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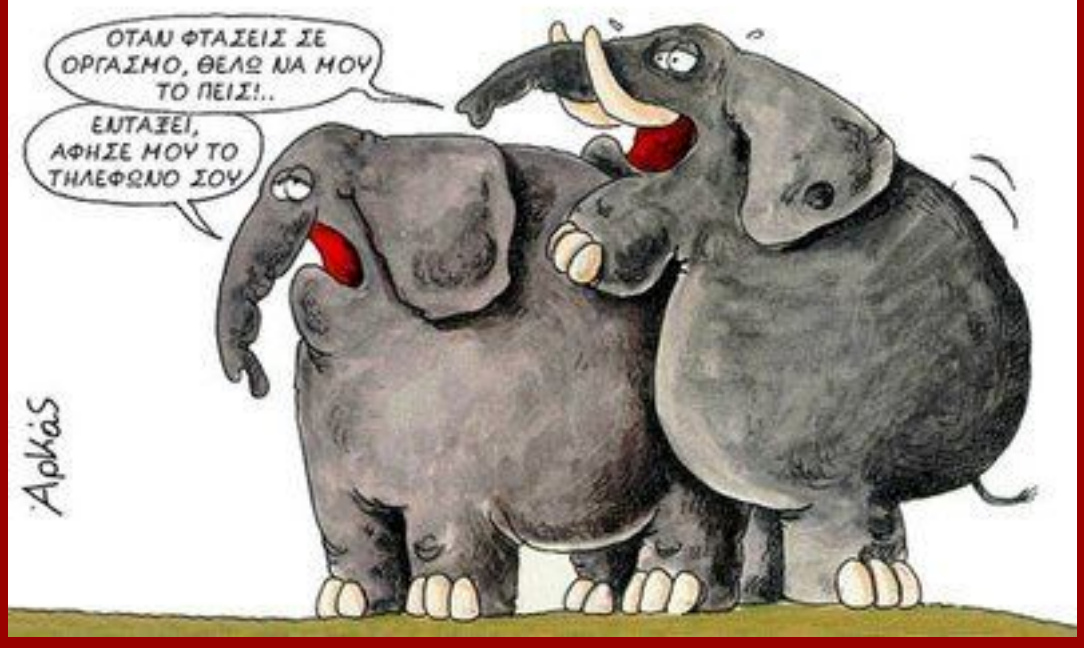


# ΟΡΓΑΣΜΟΣ

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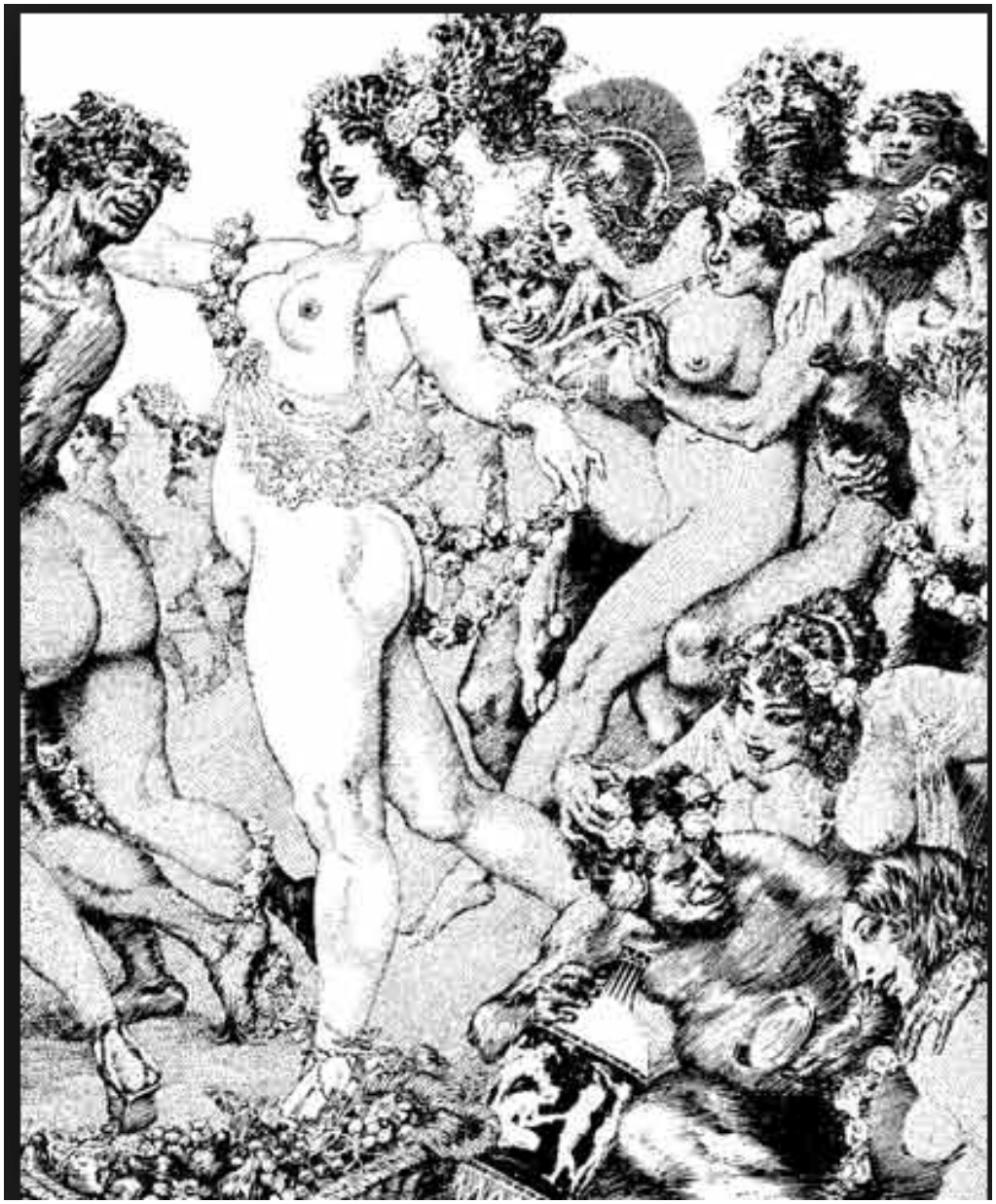

