

# Treating Obsessive-Compulsive Disorder (OCD)



With

**Wale Oladipo**

[www.mindbodybreakthrough.net](http://www.mindbodybreakthrough.net)

# Course Outline

- **Basic Understanding**
- **Regions of the Brain Implicated in OCD**
- **Recovery Tips (the O.C.D. Framework)**



# Session 1

# What is Obsessive-Compulsive Disorder (OCD)?

**Obsessive-compulsive disorder (OCD)** is a **brain-driven** condition characterised by obsessions and/or compulsions. Van den Heuvel, O.A., et al. (2008)

In OCD, the brain responds too much to errors, and too little to 'stop' signals. Norman, L.J., et al (2016)

**Obsessions** are recurring intrusive thoughts, urges or images that cause significant distress. Brock, H. & Hany, M.(2020).

**Compulsions** are repetitive behaviours or mental acts occurring in response to an obsession with the intention of reducing the distress caused by obsessions. Richter, P.M.A., & Ramos, R.T.(2018)

# Common OCD Symptoms

## Obsessions Symptoms:

- Obsessions with **aggressive or violent thoughts**; e.g., fear of having caused some terrible tragedy, such as, acting out a violent thought, started a fatal fire, stabbing, shooting, hit someone while driving, etc.
- Obsessions about **contamination and dirt**: e.g., irrational fear of contracting a dreadful illness, spreading germs, fear of bodily waste and secretion, sticky substances.
- Obsessions about **repetitive rituals**: e.g., repeating questions over and over, re-writing or rereading words or phrases.
- Obsessions about **order or symmetry**: e.g., excessive needs to perfectly align objects, abnormal concern about the neatness of the environment or one's appearance.
- Obsessions about **inappropriate and unacceptable sexual content**.
- **Religious** obsessions; e.g., blasphemous or sacrilegious thoughts, excessive fear about morality and right or wrong.
- Obsessions about **hoarding**; e.g., inability to discard anything, fear of losing something or discarding something by mistake, stashing away useless trash.

# Common OCD Symptoms

## Compulsion Symptoms:

- Checking** compulsion; e.g., driving around the neighbourhood to ensure you haven't run someone over, repeatedly checking to see if the door is locked, etc.
- Cleaning and washing** compulsion: e.g., excessive hand washing, tooth brushing, bathing, showering, excessive fear that items at home, such as dishes, are contaminated and require excessive washing.
- Other compulsions include; excessive list-making, counting, ordering, arranging, blinking or staring rituals, asking over and over for reassurance, excessive need to tap, touch, or rub certain objects repeatedly, superstitious rituals to 'ward off' evil. Brock, H. & Hany, M.(2020)

# Causes of OCD

**Obsessive-compulsive disorder is caused by a complex interplay between genetic and environmental factors.** Van den Heuvel, O.A., et al. (2008)

- **45 to 65% of the variance of OCD is attributable to genetic factors.**  
Krebs, G., & Heyman, I. (2015)
- **For example, mutations in the nMDA (N-Methyl-d-aspartic acid ) subunit “NR2” has been linked to fears of contamination and compulsive cleaning.**  
Brock, H. & Hany, M.(2020)
- **Briggs & Price (2009)’s theory of **Post-Traumatic OCD** suggests a link between early childhood trauma and OCD. OCD serves a protective function for those who have experienced childhood traumatic events. This theory suggests the use of operant conditioning (Skinner, B.F., 1938) in the reinforcement of ritualistic behaviours to reduce anxiety (Briggs & Price 2009).**
- **Gershuny et al. (2003) suggest that there is an overlap between the symptomatology of both OCD and PTSD. They argue that OCD symptoms are used to cope with, reduce, and avoid the trauma-related symptoms and memories.**

# Other Facts About OCD

- **Roughly 90% of those with OCD have coexisting mental health diagnoses, most commonly are anxiety disorders.** Fenske, J.N. & Petersen, K., (2015)
- **About 50% of those with OCD have the onset of symptoms in childhood and adolescence. It is not common to have OCD initially present after the age of 40.** Goodman, W.K. et al., (2014)
- **Obsessive-compulsive disorder is the fourth most common mental disorder, after phobias, substance abuse and depression, and is nearly as common as asthma and diabetes.** Nymberg, J.H. & Van Noppen, B. (1994)
- **OCD is associated with intense shame, which translates to long delays in accessing treatment.** Van den Heuvel, O.A., et al. (2008)
- Bowen, R. et al. (2018) found a strong link between OCD and self-mutilation, regardless of symptoms of depression or mood instability.

