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# The effects of oxytocin in autism



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## Objective

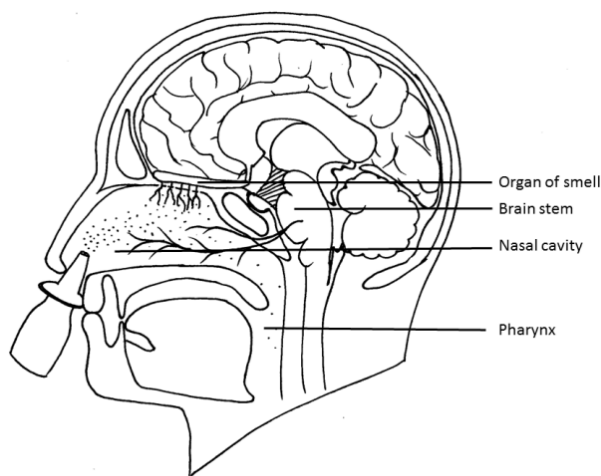
A randomized controlled cross-over trial with oxytocin nasal spray (one dose of 24 EU) was conducted to investigate effects of oxytocin in young adult males with autism.

Autism Spectrum Disorder is ...

- A lifelong developmental disorder
- Characterized by deficits in social interaction and communication, and restricted interests and behavior patterns
- Associated with altered social cognition and emotion processing

Oxytocin is ...

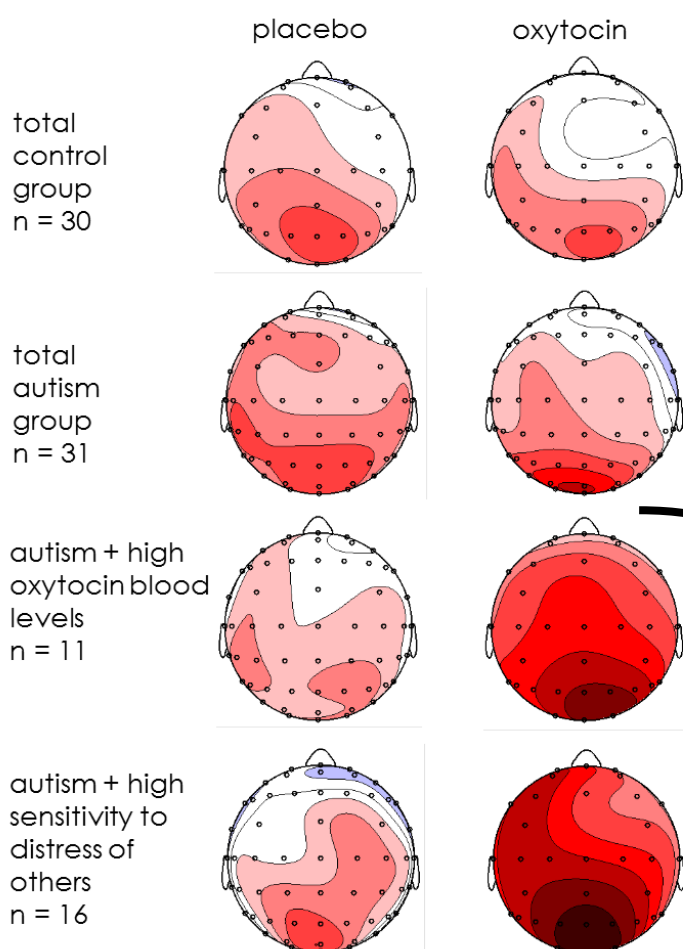
- Produced in the hypothalamus
- A hormone influencing a.o. digestion and sex organs
- A neurotransmitter influencing social cognition and emotion processing
- Involved in calm, healing and love



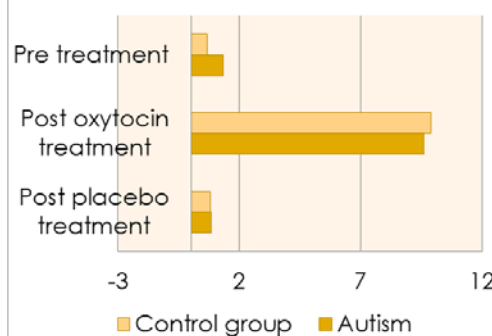
## Picture viewing task



## Brain responses (EEG) to emotions in humans



Oxytocin blood levels (pmol/l)



Sensitivity to distress of others, example items from the IRI:  
*"I sometimes feel helpless when I am in the middle of a very emotional situation"*  
*"When I see someone who badly needs help in an emergency, I go to pieces"*

Oxytocin enhances brain responses to positive emotions in humans in males with autism having:

- ✓ high sensitivity to distress of others
- ✓ high pre treatment oxytocin blood levels

**Oxytocin nasal spray improves affective empathy in a select group of males with autism**