**Αρχική - Ριζική λέξη : οργή** < αρχ. ὀργή
**Ετυμολογία:** [<μτγν. ὀργασμός < ὀργάω-ῶ]

Απλά ομόρριζα
Σύνθετα με προθέσεις, αχώριστα μόρια κτλ.

**οργίζω**

**οργισμένος**

**οργίλος**

**οργασμός<μτγν. ὀργασμός<αρχ. ὀργῶ<ὀργή**

**οργώ**

# ΟΡΓΑΣΜΟΣ

**Ετυμολογία** [ ]

**οργασμός** < *αρχαία ελληνική* ὀργασμός < ὀργάω-ῶ

Neuroimage. 2013 Aug 1;76:178-82. doi: 10.1016/j.neuroimage.2013.03.012. Epub 2013 Mar 21.

# Female orgasm but not male ejaculation activates the pituitary. A PET-neuro-imaging study.

Huynh HK[1], Willemsen AT, Holstege G.

⊕ Author information

## Abstract

The pituitary gland plays an important role in basic survival mechanisms by releasing fluctuating amounts of hormones into the bloodstream, depending on the circumstances the individual finds itself. However, despite these changes in pituitary hormonal production, neuroimaging studies have never been able to demonstrate changes in the activation level of the pituitary. The most apparent reason is the much higher blood flow rate in the pituitary than in the brain. However, the present PET-scanning study demonstrates for the first time that neuroimaging techniques can identify increased pituitary activity. In a study with 11 healthy women sexual orgasm compared to rest caused an increased blood supply to the pituitary. We assume that this increase signifies elevated pituitary activation in order to produce higher plasma concentrations of oxytocin and prolactin. These hormones induce vaginal and uterus movements, ovulation and enhancement of sperm and egg transport. No increased blood supply was observed comparing clitoral stimulation, orgasm attempt, and faked orgasm with rest. In a study with 11 healthy men comparing ejaculation with rest did not reveal increased pituitary activation, probably because ejaculation causes a much lower increase of oxytocin and prolactin plasma concentration than female orgasm.

