Basal Ganglia

What is it?

What are they is actually a more accurate question. There are several basal ganglia and they are key to storing routines, repetitive behaviours and thoughts. The patterns that your daily life is filled with are recognised, stored and repeated by your basal ganglia.

Why is it important for Coaches?

✓ The basal ganglia are fundamental to habits and to general automatic responses. It can be useful for clients to understand how their brain is wired and how they can change that wiring. There are great benefits to our basal ganglia working in the way that it does and empowering clients to know how to work with their brains rather than against them.

Interesting studies

A study that looked at the recognition of patterns in the basal ganglia when the subject is unconsciously aware of a pattern being present was carried out in Montreal.

The volunteers were split into two groups. Both groups had to press one of four buttons on a keyboard to correspond with a light flashing in a certain location on a screen. One group watched the light appear in a random order while the other group got a pattern. This pattern was difficult to consciously detect most of the time, but their basal ganglia could be seen via the brain scanner to be picking it up. It has been said that it can as few as three repetitions for the basal ganglia to pick up a pattern.

At times individuals were able to identify the pattern and they could type their sequence 30-50% faster than if there wasn’t a pattern in the sequence. This underpins how a large proportion of our day is run on autopilot.
The basal ganglia works using ‘if-then’ coding and has lots of mini programs, or maps, stored. Every habitual thing you do has a map. For example, if when you turn on your phone in the morning you immediately check LinkedIn to see what is happening then your basal ganglia is coding ‘if the phone is turned on in the morning then check LinkedIn’. The instructions are present for exactly how to do this. This brain region is very well connected. Information from most other brain areas is sent here.

Suggestions
Here are some things that you can work on with your clients:

- Address the ‘if-then’ coding that is and isn’t working for your client. For example, if they see a piece of chocolate cake and then they eat it this may not be ideal.
- Since the basal ganglia are influenced by the prefrontal cortex (PFC) it is worth teaching your client about how the PFC functions optimally to help them get the best from themselves overall.
- Ensure clients know that habits can support them in achieving their goals. By the basal ganglia working below the level of consciousness your brain is free to process and focus on the non-routine aspects of life.

Papers to look at:


Other Resources

Researcher Ann M. Graybiel

Video you'll want to see:

A good piece of anatomy: Neuroanatomy - Basal Ganglia