# Session 2

# The Brain Regions Implicated in OCD

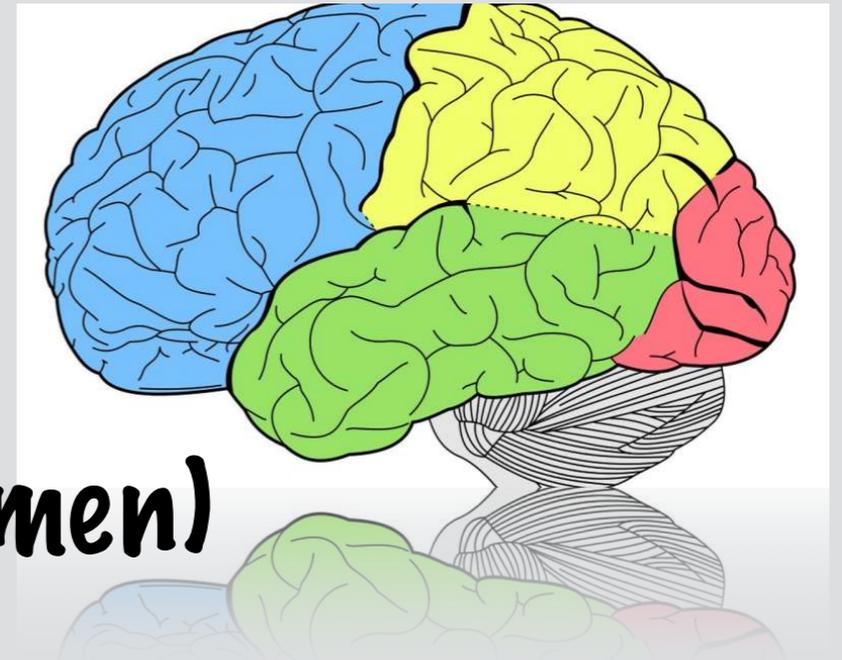


# Brain Regions Implicated in OCD

Using functional brain scans (fMRIs, DTI, and SPECT), OCD has been observed to be linked to the cortico-striato-thalamo-cortical (CSTS) circuits. Nakao, T., et al., (2014); Fenske, J.N., & Schwenk, T.L. (2009); Bhikram, T., et al. (2017)

**These regions are:**

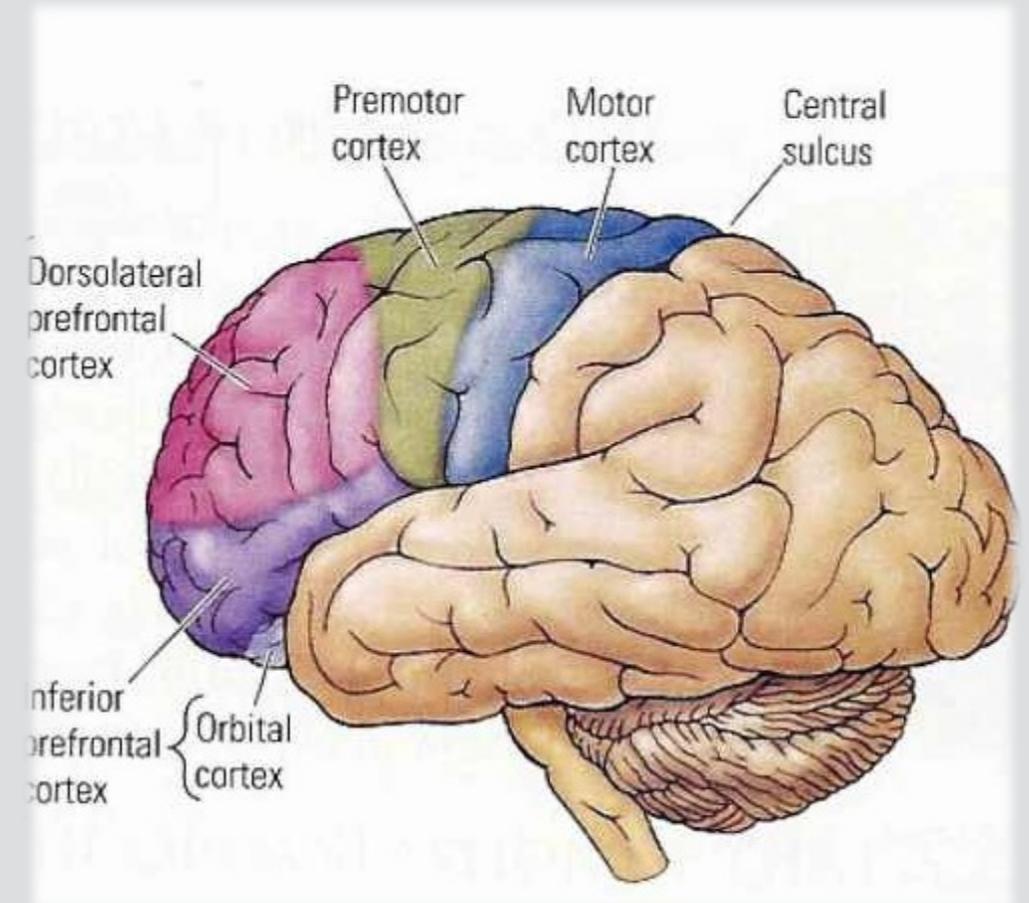
- Orbito-prefrontal cortex (OPFC)
- Striatum (caudate nucleus and putamen)
- Anterior cingulate Gyrus (ACG)
- Thalamus
- Amygdala



