

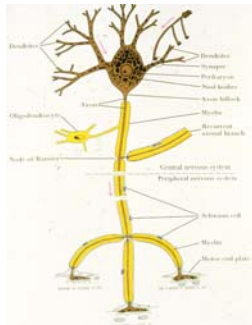
Sexuality and Brain Plasticity Post ABI

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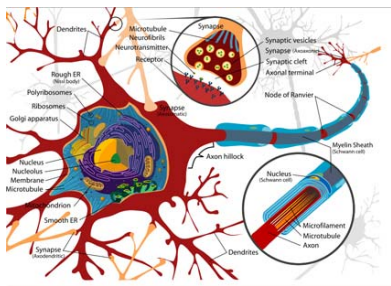


Neuroplasticity

- The ability of neurons & neuronal networks to react with adaptive changes to extrinsic and intrinsic input: developmental changes, new learning (cognitive, motor, emotional), bodily or brain injury.



Synaptic Plasticity

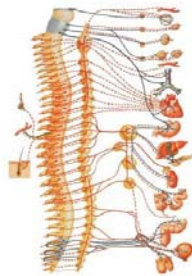


Brain/Behavior

- Action and interaction of neurons underlie all behavior.
- Deficient behavior is due to deficient action and interaction of neuronal systems underlying that behavior.
- Recovery of deficient function is a function of changes in underlying neuronal networks; regeneration of cells, new neuronal connections, other cells taking over function of damaged cells.
- In summary: Lasting change in behavior, cognition and emotion is due to a lasting change in brain organization.

Autonomic Nervous System(ANS)

- ANS is divided into PNS and SNS:
- **Arousal Males:**
- PNS---Erection
- SNS---Ejaculation & Flaccidity.
- Initial arousal: Anxiety up, lack/loss of erection.
- Later arousal: Anxiety up, ejaculation (PE).



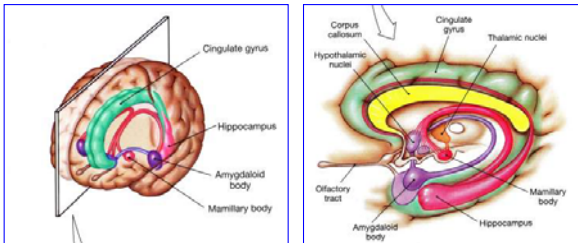
In Females

- Both SNS and PNS underlies initial arousal.
- **During sexual activity:**
- SNS up (anxiety): tension & vaginal dryness (reduced blood flow) & discomfort/pain.
- SNS/PNS in harmony: lubrication & vaginal expansion & pleasure.
- **Orgasm: SNS & PNS + supra-spinal modulation.**

Regulation of ANS

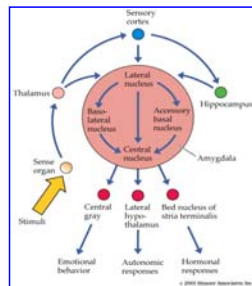
- **Breath: Deep relaxed abdominal breathing.**
- **Fully present to the intra/inter personal experience of Now (don't analyze & interpret.)**
- **Focus on sensory experience.**
- **Bodily/Cognitive awareness of present reality.**
- **Meditation.**
- **Yoga (balancing).**

The Limbic System

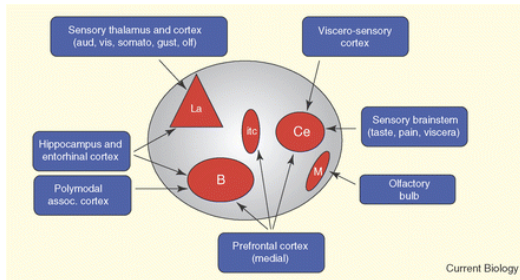


Amygdala

- Amygdala plays part in:
 - Anxiety (PTSD, panic)
 - Autism
 - Schizophrenia
 - Depression
 - Epilepsy
- Injury of Amygdala:
 - Hypersexuality
 - Orgasmic changes
 - Fearlessness
 - Aggression
 - Emotional/cognitive disturbance

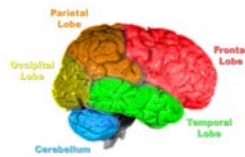


Input to Amygdala



Sex & Brain Injury I

- **FRONTAL CORTEX:**
- Anterior Dorsal: Sexual apathy, loss of initiative.
- Orbitofrontal: Hypersexuality & Personality changes.
- Posterior frontal lobe: Premotor/Motor area: Loss or impairment of movement & speech.



Sex & Brain Injury II

- Parietal lobe: Impaired discrimination of sensory stimuli.
- Temporal Lobe: Reduced responsiveness & motivation.
- Amygdala: Hypersexuality & disinhibition & aggression.
- Septum: Reduced sense of pleasure & orgasm.
- Hippocampus: seizure, hypersexuality.

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.

Clinical Work

- Therapist present in her own body.
- Therapist aware & not afraid of his own sexuality.
- Therapist invites client's sexuality into dialogue.
- Therapist holds safe space for client's sexuality.