

CONVULSIVE THERAPY

by Edward Shorter, Ph.D.



The History of ECT: Some Unsolved Mysteries



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Following the success in 1917 of Vienna psychiatry professor Julius Wagner von Jauregg, M.D.'s, malarial-fever treat-

ment of neurosyphilis, there was great interest in using such "physical therapies" for other neuropsychiatric illnesses as well. It was in this context of enthusiasm for treating the brain itself in mental illness on the model of neurosyphilis—rather than relying upon the resources of psychotherapy—that the convulsive therapies

arose (Shorter, 1997).

Over the years these therapies—the mechanisms of which even today are unknown—have demonstrated considerable efficacy in the treatment of major depression, catatonia, mania, psychosis and other psychiatric disorders. An impressive body of opinion now holds that electroconvulsive therapy (ECT) has

such a demonstrated record of efficacy that it, rather than medication, should be the treatment of choice in major depression. The real question today is: Why is it not? Why does the idea of applying ECT still cause a chill among many psychiatrists and patients, who consider it only as a treatment of last resource, rather than the first-line approach?

The first of the convulsive therapies was initiated in 1934 in Budapest, Hungary. It entailed inducing convulsions with pentylenetetrazol, a compound first introduced as a cardiac drug and sold under the trade name Cardiazol in Europe and Metrazol in the United States. Psychiatrist Ladislav von Meduna, M.D., hypothesizing an antagonism between epilepsy and schizophrenia, reasoned that chemically inducing convulsions might somehow meliorate the psychotic symptoms of schizophrenia. He first tried camphor, then pentylenetetrazol, which was more soluble and acted faster (Fink, 1985). In fact, he achieved considerable results, and treatment units sprang up before World War II at a number of centers in Europe. In the United States, such disparate institutions as the Georgia state asylum at Milledgeville and the Sheppard-Pratt private clinic in Baltimore installed Metrazol units.

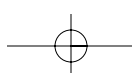
Yet, Meduna's convulsive treatment was quickly pushed to the margins by ECT, initiated in 1938. In one of the few Italian contributions to modern psychiatry, psychiatry professor Ugo Cerletti, M.D., inspired by the successful treatment of a rapidly accumulating list of physical disorders (including fever, deep sleep and insulin coma) resolved to induce convulsions by applying electricity directly to the brain. Like Meduna, he and his assistant Lucio Bini selected patients with schizophrenia for their trials and enjoyed a record of success (Cerletti, 1950). Their publications created a major stir in psychiatry, and in May of 1940, Cincinnati psychiatrist Douglas Goldman, M.D., demonstrated ECT at the annual meeting of the American Psychiatric Association (Shorter, 1997).

Electroconvulsive therapy spread quickly in popularity, and handbooks were not long in appearing. In 1941, Lucie Jessner, M.D., at Massachusetts General Hospital and V. Gerard Ryan, M.D., at Harvard University published *Shock Treatment in Psychiatry: A Manual*, the introduction written by Harry Solomon, M.D., chief of research at the then Boston Psychopathic Hospital (later Massachusetts Mental Health Center). In 1944, William Sargant, M.D., and Eliot Slater, M.D., at The Maudsley Hospital in London, themselves noted figures in English psychiatry, brought out *An Introduction to Physical Methods of Treatment in Psychiatry*. In 1946, Lothar Kalinowsky, who was instrumental in bringing ECT to the United

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States, and Paul Hochboth wrote the influential book *Shock Treatment and Other Somatic Procedures in Psychiatry*. Thus, major figures weighed in on behalf of the new treatment.

The U.S. military made wide use of ECT during World War II, and by the 1950s, ECT had become one of the standard treatments for hospital depression, accepted as a matter of course in U.S. and European psychiatry.

The rise of ECT in psychiatry is one of the discipline's great success stories. The technique became steadily modified. In 1940, curare was introduced to moderate the vertebrae-cracking force of the convulsions, and succinylcholine was introduced in 1952. In the early 1940s, it became customary to anaesthetize patients with barbiturate injections. In 1949, Goldman introduced unilateral ECT, placing the electrode over the right hemisphere in order to avoid the speech areas. Abrams and Taylor (1976) introduced bifrontal ECT by moving the electrodes forward over the forehead. In the 1950s, a patient hospitalized for depression stood an excellent chance of receiving ECT, and an even better chance of benefiting from it.

Then suddenly, a page turned, and ECT disappeared from psychiatry. In psychiatric training from 1960 to about

1980, ECT virtually vanished. Why this sudden disappearance of a safe and effective therapy occurred is one of the riddles of the history of psychiatry.

It is not that the growing power of the pharmaceutical industry marginalized ECT. In the early days, industry executives and scientists often had a kind word for ECT. The Geigy company (now folded into Novartis) once conceded that ECT was the appropriate treatment for hospital depression, and Paul Janssen, of the pharmaceutical company founded by his family, had no hesitation in declaring that ECT was far superior for endogenous depression to the tricyclic antidepressants (Healy, 1998). Of course, industry's attitude would later change as ECT was excluded from discussion at industry-sponsored events. Yet the opposition of industry does not explain the bizarre initial vanishing of ECT for two decades.

Nor is it the case that psychoanalysis, based on a totally different model of brain-mind function, chased ECT from the temple. In the late 1940s and early 1950s, plenty of analysts were ready to mix ECT with talk therapy. The early group therapists, for example, would alternate between community sessions and ECT. Psychoanalysis pioneer Sandor Ferenczi was said to have administered ECT during analytic sessions.

