

BrainTrainUK Advanced QEEG Brain Mapping (AQBM)

What is Advanced QEEG Brain Mapping ?

Whilst radiology imaging techniques such as CAT or MRI scans can provide information on the **structure** of the brain, they provide little information on the **function** of your brain.

Advanced QEEG Brain Mapping (AQBM) is based on the electrical activity in your brain, and can provide information on brain function.

What Are the Benefits of Advanced QEEG Brain Mapping?

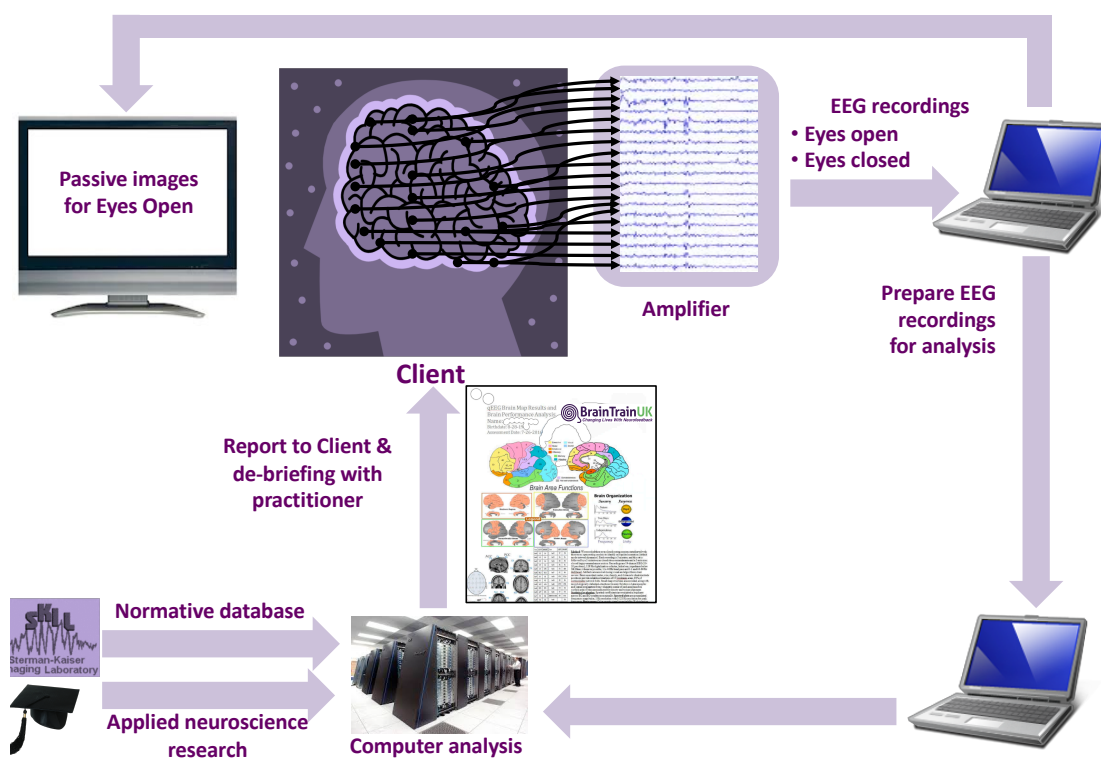
Good brain function is dependent on the integrated operation of multiple brain functions through different networks.

Advanced QEEG Brain Mapping can identify how well your brain is integrated, and identify the source of issues, not just the symptoms.

AQBM can identify the neuro-psychological causes of mental health disorders and neurological disorders at a level of detail not possible with radiology imaging, blood tests, psychological assessments, traditional neurological investigations or previous QEEG approaches

How Does Advanced QEEG Brain Mapping Work ?

Advanced QEEG Brain Mapping takes Electroencephalography (EEG) readings of your brainwaves at 19 positions on your head. Initially, we capture several minutes of brainwave data under multiple conditions, i.e. Eyes-open, eyes-closed.



We then edit these recordings by removing any 'artifacts' caused by muscle tension or movement such as eye blinks, and submit the recordings for software analysis and interpretation.

The software assesses brainwave activity and communication for 55 brain areas, 7 cortical networks and 1400 connections between and within corticolimbic networks, focusing on those networks and areas most responsible for our behaviour.

We determine the extent to which the limbic system (reptilian brain) is integrated with the cortex (mammalian brain) – how well balanced our emotional and thinking brains are, and to what extent we act on a healthy balance of instinct and reason, or swing towards the extremes.

