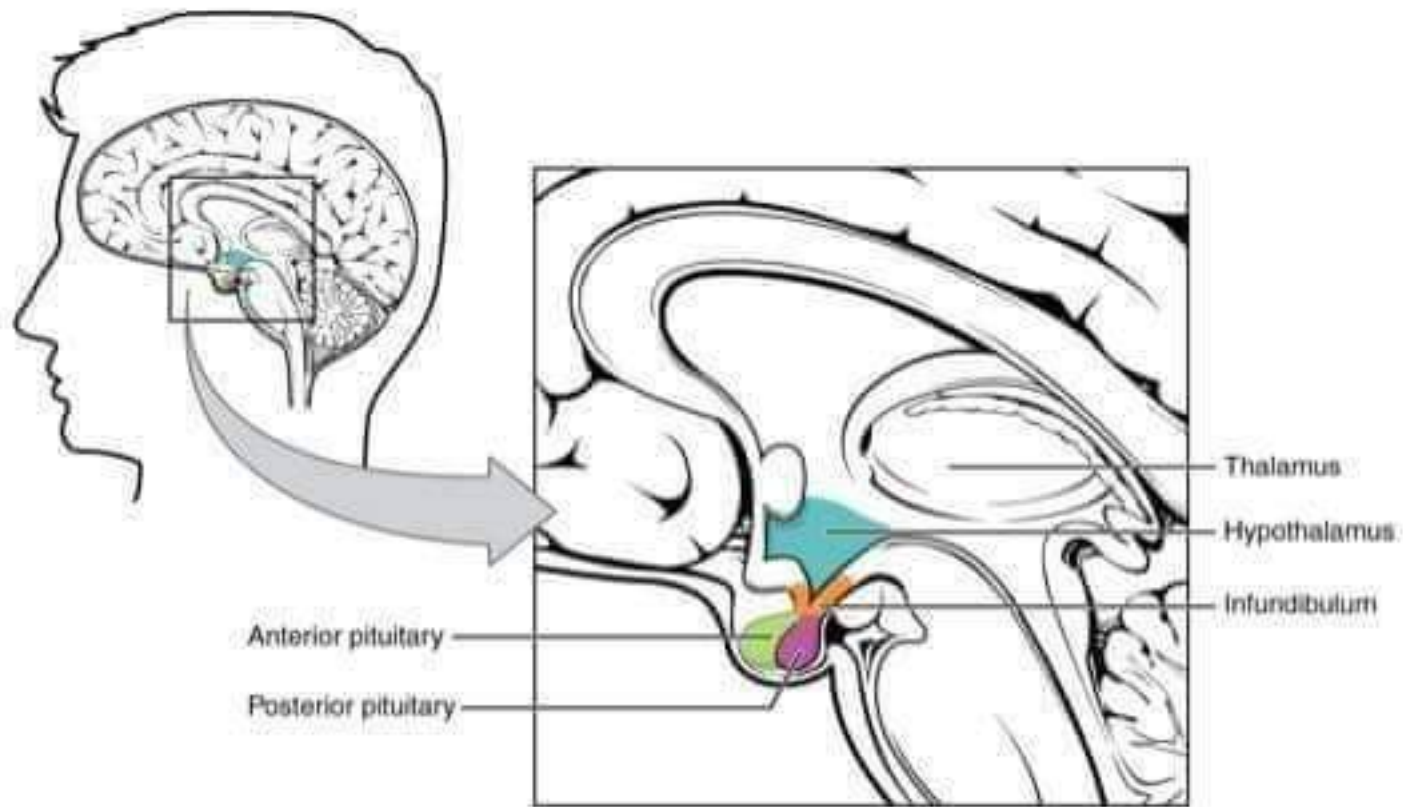


# Where oxytocin is produced in the brain

