



**Oxytocin and Touch**  
**Keynote Speaker Kirsten Uvnäs Moberg**  
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Notes by Claire Palo

Kirsten Uvnäs Moberg is a doctor and professor of physiology with a research focus on the healing aspects of oxytocin. Moberg has found among other results, that oxytocin reduces pain, anxiety, decreases blood pressure and reduces the levels of stress hormones in both sexes.

Oxytocin is a small molecule made up of 9 aminoacids but very well preserved. There is no chemical difference between animals and humans – this is in contrast to other molecules (such as adrenaline). Oxytocin was discovered in the 1900s and its structure in the 1950s. It was originally linked to breastfeeding and used in birth and lactation interventions. Research for many years did not go beyond this, and the hormone was very much forgotten. This has now changed and oxytocin is again researched and ‘trendy’ with much more known about the wide-ranging effects of the hormone.

Oxytocin is produced in the hypothalamus and is linked to nerves and the nervous system. It is released through touch, skin to skin contact, and the following outline the phenomena, effects and benefits of oxytocin, which can be stimulated through touch.

Oxytocin travels to many parts of the brain that regulate:

- Social behavior
- Fear
- Pain
- Blood pressure

Effects of Oxytocin:

- Fight or Flight response can result in loss of sense of touch, empathy, increase in glucose
  - Oxytocin helps to actively subvert this response (eg. Maternal skin is very sensitive to touch)
- Reduce blood pressure
- Lower heart rate
- Decrease anxiety
- Increase social behavior – dare to approach others



Oxytocin given multiple times has the ability to influence the nervous system so that they changes long after initial administration of oxytocin is gone. Long-term effects of oxytocin include:

- Anxiolytic-like effect
- Increased pain threshold
- Decreased inflammation
- Lowered blood pressure
- Lowered cortisol levels
- Increased vagal nerve tone (GI hormones)
- Facilitated learning (conditioned avoidance)
- Increased weight gain (females)
- Increased rate of wound healing

Oxytocin activates pathways in the brain but activates to reduced i.e. anti-stress. Maternal behavior is affected by oxytocin in the following ways:

- Giving of milk and warmth
- Caring and interaction
- Bonding
- Protection and defense
- The aggressive behavior is triggered when the environment is perceived as dangerous or unfamiliar

### **Bonding**

Bonding is defined as a tie between individuals that is positive and specific. For example, when the duckling is following the mum, stress level goes down. If a single female vole is given oxytocin, she will choose (in bonding fashion) the vole that is in front of her when the oxytocin is given. Oxytocin has the following linked effects involved in bonding:

- Increases the strength of visual, auditory, tactile and olfactory stimuli
- Potentiates memory formation of these sensory cues and recognition of them
- Stimulates the release of substances that cause wellbeing such as dopamine, endorphins and serotonin
- Decreases stress level (HPA axis and sympathetic nervous system)
- Links the cues and memories to the endocrine effects

Bonding is a very physiological act and is why separations are difficult. However, bonding is not only a phenomenon between 2 individuals, it can also occur among groups.



Oxytocin spray has been studied and used on humans and have the following effects:

- Increase social interaction and ability to interpret social cues
- Decrease anxiety, cortisol levels, depression, sensitivity to pain, weight and intake of alcohol
- Increase wellbeing, trust ability to become hypnotized
- Better self image

The effects of the spray does not see the immediate decrease in blood pressure and pain that are seen in oxytocin release through touch.

Areas of oxytocin research now include its effects of persons with autism, PTSD and serotonin deficiencies. Oxytocin has also been used in cancer research; oxytocin inhibits cancer growth at beginning stages when small changes of the cells are happening. This has been linked to breast cancer, colon, ovarian and endometrial cancer cells. At the cellular level, oxytocin is both restorative and growth promoting for healthy cellular development.

Other trials include those addressing anxiety, social phobia, schizophrenia, substance abuse, adjunct to psychotherapy, treatment for vaginal atrophy and menopausal disorders.

### **Serotonin and Oxytocin**

When oxytocin levels area high, negative experiences and memories are neutralized. This is true during birth, with use of the spray, and potential from touch, such as through touch therapies like Rosen Method.

There are many reasons for lowered levels of Oxytocin including reduced production due to genetic or epigenetic reasons, neglect or insufficient stimulation; trauma; age (low estrogen levels). Insensitive oxytocin receptors can also cause low function in the oxytocin system due to genetics makeup and low estrogen levels.

### **Stimulating the Senses**

Noxious stimulation (pain) produces increased cortisol levels and sympathetic nervous activity, decreased parasympathetic nervous activity and decreased oxytocin levels.

Pleasant or non-noxious sensory stimulation coincides with decreased cortisol levels, decreased nervous activity and increased parasympathetic nervous activity and oxytocin levels.