# Orbito-Prefrontal Cortex (OPFC)

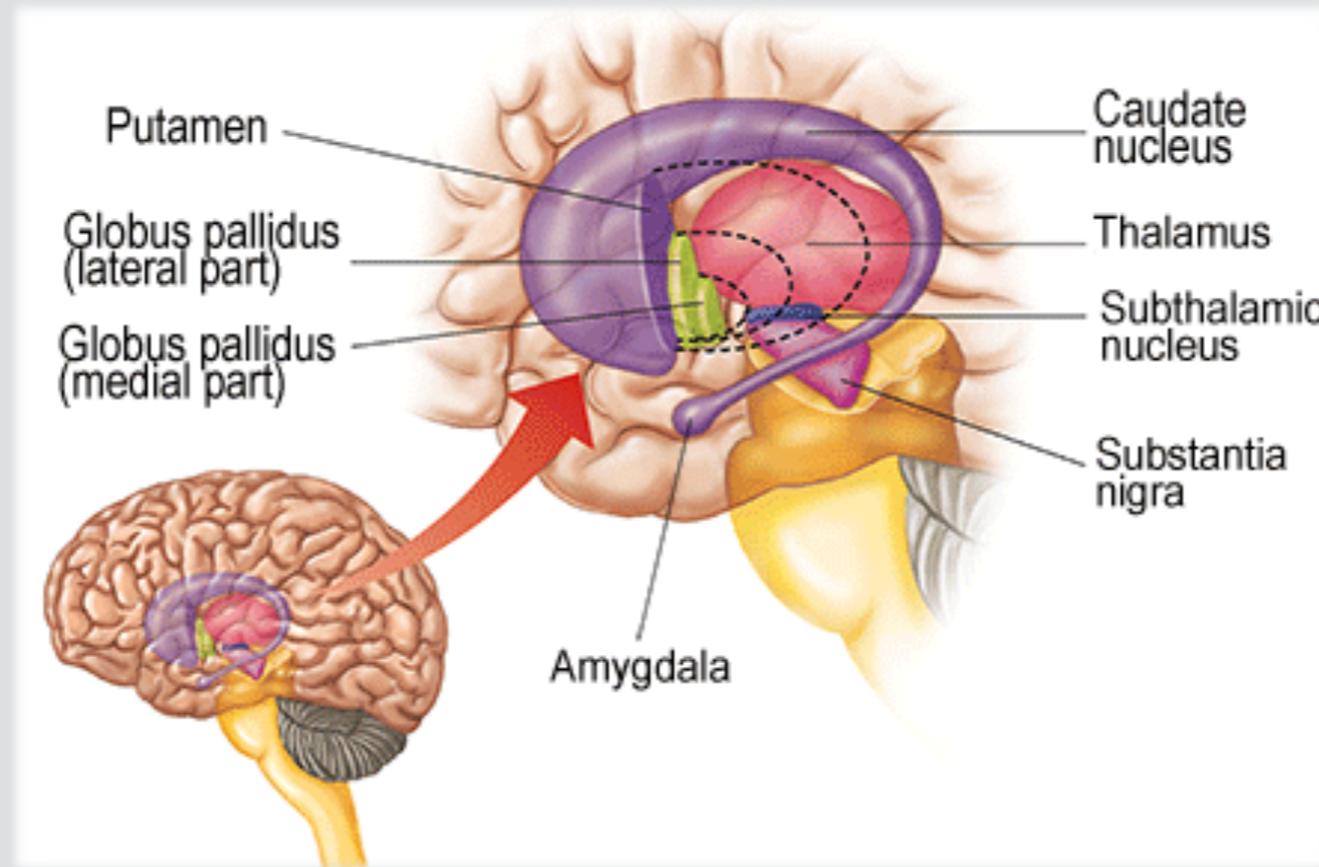
Eduardo, A.S., et al. (2010); Gremel, C.M., & Costa, R.M. (2013)

- The OPFC is involved in error-detection, safety-signalling, fear extinction, and reactive inhibition. Tanaka, S.C., Balleine, B.W., & O'Doherty, J.P. (2008)
- The OPFC overheats (hyper-metabolism) in people with OCD. Breiter, H.C. & Rauch, S.L. (1996); Saxena, S., & Rauch, S.L., (2000)
- OPFC over-activation decreases the levels of serotonin, dopamine, glutamate, and GABA in the striatum. Eduardo A Schilman et al., (2010)



