

**Brain BYTE**



**How long  
do your  
students  
sit in  
class?**



**After 20  
minutes  
there's a  
build-up  
of blood  
in the  
feet,  
lower legs  
&  
buttocks.**



**1 minute  
of standing  
& moving  
brings a  
15%  
increase of  
blood (and  
oxygen) to  
the brain.**

# Your brain Your body

## Neurons:

**85 billion**

85,000,000,000

**500 million**

500,000,000

## Neurotransmitters identified:

**> 100**

**> 40**

## Dopamine production:

**50%**

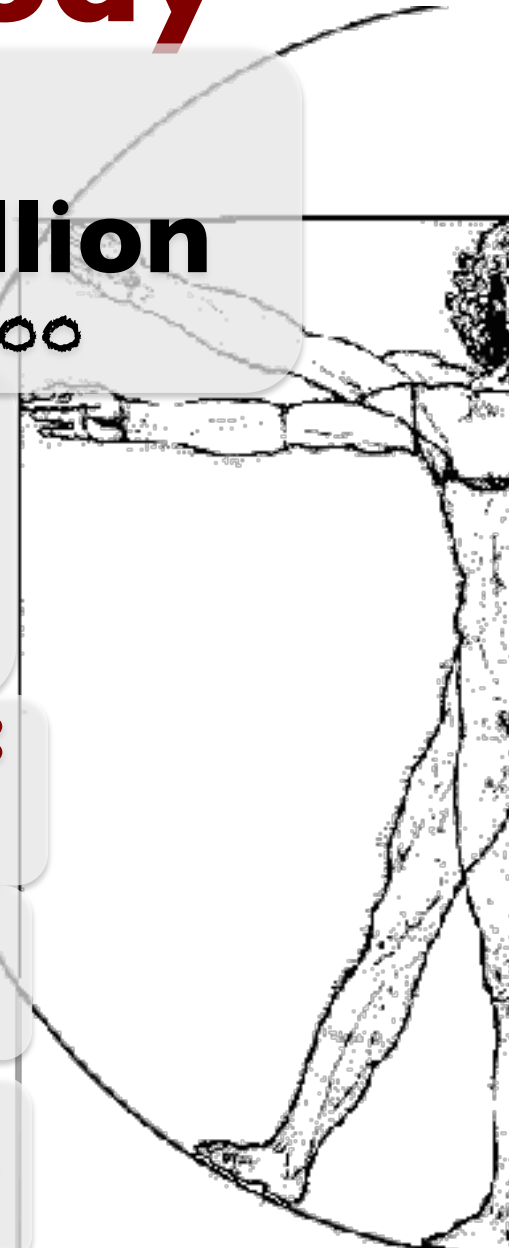
**50%**

## Serotonin production

**5%**

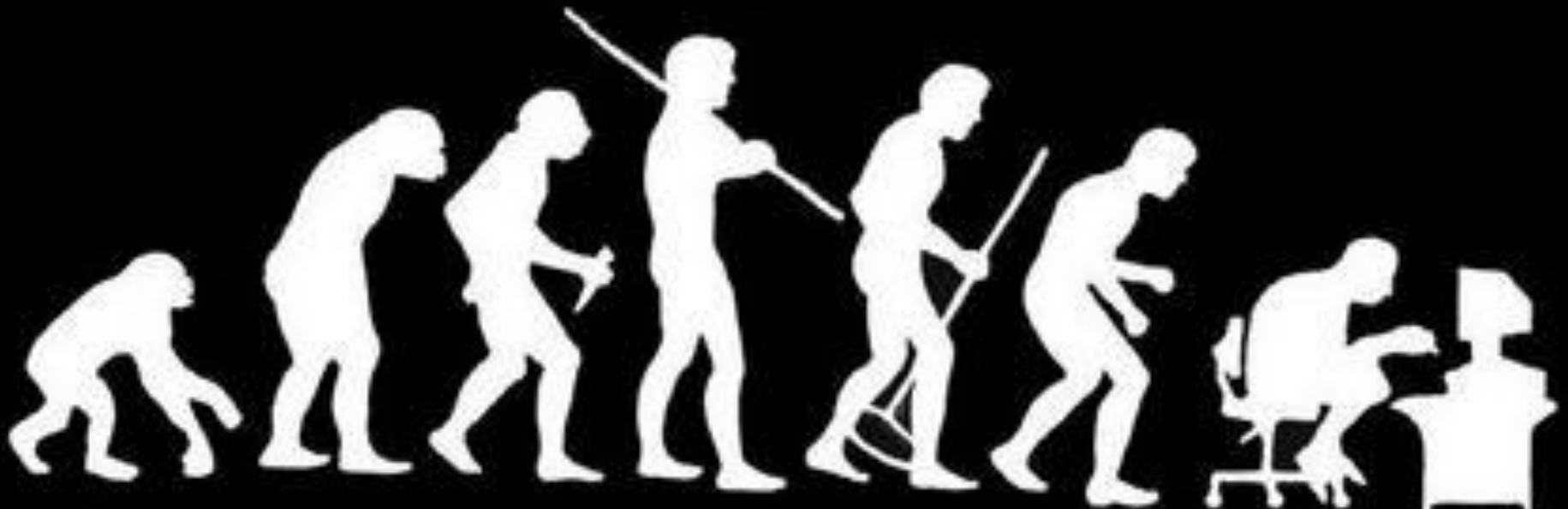
**95%**

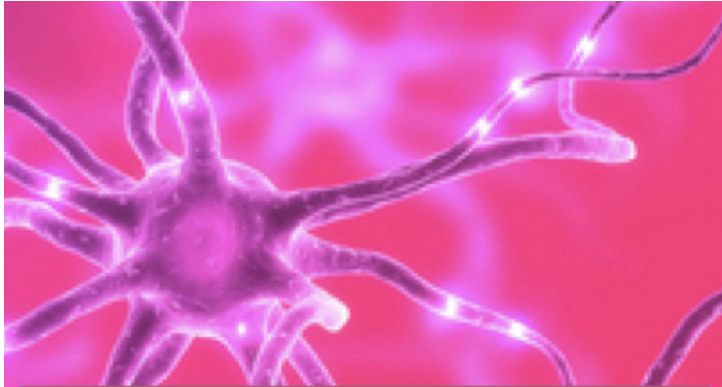
**Both affect blood flow**



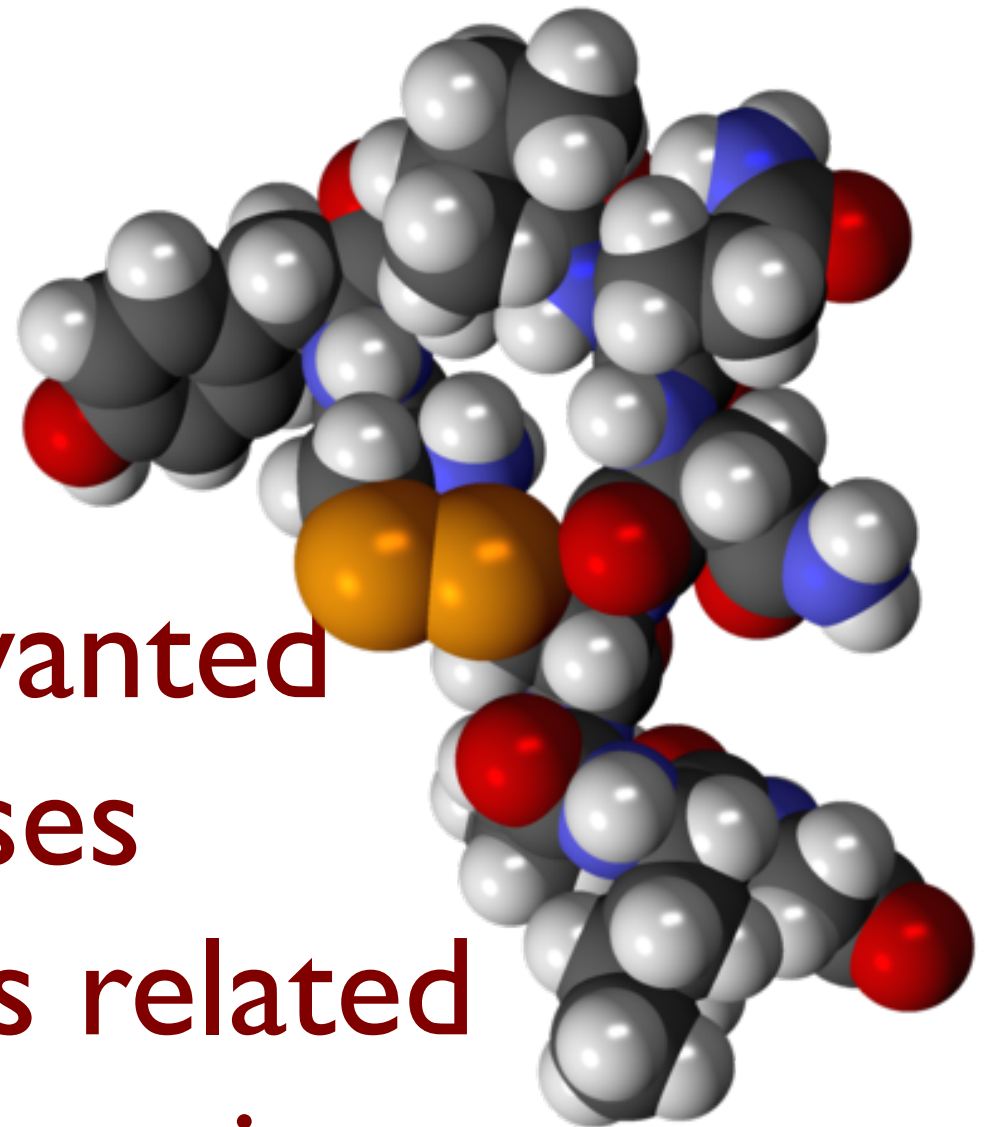
**Humans are meant to walk**

**10 - 20 km/day**

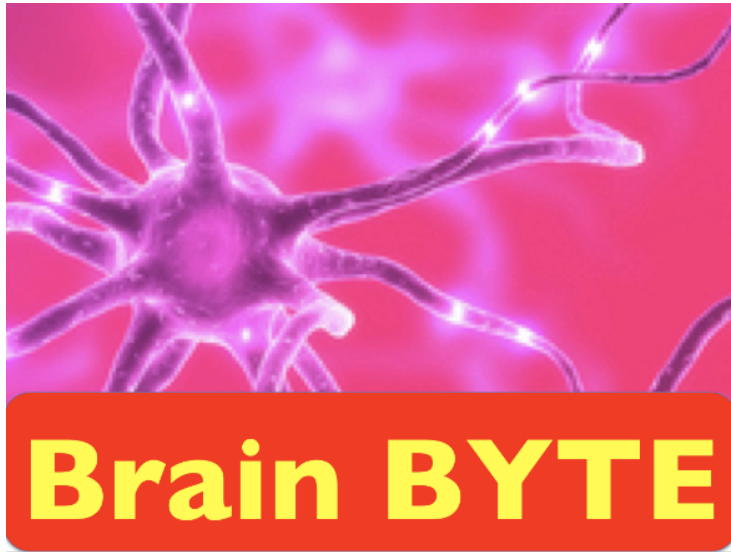




## Brain BYTE



Appropriate, wanted touching releases **oxytocin**. It is related to bonding, increasing trust and reducing fear.



When you get  
