CME ACTIVITY

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CME Objectives
After completing this CME activity, the psychiatrist should be able to:

- Discuss the use of ECT in treatment-resistant patients with psychiatric disorders
- Select a population of patients who are likely to respond to ECT

Statement of Need and Purpose
Even though the use of electroconvulsive therapy (ECT) has declined due to the availability of new agents and the imposition of state regulations, physicians continue to encounter patients with severe and treatment-resistant psychiatric disorders that respond to both acute and maintenance use of ECT, especially when combined with pharmacotherapy. Physicians responding to surveys published by Physicians Postgraduate Press have requested updated information on the use of ECT in patients with schizophrenia, bipolar disorder, and depression. This CME activity is designed to address these requests. There is no prerequisite for participating in this CME activity.

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Dr. Haskett is a consultant for Pfizer Inc and is a member of the speaker's bureau for Pfizer Inc, Eli Lilly and Company, and Glaxo Wellcome Inc.

Dr. Mulsant has received support in kind (equipment) from MECTA Corporation.

Drs. Chengappa, Sandman, and Sylvester have no significant commercial relationships to disclose relative to the presentation.

Use of Electroconvulsive Therapy in a State Hospital: A 10-Year Review

Alfred P. Sylvester, M.D.; Benoit H. Mulsant, M.D.; K. N. Roy Chengappa, M.D., F.R.C.P.C.; Alan R. Sandman, D.O.; and Roger F. Haskett, M.D.

Background: The use of electroconvulsive therapy (ECT) in the state hospital setting currently represents a very small percentage of the total overall use of this modality in the treatment of the mentally ill.

Method: Using records kept by a state hospital, we retrospectively identified all patients who had received ECT between the years 1986 and 1995. A review of the records at the state hospital from where patients were referred and the university hospital where ECT was administered was undertaken. Demographic and clinical characteristics, reasons for referral, symptom profile, ECT parameters, clinical outcomes, and restraint/seclusion data were assessed.

Results: Over 10 years, 21 patients were treated with ECT, representing 0.4% of all admissions to the state hospital. Of these subjects, 17 records could be retrieved. The majority were women (N = 12; 71%) and were diagnosed with a mood disorder. Ten subjects (59%) were over the age of 60 years, 4 of whom were 70 years or older. Most patients had a state hospital length of stay of 1 year or less. The mean number of ECT treatments was 12.2. There were no medical complications that led to premature termination of ECT. Eleven patients (65%) were discharged either directly from the university hospital or within 10 days of readmission to the state hospital. Six of 7 patients who had restraint and seclusion episodes prior to ECT were found to have no further episodes afterwards. The seventh experienced a dramatic decrease in number and total hours of episodes.

Conclusion: For a substantial minority of patients in this state hospital setting, ECT appears to have been an effective and safe form of treatment, and its use should be considered early rather than late in the course of hospitalization.

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Received May 28, 1998; accepted Nov. 8, 1999. From York Behavioral Health Services, York Hospital, York, Pa. (Dr. Sylvester); Intervention Research Center for the Study of Late-Life Mood Disorders and Department of Psychiatry, University of Pittsburgh School of Medicine (Dr. Mulsant); the Western Psychiatric Institute and Clinic, University of Pittsburgh Medical Center (Drs. Sylvester, Mulsant, Chengappa, and Haskett); the Special Studies Center, Mayview State Hospital (Dr. Chengappa), Pittsburgh, Pa.; and Community Behavioral Health, Philadelphia, Pa. (Dr. Sandman).

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Reprint requests to: Alfred P. Sylvester, M.D., York Behavioral Health Services, 1600 South George St., York, PA 17402.

After its introduction in 1938, electroconvulsive therapy (ECT) had become widely available in state hospitals where the majority of the seriously mentally ill received their care. ECT was used rather extensively since it constituted the main treatment for the hospitalized patient at a time when few other options existed.[1] Many factors have influenced the use of ECT since that time. The introduction of chlorpromazine in the early 1950s had a dramatic effect on the use of various "somatic therapies" and, along with other pharmacotherapies, contributed to the rapid decline in ECT. At the same time, in the mid-1960s, when interest in ECT was rekindled owing to the growing number of medication-refractory patients, issues of diagnostic indications for ECT and previous misuse of treatment became recognized. In addition, strong social and political forces had an impact on the development and use of ECT, largely on the basis of a perception of previous misuse and overutilization. This resulted in many restrictions, including legislative barriers placed by several states.[1,2] State hospitals, in particular, experienced a great deal of pressure, coincident with the shift of resources to outpatient community programs and the lack of funding available to provide for the implementation of the technical advances made in the ECT procedure.[3] These factors led most state facilities to abandon the practice.