# The Striatum: Caudate Nucleus

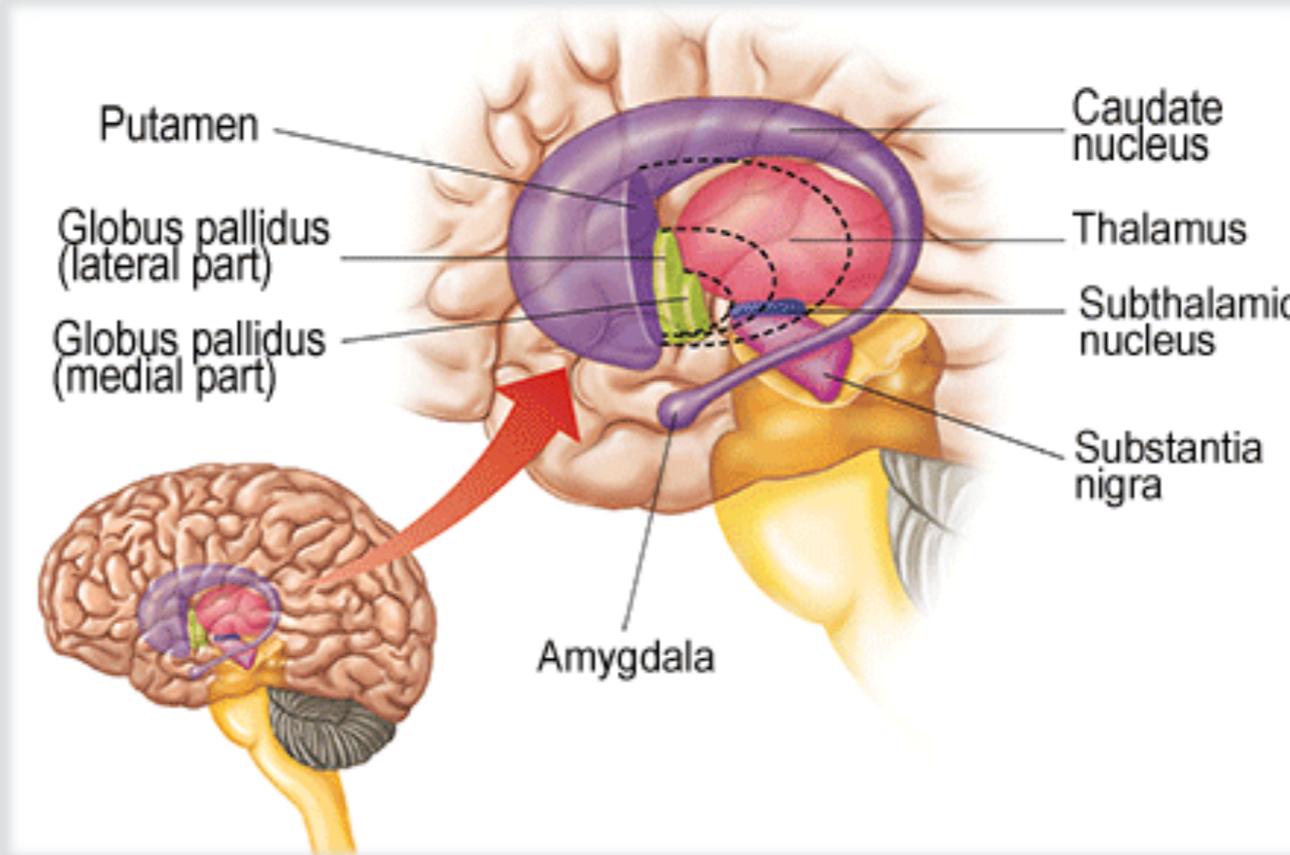
Gillan, C.M. & Robbins, T.W. (2014)



- **Caudate nucleus is the automatic transmission for the thinking part of the brain involved in impulse control over excessive/irrational habit formation (as in OCD). (Claire M. Gillan, et al. (2014)**
- **Hyper-activation in the caudate nucleus is one of the most consistent neurobiological markers of OCD symptoms. Whiteside, S.P., Port, J.D., & Abramowitz, J.S., (2004)**

# The Striatum: Putamen

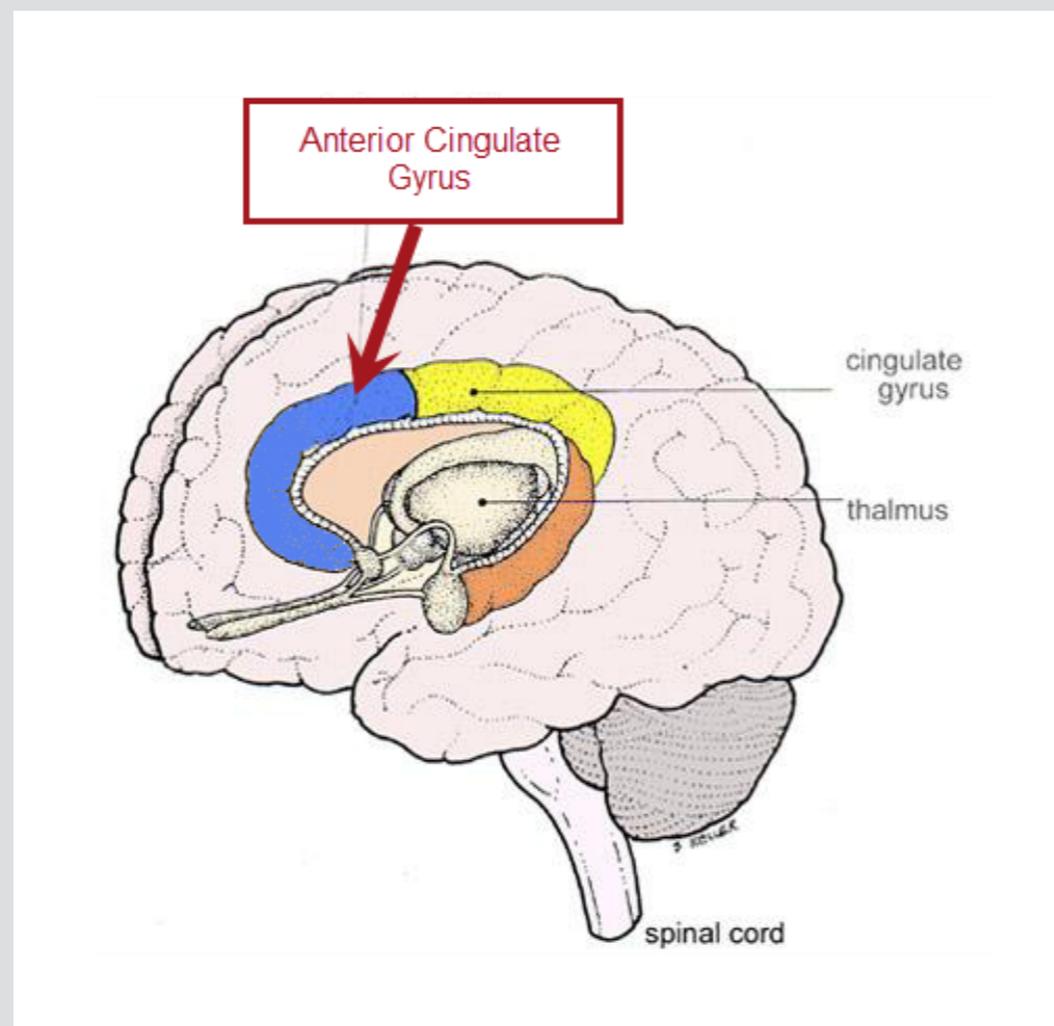
Gillan, C.M. & Robbins, T.W. (2014)