What seems to have happened was a combination of 1960s-style countercul-

ture hostility to ECT together with the enthusiastic reception of Ken Kesey's antipsychiatry novel *One Flew Over the Cuckoo's Nest*, published in 1962. There is no doubt that the generation of flower children was hostile to psychiatry in general and to ECT in particular. Sociologist Erving Goffman's influential work *Asylums*, published in 1961, bore a scanting reference to "shock treatment." Yet, the 1960s antipsychiatry literature was written largely for intellectuals. Furthermore, the systematic campaign of the Church of Scientology against ECT in those days had trouble gaining traction.

It was Milos Forman's 1975 film version of Ken Kesey's novel that had a shock effect on the public. Both the novel and the film mingled ECT and lobotomy together in a grisly depiction of what one would not want to happen if one fell into the clutches of psychiatry. The movie was United Artists' biggest hit ever at the time.

The epicenter of public hostility to ECT was the 1970s and 1980s. Before the 1970s, virtually nothing was written in the popular press on ECT. Then a wave of attacks began between the mid-1970s and mid-1980s on the procedure, resulting in a 1974 law against ECT in California. In retrospect, it is actually quite breathtaking that a medical procedure of value to those suffering from a grave illness should have been outlawed

out of concern to protect patients from the practice of psychiatry itself.

The 1974 California legislation acted as a cold shower for the American Psychiatric Association. In 1975, the APA convened a working group on ECT that reported in 1978 (APA, 1978). The APA's report was a rather lukewarm endorsement of the practice, but it at least admitted a role for ECT. (This document was also the first in the history of psychiatry to demand informed consent from patients.) After long years of silence, the discipline's professional association had now uttered a rather feeble imprimatur.

The real turning point in the restoration of ECT was a consensus conference on the subject, organized by the Office of Medical Applications of Research of the National Institutes of Health. The background of this conference was the unremitting work of Max Fink, M.D., on behalf of ECT. Fink had started to practice ECT as a resident at New York's Bellevue Hospital in 1948, then shortly thereafter, took charge of the ECT unit at Hillside Hospital in Glen Oaks, N.Y. In 1979, Fink wrote *Convulsive Therapy: Theory and Practice*, which marshaled data showing ECT more effective than antidepressant drugs. The NIH Consensus Conference on Electroconvulsive Therapy, a summary of which was published in *JAMA* in October 1985,

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noted, "Not a single controlled study has shown another form of treatment to be superior to ECT in the short-term management of severe depressions." The consensus statement, issued by such dignitaries in the profession as Paula Clayton, M.D., and Allen Frances, M.D., and psychologists Kay Redfield Jamison, Ph.D., and Myrna Weissman, Ph.D., represented a definitive turn in the revival of ECT.

Meanwhile, new guides to the procedure were in the offing. In 1979, Fink wrote the first ECT textbook for the generation that had sat on the sidelines. In 1988, Richard Abrams, M.D., published *Electroconvulsive Therapy*, a work that entered its 4th edition in 2002. In 1994, the APA offered Laurence B. Guttmacher, M.D.'s, *Concise Guide to Psychopharmacology and Electroconvulsive Therapy*.

So why has ECT not been fully rehabilitated? Why was the *New York Times* able to run a front-page article on the treatment of depression without a single mention of ECT? Indeed, commenting on the fact that only a small percentage of general hospital inpatients with major depression receive ECT, an editorial by Harvard's Carl Salzman, M.D., in the January 1998 issue of the *American Journal of Psychiatry* expressed bewilderment that it was not more widely adopted.

Electroconvulsive therapy had changed from being a first-line treatment of depression in the 1940s and 1950s to merely an approach to treatment-resistant depression in the 1990s. (Fink refers to "therapy-resistant depression" as a euphemism: It should be called, in his words, "inadequately treated" depression.) An article in the May 22, 2001, issue of *The Medical Post* noted that the competence of young psychiatrists in ECT was falling. The likely reason: Few of their teachers, trained in the fallow period of 1960 to 1980, felt comfortable with it.

Finally, there is the firm but silent resolution of industry not to include ECT in drug trials, satellite symposia and industry-sponsored meetings. The logic seems clear to me: ECT would show superior efficacy to whatever they have to offer, and they prefer to keep it out of scientific discussion. I once, rather puckishly, asked a drug company to support a conference on ECT and received a scrawled handwritten reply from the head of psychopharmacology saying basically, "Are you kidding?" Requests from senior psychiatrists to include papers on ECT at industry-financed meetings are routinely refused.

Are there comparable examples in medical history of an important treatment suddenly disappearing for cultural reasons? Possibly the vaccination riots of the 19th century held back that treat-

ment's progress for a bit. Yet, to put the downplaying of ECT in perspective: It is as though penicillin had entered a fallow period because of opposition from Christian Science, then experienced difficulty struggling back from the precipice, despite compelling clinical data.

What accounts for the ongoing reluctance of a profession that now prides itself as having rejoined scientific medicine? The answer is that psychiatry remains infused with the kinds of cultural fears and prejudices that other specialties are able to insulate with the firewall of evidence-based medicine. The reality is that the culture we inhabit still fears

ECT, just as many still fear vaccination. Clinicians are reluctant to recommend ECT to patients to avoid upsetting them with the fearsome words and thus break the therapeutic alliance.

Yet, we are not dealing with copper bands for rheumatism here. We are dealing with life-shattering illnesses, such as melancholic depression, mania and catatonia. A treatment of proven safety and reliability is within reach for them. It is madness not to use the full resources of scientific medicine.

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