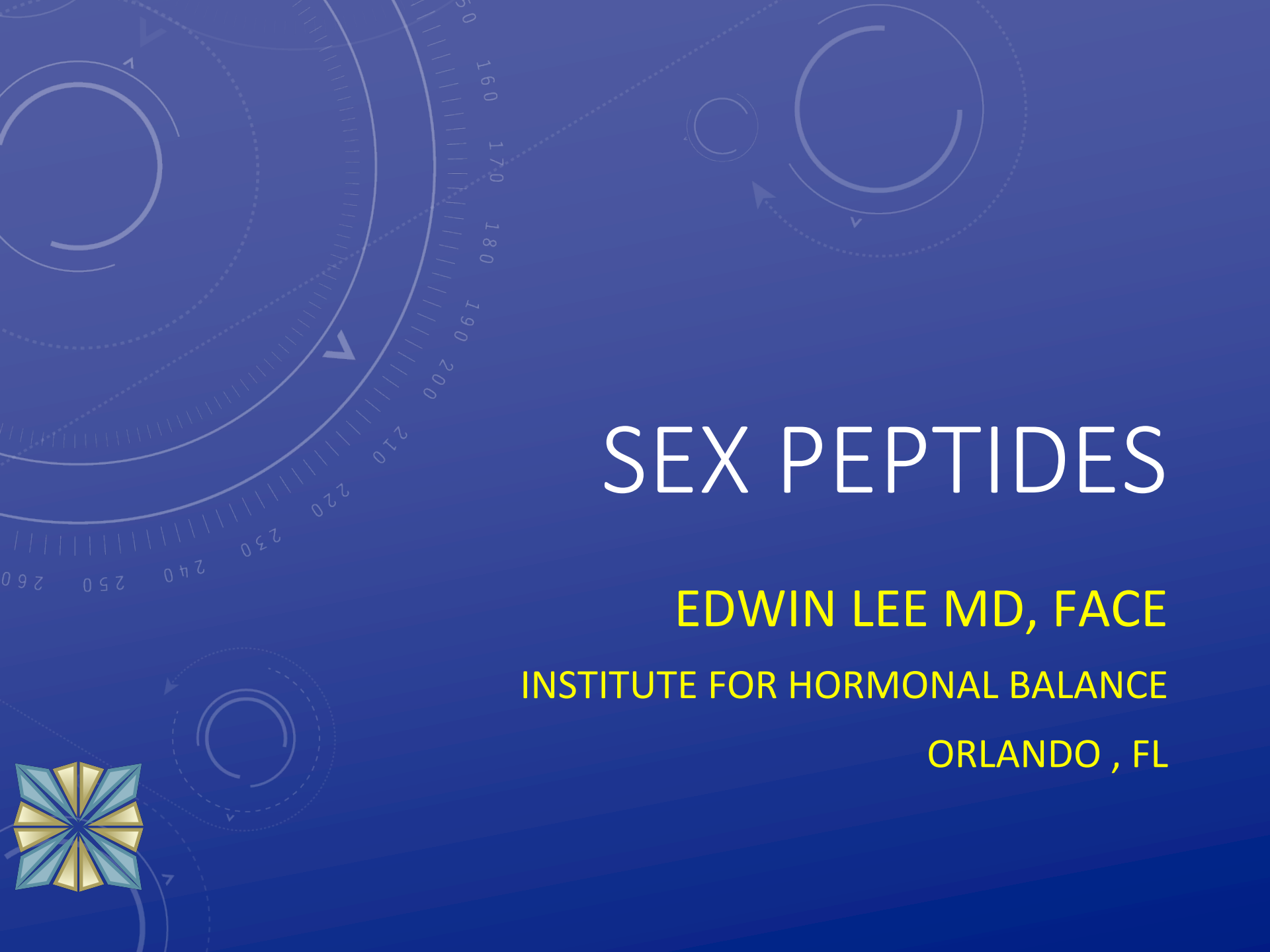


The background is a solid blue color. It features several faint, light blue circular patterns. On the left side, there is a large circular scale with tick marks and numbers ranging from 150 to 260. In the top right corner, there are two concentric circles with arrows indicating a clockwise direction. In the bottom left corner, there is a stylized compass rose or star-like shape with eight points, colored in shades of blue and yellow. The text is positioned on the right side of the image.