- Putamen is the automatic transmission for the part of the brain responsible for inhibiting excessive movement (mind/ or body) and negative habit formation. de Wit S, Watson P, Harsay HA, et al (2012); Tricomi, E. et al (2009)
- Increased putamen volume has been linked to the repetitive pattern of thinking underlying the OCD symptoms. Yasutaka K., et al. (2016)

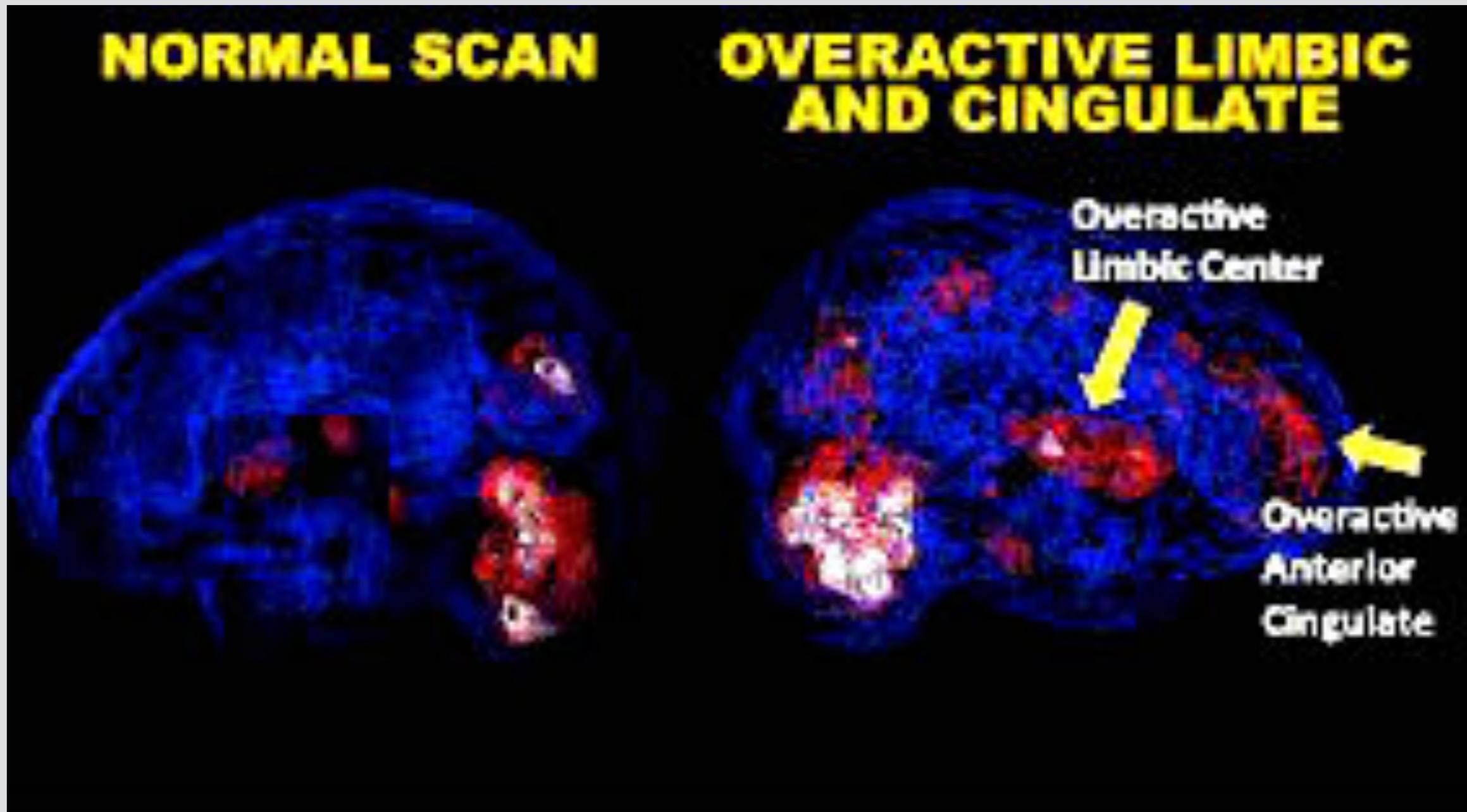
# Anterior Cingulate Gyrus (ACG)

This is the region of the brain known as the gear-shifter. It is involved in cognitive flexibility, self-sensing and consciousness



McGovern RA and Sheith SA, (2017); Hong, J.S, et al (2016).

