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Electroshock Therapy:

Let's Stop Blasting the Brain

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of electroconvulsive shock therapy. After conducting his own research on ECT, and questioning its use at PMC and other psychiatric institutions in the Bay Area, he was dismissed from his residency. Since then he has been active in the successful struggle for passage of California's new law restricting the use of ECT, and has written a book entitled, *Shock Treatment is not Good for Your Brain Call Me* to be published this fall by Glide Publications. He has resumed his residency at University of Oregon School of Medicine.

"The regimen I adopt shall be for the benefit of my patients . . . and not for their hurt or for any wrong."

—from the HIPPOCRATIC OATH

It is time to put an end to shock treatment. Whatever it's called: electroconvulsive therapy (ECT), electroshock therapy (EST), electrostimulation, or any other euphemism, this so-called treatment is remarkably widespread, demonstrably ineffective, and clearly dangerous. It causes brain damage manifested in such forms as severe and often permanent loss of memory, learning disability, and spatial and temporal disorientation.

While no official nationwide figures exist, estimates of the number of persons being shocked by ECT range from 50,000 to 200,000 a year. A recent article in the *San Francisco Chronicle* reported a reliable estimate of 1,000 cases of ECT each

The patient said, "Not another one! It's deadly!"

year in the Bay Area alone. Since women have traditionally been the victims in our society, it should not be surprising that more than two thirds of all shock recipients are women.

ECT enjoys almost total acceptance in the medical community, even among those psychiatrists who don't use it. Those who do charge from \$30 to \$60 per shock. Medical-insurance companies and state and Federal health and welfare agencies are more willing to cover the cost of ECT than less technical sounding verbal therapies.

Despite the boom in ECT, and its general approval by the medical profession, even those who make their living from it concede they don't really know how it works. According to Lothar Kalinowsky, a leading proponent of and authority on ECT, "What we wrote 20 years ago in our first book on these treatments is still true today, namely that we are empirically treating disorders whose etiology is unknown with methods whose action is also shrouded in mystery."

Electrodes, Volts and Milliampers. Basically a transformer, the ECT machine is a standard fixture in 90 percent of the country's psychiatric institutions. It is also commonly found in prisons and private psychiatric offices. A typical ECT series may run six to 12 separate shock treatments for depressive patients and 18 to 25 for schizophrenics. In bilateral ECT, electrodes are placed on the patient's temples; in unilateral ECT, they are placed over the front and back of one side of the head. The power applied ranges from 70 to 150 volts, with a current of 500 to 900 milliamperes, about the power consumed by a 100-watt light bulb. The charge can last anywhere from one half to a full second. The result: a grand mal convulsion, identical to an epileptic fit.

The case for ECT generally runs along these lines: Yes, there may have been occasional abuses of shock treatment in the past. But as it is now used, properly administered, ECT is painless, safe and ef-

fective. It is most useful in the treatment of psychotic depression. Memory loss is temporary. Critics of ECT suffer from ignorance. Ex-patients who complain about its effects suffer from paranoid delusions. Both impede the progress of modern medicine.

Beating Up the Insane. Anyone familiar with medical history will recognize that ECT perpetuates a long tradition of beating up those labeled insane with methods ranging from torture to lobotomy to psychosurgery [see "Big Brother and Psychotechnology II: The Pacification of the Brain" by Stephan L. Chorover, PT, May 1974]. But in terms of numbers of victims and extent of brain damage, ECT makes most previous methods seem insignificant.

From the time of Hippocrates, seizures were classified as a disease. But in 1781, in London, W. Oliver, Physician Extraordinary to His Royal Highness, accidentally overdosed a patient with camphor, causing a convulsion and, in the doctor's opinion, improvement. He repeated the treatment on the same patient, again with apparent improvement. He published his discovery in 1785, and within a few years another London physician was claiming "complete cure" of insanity by the camphor treatment.

Not until the 1930s, in an era of political authoritarianism, did mind-changing therapies gain popularity. Ladislaus von Meduna, of Hungary, used a drug called metrazole, derived from camphor, to induce therapeutic convulsions. In Austria, Manfred Sakel promoted insulin shock as therapy. In Portugal, Egas Moniz experimented with prefrontal lobotomies. In Rome, Ugo Cerletti developed electroconvulsive shock treatment. The Germans came up with a simple and final solution for mental illness: in the late 1930s, 275,000 inmates of German psychiatric institutions were starved, beaten, drugged, and gassed to death.