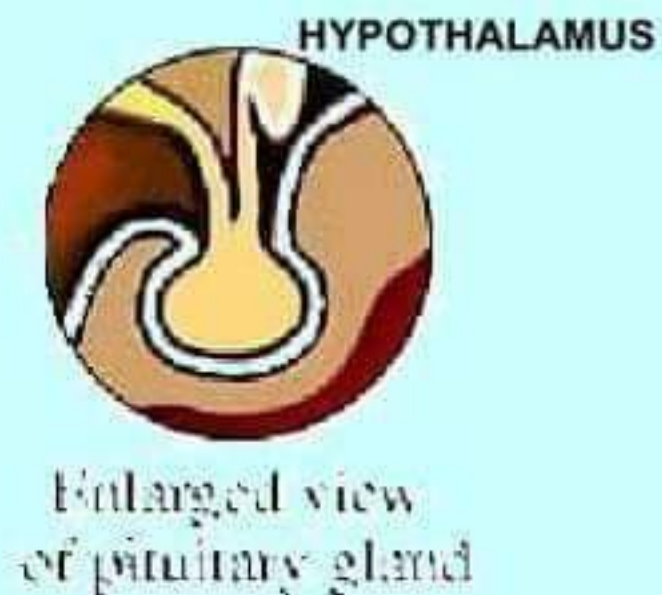
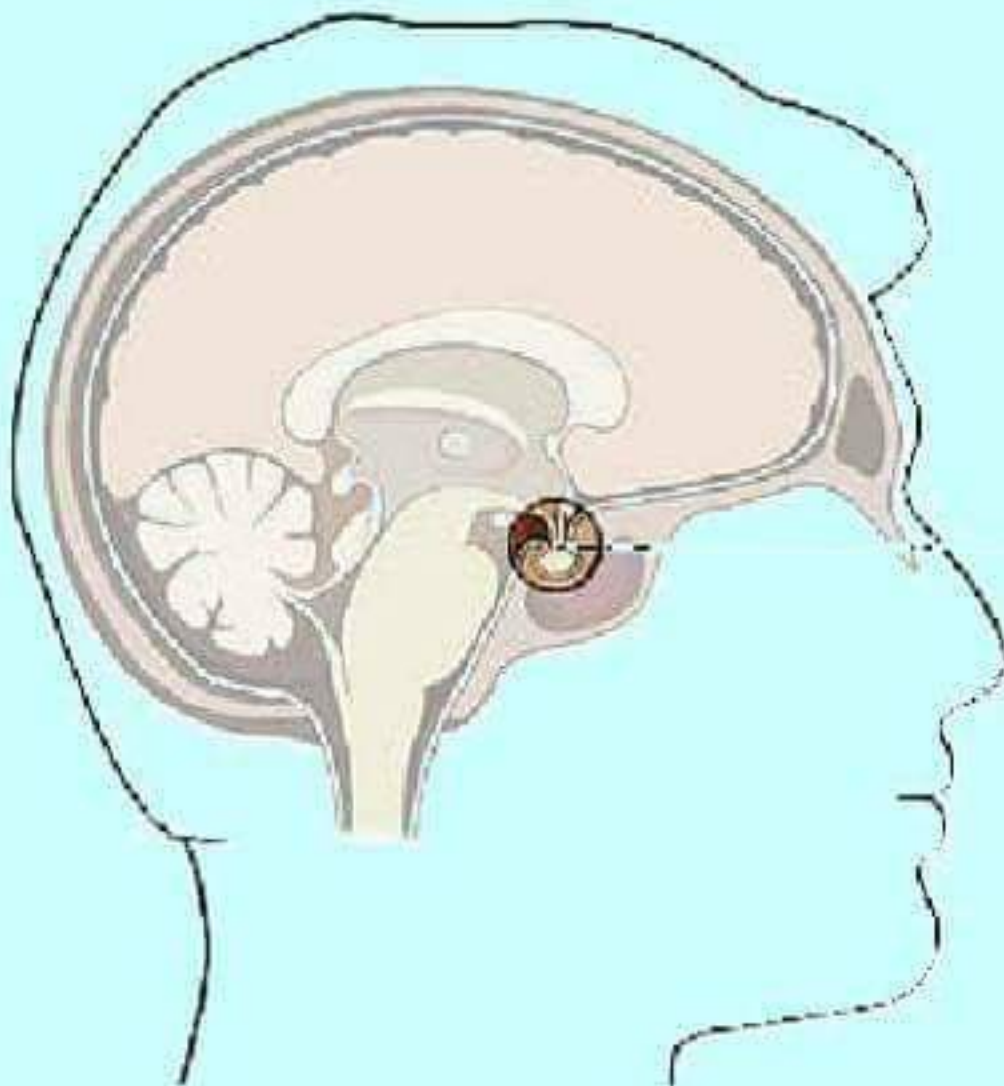