# SPECT Brain Imaging Study on Overactive Anterior Cingulate Gyrus (ACG)

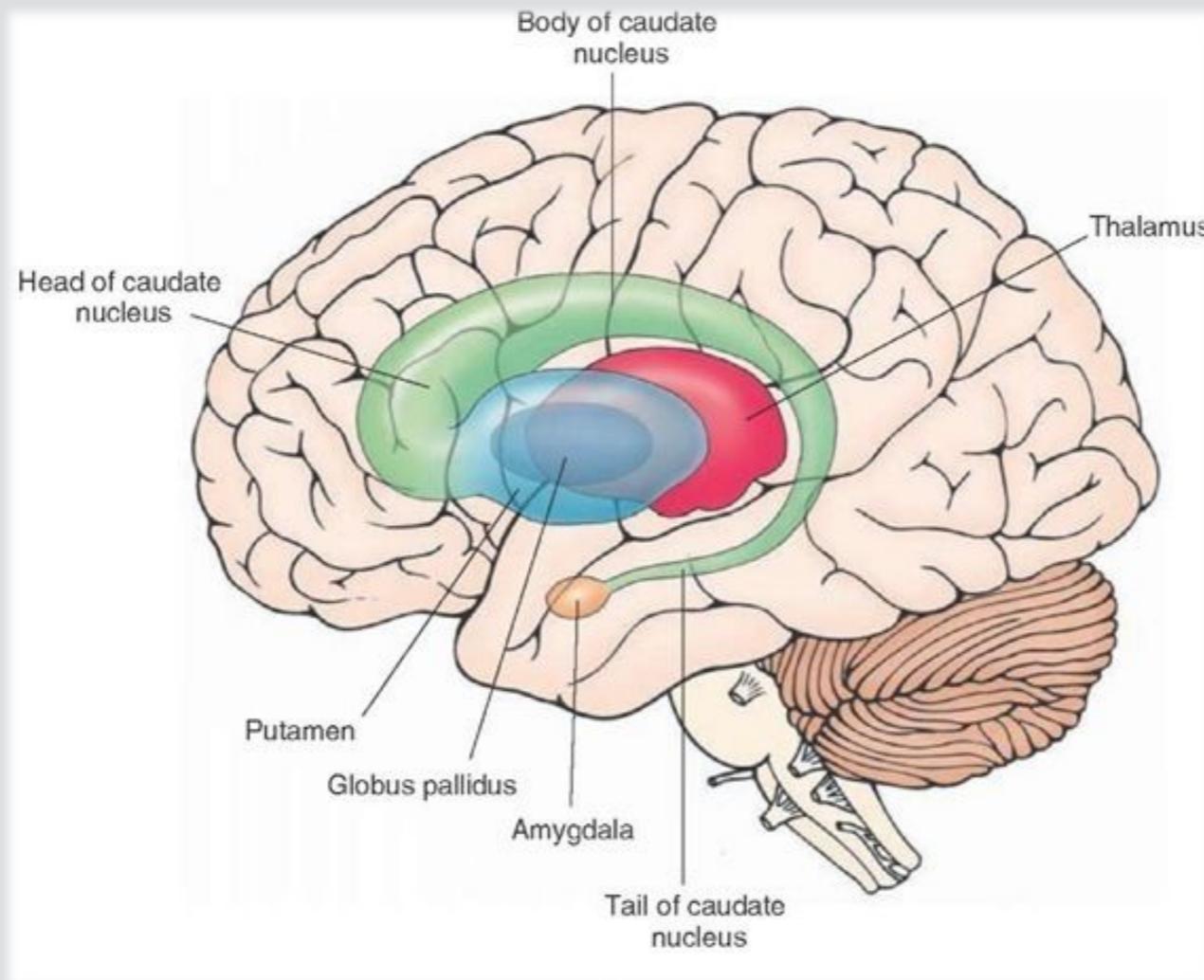


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# Thalamus

The thalamus is the relay system (receptionist), transmitting the sensory information to the cortex and is involved in motor, arousal, and mood functions. Jürgen K. Et al., 2012, in The Human Nervous System (Third Edition)