In a national sample representing all aspects of psychiatric inpatient care, Thompson et al.[4,5] reported a 74% decrease in the number of patients admitted to state- and county-funded psychiatric hospitals who were receiving ECT between 1975 and 1980. This change is in contrast to a 44% decrease seen in general and private psychiatric hospitals during the same period.[5] Similarly, on a statewide level, Hedlund et al.[6] reported a greater than 50% decrease in ECT use in Missouri state hospitals between 1971 and 1975. In a 1987 survey of 236 hospitals in the southern United States, McCall[7] found only 19% of state hospitals offering ECT services, a 40% drop within the previous 10 years. Thompson et al.[4,5] reported that in 1975, only 1.2% of all patients admitted to state and county hospitals had received ECT. By 1980, only 0.3% of all patients admitted to state and county hospitals were receiving ECT. Fink[8] and others[5] reported a leveling of this decline during the 1980s on a national level for general and public hospitals. However, for state and county hospitals in 1986, Thompson et al.[5] reported that the case numbers were too small to yield an accurate estimate.

Several studies have documented that ECT in recent years has been used far more frequently in private hospitals than in public institutions.[4–7,9–11] Hermann et al.,[2] reporting on data from 1988 and 1989, showed that the presence of an academic medical center greatly influenced the use of ECT within a metropolitan area. In addition, the number of private psychiatric hospital beds per capita was one of the strongest predictors of ECT utilization. McCall and colleagues[3] comment that state hospitals have gone from being the most likely to the least likely to use ECT. In a recently published review encompassing 19 months of mandatory reporting of ECT performed in all non–federally funded clinical facilities in Texas, Reid et al.[12] found only 1 of 13 state-funded mental institutions (which included 8 state hospitals, 3 state centers, and 2 urban acute-care psychiatric hospitals) had performed ECT on site, with 2 others occasionally referring patients elsewhere for the treatment. Additionally, patients treated with ECT tended to be white, female, and elderly.

Several factors have contributed to this discrepancy between public and private sectors. Restrictive regulations in several states,[2,9,13,14] sociopolitical influences as a result of a public perception of previous abuse,[3] and differences in the financial, educational, and administrative arenas[2,15] have been implicated. Additionally, diagnostic differences between public and private hospitals may have played a role,[2,9] although there is evidence to the contrary.[10,11]

In Pennsylvania, a survey done by the Office of Mental Health in the Department of Public Welfare during the fiscal year 1990–1991 showed that only 14 patients had received ECT from a total of 14 state hospitals. No ECT was administered on site. This drastic reduction in the use of ECT raises several questions regarding the appropriate use of ECT in the state hospital setting, in particular with regard to potential ECT-responsive conditions. This reduction has significant implications for a patient population with treatment-refractory disorders and lengthy hospitalizations. In an era where cost has become a key issue, some clinicians are asking whether the role of ECT in these facilities should be reexamined. In this study, we retrospectively examined the use of ECT in a Pennsylvania state hospital over a 10-year period in an effort to determine the extent of use of ECT, describe the types of patients treated with ECT, and assess their outcomes.

METHOD

Mayview State Hospital (MSH) provides services to southwestern Pennsylvania. Since ECT was discontinued at MSH, it has been available to MSH patients under an agreement with Western Psychiatric Institute and Clinic at the University of Pittsburgh Medical Center, a university acute-care psychiatric hospital.