We evaluate the maturity of each brain area including our executive system in the frontal lobes involved in decision-making, impulse control, and judgment.

We evaluate the presence of more than 20 neuromarkers including self-attention, verbal and emotional stress, PTSD and anxiety.

What Information Does Advanced QEEG Brain Mapping Provide?

BrainTrainUK AQBM provides an assessment of your brain's electrical activity associated with the following functions/measures:

- Sensory Sampling Rate

This measure is the rate at which we sample the sensory world before it is passed to conscious awareness.

Most people sample the sensory world 10 times a second. Some people draw information from their senses faster, or at different rates across the brain, which places a high load on our brain to organise this increased information and can result in stress.

Others are slower, which can impact their ability to interact with others and understand experiences. Compatibility between individuals can depend on similar sensory sampling rates.

- Overall sensory integration
- Visual perception and memory sensory integration
- Motor, body and emotive ability sensory integration
- Social and executive perception sensory integration
- Cortico-limbic Integration

We evaluate how well your brain transfers information across major cortical regions. We identify brain areas that are underactive and under-contribute to conscious awareness, as well as those areas which are overactive, burdened with too great a role in our thinking and may result in a skewed focus or understanding.

- Neuromarkers

We identify research-based neuro-markers, correlations to psychological issues including attachment, PTSD, abuse, social boundary issues, authority/emotional sensitivity.

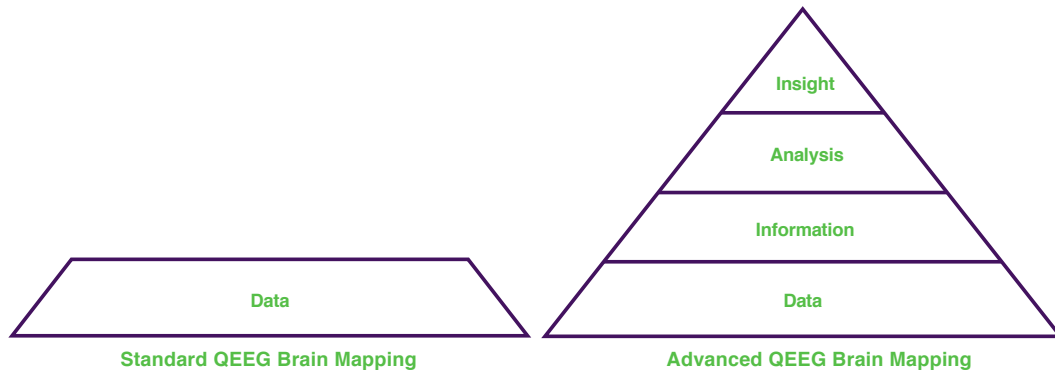
It should be stressed that the report ***does not provide any form of clinical or medical diagnosis.***

How Does BrainTrainUK Advanced QEEG Brain Mapping Compare With Other QEEG Methods?

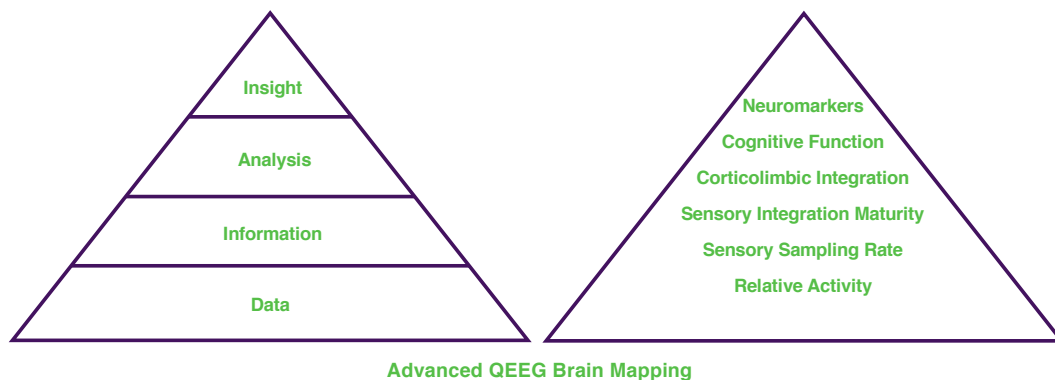
We provide unprecedented levels of **information, analysis and interpretation** specific to **your brain**.

