

# A Neurocognitive Model for Psychogenic Erectile Dysfunction

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Romulo Aponte, M.D.  
International Association for Cognitive Psychotherapy  
Unit for Cognitive and Sex Therapy  
Caracas, Venezuela  
ucosex@cantv.net

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# A Neurocognitive Model

## Introduction

- Sexual Tipping Point Model:
  - ✓ Mental
  - ✓ PhysicalAssociated to Sexual Function and Dysfunctions
- Cognitive factors have been identified in patients suffering Erectile Dysfunction.

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## Objective

- To evaluate the impact of Cognitive Factors on the Molecular Substratum of Erectile Dysfunction.

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## Methods

- Cognitive rehearsal was applied to 50 patients to identify sexual cognitions.
- SHIM was applied to evaluate sexual self confidence.
- Urological and hormonal screening.
- Review of Literature:
  - ✓ Sexual cognitions
  - ✓ Central and peripheral neural pathways.
  - ✓ Neurotransmitters.

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## Results

- ❖ At the cognitive rehearsal all 50 patients (100%) had erectile failure anticipatory thoughts.
- ❖ At SHIM, sample evidence showed 38 (76%) very low or low and, 12(22%) moderate self confidence to obtain and maintain erection.
- ❖ None of them showed high self confidence.
- ❖ Urological and hormonal screening was normal.

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## Results

- ❖ Sexual negative cognitions... Prefrontal Cortex... via corticalstriatum thalamic... Amygdala

Locus coeruleus..... NE

- ❖ Dendrites connect to the Sympathetic Chain.
- ❖ Dendrites project to the Spinal Cord modulating the peripheral response and affecting Autonomic Activity.

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## Results

### The Sympathetic System:

- ❖ Is mediated by NE.
- ❖ Projects to  $\alpha$  1 Adrenoreceptors at Cavernous Vascular Smooth Muscle.
- ❖ Increases intracellular Calcium concentration, leading to Constriction of the Penile Vascular System and Blocking the Erectile Response.

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## Discussion

- Negative Sexual Cognitions and Low Sexual Self Confidence are associated to Central and Peripheral Neural Pathways Activation and Norepinephrine Liberation at the Cavernous Nerve of the Penis, blocking the Erectile Response.
- Functional MRI is needed to confirm this hypothesis.



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## Conclusion

Anticipatory negative thoughts of failure to obtain or maintain penile erection and low sexual self-confidence almost surely activates central and peripheral neural pathways involved in Psychogenic Erectile Dysfunction.

# Unidad de Estudios y Terapia Cognitiva y Sexual

[ucosex@cantv.net](mailto:ucosex@cantv.net)