multi-sensory  
input, you  
**remember more.**





When you get  
multi-sensory

input,  
you are **50-75% more**  
**creative at problem**  
**solving**

# Interesting fact:



Relaxed people  
do up to 25%  
better on tests.





How long do your students sit in class?

### Your brain Your body

<b>Neurons:</b>	
<b>85 billion</b>	<b>500 million</b>
85,000,000,000	500,000,000
<b>Neurotransmitters identified:</b>	
<b>&gt; 100</b>	<b>&gt; 40</b>
<b>Dopamine production:</b>	
<b>50%</b>	<b>50%</b>
<b>Serotonin production:</b>	
<b>5%</b>	<b>95%</b>
<b>Both affect blood flow</b>	

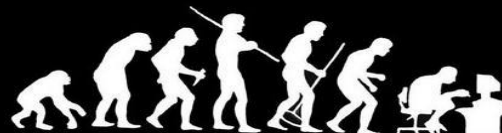


When you get multi-sensory input, you **remember more.**



After **20** minutes there's a build-up of blood in the feet, lower legs & buttocks.

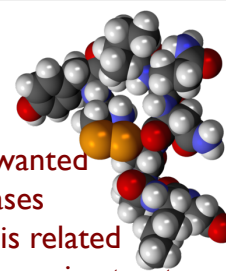
Humans are meant to walk **10 - 20 km/day**



When you get multi-sensory input, you are **50-75% more creative at problem solving**



**1** minute of standing & moving brings a **15%** increase of blood (and oxygen) to the brain.



Appropriate, wanted touching releases **oxytocin**. It is related to bonding, increasing trust and reducing fear.

### Interesting fact:



Relaxed people do up to **25%** better on tests.



**References** (in the Energy Break PowerPoints, these appear on the specific slides.

- Blood to the brain: blood brain: Sousa, D. (2011) *How the Brain Learns*, Thousand Oaks, CA: Corwin Press.
- Body/Brain: Breuning, L.G. (2015) *Habits of a Happy Brain: Retrain Your Brain to Boost Your Serotonin, Dopamine, Oxytocin, & Endorphin Levels* Avon, MA: Adams Media. Also NewScientist.com & neurosciencestuff.tumblr.com
- Walk 10-20 km day , multisensory input: Medina, J. (2014) *Brain Rules*. Seattle, WA: Pear Press
- Oxytocin: <http://psychcentral.com/lib/about-oxytocin/0001386>
- Relaxed people/tests: Jensen, E. *Brain-based learning*. (2008)Thousand Oaks, CA: Corwin