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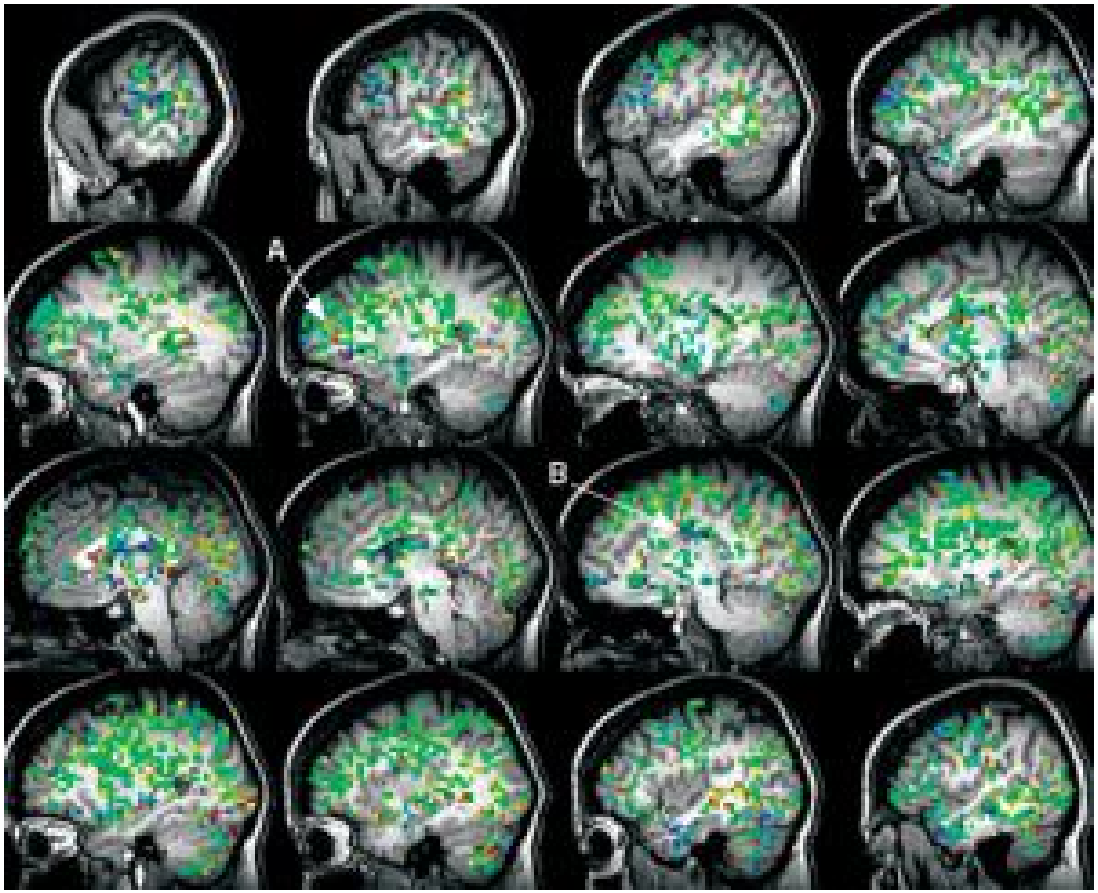


Eur J Neurosci. 2006 Dec;24(11):3305-16.

# Regional cerebral blood flow changes associated with clitorally induced orgasm in healthy women.

Georgiadis JR[1], Kortekaas R, Kuipers R, Nieuwenburg A, Pruim J, Reinders AA, Holstege G.

