

# Hi-tech therapy for the ultimate software

## Cutting-Edge Treatment Can Cure Depression, OCD, Social & Performance Anxiety

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Graphic: Rajender

### Simulate your fears away...

Piyush Gupta (name changed) is bright, young and hardworking. As a marketing executive, he has all the attributes to make it big in his line of work. Except for one thing: every time he has to make a presentation, Piyush breaks into a cold sweat and all his big ideas vanish. A typical case of performance anxiety, this seemingly harmless problem is what stands in the way of his becoming team leader at the MNC he works for.

Virtual Reality Exposure Therapy (VRET) may just be what the doctor ordered for Piyush. In this treatment, the individual is put through standardized tests to measure their biofeedback (heart rate, pulse etc). These psychological tests determine the level of treatment required — mild, moderate or severe.

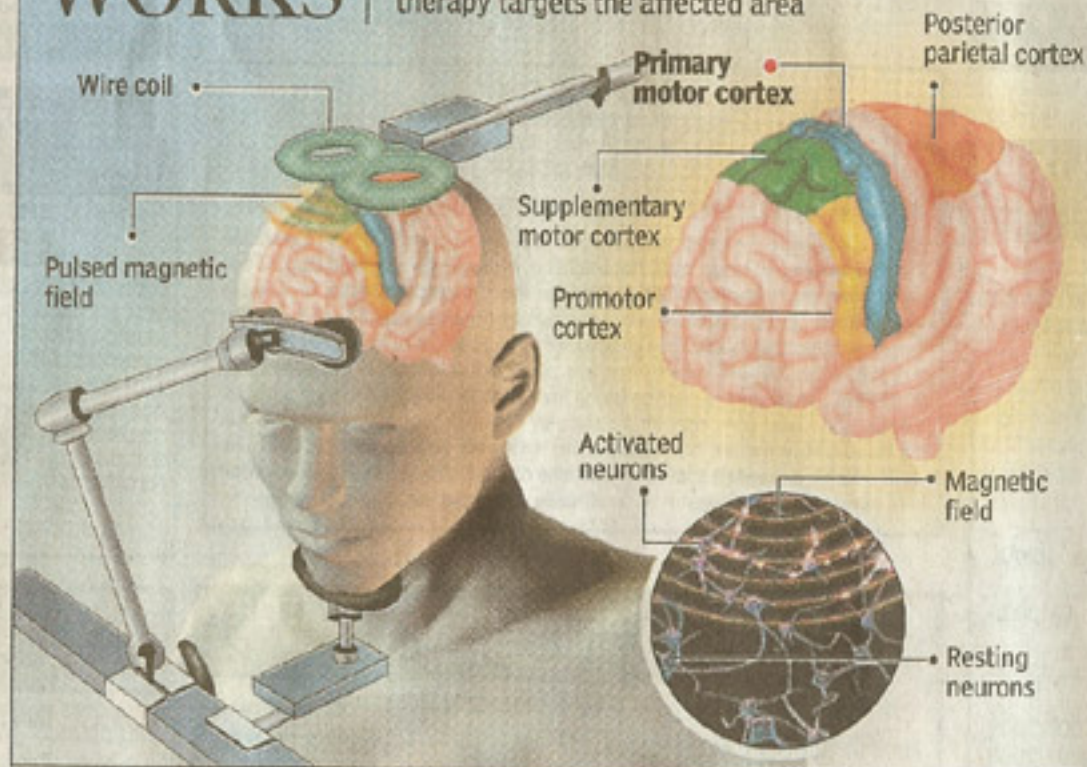
Following this, the person sits with a therapist (both have ear and eye pieces) and is put through various levels of simulated experiences. "Of course the person's biofeedback is constantly monitored. At the first sign of anxiety, treatment is stopped and the individual is led through a set of relaxation techniques. Once the physical symptoms are normal, treatment is resumed," informs Manish Bhan, director (marketing and sales), Illumenta Corporation, the company that has brought this therapy to India. 10-12 one-hour sessions can cost Rs 5,000-10,000, depending on the severity of the problem.