SEX PEPTIDES

EDWIN LEE MD, FACE

INSTITUTE FOR HORMONAL BALANCE

ORLANDO , FL

3 SEX PEPTIDES

- 1) Bremelanotide or (PT 141)
- 2) Gonadorelin
- 3) Oxytocin



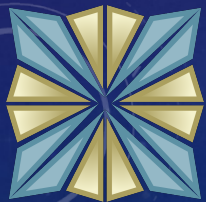
DR EDWIN LEE



LIBIDO BOOSTER



DR EDWIN LEE

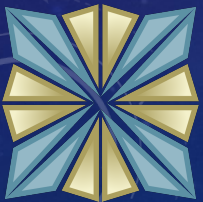


LIBIDO BOOSTER PEPTIDE

- Men are easy
- Men only needs oxygen and a pulse

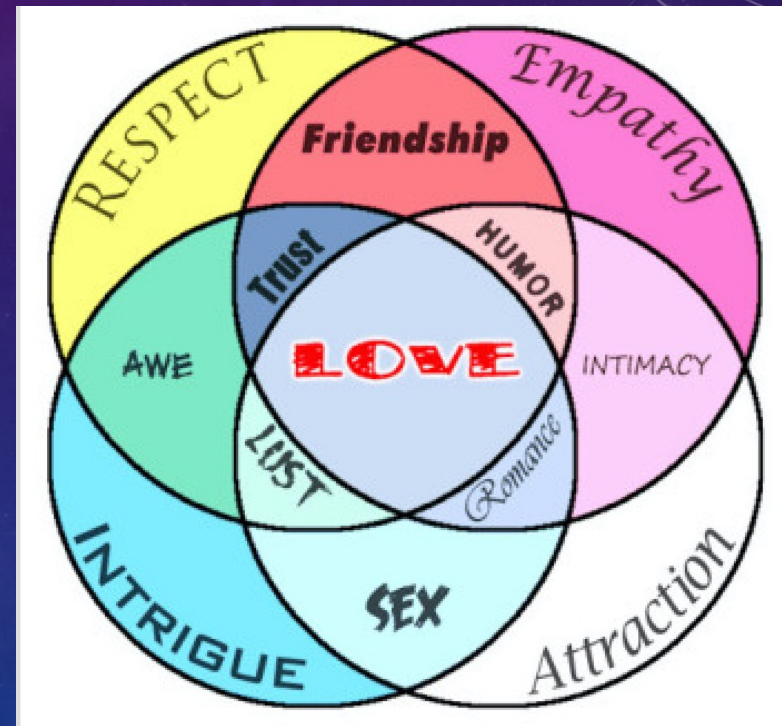


DR EDWIN LEE

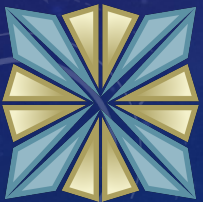


LIBIDO BOOSTER PEPTIDE

- Women are a little more complicated
- Sincerity
- Reliability
- Commitment
- Integrity



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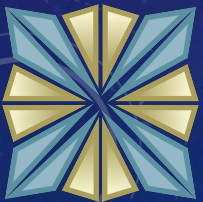


LIBIDO BOOSTER PEPTIDE

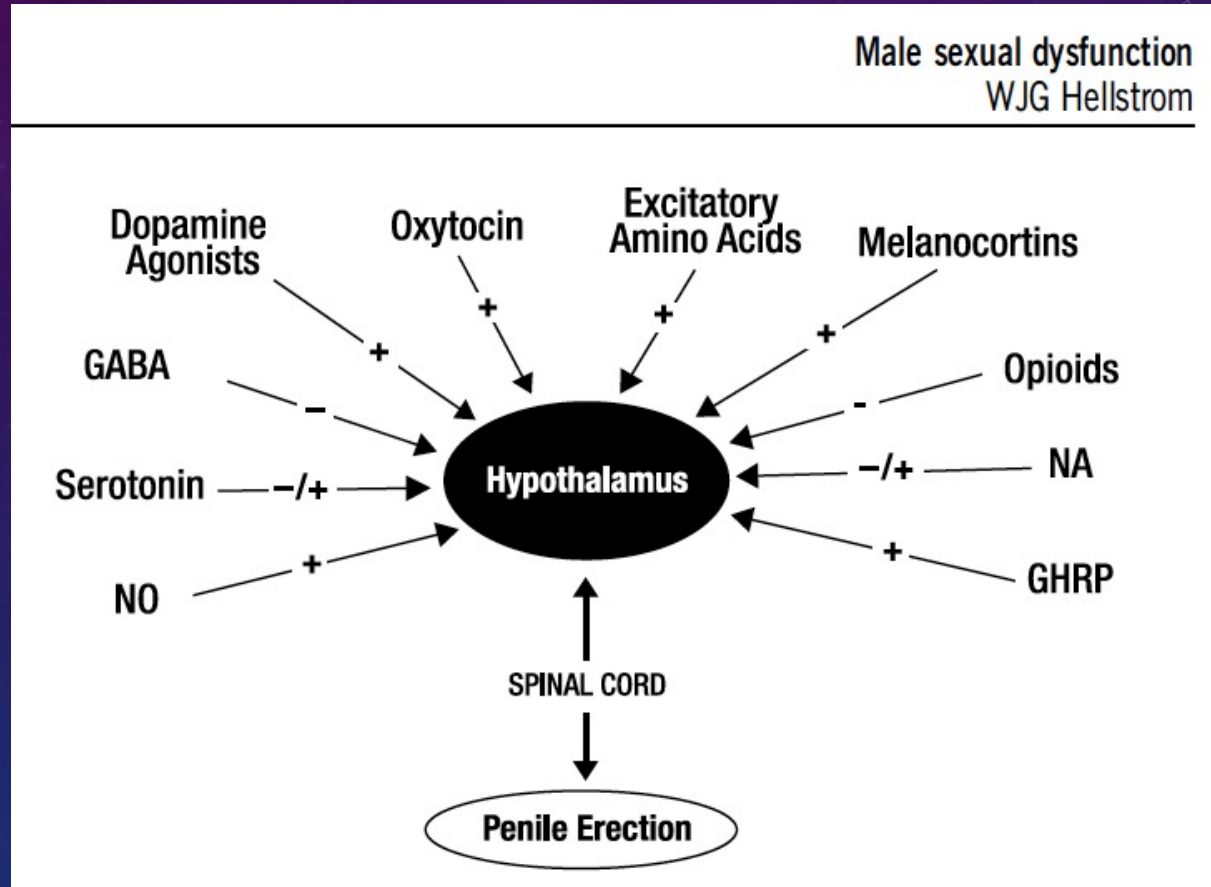
- Melanocortin peptides initiate erections in men with psychogenic erectile dysfunction
- Similar effects on libido are seen in women



