

Imagine being able to think, hear, and feel - but not move or communicate.

Over 40% of patients diagnosed as vegetative are reclassified as (at least) minimally conscious when assessed by expert teams. g.tec, an Austrian company, has just introduced a new tool called mindBEAGLE[®] that uses BCI (Brain-Computer Interface) technology to assess DOC patients quickly, easily, and painlessly. mindBEAGLE[®] can even provide basic communication for some of these patients. A BCI detects changes in brain activity induced by the user's mental activity. The EEG (Electroencephalogram) is used to measure brain signals, which are automatically analysed and classified on a standard laptop.



mindBEAGLE[®] uses auditory and vibro-tactile stimulation to elicit typical brain responses that are based on a certain level of awareness and conscious processing in the patient's brain. If patients are indeed able to think, they can even communicate through a BCI (such as “yes” or “no”) by imagining certain movements (such as grasping with the left or right hand) – even though they cannot move in any way.

In the assessment phase, mindBEAGLE[®] will provide reliable information about the patient's level of awareness and consciousness. The system also supports longitudinal screening to investigate stability and improvement of responses or daily changes in awareness. As soon as the patient can produce reliable brain signals, which typically requires training periods ranging from five minutes to a few hours or days, mindBEAGLE[®] may be used as a communication tool. As long as patients have enough cognitive functions to understand spoken messages and choose to perform tasks, they can be trained to use certain different mental strategies to provide simple YES/NO answers to questions.

The system uses auditory or tactile stimuli for patients who cannot see or hear. mindBEAGLE[®] automatically performs statistical analyses of signal parameters to optimize performance, and some features can be adjusted to customize the desired reliability of the YES/NO output or other features.

mind**BEAGLE**[®]
CONSCIOUSNESS ASSESSMENT & COMMUNICATION



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