Over the years since then, most of these discoveries have fallen out of favor

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because of various unpleasant or embarrassing drawbacks. Metrazole patients suffered unbearable apprehension while waiting for the seizure that followed each injection; insulin required too much time and too many nurses. Indoklon, or flurothyl, a convulsive gas, never caught on because, although it spared the brain direct insult, it shared the disadvantages of many poison gasses—the ill wind blew both ways. Nurses and doctors standing about during the treatments got whiffed themselves.

The Discovery of ECT. While fashions in therapy come and go, ECT has never gone out of style since its discovery by Cerletti in 1938. The details of that discovery, recounted by Cerletti himself, are worth reading:

"I went to the slaughterhouse to observe this so-called electric slaughtering, and I saw that the hogs were clamped at the temples with big metallic tongs which were hooked up to an electric current (125 volts). As soon as the hogs were clamped by the tongs, they fell unconscious, stiffened, then after a few seconds they were shaken by convulsions in the same way as our experimental dogs. During this period of unconsciousness (epileptic coma), the butcher stabbed and bled the animals without difficulty. Therefore, it was not true that the animals were killed by the electric current: the latter was used, at the suggestion of the Society for the Prevention of Cruelty to Animals, so that the hogs might be killed painlessly. . . . At this point I felt we could venture to experiment on man, and I instructed my assistants to be on the alert for the selection of a suitable subject."

Some weeks later, the Police Commissioner of Rome sent Cerletti such a suitable subject, a vagrant found wandering about the city's railroad station. "This subject was chosen for the first experiment of induced electric convulsions in man. Two large electrodes were applied to the frontoparietal regions, and I decided to start cautiously with a low-intensity current of 80 volts for 0.2 seconds. As soon as the current was introduced, the patient reacted with a jolt, and his body muscles stiffened; then he fell back on the bed without loss of consciousness. He started to sing abruptly at the top of his voice, then he quieted down.

"Naturally we who were conducting the experiment were under great emotional strain, and felt that we had already taken quite a risk. Nevertheless, it was

quite evident to all of us that we had been using too low a voltage. It was proposed that we should allow the patient to have some rest, and repeat the experiment the next day. All at once, the patient, who evidently had been following our conversation, said clearly and solemnly, without his usual gibberish: 'Not another one! It's deadly!'

"I confess that such explicit admonition under such circumstances, and so emphatic and commanding coming from a person whose enigmatic jargon had until then been very difficult to understand, shook my determination to carry on with the experiment. But it was just this fear of yielding to a superstitious notion that caused me to make up my mind. The electrodes were applied again, and a 110 volt discharge was applied for 0.2 seconds"

Although he never tells us what became of that historic first subject, Cerletti was confident enough to invent even more exotic experiments. In one test, he injected psychiatric patients with homogenized suspensions of cells from the brains of pigs that had been repeatedly shocked.

Safer Than Aspirin? Since Cerletti's time medical researchers have continued to experiment with ECT, and if the experiments seem less bizarre, the effects are no less dangerous. Leon Epstein, formerly acting director of the University of California's Langley Porter Neuropsychiatric Institute, has stated that ECT is now "safer than aspirin." If so, why must psychiatrists who use ECT pay three to four times as much for malpractice insurance as other psychiatrists? Perhaps because the death rate from ECT runs around one per 1,000 patients, with one fifth of these deaths directly due to brain damage.

Today's ECT apologists argue that techniques have improved enough to make the treatment safe. But such talk is sheer nonsense. Man's convulsive threshold has not changed since 1938. The voltage needed to induce seizures has not changed. And the brain has not changed. It's still made up of delicate tissue.

Neuropathologic studies of the effects of ECT, conducted mostly in the 1940s, consistently show severe brain damage. Here is a description from one study:

"The patient, a man of 57 years, received 13 electrical shock treatments and died one half hour following the last treatment. . . . In the frontal and temporal lobes of the brain were several small areas of devastation, entirely devoid of ganglion cells and containing some ghost cells."

The effects have not changed since the '40s. Karl Pribram, head of Stanford's Neuropsychology Institute, recently told an interviewer: "I'd rather have a small lobotomy than a series of electroconvulsive shock. . . I just know what the brain looks like after a series of shock, and it's not very pleasant to look at."

While brain damage caused by ECT may not be detectable by the layman, its effects can be dramatic. When I was studying psychiatry as a medical student, I met a patient who was a minister's wife, a meticulous, orderly woman who had become discouraged after 40 years of organizing her husband's life.