LEE



HYPOTHALAMIC CONTROL OF PENILE ERECTION AND SEXUAL BEHAVIOR



EDWIN LEE

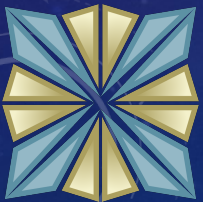


SEXUAL STIMULATION

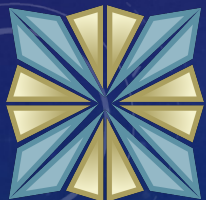
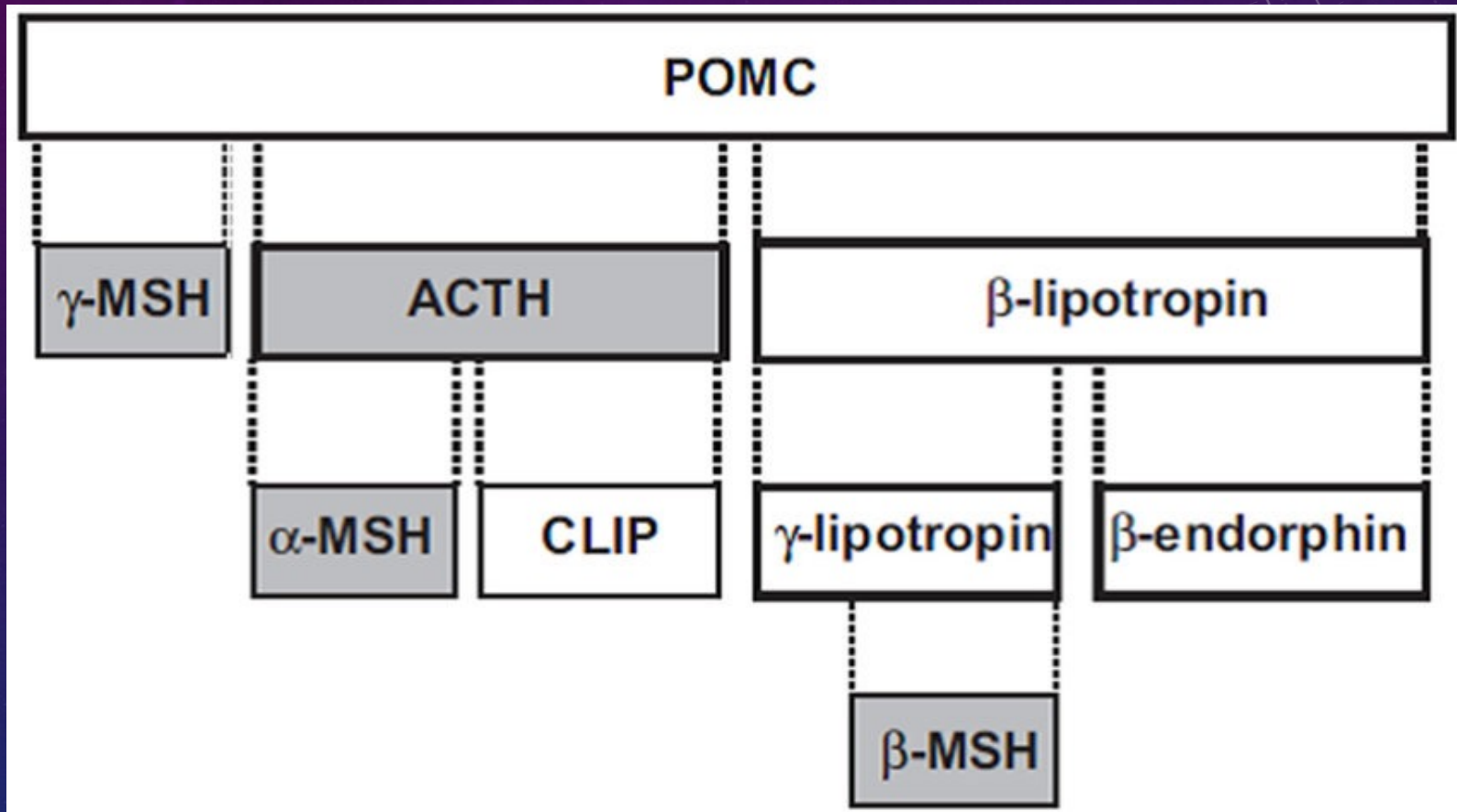
- Only ACTH and α -MSH have shown the ability to generate sexual stimulation and penile erection in various animal species including rats, rabbits, cats, dogs and monkeys
- Giuliano F. J. Androl 2004;25(5):683–91



