

240 volts out of the blues

The use of electroconvulsive or shock therapy is growing in Australia. **Kate Nash** speaks to those in the know about this still controversial treatment. - Part One



Depression is increasingly being diagnosed and treated in Australia, and electroconvulsive therapy (ECT), considered by many an effective treatment for severe depression, is utilised much more often.

The latest statistics from the Australian Institute of Health and Welfare show the number of ECT treatments in Australia has risen 23 per cent in the past five years. In 2000-01 there were 13,999 treatments in this country; by 2005-06 it had risen to 18,083.

However, concern remains on the effectiveness and side effects of the treatment, particularly memory loss. And despite years of research, the exact reasons why ECT works have not been identified.

ECT involves electrically stimulating the brain through electrodes placed on the head for 15 seconds or more to induce seizures and alter the brainwaves of people with major depression, mania and schizophrenia. Patients are given a muscle relaxant and an anaesthetic before ECT is administered.

There are two types of ECT, bilateral and unilateral. In bilateral ECT, an electrode is placed on each side of the head; in unilateral ECT both electrodes are placed on the non-dominant cerebral hemisphere - the right *or* the left side of the head.

The stimulus levels recommended for ECT exceed the individual's seizure threshold: about one and a half times for bilateral ECT and up to 12 times for unilateral ECT. The electric shock administered measures between 70 and 400 volts, and has an amperage of between 200 milliamperes and 1.6 amperes.

Associate Professor Colleen Loo, from the University of NSW's School of Psychiatry and a researcher with the Black Dog Institute, says while ECT can be used to treat schizophrenia it is most commonly used when treating depression.

"In terms of clinical experience, there's no doubt ECT works for depression. It's the most powerful treatment we have for acute episodes of depression," she says. "The effectiveness of ECT has been well shown from studies of ECT with a placebo - a gold standard kind of study, and head to head studies where people are randomised to receive ECT or anti-depressants, the studies show ECT is more effective than antidepressant medication."

Professor Garry Walter, Chair of Child and Adolescent Psychiatry at the University of Sydney, says he is an advocate for the appropriate use of ECT. Occasionally this will be in adolescent patients with a severe depressive illness who have not responded to other treatments.

"It's effective in more than 70 per cent of cases, depending on the type of depression. The majority of patients respond and it can be life-saving," he says.

The oft-quoted 80 per cent success rate is pooled from various studies. "But," says Associate Professor Loo, "it depends on what kind of patient you're talking about."

"If you're talking about generally depressed patients without distinguishing, the 80 per cent figure is a reasonably accepted one. However, if you're talking about people who are highly resistant, that is people who've failed other treatments with medications, the figure is more like 50 per cent."

Associate Professor Loo says there are no reports of ECT causing brain damage. "But having said that the lack of evidence isn't proof that it doesn't exist," she says. "Studies have been done where people's brains are scanned in great detail with Magnetic Resonance Imaging (MRI) and there's no evidence from those of any brain damage after ECT."

However, some people report losing some memories of events, people or places that have never come back.



Above: Associate Professor Colleen Loo

“That’s very uncommon [although] there are no figures for the percentage who do experience [memory loss] but it seems that high-dose bilateral ECT is more likely to cause that than low-dose unilateral ECT,” she says.

Professor Walter says it is not fully understood why ECT is so effective. “But you could also say that about a lot of other treatments in medicine,”

Professor Walter says there is still a stigma attached to ECT - the movie *One Flew Over the Cuckoo’s Nest* aroused a lot of fear and prejudice - and there is considerable public resistance to using ECT on adolescents.

He says ECT has changed markedly since it was introduced into Australia in the 1940s and the dosage is more carefully matched to the patient, who is better monitored during and after treatment. Professor Walter says people are initially given ECT three times a week and a course usually entails 6-12 treatments. The dosage varies.

Associate Professor Loo says: “In specialised centres we measure each patients’ seizure threshold exactly and the dose is empirically determined. However, in some countries where ECT practice is less sophisticated and maybe even in some country areas in Australia where there isn’t the high level of expertise that you get in metropolitan areas, they give an estimated dose to everyone.”

In Part 2 we look at consumers’ opinions of ECT and the common gap between their perceptions and those of psychiatrists. [↪](#)