Her psychiatrist urged shock treatment and obtained consent from the husband by describing ECT as a simple and effective treatment, while minimizing its potential hazard. Drugs suppressed her seizure, except for a peculiar jerking of her big toes. I was told to watch the toes because no reaction short of convulsion indicated adequate treatment. If the big toes didn't wiggle, someone pushed the button again.

After four or five treatments, the woman no longer recognized me. She no longer recognized anything. But her behavior changed dramatically. She started using large amounts of make-up, wearing dresses she had saved from the 1930s, and flirting with the male staff. Her psychiatrist continued her shock treatments until she had had a full series. He considered her improved.

Obliterating Memory. While behavioral changes, headaches, dizziness, loss of appetite, missed menses, and other symptoms commonly follow ECT, the most serious side effect is memory loss. That should not be surprising, since the electrodes are discharged directly over the temporal lobes, where recent memory is encoded. In 1950, Irving Janis published a definitive study of memory loss resulting from ECT. Comparing 19 shock patients with 11 patients from the same hospital with similar diagnoses, Janis concluded: "All of the ECT patients, as of approximately four weeks following the termination of treatment, exhibited clear-cut instances of retroactive amnesia. . . . Such failures occurred so infrequently

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among the 11 patients in the equated control group as to be almost negligible."

The effect of severe memory loss can be devastating, particularly for anyone already troubled enough to be under psychiatric care. In a recent article in *The New Yorker*, Berton Roueché recounts the story of a woman who had eight shock sessions. She had been a senior Government economist, and after the treatment she attempted to go back to work: "I came home from the office that first day feeling panicky. I didn't know where to turn. I didn't know what to do. I was terrified . . . all my beloved knowledge, everything I had learned in my field during 20 years or more, was gone. I'd lost the body of knowledge that constituted my professional skill . . . I fell on the bed and cried and cried and cried."

Because of the memory-loss problem, in 1958 researchers developed a variation called unilateral ECT. This technique supposedly reduces memory loss by delivering shock only to the nonverbal or right hemisphere of the brain. But this half governs spatial relations and nonlinear modes of consciousness. When these faculties are tested after ECT, it's damage as usual. Although unilateral ECT requires higher voltage and more treatments, it has been welcomed by the profession as a great boon because it causes less babbling by the patient afterward, and is thus less upsetting to nurses and relatives.

Flowers at Buchenwald. In former times, "classical" shock treatments commonly caused bone fractures among those racked by the violent physical convulsions. Although roughly 10 percent of today's patients still get such unmodified ECT, most now first receive a sleep-inducing barbiturate like sodium pentothal, and the muscle-paralyzing agent succinylcholine, or Anectine. While an electrical storm rages unabated in the brain, these drugs suppress its outward manifestations, sparing witnesses the terrifying spectacle of the body's violent spasms.

These "improvements" are like the flowers planted at Buchenwald. Besides, they create their own risks, and don't always work. The muscle paralyzer can cause prolonged failure to breathe and cardiac shock. The paralysis may also intensify the horror of the patient's experience. One ex-ECT patient told me, "You can't breathe; you can't move. And then they put these two deals up there at the temples. You hear the machine hum, and that's it. You see a flash of light and that's it!"

While barbiturates make for a smoother trip into unconsciousness, they also in-

crease the chances of death by choking. Although they do produce sleep, they do not bring a complete loss of feeling. Among former ECT patients I interviewed many could recall the instant of shock itself, even though unable to recall surrounding events. One young man reported: "That pain went right through your head. All you're aware of is this jolting pain going through your mind like an electric crowbar!"

While the arguments about the dangers of ECT go on, studies continue to appear supporting its claims to effectiveness. But like similar studies supporting lobotomy, the bulk of this ECT literature will undoubtedly fall into disrepute. The studies require an excruciating effort to cull significant data and to ignore watered-down conclusions. The vast majority of the studies employ no control group. They simply assume that ECT works, and then go on to compare various approaches: unilateral shock versus bilateral shock; standard shock versus ultra-brief shock; photic shock versus electric shock or drug-induced shock; shock administered with music and shock without music.

Dropping Patients on Their Heads. Despite all the studies, the effectiveness of ECT remains unproven, and cannot be proved, because controlled study is impossible. Since the damaging effects of ECT are so striking, there is no way to create a double-blind study in which the evaluators could not know which patients had received ECT. The only way to produce a similar state of confusion, amnesia and disorientation in another group of patients would be to drop them on their heads.

