



## Shocking Treatment

---



By Kent Perryman, PhD

**One of the gems in the Sierra Sacramento Valley Museum of Medical History is a 1960s Electroconvulsive Treatment (ECT) device.**

*The author is a member of the SSVMS Historical Committee. He is a retired associate professor in the Department of Psychiatry and Biobehavioral Medicine at the UCLA School of Medicine, and a retired cognitive neurophysiologist with the Veterans Administration Psychiatry Service in Los Angeles.*

ECT DEVICES WERE INITIALLY designed in Italy in the late 1930s to electrically induce brief brain seizures for treating severe mental disorders. Beginning in the 1940s, physicians in America and Europe focused their attention on ECT in the management of severe depression.

Early practitioners would position electrodes across the patient's temples and briefly apply an alternating current to induce a psychomotor seizure. Following the seizure, the patient would lapse into a coma for 20 to 30 minutes. Patients would undergo this procedure three or four times a week for up to 15 treatments.

During the 1940s and 1950s, physicians would cart their ECT from one bed to the next in a mental hospital ward, applying electroshock to as many as 30 individuals in a single morning. Some physicians during this period, accompanied by a nurse, would carry their ECT devices on house calls to private residences for severely depressed patients unable to come to their offices. Several companies including Medcraft Corporation still manufacture ECT devices for use in alleviating depressive episodes in extenuating medical circumstances when psychotherapy and medications cannot be employed.

The Model B-24 pictured here was given to the *Sierra Sacramento Valley Museum of Medical History* by Donald Richard Walk, MD, a major donor of medical artifacts to the Museum. The history below accompanies the Model B-24.



### History of Convulsive Treatment

Ancient Greek temple priests on the island of Lefkas would throw depressed patients into the sea from a cliff 600 feet high. Patients who survived were retrieved from the sea by another group of priests waiting in boats below the cliff. This may conceivably be the first shock treatment for depression!

A more controlled course of somatic treatment for mental illnesses began appearing in the early 1930s in Europe. Convulsive treatment procedures began with the realization that the symptoms associated with mental illnesses were sometimes reduced in severity following an epileptic seizure. Intramuscular camphor, and then pentylinetetrazol (Metrazol), were employed in 1934 for a brief period by Laszlo von Meduna in Budapest. Metrazol was much more effective than camphor-in-oil injections in treating depression.

This form of pharmacconvulsive therapy was not used for long in treating schizophrenia, depression and mania because of uncontrolled grand mal convulsions.

Around this same time, insulin coma therapy was introduced as a treatment for schizophrenia by Manfred Sakel at the Lichterfelder sanitarium near Berlin. Sakel believed elevated levels of adrenalin were responsible for mental illness and that insulin could be used as an adrenaline antagonist.

However, this procedure was cumbersome and difficult to control, sometimes resulting in prolonged and irreversible coma with a significant number of patient deaths. This was never a treatment of choice for depressive illness.

Electric shock treatment rapidly replaced chemically-induced seizures because of its more controllable and safer outcome. Prior to the use of electroconvulsive treatment in the 20th century, documentation of the use of electroshock to alleviate nervous disorders was scarce. Supposedly, the Roman court physician Scribonius Largus (47 AD) treated the emperor Claudius's headaches using an electric eel.

The first recorded electroconvulsive treatment for mental illness was in 1755 by the French physician J. B. LeRoy. Static electricity was commonly use, by rubbing amber and linen or wool cloth together to produce a charge. It wasn't until the early part of the 20th century that alternating current could be successfully applied to the scalp to induce seizures.

Two Italian physicians, Ugo Cerletti and Lucino Bini, began developing a model of epilepsy in 1934 using schizophrenic patients. These two early neuroscientists had observed that Roman slaughterhouses employed an electric stimulus to stun pigs prior to dispatching them while comatose. They were confident that if the electrical stimulus did not kill the pigs, it would be safe for use with their patients.

With some minor adjustments to stimulus parameters (particularly voltage), Cerletti and Bini successively demonstrated that electroconvulsive therapy could be safely applied to treat mental illness. One of their electroconvulsive devices was brought to the United States in 1940; the first treatments here were performed by Renato Almansì and Dale Impastato at Columbus Hospital in New York City. Their patient was a 29 year-old women suffering from schizophrenia who was reported to have made a sudden and remarkable recovery.

Electroconvulsive treatment was then referred to as "electo-shock" and the equipment was crude. Very often, treating physicians could feel an electrical tingling sensation between their fingers while operating the device! However, these early electroconvulsive machines were very effective in producing grand mal convulsions.

Patients were positioned on a bed with their back slightly arched and a tongue depressor inserted into one side of the mouth between the upper and lower molars. Since no anesthesia and muscle relaxants were given in those days, several nurses or assistants would hold the patients' shoulders and extremities to prevent flaying during the convulsion. The patient would subsequently lapse into a coma for 30 to 40 minutes with no memory of the treatment procedure later. We can just imagine what a frightening experience electroconvulsive treatments administered back in the 1930s and 1940s must have been for both the patients and the staff.

The 1960s saw the introduction of muscle relaxants during electroconvulsive treatment to prevent fractures and dislocations. Curare was used for a brief period but was later replaced by the much safer and controllable succinylcholine to prevent skeletal complications associated with grand mal convulsions.

kperryman@aol.com

5380 Elvas Avenue #100 • Sacramento, CA 95819  
916.452.2671 PH • 916.452.2690 FX • Email: [info@ssvms.org](mailto:info@ssvms.org)

Copyright © 2000-2008 Sierra Sacramento Valley Medical Society - All Right's Reserved