# THE BASICS of OXYTOCIN

## WHAT is it ?...and WHERE is it ?

**OXYTOCIN** is a (9)-PEPTIDE HORMONE that is made by cells in the **HYPOTHALAMUS**

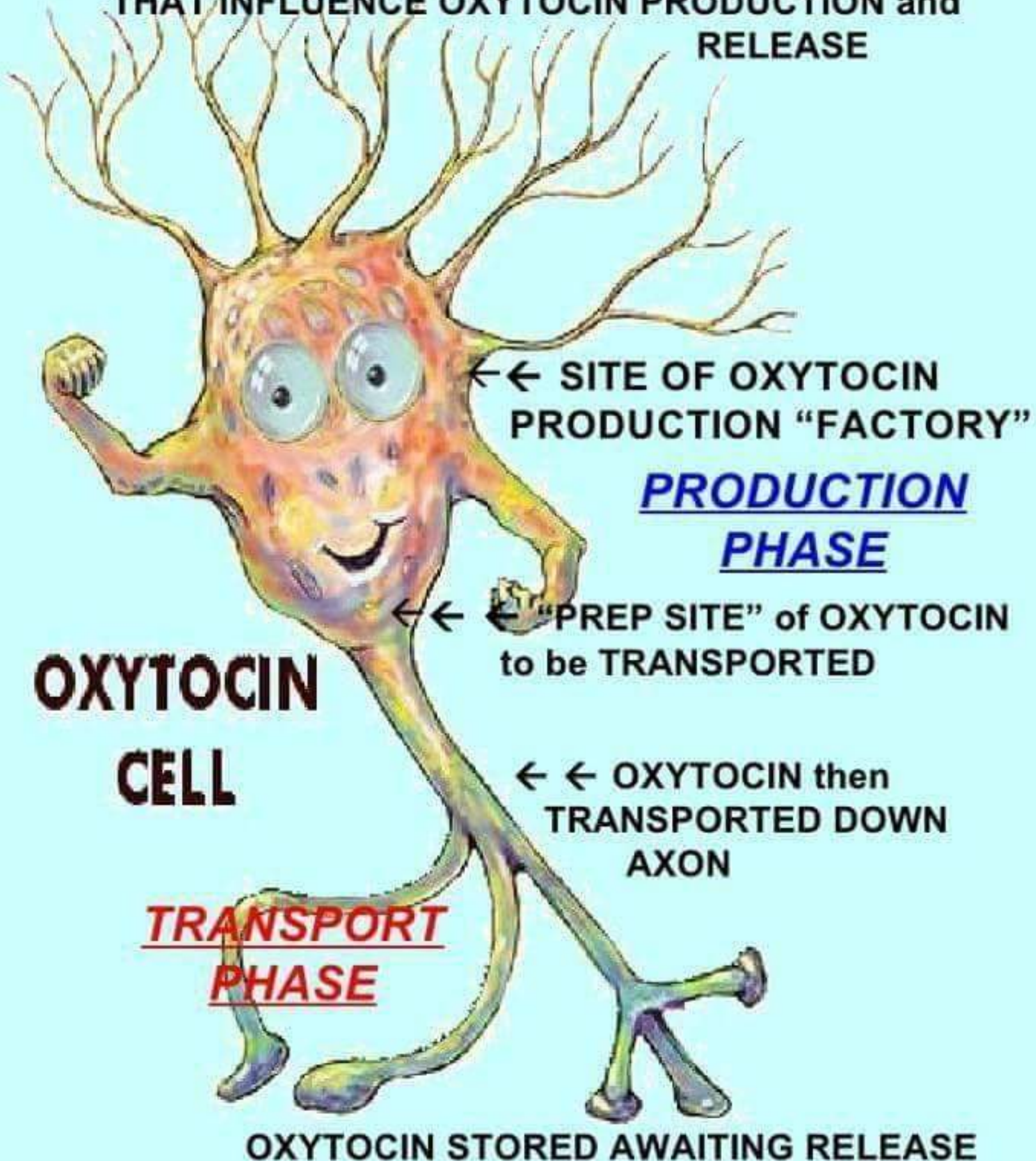
The majority of **OXYTOCIN** is released in the **POSTERIOR PITUITARY GLAND**



Once **OXYTOCIN** has entered **THE BLOOD STREAM**, the **LARGE SIZE** of the **MOLECULE** prevents it from passing through "**THE BLOOD: BRAIN BARRIER**"...and consequently, **CIRCULATING LEVELS** of **OXYTOCIN** cannot influence **BRAIN ACTIVITY**. This factor was the major reason that experts failed to recognize the **PSYCHOLOGICAL IMPORTANCE** of **OXYTOCIN** for many decades.