Between 1986 and 1995, the mean ± SD number of annual admissions was 502.4 ± 165.2 (range, 291–828). All patients were admitted involuntarily upon transfer from acute-care hospitals in the surrounding areas. Patients are generally admitted to the state hospital because they are considered treatment refractory (i.e., they have not responded to treatment during acute hospitalization). MSH patients who had received ECT from 1986 through 1995 were identified using an internal reporting system organized through the state. Beginning in 1993, the initial recommendation for ECT made by the attending psychiatrist was followed by a second-opinion consultation performed by other psychiatrists on staff at the state hospital. Patients were diagnosed using DSM-III,[16] DSM-III-R,[17] or DSM-IV[18] criteria. With the exception of 1 case, patients were transferred and admitted to Western Psychiatric Institute and Clinic (Pittsburgh, Pa.) to receive ECT. Appropriateness for ECT was again evaluated by the admitting psychiatrist and the ECT psychiatrist prior to treatment. Until 1991, ECT treatments were administered with the Mecta-D device (Mecta Corporation, Lake Oswego, Ore.). After 1991, the Mecta-SRI device (Mecta Corporation, Oswego, Ore.) was used. Both devices administer brief-pulse, square-wave, constant-current stimuli. Prior to 1991, the initial stimulus charge was determined on the basis of age and adjusted on the basis of the observed duration of sei-

zure. After 1991, seizure thresholds were empirically determined for all patients using a published method.[19]

Twenty-one patients were identified as having received ECT during the 10-year study period. Records of 4 patients could not be obtained. Therefore, this report focuses on the remaining 17, 11 of whom were treated between 1991 and 1995. Records were reviewed, including the state hospital charts; the Exclusion, Restraint, Protection, and Seclusion (ERPS) database (a computerized database maintained by the Commonwealth of Pennsylvania of all exclusion, restraint, and seclusion episodes); and charts from the university hospital including the ECT files. Data collection from the state hospital records included discharge date (if applicable) and clinical data 6 months prior to and after return to the state hospital. These included demographics, diagnosis, reason for referral, number of restraint/seclusion episodes in the state hospital before and after treatment, clinical profiles, consent for treatment, ECT parameters, response to treatment, and eventual outcome. All references to clinical presentations were obtained word-for-word from the record, with attention to key words including mood, verbal/physical aggression, weight loss, poor oral intake of medications and/or food, psychotic symptoms/disorganized behavior, and poor attention to activities of daily living or hygiene. For the single patient who received ECT outside of the university hospital, data retrieval was limited to the state hospital chart only.

This study was approved by the Internal Review Board of the state hospital and by the Office of Mental Health, Commonwealth of Pennsylvania.

RESULTS

The 21 patients identified as having been treated with ECT represented 0.4% of the admissions for those 10 years. Of the 17 patients for whom charts were available, 12 (71%) were female, 16 (94%) were white, and 10 (59%) were aged 60 years or older (age range, 28–78 years). By contrast, only 46% of all patients admitted were female. This difference in gender distribution was statistically significant ($\chi^2 = 4.17$, df = 1, $p < .04$). Diagnostic categories included major depression, recurrent (N = 1); major depression, recurrent with psychotic features (N = 7); bipolar disorder, depressed (N = 1); bipolar disorder, depressed with psychotic features (N = 3); schizoaffective disorder, bipolar type (N = 4); and schizophrenia, undifferentiated type (N = 1).

All patients were on civil commitments when recommendations were made for ECT. Nine (53%) had been judged incompetent to consent for treatment, and a guardian was appointed. Eleven patients had been hospitalized at the state facility prior to ECT for 6 months or less, including 9 who were hospitalized for 3 months or less. The mean ± SD number of psychotropic medications used during the 6 months prior to ECT was 5 ± 2 (range, 2–10). In all cases, unresponsiveness to pharmacologic interventions led to referral to ECT. With the exception of cases 16 and 17 (Table 1), depression was the most prominent symptom identified, including 1 patient diagnosed with schizophrenia. Either suicidal ideation or passive death wish was documented in 12 (71%) of 17 cases. The following symptoms were also common: refusal of oral intake (food, medications) and/or weight loss (N = 13), decreased ability to perform activities of daily living and/or poor hygiene (N = 9), psychotic symptoms and/or disorganized behavior (N = 14), and verbal/physical aggression (N = 7).

Ten patients (58%) had documentation of previous ECT; however, in only 4 cases did we find documentation of previous outcome (successful in 2; equivocal or unsuccessful in 2). Table 2 presents data on diagnosis and course. The mean ± SD length of stay at the university hospital prior to initiation of ECT was 9.9 ± 9.6 days (median = 6.5 days). The course of ECT lasted 31.4 ± 12.2 days with a mean ± SD number of treatments of 12.2 ± 3.9. All patients but 1 required bilateral treatments. Mean seizure duration monitored by electroencephalogram ranged from 34.5 to 100.8 seconds. Mean ± SD length of stay at the university hospital after completion of ECT was 16.1 ± 15.5 days (median = 9.5 days). No medical complications delayed or prevented the completion of ECT. One patient withdrew consent after the fourth ECT.