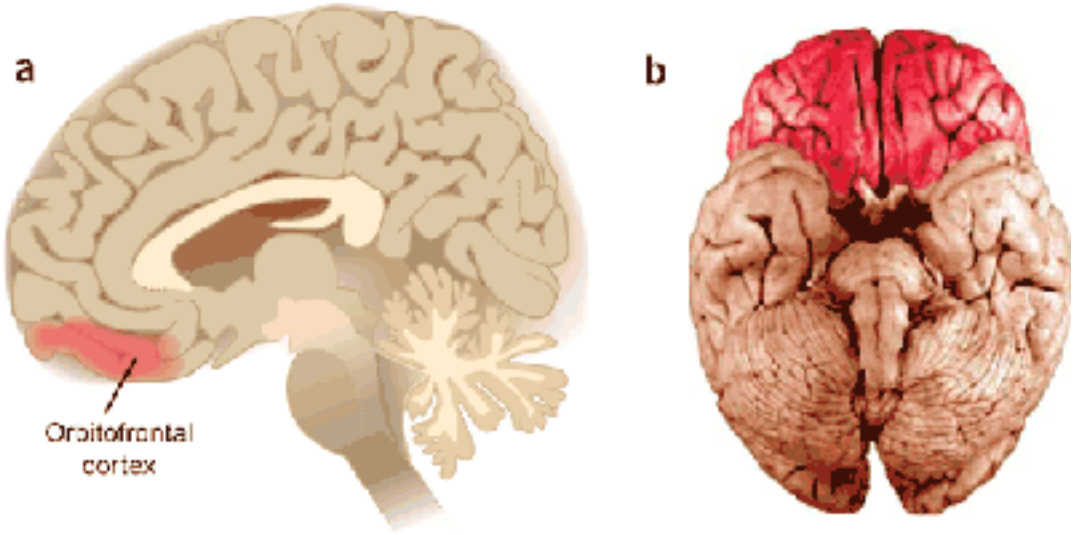
⊕ Author information

## Abstract

There is a severe lack of knowledge regarding the brain regions involved in human sexual performance in general, and female orgasm in particular. We used [15O]-H2O positron emission tomography to measure regional cerebral blood flow (rCBF) in 12 healthy women during a nonsexual resting state, clitorally induced orgasm, sexual clitoral stimulation (sexual arousal control) and imitation of orgasm (motor output control). Extracerebral markers of sexual performance and orgasm were rectal pressure variability (RPstd) and perceived level of sexual arousal (PSA). Sexual stimulation the clitoris (compared to rest) significantly increased rCBF in the left secondary and right dorsal primary somatosensory cortex, providing the first account of neocortical processing of sexual clitoral information. In contrast, orgasm was mainly associated with profound rCBF decreases in the neocortex when compared with the control conditions (clitoral stimulation and imitation of orgasm), particularly in the left lateral orbitofrontal cortex, inferior temporal gyrus and anterior temporal pole. Significant positive correlations were found between RPstd and rCBF in the left deep cerebellar nuclei, and between PSA and rCBF in the ventral midbrain and right caudate nucleus. We propose that decreased blood flow in the left lateral orbitofrontal cortex signifies behavioural disinhibition during orgasm in women, and that deactivation of the temporal lobe is directly related to high sexual arousal. In addition, the deep cerebellar nuclei may be involved in orgasm-specific muscle contractions while the involvement of the ventral midbrain and right caudate nucleus suggests a role for dopamine in female sexual arousal and orgasm.

**The orbitofrontal cortex (OFC) actually 'switches off' when a woman climaxed.**
Georgiadis said the OFC may be the basis for 'sexual control', and that by 'letting go' women can induce orgasm.
"I don"t think orgasm turns off consciousness but it changes it. When you ask people how they perceive their orgasm, they describe a feeling of a loss of control," the Daily Mail quoted him as telling New Scientist.
"I"m not sure if this altered state is necessary to achieve more pleasure or is just some side effect," he added.

Στην κατάθλιψη συρρικνώνεται ένα τμήμα του εγκεφάλου που λέγεται *ραχιοπλευρικός προμετωπιαίος φλοιός* (DL-PFC).
Επιπλέον, τα νευρικά κύτταρα στην ίδια περιοχή είναι μικρότερα και λιγότερο πυκνά στους καταθλιπτικούς ασθενείς απ' ό,τι στους υγιείς ανθρώπους.
Ο ραχιοπλευρικός προμετωπιαίος φλοιός είναι υπεύθυνος για πολύπλοκες νοητικές διεργασίες, που κυμαίνονται από τη μνήμη και την αισθητήρια ενσωμάτωση έως τον προγραμματισμό.



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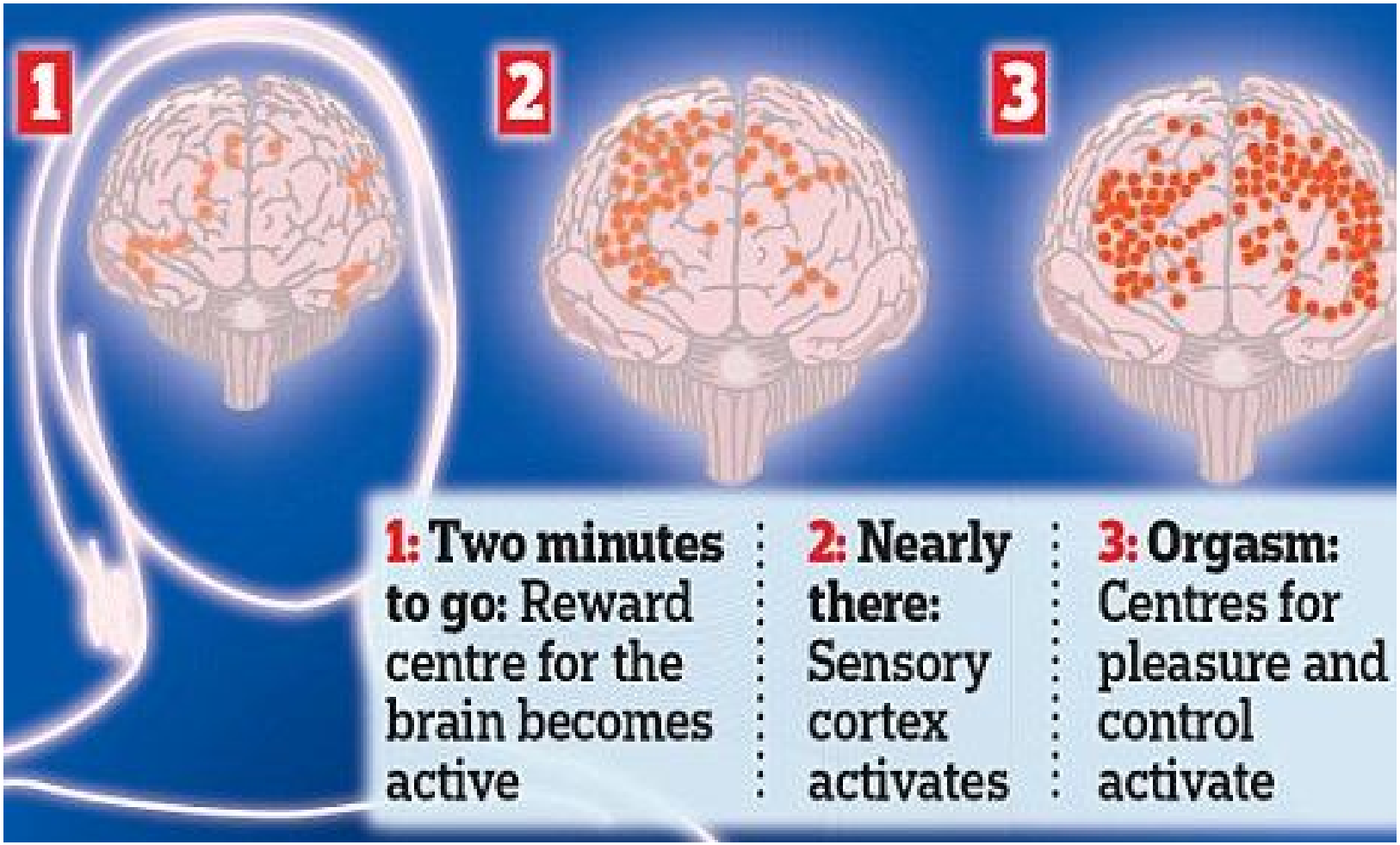
1
2
3
1: Two minutes to go: Reward centre for the brain becomes active
2: Nearly there: Sensory cortex activates
3: Orgasm: Centres for pleasure and control activate