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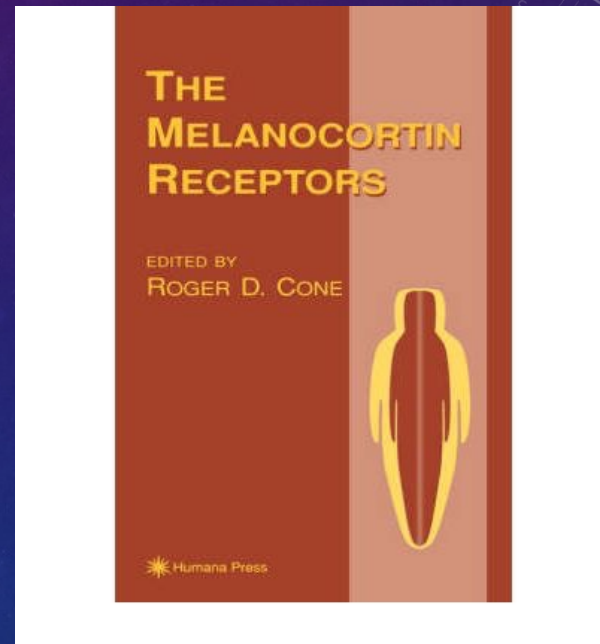


PRO HORMONE PRO-OPIOMELANOCORTIN

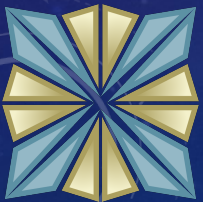


LIBIDO BOOSTER PEPTIDE- BREMELANOTIDE (PT 141)

- Bremelanotide or PT 141 is a derivative of melanotan 2 which is a derivative of α -MSH
- Binds to melanocortin receptor subtypes MC3 and MC4



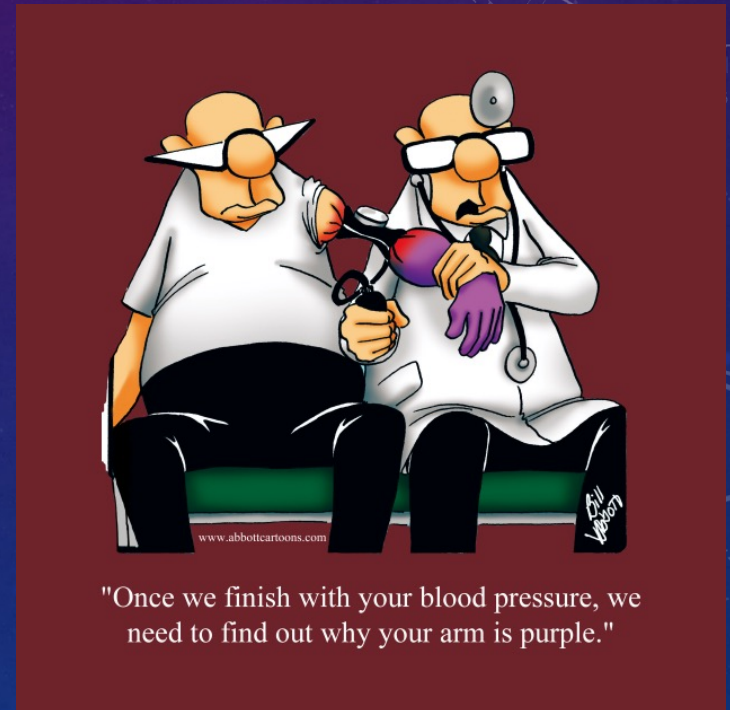
DR EDWIN LEE



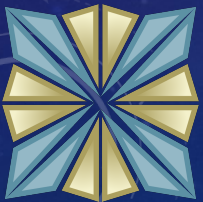
In 2007 the FDA rejected bremelanotide – High blood pressure with intranasal route

NAGLE M (10 SEPTEMBER 2007). "ERECTILE DYSFUNCTION DRUG DEEMED A FLOP". *OUTSOURCING PHARMA*

- Phase II trials of intranasal bremelanotide in both female sexual dysfunction (FSD) and male erectile dysfunction (ED) but these trials were halted by the FDA in 2007, due to increased blood pressure



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VYLESSI - FEMALE VIAGRA

- June 2019
- FDA approved bremelanotide for female hypoactive sexual desire disorder in premenopausal women
- Trade name Vylessi
- 30 clinical trials with over 2500 patients
- Autoinjector
 - <https://www.fda.gov/news-events/press-announcements/fda-approves-new-treatment-hypoactive-sexual-desire-disorder-premenopausal-women>

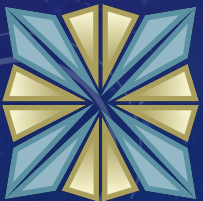


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BREMELANOTIDE (PT 141) SIDE EFFECTS