Piyush is a changed man. He was put through one-on-one simulation sessions, followed by a small group experience and finally faced a large audience. "I could have never faced a group of people had I not undergone this therapy," he says confidently.

VRET involves exposing the patient to a virtual environment (classroom, auditorium, interview, fear of heights, aeroplane) containing the feared situation rather than taking the patient into the actual environment or having the patient imagine the stimulus. The virtual environment is controlled by the therapist through a computer keyboard ensuring full control of the exposure to the programmed situations.

### HOW rTMS WORKS

Primary motor cortex is arranged from top to bottom in areas corresponding to the buttocks, torso, shoulder, elbow, wrist, fingers, thumb, eyelids, lips and jaw. rTMS therapy targets the affected area



The human mind is a fascinating place to explore. Please note, we said mind not brain. Sure, the brain is where it all begins. But as advances in science have shown, the relationship between the brain and the mind is somewhat similar to that of the stomach and appetite. It is long known that there is a neurobiological basis to all our emotional, behavioural and thinking processes. Logically, we must have a neurobiological basis to the interventions that are used to treat emotional, behavioural and thinking problems. We present two cutting-edge treatments, now available in India, that promise to free the mind...

### Depressed? It's all in the head...

Ashima Handa (name changed) suffers from depression. She keeps to herself, is upset if she has to be part of a social gathering and often cries in her room. Popping pills has become a habit but these mood-lifters have a limited effect, and many side-effects. Ashima is a perfect case for repetitive Transcranial Magnetic Stimulation (rTMS). "rTMS is probably the most promising advance in neuropsychiatry so far," says psychiatrist Sanjay Chugh, who has recently brought the treatment to India.

The procedure is simple, non-invasive and painless. Once a patient registers to undergo this therapy, s/he is made to sit in a room wearing a special kind of cap. The rTMS machine is then set and treatment is begun by holding the figure of eight coil (see graphic) over various parts of the patient's skull. Once the doctor manages to determine the motor-threshold of the patient (lowest intensity of stimulus required to produce a consistent twitch in the thumb), he decides the intensity of the magnetic stimulus that is required to deal with the problem. Treatment is then begun with magnetic stimulus being given to the patient repeatedly. There is a slight clicking sound that accompanies every pulse. Chugh says he marks the primary motor cortex area (see graphic) on the cap after the first session so he doesn't waste time finding it the next time. "Though every case is different, on an average, a patient would require 20-30 sessions of 20-30 minutes each. These can be

done as frequently as twice a day," says Chugh. The total cost of an rTMS package is Rs 60,000-75,000. Patients already taking medicine can take rTMS alongside.

Neuropsychiatric illnesses are often associated with increased or decreased activity in the various regions of the brain. rTMS selectively decreases or increases this activity and returns the over or under excited region of the brain to normal functioning levels. WHO reports reveal that depression is set to be the single-largest cause of morbidity by the year 2020. "rTMS significantly reduces acute symptoms of major depression and offers an alternative to conventional therapy," says South Carolina-based Professor Mark George, editor of *Transcranial Magnetic Stimulation in Clinical Psychiatry* and pioneer of this ground-breaking treatment.

"As on date, rTMS has successfully been used for disorders such as depression, anxi-

ety, obsessive compulsive disorder, auditory hallucinations in schizophrenia, eating disorders, post-stroke rehabilitation, Parkinsonism, migraine and pain management," says Chugh.

Neuropsychiatric illnesses are often associated with changes in neurotransmitter and neuroendocrine systems, both of which rTMS can alter. The ability of rTMS therapy to alter brain functioning provides a limitless potential to work as an effective therapy option for any disorder involving dysfunctional behaviour in the neural circuits. "Due to its unique capacity to selectively increase or decrease the excitability of neurons in discrete brain regions, the time isn't far when rTMS will be used to treat dysfunctional personality traits such as short-temperedness, stinginess with money or even an introverted personality," says George.

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