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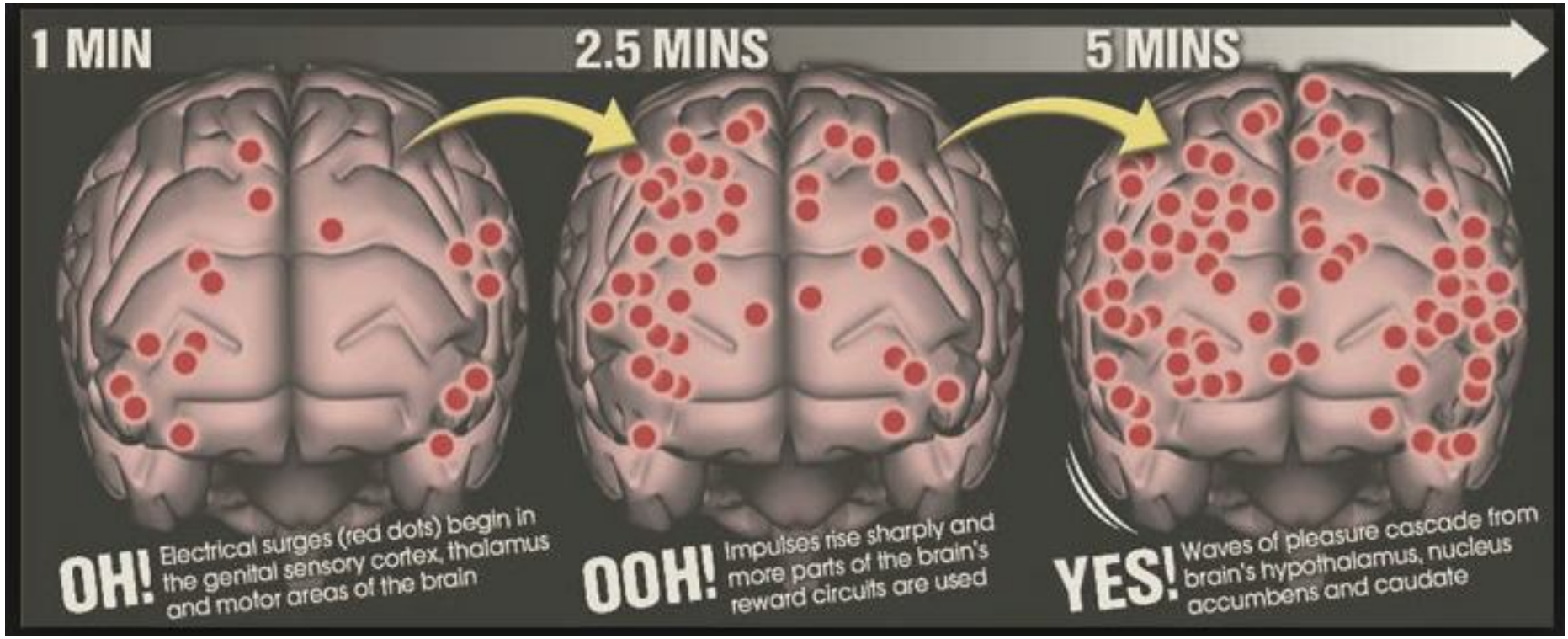

Acta Obstet Gynecol Scand. 2014 May;93(5):497-502. doi: 10.1111/aogs.12379.

# Women with greater pelvic floor muscle strength have better sexual function.

Martinez CS[1], Ferreira FV, Castro AA, Gomide LB.

⊕ Author information

## Abstract

**OBJECTIVE:** To investigate the relation between pelvic floor muscle strength and sexual function among women with higher and lower pelvic floor muscle strength.