- In the clinical trials, Vyleesi increased blood pressure after dosing, which usually resolved within 12 hours.
- Bremelanotide may harm an unborn baby
- Common side effects are nausea and flushing
- About 1% of patients treated with Vyleesi in the clinical trials reported darkening of the gums and parts of the skin, including the face and breasts, which did not go away in about half the patients after stopping treatment

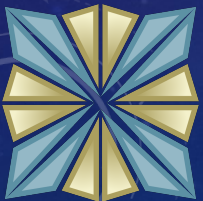
DR EDWIN LEE



BREMELANOTIDE (PT 141) SQ DOSING

- Many different protocols
- PT 141 – 1000 mcg/ml
- 2 ml vial
- Suggested dosing 1 mg – 2mg sq prn
- Variable response
- Libido can increase after 2-6 hours injections
- Recommend trying it 6 hour before the event
- Vylessi 1.75 mg SQ prn 45 min prior
- No more than 8 doses per month
- Careful mixing it with PDE 5 inhibitor- 12 hour erections can occur

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GONADORELIN



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GONADORELIN HAS A USP MONOGRAPH

U.S. PHARMACOPEIA

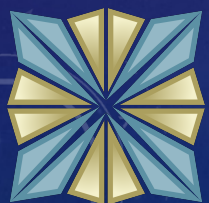
Search USP29

Go

Gonadorelin Hydrochloride

$C_{55}H_{75}N_{17}O_{13} \cdot 2HCl$ 1255.44

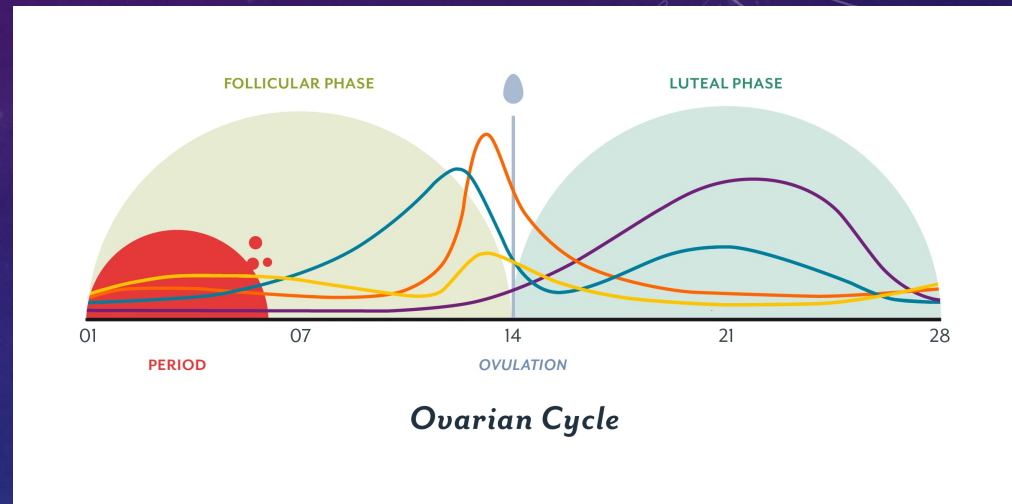
Gonadorelin dihydrochloride [51952-41-1].



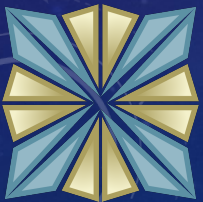
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Gonadotropin releasing hormone GnRH

- GnRH is 89 amino acid long
- In normal menstrual cycles, GnRH secretion is pulsatile, with intervals of 60-120 minutes in the follicular phase.
- Releases LH and FSH from the anterior pituitary gland

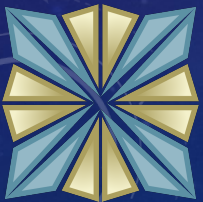
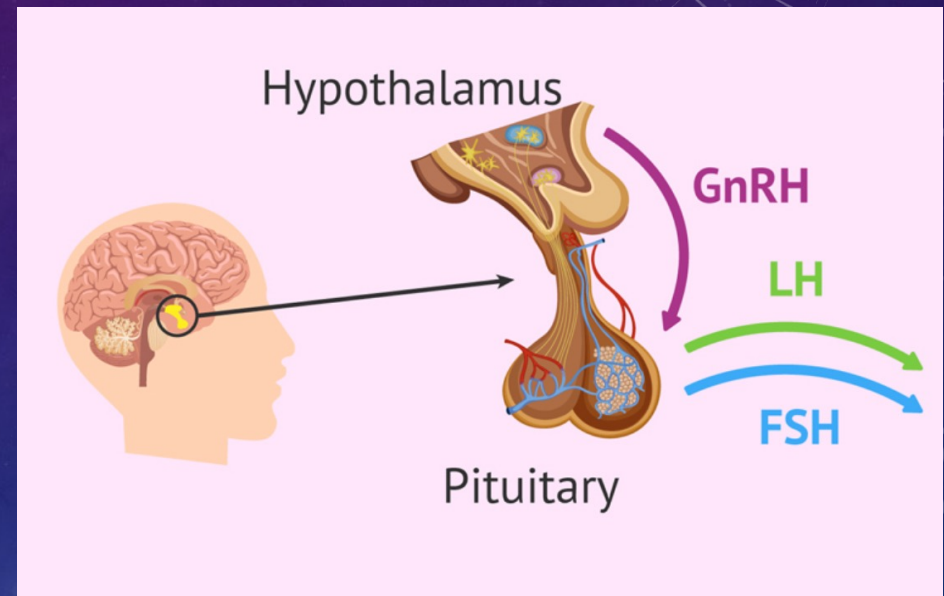