The glowing claims of success for ECT have followed the cyclical pattern of most therapeutic fashions in psychiatry. The discoverer of the treatment boasts the best results for the broadest indications, while subsequent researchers find diminished success and fewer and fewer indications. Since there have been no double-blind studies of ECT's effectiveness, the claims of success probably reflect the effects of the treatment on the minds of the investigators rather than on those of the patients. This reverse placebo effect may explain the recent experience of a British hospital in which an ECT machine was "successfully" used for two years of treatments before someone discovered the machine did not work.

While many psychiatrists will concede

today that ECT is of little use in treating schizophrenia, they insist that it does help terminate depression. This distinction may tell less about the effectiveness of ECT than it does about the labels "depressed" and "schizophrenic." A depressed person often seeks out answers from others, while a schizophrenic is often unaware that a problem exists. Those who seek, find.

The only patients I've met who were grateful for shock treatment were those who requested it and believed it would help them. The magic worked. It took their minds off their problems. So would a car accident. Pathetically, those who seek instant forgetfulness in the amnesia of shock treatment tend to come back for more. This is known in the trade as a "high relapse rate." I call it a bad habit, a self-destructive way of coping with human problems.

One last-ditch argument for ECT is that it prevents suicide in cases of severe depression by making a person forget about his plans to do away with himself. No statistics exist, however, to prove this claim. Personally, I am convinced that ECT has caused at least as many suicides as it has prevented. The most famous example is Ernest Hemingway.


Hemingway's ECT. In December 1960, Hemingway underwent 11 shock treatments at the Mayo Clinic in Rochester,

Minnesota. Three months later he was back for another series. His friend and biographer, A. E. Hotchner, described him at that time: "Ernest was even more infuriated with these treatments than the previous ones, registering even bitterer complaints about how his memory was wrecked and how he was ruined as a writer . . ." Hotchner quotes Hemingway: "What these shock doctors don't know is about writers and such things as remorse and contrition and what they do to them . . . What is the sense of ruining my head and erasing my memory, which is my capital, and putting me out of business? It was a brilliant cure but we lost the patient!" One month after the second series of ECT, Hemingway killed himself.

Inevitably, any discussion with a proponent of ECT gets down to such arguments as: "Well, doctor, what would you do with an unmanageable schizophrenic? What would you do with a suicidal depressive?" First of all, I wouldn't call people names. Second, I wouldn't add brain damage to their problems. When a psychiatrist asks "But what else can we do?"

"It's a jolting pain going through your head like an electric crowbar."

he's really saying he's sincere and desperate. I have learned not to question anyone's sincerity. But desperate doctors are dangerous. We must limit the lengths to which they may go to control behavior. Today the practitioners of ECT are still searing the brains of the gullible, the unhappy, and the powerless. If psychotics could win lawsuits, these psychiatrists would probably be out of business. But, as Thomas Szasz has said, labeling someone psychotic is like hanging a sign around his neck saying "garbage—take it away." Until patients, other citizens, and Government agencies take some action to stop them, these psychiatrists will continue knocking people silly, and justifying themselves by conjuring unproven illnesses.

We must recognize that ECT is not a treatment, but a seizure brought on by psychiatrists. It is time to cure this disease by disarming them. Psychiatrists must be required to inform their patients that ECT may cause brain damage and permanent loss of memory. I trust that given a free and educated choice, most people will choose preservation of their memories and neurons over the unproved benefits of the treatment. 

Bibliography

- Alpers, Bernard J. "The Brain Changes Associated with Electrical Shock Treatment: A Critical Review" in *LANCET*, Vol. 66, pp. 363-369, 1946.
- Janis, Irving L. "Psychologic Effects of Electric Convulsive Treatments. Part I: Post-treatment Amnesias" in *JOURNAL OF NERVOUS AND MENTAL DISEASE*, Vol. 3, pp. 359-382, 1950.
- Kalinowsky, Lothar B. "Thirty Years of Empiricism" in *INTERNATIONAL JOURNAL OF PSYCHIATRY*, Vol. 5, No. 2, pp. 169, 170, February 1966.
- Levy, N. A., H. M. Serota and R. R. Grinker. "Disturbances in Brain Function Following Convulsive Shock Therapy" in *ARCHIVES OF NEUROLOGY AND PSYCHIATRY*, Vol. 47, pp. 1009-1027, 1942.
- Riddell, Sylvia A. "The Therapeutic Efficacy of ECT" in *ARCHIVES OF GENERAL PSYCHIATRY*, Vol. 8, No. 6, pp. 546-556, 1963.
- Szasz, Thomas S. "From the Slaughterhouse to the Madhouse" in *PSYCHOTHERAPY: THEORY, RESEARCH AND PRACTICE*, Vol. 8, No. 1, pp. 64-67, Spring 1971.