# SUMMARY of FUNCTIONAL MECHANISMS of the OXYTOCIN CELL

RECEPTORS on OXYTOCIN CELL for CHEMICALS  
THAT INFLUENCE OXYTOCIN PRODUCTION and  
RELEASE



# WHAT DOES **OXYTOCIN** DO IN HUMANS?

- Initiates the **CONTRACTIONS** of the uterus involved with **LABOR** and **CHILD-BIRTH**
- Initiates the **RELEASE** of **MILK** during **BREAST-FEEDING**
- Involved with **INTESTINAL CONTRACTIONS** of **PERISTALSIS** and **DIGESTION**

## IS **OXYTOCIN** RELEASED DURING ANY OTHER HUMAN ACTIVITIES?

- **POSITIVE** SOCIAL INTERACTIONS
- **COMFORTING** PHYSICAL CONTACT
  - **MASSAGE**
  - **HUGS** (scientifically known as “**WARM BODY CONTACT**”)
- **HUMAN ENCOUNTERS INVOLVING “TRUST”**
- **SEXUAL FOREPLAY, SEXUAL INTERCOURSE,**

and **ORGASM**

**OXYTOCIN'S** role in the **PSYCHO-DYNAMICS** of **HUMAN BEHAVIOR** was first discovered in the late 1980s...and most of this understanding was inspired by the study of some unusual animal species that display the natural activity of **MONOGAMOUS MATING BEHAVIORS**

# OXYTOCIN : SEXUAL BEHAVIOR and ABSTINENCE

4. OXYTOCIN also REDUCES the effect of **CHEMICAL DEPENDANCE** within THE OPIATE SYSTEM
5. OXYTOCIN also ATTENUATES the SYMPTOMS of **WITHDRAWAL SYNDROME** within THE OPIATE SYSTEM

AND SO...THE RELEASE of this LARGE AMOUNT of OXYTOCIN during sexual activity MAY HELP to **PREVENT** THE DEVELOPMENT of **ADDICTIVE RESPONSES** to THE MULTIPLE "ADDICTIVE" CHEMICALS INVOLVED in HUMAN SEXUAL ACTIVITY

OXYTOCIN MAY TURN SEXUAL ACTIVITY into ONE of the MOST INFLUENTIAL BEHAVIORS in the Creation of "BONDING" in Human Relationships because:

## HUMAN SEXUAL ACTIVITY "IDEALLY" INVOLVES:

- "Warm Body Contact" (aka "hugs") → ↑↑ OXYTOCIN
- Positive Social Interactions → ↑↑ OXYTOCIN
- An Opportunity for "Trust" and "Trust-worthiness" to occur → ↑↑ OXYTOCIN

### AND...

- Skin-to-Skin Contact → **ALLOWS** OXYTOCIN to work
- A Chemical "**Triple Drug High**" → Cocaine; Heroin and Marijuana

That doesn't develop into ADDICTION because  
THE OXYTOCIN → PREVENTS Tolerance and Dependence

As you get "High"...  
You just keep BONDING  
and BONDING and  
BONDING...



# Oxytocin-the “Love Hormone”

1. Increases generosity, empathy & trust
2. Reduces fear, stress, depression,  
& physical pain
3. Lowers blood pressure
4. Improves sleep
5. Helps us bond with others
6. May even decrease our tolerance  
for addictive drugs

Did you know that  
a twenty-second  
hug releases  
the bonding  
hormone and  
neurotransmitter  
oxytocin, *which*  
*is nature's*  
*antidepressant*  
*and anti-anxiety*

# Oxytocin

This 'Love Hormone' is released during:

- ✓ Hugging
- ✓ Touching
- ✓ Sex
- ✓ Orgasm





# Oxytocin

Oxytocin is secreted from the pituitary gland.

It cannot re-enter the brain because it cannot pass through the blood-brain barrier.

# Oxytocin:

- Is produced as a result of touch
- Causes feelings of intimacy and closeness
- Triggers increased orgasm
- Shortens time for orgasm and makes it easier to climax
- Increases in vaginal secretions
- Protects against stress by stimulating feelings of peacefulness

## 5 Strange Facts About Oxytocin

#1 – Helps mothers 'let down' milk  
which evokes maternal bonding.

## 5 Strange Facts About Oxytocin

#2 – Has been an effective treatment for autism.

## 5 Strange Facts About Oxytocin

#3 – Helps relax blood vessels and lowers blood pressure.

## 5 Strange Facts About Oxytocin

#4 – Aids in social anxiety and sociability.