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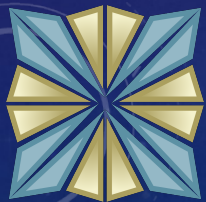
GONADORELIN (Gonadotropin releasing hormone agonist)

- 10 amino acid peptide
- Gonadotropin releasing hormone agonist
- Releases LH and FSH from the anterior pituitary gland



GONADORELIN (Gonadotropin releasing hormone agonist)

- GnRH was discovered in 1971
- Gonadorelin was available under the brand name Factrel in 1978
- Gonadorelin has a half life of 4 minutes
- Shanehsazzadeh, et.al. Estimation of human effective absorbed dose of ^{67}Ga -cDTPA-gonadorelin based on biodistribution rat data. Nuclear Medicine Communications 32(1):p 37-43, January 2011.



GONADORELIN (Gonadotropin releasing hormone agonist)

- GnRH agonist used in for fertility, cancer , delayed puberty, and cryptorchidism
- GnRH agonist nasal spray buserelin, nafarelin

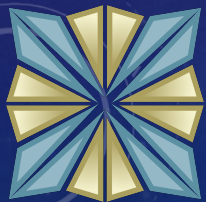
Fertagyl

Gonadorelin acetate

43 mcg/ml

Rx:

Indicated for Ovulation Induction

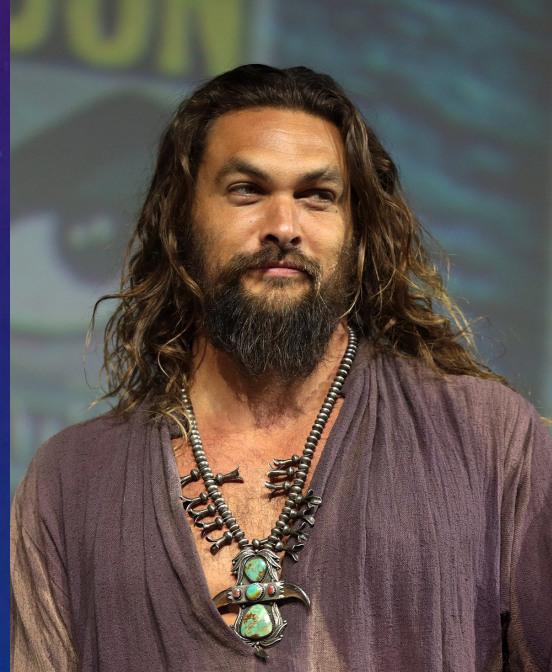


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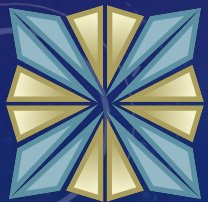
GONADORELIN (Gonadotropin releasing hormone agonist)

- Used for fertility, delayed puberty, primary hypothalamic amenorrhea, hypothalamic problems like Kallmann syndrome
- Kallmann Syndrome is a rare genetic disorder that affects the development of the hypothalamus and the sense of smell.

Jason Momoa –Aquaman



DR EDWIN LEE



GONADORELIN TREATED IN MEN WITH KALLMANN SYNDROME

ZHANG L, ET AL., THE PULSATILE GONADORELIN PUMP INDUCES EARLIER SPERMATOGENESIS THAN CYCLICAL GONADOTROPIN THERAPY IN CONGENITAL HYPOGONADOTROPIC HYPOGONADISM MEN. AM J MENS HEALTH. 2019 JAN-FEB;13(1)

- Men with Kallmann syndrome
- Gondorelin was administered 10 μ g every 90 min subcutaneously using an insulin pump
- Baseline testosterone of 45 ng/dl
- After 1 month T increased to 428 nd/dl
- After 1 year T increased to 754 ng/dl
- Penile size doubled
- Testicular size tripled

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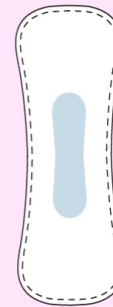


WOMEN WITH KALLMANN SYNDROME

YOUNG J, XU C, PAPADAKIS GE, ACIERNO JS, MAIONE L, HIETAMÄKI J, RAIVIO T, PITTELOUD N. CLINICAL MANAGEMENT OF CONGENITAL HYPOGONADOTROPIC HYPOGONADISM. ENDOCR REV. 2019 APR 1;40(2):669-710.

- The main goal of the treatment is to induce and maintain secondary sex characteristic with estradiol and progesterone
- Fertility can be induced with pulsatile GnRH agonist regimens in most patients.