**DESIGN:** A cross-sectional study was performed among employees and students of the University.

**SETTING:** Urogynecology department, Federal University of Pampa, Brazil, carried out between January and July of 2012.

**POPULATION:** Forty women, aged 20-28 years.

**METHODS:** Forty-nine women were screened and nine were excluded. Baseline information of the participants was obtained. The Female Sexual Function Index questionnaire was applied and pelvic floor muscle strength was randomly measured by transvaginal palpation according to the Ortiz scale, and by perineometry. Women were allocated into two groups according to muscle strength.

**MAIN OUTCOME MEASURES:** Index of sexual function and pelvic floor muscle strength

**RESULTS:** Women with stronger pelvic floor muscles scored higher in the following domains: desire, excitement, orgasm and general score of the questionnaire (4.9 ± 0.73 vs. 3.8 ± 0.58; 5.0 ± 0.35 vs. 4.3 ± 0.82; 5.8 ± 0.21 vs. 4.0 ± 1.00 and 32.4 ± 0.77 vs. 27.6 ± 3.29, $p < 0.001$). There was a moderate correlation between pelvic floor muscle pressure and both sexual satisfaction ($r = 0.47$, $p = 0.03$) and lubrication ($r = -0.69$, $p = 0.001$) as well as the manual evaluation of pelvic floor muscle strength, graded by the Ortiz and perineometry, which were interrelated ($r = 0.65$, $p = 0.001$).

**CONCLUSION:** Our findings suggest that women with stronger pelvic floor muscles have better sexual function.

# Orgasm: Nervous System

- Serotonin:
  - important for orgasm in women
  - Common side effect of SSRIs is delayed orgasm, inability to reach orgasm
- Dopamine:
  - medications that increase D, may increase or decrease latency to orgasm
  - medications that decrease D, increase latency to orgasm, and/or inhibit orgasm in women
  - dosage and duration of use dependent

# Orgasm: Nervous System

- Epinephrine:
  - levels peak at orgasm, diminish to baseline levels within minutes of orgasm
- Norepinephrine:
  - levels peak at orgasm, slowly decline after orgasm
  - levels remain elevated up to 23 hours after intercourse

# Orgasm: Endocrine Function

- Oxytocin:
  - levels increase during orgasm in both men and women
  - related to myotonia, rhythmic orgasmic contractions

Neuromodulation. 2006 Jan;9(1):34-40. doi: 10.1111/j.1525-1403.2006.00040.x.

# Neurally augmented sexual function in human females: a preliminary investigation.

Meloy TS[1], Southern JP.

Author information

## Abstract

Objective. Neurally augmented sexual function (NASF) is the production of pleasurable genital stimulation and subsequent orgasm through the application of electrical energy to provide stimulation of the spinal cord or peripheral nerves. The purpose of this paper is to demonstrate the reproducibility of this phenomenon. Materials and Methods. Eleven otherwise healthy women, ages 32-60 years, were selected for this study. Through standard techniques, quadripolar (octopolar in the final patient) leads were placed in the epidural space percutaneuously. The lead was maneuvered initially to an L1-L2 position and then repositioned based on feedback from the patient. The patients were allowed to utilize the device ad libitum for up to 9 days. Results. Successful stimulation was achieved in 91% (10/11) of patients. These women described a greater frequency in sexual activity, increased lubrication, and overall satisfaction. A smaller subset had substantial improvement in sexual function as measured by orgasmic capacity. This subset consisted of women with secondary anorgasmia. A return of orgasmic capacity was found in 80% (4/5) of patients having secondary anorgasmia with an average intensity of ≥ 3/5 while using the device. Once the device was removed, the patients returned to their previous anorgasmic status. Conclusions. Pleasurable genital stimulation of the spinal cord is a consistently reproducible phenomenon. In a subset of the population studied, improvement in orgasmic function was noted. This was noted in the group with secondary orgasmic dysfunction.

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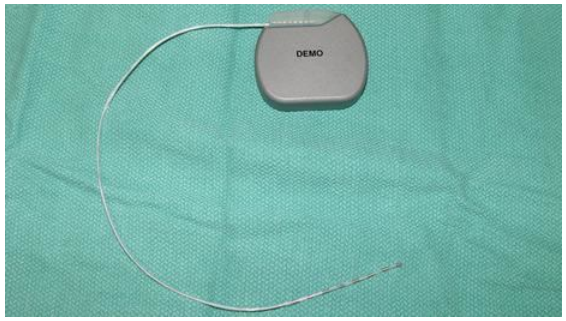


Stuart Meloy (neurosurgeon): "I was placing the electrodes and suddenly the woman started exclaiming emphatically," he said. "I asked her what was up and she said, 'You're going to have to teach my husband to do that'."