Seven patients (41%) had episodes of restraint/seclusion documented in the ERPS data bank pretreatment. Some of the most common events resulting in seclusion included attempted or completed assault, screaming or yelling, verbal abuse, disrobing, and nonresponse to intervention. By contrast, after completion of ECT, 6 of those 7 had no such episodes (Table 3). Most remarkable, the patient in case 17 had a total of 48 incidents of seclusion or restraint for a total of 342 hours in the 6 months prior to ECT, but experienced only 3 incidents for a total of 3 hours after ECT.

Eleven (65%) of the patients were discharged to the community either directly from the university hospital (N = 4) or within 6 months of readmission to the state hospital (N = 7, with 6 discharged within 10 days or less). Two of the 17 patients (those in cases 2 and 13) experienced a rapid relapse following a first course of ECT and had minimal improvement with a second course. Patients in 6 cases experienced a mild delirium. The patient in case 7 withdrew consent after 4 treatments, and the patient in

Table 1. Clinical Outcomes of Patients Receiving Electroconvulsive Therapy (ECT)[a]

Case	Length of Stay at State Hospital Pre-ECT (mo)	Symptoms Pre-ECT	Symptoms Post-ECT	Length of Stay at State Hospital Post-ECT	Disposition
1	6	Depressed, poor hygiene, weight loss, psychotic	Full resolution of depression, weight gain, not psychotic	0 mo	Discharged home
2	15	Depressed, assaultive, poor oral intake, psychotic	Remained depressed, poor ADL, psychotic	15 mo	Discharged to personal care home
3	3	Depressed, weight loss	Improved mood, weight gain	0.33 mo	Discharged home
4	1	Depressed, weight loss, poor ADL, assaultive, psychotic	Some improvement in mood and psychosis, improved oral intake, assaultive	3 mo, 8 d	Discharged to nursing home
5	9	Depressed, catatonic, poor ADL, weight loss, psychotic, disorganized	Improved mood, weight gain, no psychosis, improved ADL	0 mo	Discharged home
6	3	Depressed, anxious, refusing medications, psychotic	Less depressed, taking medications, no psychosis	7 mo	Discharged home
7	0.75	Depressed, weight loss, poor ADL, psychotic	Improved mood, improved ADL and oral intake, no psychosis	0.27 mo	Transfer to state facility closer to family
8	3	Depressed, weight loss, refusing medications, assaultive, psychotic, disorganized	Euthymic, weight gain, improved oral intake, no psychosis	6 mo	Discharged to nursing home
9	3	Depressed, refusing medications and oral intake, weight loss, poor ADL, assaultive, psychotic	Improved mood, improved oral intake, weight gain, improved ADL, no psychosis	0.17 mo	Discharged home
10	1	Depressed, psychotic	Improved mood, no psychosis	0 mo	Discharged home
11	2	Depressed, catatonic grunting, poor ADL, psychotic	Modest improvement in mood, no psychosis	0 mo	Discharged home
12	4	Severely depressed	Euthymic	0.33 mo	Discharged home
13	24	Depressed, weight loss requiring NG tube, verbally aggressive	Improved mood, hypomanic, increased oral intake, weight gain, uncooperative	2 mo, 8 d	Discharged to personal care home
14	22	Depressed, disorganized, psychotic	Improved mood, organized, less verbally and physically aggressive, persistent psychosis	0.23 mo	Discharged to residential living
15	9	Depressed, weight loss, poor ADL, uncooperative, verbally and physically aggressive, psychotic	Improved mood, improved oral intake and ADL, no psychosis	0.27 mo	Discharged home
16	3	Mood lability, disorganized, psychotic, refusing oral intake and medications, weight loss, refusing ADL	Somewhat more organized, improved ADL, weight gain, occasional psychosis	7 mo	Discharged to residential living
17	56	Mood lability, refusal of medications, oral intake and ADL disorganized, psychotic, verbal and physical aggression	Gradual improvement noted in organization, improved oral intake, weight gain, improved ADL, no psychosis	Still hospitalized	

[a]Abbreviations: ADL = activities of daily living, NG = nasogastric tube.

case 8 sustained a hip fracture after a fall well after the treatment course.