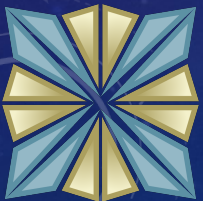
Females



Primary
amenorrhea



Incomplete
breast growth



GONADORELIN SIDE EFFECTS

[HTTPS://WWW.MSKCC.ORG/CANCER-CARE/PATIENT-EDUCATION/MEDICATIONS/ADULT/GONADORELIN](https://www.mskcc.org/cancer-care/patient-education/medications/adult/gonadorelin)

- Generally well tolerated
- Site irritation with pain, swelling or itching
- Ovarian hyperstimulation syndrome (OHSS) happens with IVF when the ovaries swell and leak fluid into the abdomen.
- Nausea, abd pain, bloating, SOB and blood clots



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GONADORELIN DOSING

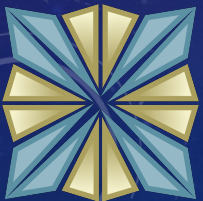
[HTTPS://WWW.MSKCC.ORG/CANCER-CARE/PATIENT-EDUCATION/MEDICATIONS/ADULT/GONADORELIN](https://www.mskcc.org/cancer-care/patient-education/medications/adult/gonadorelin)

For hypothalamic conditions (you need pulse therapy) use 5 -10 mcg with an insulin pump over 1 minute, every ninety minutes for twenty-one days.

For women use during the follicular phase works best with an insulin pump

Variable dosing

- Comes in 500 mcg/ml to 1 mg/ml in a 5 ml vial
- Dosing can be 150 mcg SQ daily
- Or 250 mcg to 500 mcg SQ 2 x week



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OXYTOCIN HAS A USP MONOGRAPH

**USP-NF/PF** Abstract

**This is a preview of
USP-NF/PF content.**

Subscriber?
Access here!

Not a subscriber?
Learn more!

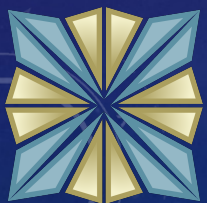
Oxytocin

$C_{43}H_{66}N_{12}O_{12}S_2$ 1007.19
Oxytocin.
Oxytocin [50-56-6]

» Oxytocin is a nonapeptide hormone secreted by the posterior pituitary gland. It is prepared by synthesis.

USP REFERENCE STANDARDS FOR PHARMACEUTICALS

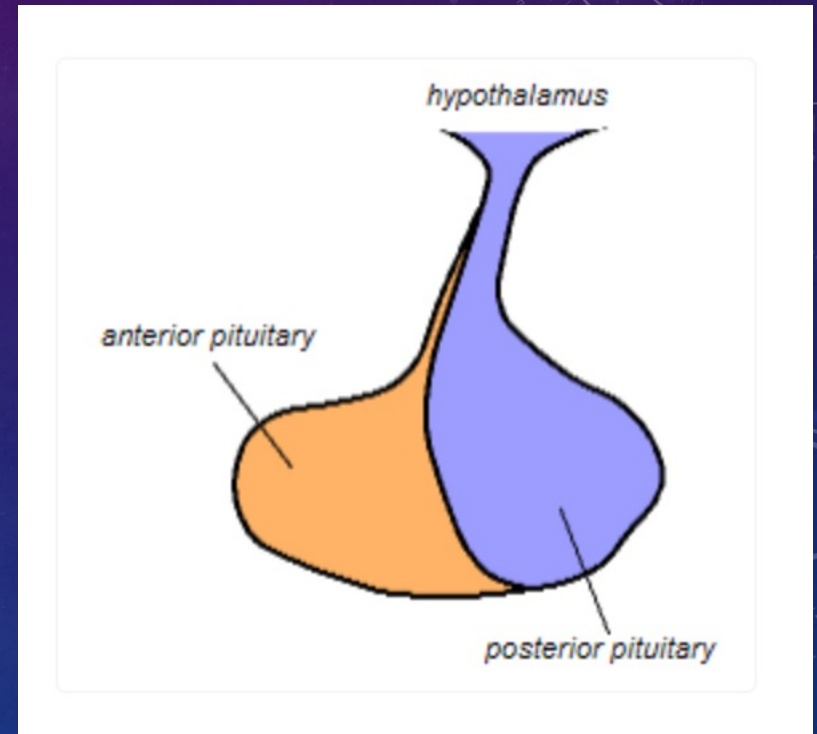
[USP Oxytocin Identification RS](#)
[USP Oxytocin RS](#)



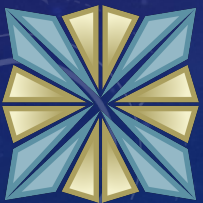
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OXYTOCIN LOVE HORMONE

- 9 Amino acid
- Produced in the hypothalamus
- Released from the posterior pituitary gland



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OXYTOCIN TRUST HORMONE

- Involved with social bonding, trust, empathy, uterine contraction during childbirth, milk production and for sexual activity
- First used in 1909 to induce childbirth in patients with complications

**LOVE
HORMONE**

Oh! Oxytocin



DR EDWIN LEE

OXYTOCIN CUDDLE HORMONE

- Also involved in a wide variety of physiological and pathological functions such as sexual activity, penile erection and ejaculation
- Magon N, Kalra S. The orgasmic history of oxytocin: Love, lust, and labor. Indian J Endocrinol Metab. 2011 Sep;15 Suppl 3(Suppl3):S156-61



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OXYTOCIN – INCREASE SEROTONIN

- Estrogen has been found to increase the secretion of oxytocin and to increase the expression of the oxytocin receptor in the brain.
- Goldstein I, Meston CM, Davis S, Traish A (17 November 2005). Women's Sexual Function and Dysfunction: Study, Diagnosis and Treatment. CRC Press. pp. 205–. ISBN 978-1-84214-263-9.