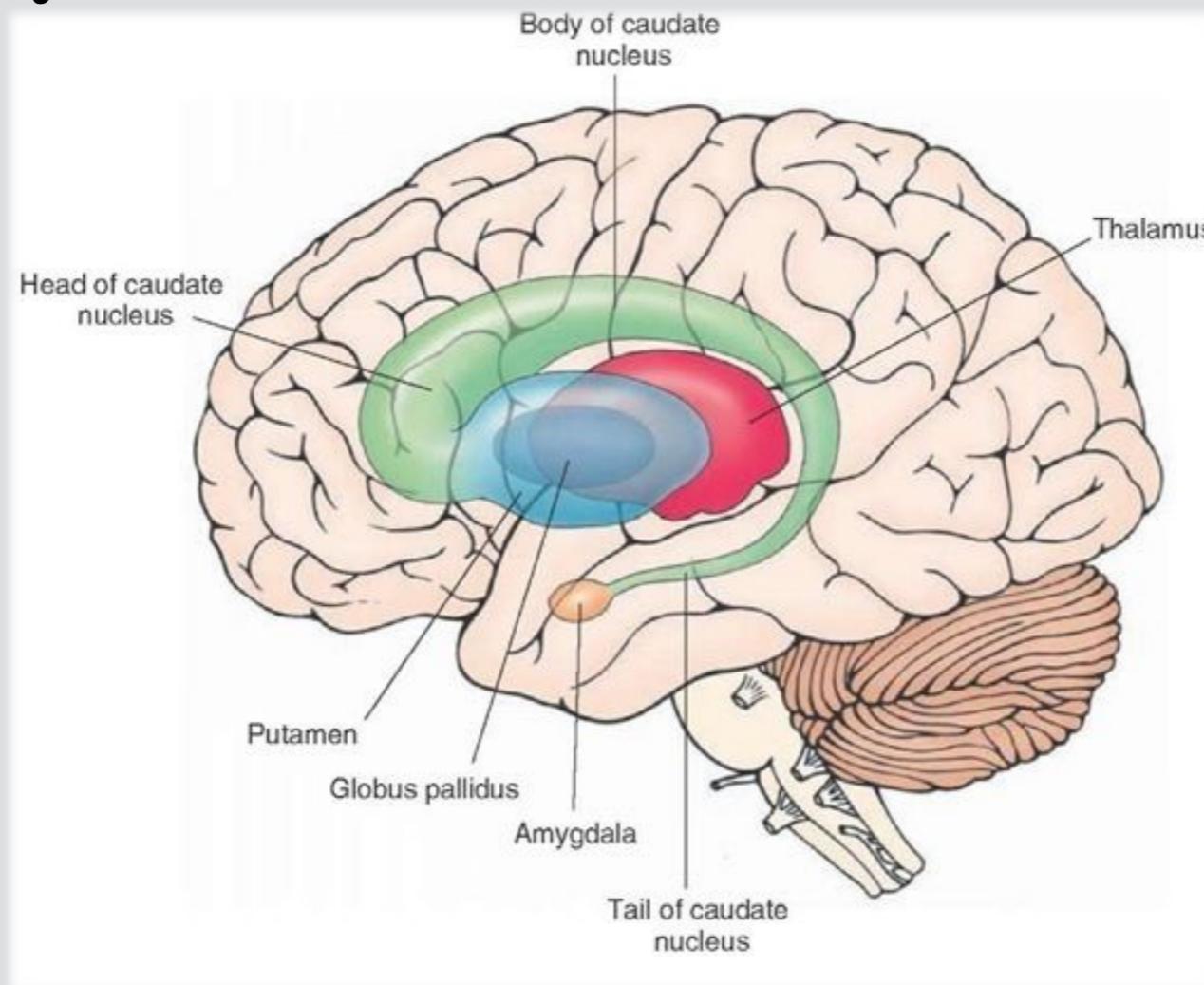
Dysregulation in the regional cerebral blood flow (rCBF) in the right thalamic centre has been observed in high OCD symptoms. Lacerda, A.L., et al (2003)



# Amygdala

The amygdala is the fear and anxiety centre in the brain (chief security officer) involved in the activation of the fight/flight response. Simon, D. et al, 2014; Thorsen et al, 2018.

Overactive amygdala pathway has been observed in obsessive-compulsive disorder. Ullrich, M., et al. (2017)



# Session 3

# The O.C.D. Framework for Recovery

# The O.C.D. Recovery Framework

- **O**rienting response
- **C**hallenge response
- **D**esign response



## The O.C.D. Recovery Framework

- **The orienting response**

This is about embracing the positive interpretations of your OCD:

1. OCD is a **brain-driven** condition related to bio-chemical imbalance in the brain.

2. Refuse to shame, flaw or condemn yourself for a condition that you're not responsible for. You are not insane, it is a **neuro-wiring** issue.

3. Blame it on your OCD; it is not your fault, it is your OCD.

4. Daily remind yourself that OCD is a brain-driven issue that you can't transform through self-shaming or self-blaming. Rather, it requires self-compassion and patience.



## The O.C.D. Recovery Framework

- **The challenge response**

This is the resolution to fight back. OCD must be challenged, otherwise it deepens its bio-chemical roots.