As mentioned earlier, an additional 4 cases were not included in the above analysis, since their records could not be located. However, an administrative summary of ECT outcome documented a "good response" to ECT in 3 of the 4. No other information was available.

DISCUSSION

In a large state hospital located in western Pennsylvania, we found that the use of ECT and the characteristics of patients treated were mostly congruent with the results of previous studies. Compared with previously reported estimates of ECT use in state hospitals ranging from 0.8% to 1.7%,[3] our figure of 0.4% is somewhat lower and more in keeping with the finding of Thompson and colleagues[5] report of 0.3% for 1980. As reported by others,[3,5,20] we found the majority of patients treated with ECT to be women, in contrast to their lower representation among the overall admissions. As one might expect considering the higher prevalence of depressive episodes among women, most of these female patients treated with ECT were diagnosed with major depression. Since we do not

Table 2. Diagnosis and Characteristics of Electroconvulsive Therapy (ECT) Course[a]

Case	Length of ECT Course (d)	No. of Unilateral/ Bilateral	EEG Seizure Duration (range, sec)	Diagnosis
1	27	4/7	27–60	MDD, recurrent with psychotic features
2	24	0/10	30–121	Bipolar disorder, depressed
3	28	8/5	30–125	MDD, recurrent
4	41	5/8	65–140	MDD, recurrent with psychotic features
5	50	7/13	25–110	MDD, recurrent with psychotic features
6	34	0/12	48–95	MDD, recurrent with psychotic features
7	8	4/0	57–130	Bipolar, depressed with psychotic features
8	28	2/8	54–180	Schizoaffective disorder, bipolar type
9	15	0/6	50–88	Schizoaffective disorder, bipolar type
10	22	10/0	60–154	MDD, recurrent with psychotic features
11	34	0/14	25–155	Bipolar disorder, depressed with psychotic features
12[b]	Unknown	0/13	Unknown	MDD, recurrent with psychotic features
13	24	6/6	35–119	Bipolar disorder, depressed with psychotic features
14	36	5/9	25–257	CUS
15	50	6/13	26–101	MDD, recurrent with psychotic features
16	31	6/8	40–169	Schizoaffective disorder, bipolar type
17	50	0/14	60–160	Schizoaffective disorder, bipolar type

[a]Abbreviations: CUS= chronic undifferentiated schizophrenia, EEG = electroencephalogram, MDD = major depressive disorder.
[b]Treatment provided at another institution.

Table 3. Episodes of Restraint/Seclusion/Exclusion at the State Hospital 6 Months Before and After Completion of Electroconvulsive Therapy (ECT)

	Case No.						
Time	5	9	10	12	13	15	17
Before ECT							
No. of episodes	6	5	3	1	4	2	48
Duration (h)	71	83	56	3	22	2	342
After ECT							
No. of episodes	0	0	0	0	0	0	3
Duration (h)	0	0	0	0	0	0	3

have access to the diagnoses of the patients who were not treated with ECT, we cannot conclude definitely that a difference in distribution of diagnosis accounts for the overrepresentation of women among patients who received ECT. However, McCall et al.[3] found that among female patients in a state hospital, those with depression were more likely to receive ECT than patients with other diagnoses. Similarly, Thompson and colleagues[5] found age and diagnosis to be more predictive than gender of overall ECT use in the United States. Mirroring national trends, only 1 nonwhite patient received ECT, and most patients who received ECT were 60 years or older.[3,13]

On the whole, ECT was remarkably safe, with no significant or lasting complications occurring in any patient. The effectiveness of ECT in this small group of patients with severe and refractory psychiatric disorders was supported by objective data: more than half of the patients were discharged within 10 days after completion of ECT, and almost two thirds were discharged within 6 months. Several patients who were not discharged after completion of ECT experienced clinically significant improvement, as demonstrated by reduction in the use of seclusion and restraints. Of note, with the exception of 1 patient (patient 7, who withdrew consent), all patients started on unilateral treatments were eventually switched to bilateral treatments. The poor response to right unilateral ECT is probably due to the fact that these patients were highly treatment refractory as suggested by our finding that, on average, 5 medications had failed to produce improvement during the 6 months prior to ECT.