This individualised approach using our sophisticated software gives unique insights into your particular brain, enabling more accurate and precise targeting of neurofeedback training and better, quicker, outcomes.

All QEEG reports provide lots of data, but many are short on information, and provide very little in terms of analysis and explanation:



Converting data to information requires a sophisticated level of analysis and knowledge of the evidence base to enable interpretation. We analyse innovative as well as traditional QEEG parameters:



Below is a summary of the key features and differences between standard brain mapping (for example those provide by New Mind Maps or NeuroGuide):

Feature	Standard QEEG Brain Mapping	Advanced QEEG Brain Mapping
Data capture:		
Eyes open	✓	✓
Eyes closed	✓	✓
Data analysis:		
Absolute Power	✓	✓
Relative Power	✓	✓
Amplitude Asymmetry	✓	✓
Coherence	✓	✓
Phase Lag	✓	✓

Peak Frequency		✓
Theta Unity		✓
Structural Source Imaging (e.g. LORETTA)	✓	✓
Functional Source Imaging		✓
Information:		
Peak frequency		✓
Brain organisation		✓
Overall sensory integration		✓
Visual perception & memory integration		✓
Motor, body, emotive ability		✓
Social & executive perception		✓
Analysis & Insight:		
Cortico-limbic integration		✓
Verified Neuromarkers		✓

What Can I Use BrainTrainUK Advanced Brain Mapping For ?

Advanced QEEG Brain Mapping can be helpful in several ways;-

1. To help clients to understand and accept that their brains are working in a particular way, which can motivate them to investigate options to improve function.
2. For clients with trauma, we can show them how their brain has adapted in order to protect them. Their brain is not 'abnormal', it has adapted as it is designed to. Just as their brain has adapted to respond to past events, events, it can adapt again. Their past does not have to define their future.
3. To provide measures of brain pattern function before, during and after an intervention such as neurofeedback. This is most relevant to scientific research.
4. To guide a Neurofeedback training programme, by identifying specific areas to target.

Our Brain Mapping reports often provide clients with immediate validation, relief and encouragement that there is something identifiable different within their EEG and the neuroscience can explain this in terms of their symptoms or challenges.

Brain Mapping is also required for some modalities (methods) of Neurofeedback, and BrainTrainUK Advanced QEEG Brain Mapping will provide the analysis required for our Default Network Training (DNT). 3rd party brain maps will not provide this level of analysis.

What Next ?

If you wished to progress to Neurofeedback, a full assessment history would be taken, including symptom identification and tracking, together with the AQBM report to create an individualised Neurofeedback Training Plan.

What's involved in Advanced QEEG Brain Mapping Data Capture ?

Before you arrive your hair should be washed, completely dry and without any products. You should also drink plenty of water the day before and the day of the map. This helps us get the best possible connection with your head, and therefore the most accurate Map.

Since recreational drugs affect the brain and therefore the EEG, please refrain for 24-48 hours before the map. If you have taken any please let your practitioner know.

Medicinal drugs can also affect the EEG, so **only with your doctor's permission** if you are able to suspend the use of any such drugs for 24-48 hours this will improve the accuracy of the map.



The practitioner will need to fit a 'swimming cap' that holds the 19 electrodes in place, and add some paste through holes in the cap to get good connections. This is completely painless.

Then you will be asked to look at one spot, staying as still as possible with your eyes open, for several minutes.

Then you will be asked to close your eyes and sit still for another few minutes. All this time nothing is going into the wires, our equipment is just 'listening' to your brainwaves. This process will be repeated two or three times, so ensure we get a good selection of data.

In total this should take less than 60 minutes per person.

It is likely that some of the paste used to attach the electrodes will still be in place afterwards, so you should anticipate washing your hair afterwards.

Questions ?

It is important that you are fully prepared for your Advanced QEEG Brain Mapping and your expectations are met. Please do not hesitate to contact us by email or phone if you have any further queries.

Email: stuart@braintrainuk.com

Phone: 07796 266 377

Checklist

- Directions to BrainTrainUK Brain Mapping Centre
- Hair washed on the day or day before and thoroughly dried
- No products on hair
- Well hydrated – drink plenty of water the day before and the day of Brain Mapping
- Refrain from recreational drugs 24-48 hours before Brain Mapping
- (Only with doctor's permission) suspend medicinal drugs 24-48 hours before Brain Mapping
- Take details of any medicinal or recreational drugs taken
- Remember hair will require washing afterwards to remove remnants of paste