1. Use the 15 minutes rule; Delay for 15 minutes before completing your urges/compulsions. Daniela Simon et al. (2014)

2. During your time-delay, re-direct your energy towards doing some parasympathetic activities that you enjoy, such as, going for a walk, singing, playing with a pet, exercising, creativity, etc. Daniela Simon et al. (2014)



3. Process your unresolved negative emotions (therapy, inner child work, shame reduction work, The OCD cycle, etc. Briggs and Price (2009)). Gershuny et al. (2003) found links between OCD and PTSD (as OCD decreases, PTSD symptoms increase)

4. Use the arm bands method; increase serotonin levels (supplements or medication ?) Brock, H., et al. (2020)

## The O.C.D. Recovery Framework

- **The design response**

This is about using the Hebbian law on neuro-plasticity to rewire the brain for greater cognitive and emotional control.

The Hebbian law:

**“The neurones that fire together wire together.”**

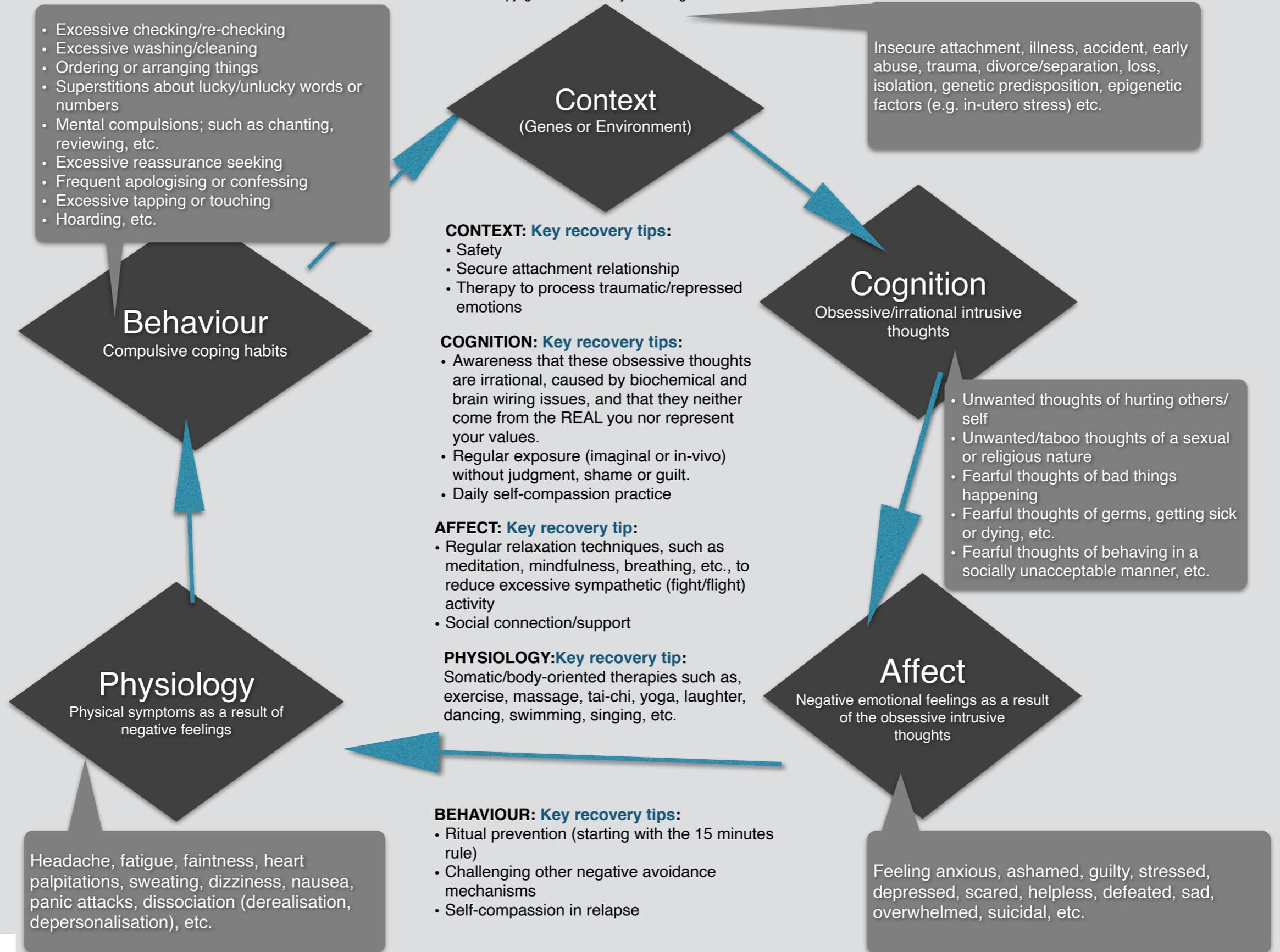
Donald Hebb (1949; Kevin Fox and Michael Stryker (2017))



- Design a new internal blueprint for living by writing down positive affirmations that assert that you are in control of your OCD. Starting with 'I' or 'I'm', write down your affirmations as though the wishes have been fulfilled.
- Then use daily meditation and visualisation to reprogram the subconscious mind for your new blueprint. Regular breathing and meditation exercises also reduce the cortisol levels and the amygdala over-activation.

# The OCD Cycle

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# Q&A Session

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[enquiries@mindbodybreakthrough.net](mailto:enquiries@mindbodybreakthrough.net)**

**“There are no constraints on the human mind, no walls around the human spirit, no barriers to our progress except those we ourselves erect.”**

**—Ronald Reagan, 40th U.S President**