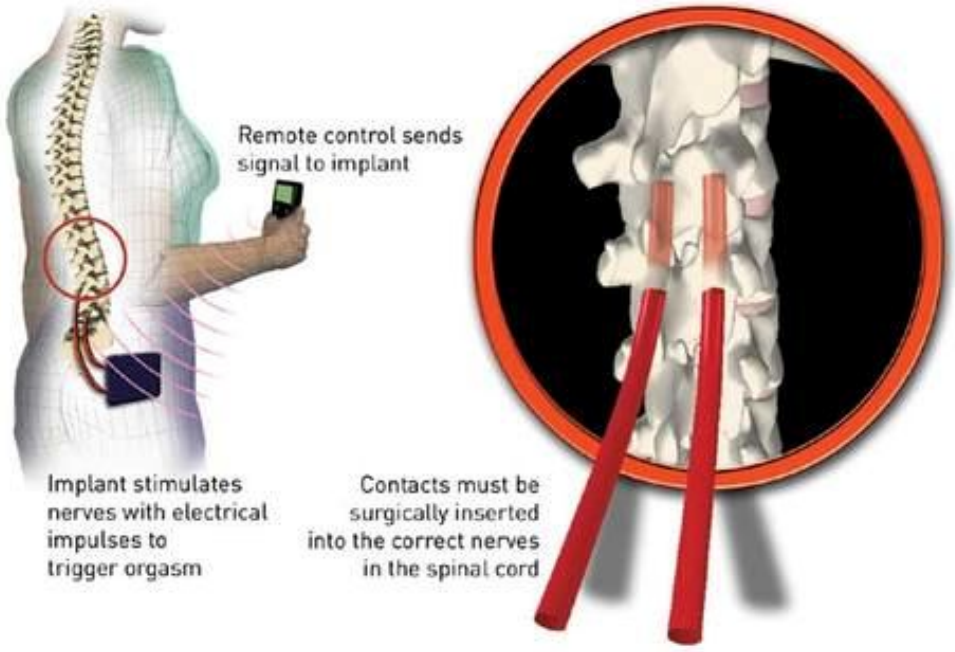

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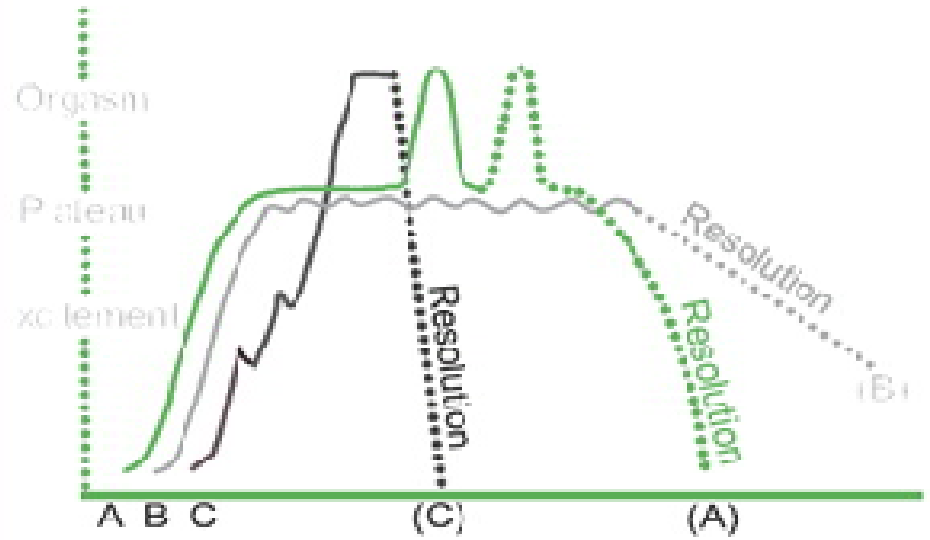
**FIGURE 1.** Female Sexual Response Model Developed by Masters and Johnson[1]




This model reflects the different responses different women may have or an individual woman may have on different occasions. For instance, Woman A has a smooth transition from excitement to plateau to orgasm to resolution and has multiple orgasms on this occasion. Woman B (or Woman A on a different occasion) has a smooth transition up to plateau but doesn't experience an orgasm. This is not a problem if it is an occasional occurrence (e.g., it is Woman A, who sometimes experiences orgasm) but would be diagnosed as a sexual disorder if this occurs every time Woman B has a sexual experience. Woman C has a different pattern of transition from excitement through orgasm and resolution than either A or B—again possibly reflecting the same woman on another occasion or three different women.

# Stages

- The female orgasm occurs in three stages, beginning with a “sensation of suspension or stoppage,” which is associated with strong genital sensations.
- The second stage involves a feeling of warmth spreading throughout the pelvic area.
- The third stage is characterized by sensations of throbbing or pulsating, which are tied to rhythmic contractions of the vagina, the uterus, and the rectal sphincter muscle.