**Good feelings come from
4 special brain chemicals**

dopamine



serotonin



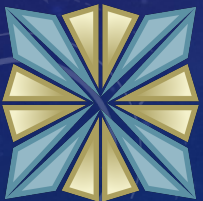
endorphin



oxytocin



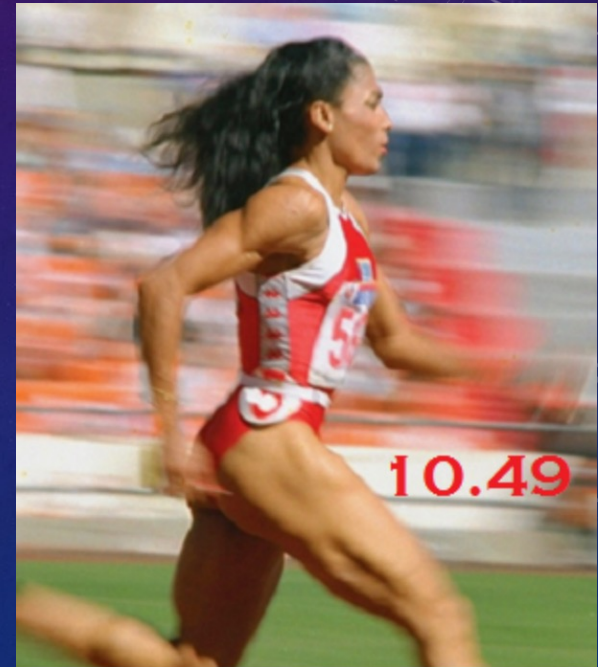
DR EDWIN LEE



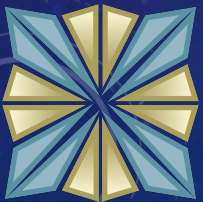
OXYTOCIN FEMALES RESPOND FASTER

THEODORIDOU A, PENTON-VOAK IS, ROWE AC (2013). FEMALES WHO ARE ADMINISTERED OXYTOCIN ARE OVERALL FASTER IN RESPONDING TO SOCIALLY RELEVANT STIMULI THAN MALES WHO RECEIVED OXYTOCIN.

- Females who are administered oxytocin are overall faster in responding to socially relevant stimuli than males who received oxytocin.



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OXYTOCIN HELPS WITH ANXIETY

INTRANASAL OXYTOCIN OF 24 IU

Randomized Controlled Trial > [Psychoneuroendocrinology](#). 2009 Jul;34(6):917-23.

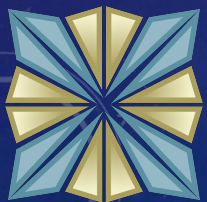
doi: 10.1016/j.psyneuen.2009.01.005. Epub 2009 Feb 25.

A randomized controlled trial of intranasal oxytocin as an adjunct to exposure therapy for social anxiety disorder

[Adam J Guastella](#)¹, [Alexandra L Howard](#), [Mark R Dadds](#), [Philip Mitchell](#), [Dean S Carson](#)

Affiliations + expand

PMID: 19246160 DOI: [10.1016/j.psyneuen.2009.01.005](#)

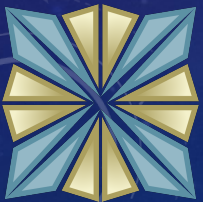


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OXYTOCIN DOSING

- Troche 200 IU
- Start with $\frac{1}{2}$ troche or 100 IU daily or qhs
- For the people that are stressed then use it every day
- Can go up to 200 IU a day
- Intranasal
 - One study used 24 IU daily
- Don't use oral oxytocin since it won't cross the BBB
- Rare side effects of nausea, vomiting, hives, and swelling

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CONCLUSION

- Bremelanotide or PT 141
- Libido
- 1000 mcg/ml 2 ml vial
- Suggested dosing 1 mg – 2mg sq prn
- Gonadorelin dosing
- Increase Testosterone in men
- 500 mcg/ml to 1 mg/ml in a 5 ml vial
- 150 mcg SQ daily
- Or 250 mcg to 500 mcg SQ 2 x week

Oxytocin

- Bonding /anxiety
- Troche 200 IU
- Start with ½ troche or 100 IU daily or qhs
- For the people that are stressed then use it every day
- Can go up to 200 IU a day
- Can replace Semax





**THANK
YOU!**

DR EDWIN LEE

