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YES, we still do electroconvulsive therapy (ECT). But fortunately there has been a great deal of progress in the way in which ECT is practiced.

This treatment has been with us for over 70 years and it still retains its place as the most effective antidepressant available. During its history there have been several revolutionary changes to ECT practice.

The first was the introduction in the 1950s of general anaesthesia and the use of muscle relaxants to prevent the motor component of the induced seizure.

Then in the early 1990s research showed us that the actual dose of electricity delivered was critical to the success of the treatment and that doses needed to be individualised according to the patient's seizure threshold. After finding the threshold the dose is increased for subsequent treatments. At the same time, EEG monitoring of the seizure became routine and is now used as a reliable guide to the quality of the seizure and therefore to its effectiveness. During a course of ECT, the seizure threshold tends to rise and this is reflected in a decreased robustness of the EEG seizure, signaling the need to increase the dose.

The third revolution is currently under way. It is the use of what is called ultra-brief pulse width ECT. This new technique involves altering one of the parameters of the electrical impulse, the pulse width, so that it

> **"ECT WILL CONTINUE TO BE INTEGRAL TO THE PRACTICE OF PSYCHIATRY AND WE CAN LOOK FORWARD TO EVEN FURTHER REFINEMENT OF THIS TREATMENT"**

roconvulsive apy in the modern age

is very brief (0.3 milliseconds) compared to the standard pulse width of 1 millisecond. The benefit of this is a marked reduction in the cognitive side effects of ECT and much greater patient acceptance. Although the effect of ECT on memory cannot be eliminated with this technique it is minimised, to the extent that it is now not uncommon for patients to have a course of unilateral ultra-brief pulse ECT and not be aware of any memory impairment.

Some things about ECT have not changed. Bilateral ECT is still regarded as being more effective than unilateral, though when very high dose unilateral is used the difference is reduced. Bilateral ECT carries more cognitive side effects, so we prefer to start with unilateral ECT and change to bilateral if there is no improvement. The memory effects can still be problematic for some patients and it is now well established that some degree of retrograde memory impairment may persist for an extended period – this is more noticeable with bilateral ECT. Short-term memory loss is common during and shortly after the course of ECT but the evidence indicates that it is reversible and returns to normal within 4-6 weeks.

Unfortunately ECT is still a controversial and poorly understood treatment and stigma continues to be an issue. However, it retains an important place in the treatment of moderate to severe depression and in many situations it can literally be life-saving.

Modern ECT is now a more complex and refined treatment and specific training is required. Gone are the days when it was done by the most junior person around. Northside Clinic has been conducting a training program in ECT for the last 17 years and this has been responsible for the training of many hundreds of psychiatrists and nurses from Australia and New Zealand. Most centres now demand that psychiatrists have attended a certified training program before being credentialed to perform ECT and it is fair to say that standards of practice are continuing to improve.

Perhaps one day ECT will be superseded by other forms of brain stimulation and there is much research interest into this fascinating area. Meanwhile, ECT will continue to be integral to the practice of psychiatry and we can look forward to even further refinement of this valuable treatment. PH

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