# Experience

- The experience of *orgasm* is usually distinct from the gradual buildup of sexual excitement that precedes it.
- This sudden release of tension is almost always experienced as being intensely pleasurable, but the specific nature of the experience varies from one person to the next.

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# FEMALE ORGASM

## DOES RELATIONSHIP TYPE MATTER?

Percent of women having orgasms during their most recent sexual encounter, by type of partner

| | |
|---|---|
| **Relationship:** been together for 6 months or more | 67% |
| **Hook-up:** 4 or more times with this partner | 34% |
| **Hook-up:** 2nd or 3rd time with this partner | 16% |
| **Hook-up:** first time with this partner | 11% |

ScienceOfRelationships.com

DATA FROM: Armstrong, E. A., England, P., & Fogarty, A. C. K. (in press, 2012). Accounting for women's orgasm and sexual enjoyment in college hookups and relationships. *American Sociological Review*. **READ MORE HERE:** http://bit.ly/RMeD7S

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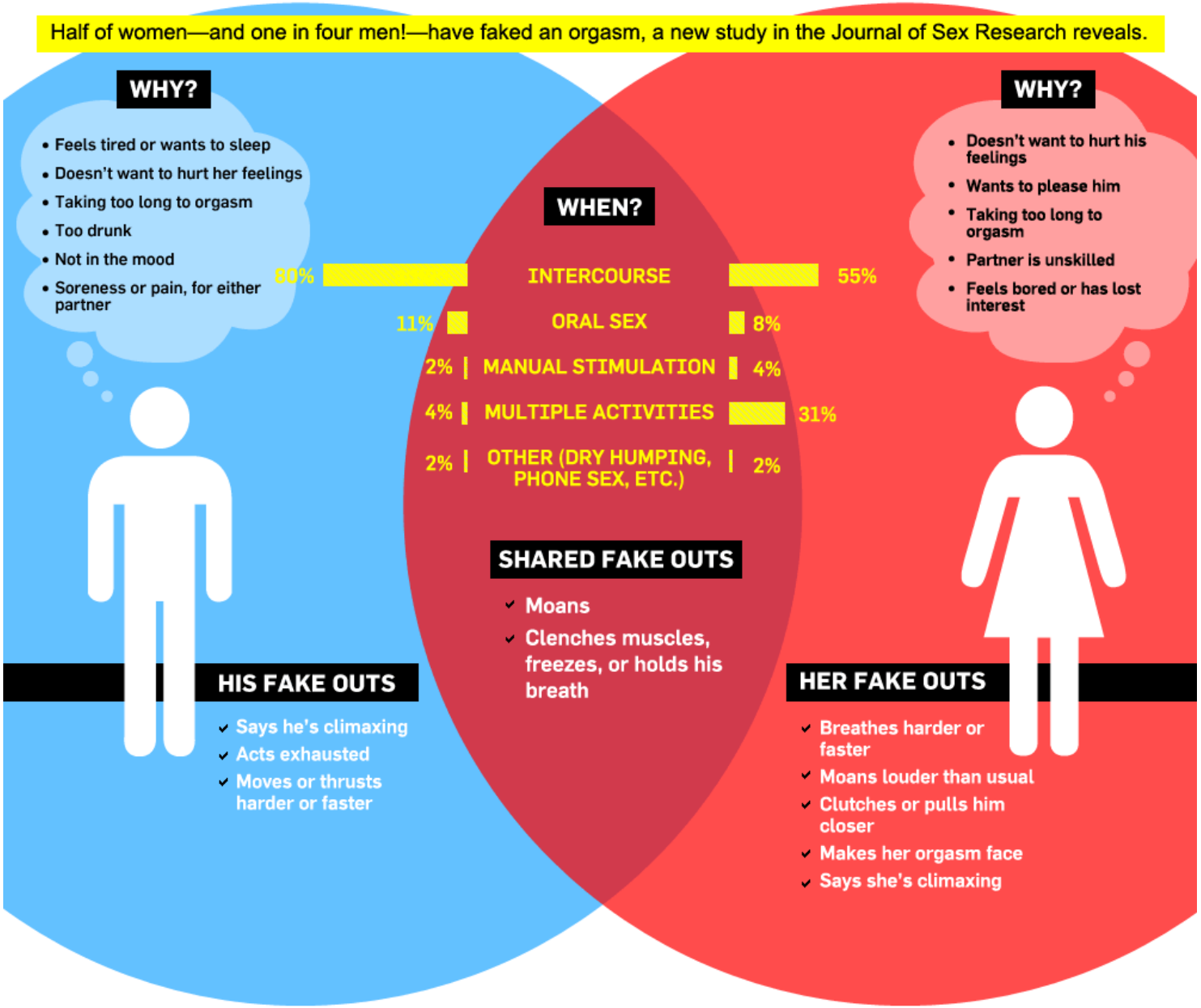

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