## 5 Strange Facts About Oxytocin

#5 – Oxytocin is Greek for “quick birth”

# WHAT EFFECTS DOES **OXYTOCIN** HAVE

## In the **PSYCHO-DYNAMIC SETTING** of **HUMAN BEHAVIOR** ?

--- **REDUCES FEAR and ANXIETY RESPONSES** that occur during **SOCIAL INTERACTIONS**

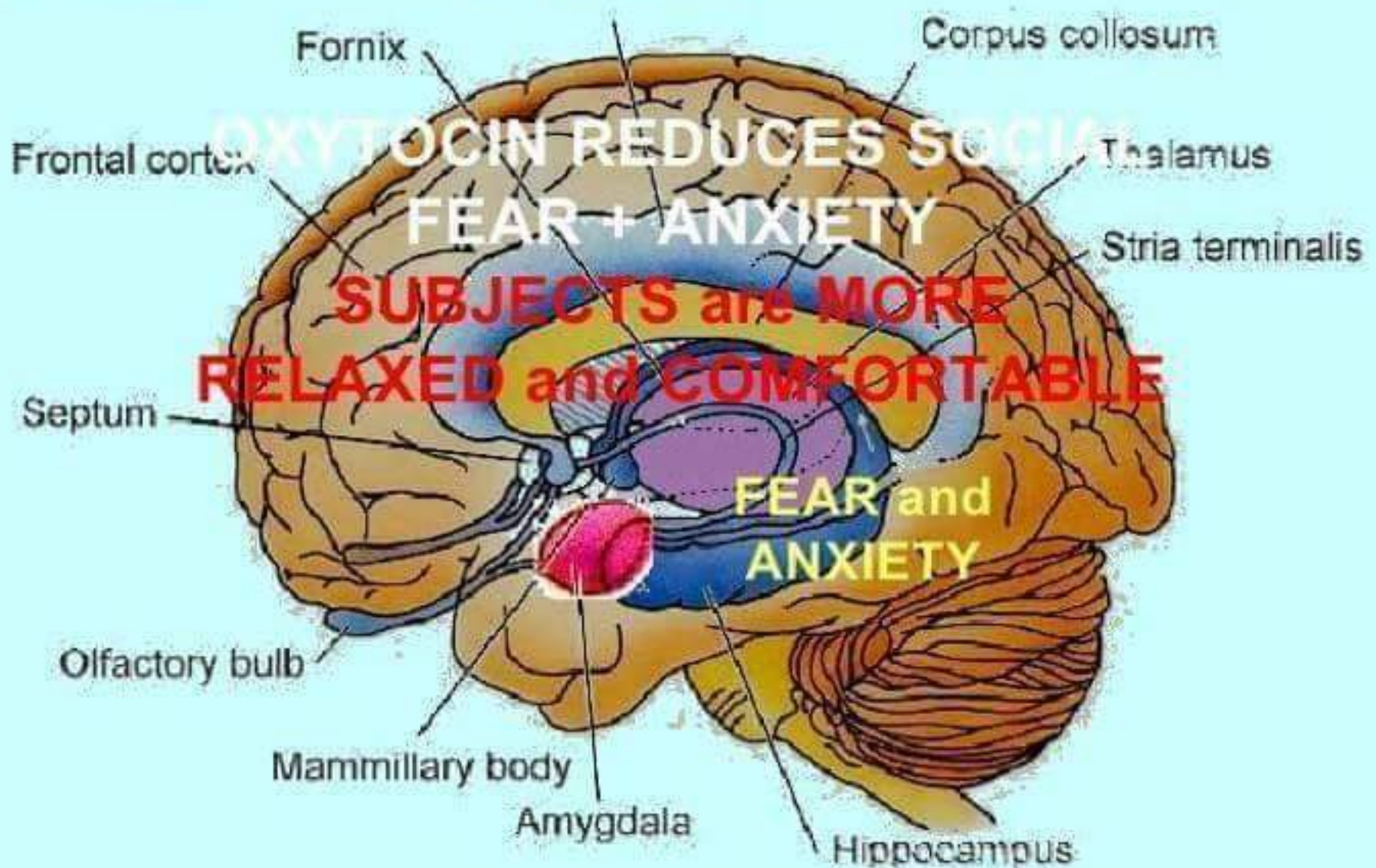
### 1. **HUMAN BRAIN f-MRI STUDY** (Germany):

**TESTS** that replicate settings of **SOCIAL ANXIETY** and **FEAR...ACTIVATE** the **AMYGDALA**

**AMYGDALA = "FEAR CENTER"**

Limbic System

Cingulate cortex



**STUDY REVEALED** → Use of **OXYTOCIN** **SIGNIFICANTLY REDUCED** the activation of the **AMYGDALA**

...compared to placebo.

**SUBJECTS REPORTED MUCH LESS ANXIETY + FEAR**