Overall, patients who experienced the most improvement tended to have had shorter hospitalizations prior to ECT. This finding is possibly due to the fact that patients who have failed several medication trials or have longer episodes of illness are more likely to be refractory to ECT, as demonstrated in one recent study.[21] However, in that particular study, a longer episode of depression was a better predictor of nonresponse to ECT, even after controlling for treatment refractoriness, as measured by the cumulative strength of pharmacologic treatments received prior to ECT. This suggests that ECT could be considered earlier in the course of a severe illness, e.g., after 1 or 2 adequate pharmacologic trials, rather than reserved as a treatment of last resort after months or years of illness, as is often the case in state hospitals. Such a change of practice may help to produce a significant reduction in length of stay in long-term psychiatric facilities. The majority of studies that have investigated the impact of ECT on length of stay were conducted in short-term facilities and had divergent results.[22–24] However, one recently published large study[25] of 249,000 patients discharged from general hospitals with a principal diagnosis of a depressive disorder showed that prompt initiation of ECT (i.e., within the first 5 days of admission)

was associated with shorter and less costly inpatient treatment compared with no ECT or delayed ECT treatment.

Our data on the potential benefits of ECT in state hospitals are promising, but should only be considered suggestive owing to the retrospective, naturalistic nature of this study. In addition, given high relapse rates following acute response to ECT[26] and the current opinion of many experts regarding the necessity of continuation ECT, long-term outcome after discharge from state facilities, including readmission rates, should be evaluated to determine the overall effectiveness of ECT in this patient population.

Our and other state and national data lead us to wonder why such small numbers of state hospital patients are being treated with ECT either within the hospital itself or on a referral basis. Considering the historical context of ECT, some[7] have argued that efforts to prevent ECT from being abused have reached the point at which opportunities are being missed for an improved quality of life for some patients with potentially ECT-responsive conditions (i.e., reduced hospitalization, reduced seclusion). These patients may constitute a substantial group with severe mental illness treated in state facilities.

Alternatively, patients in settings such as MSH may be very well selected, allowing ECT to be given only to those patients with a high chance of response, thus producing good outcomes. Determining whether ECT is underused or "perfectly" prescribed cannot be done without examining the overall number of diagnostic categories in our treatment population and reviewing each case individually and looking closely at the referral process. It is also difficult to evaluate the contribution of declining state hospital admissions to the overall decrease in ECT used. In our 10-year study, we observed a 64% decrease in the number of hospitalized patients. Interestingly, however, ECT treatments were more frequently administered toward the latter half of our study period. McCall[7] argues strongly that it is hard to attribute such large drops in the use of ECT to variables such as economics or diagnostic variability (i.e., fewer mood disorders). He proposes that the main influence, at least in the southern United States, has been a "selective supersensitivity" of state-funded institutions to social, political, and legal pressures. Further research is warranted to clarify these issues.

Drug name: chlorpromazine (Thorazine and others).

Disclosure of off-label usage: The authors have determined that, to the best of their knowledge, no investigational information about pharmaceutical agents has been presented in this article that is outside U.S. Food and Drug Administration–approved labeling.

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Instructions

Physicians may receive up to 1 hour of Category 1 credit toward the American Medical Association Physician's Recognition Award by reading the article starting on page 534 and correctly answering at least 70% of the questions in the posttest that follows.

1. Read each question carefully and circle the correct corresponding answer on the Registration form.
2. Type or print your full name and address and Social Security, phone, and fax numbers in the spaces provided.
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1. Electroconvulsive therapy (ECT) was introduced as a treatment in the late:

a. 1930s
b. 1940s
c. 1950s
d. 1960s

2. All of the following have been suggested to play a role in the decline of ECT use in state hospitals *except*:

a. Declining state hospital admissions
b. Social and political involvement
c. Lack of funding and shifting of resources
d. Introduction of serotonin reuptake inhibitors

3. The frequency of ECT use in state hospitals is estimated at:

a. < 1%
b. 1%–2%
c. 3%–5%
d. > 10%

4. Which of the following is false?

a. The presence of an academic center increases the likelihood ECT will be used in a certain area.
b. Studies suggest that general and private sector psychiatric hospitals experienced a greater decline in the use of ECT as compared with state hospitals.
c. Patient populations treated with ECT in state hospitals are more frequently white, female, and elderly.
d. Several states have restrictive legislation regarding the use of ECT.

5. Between 1975 and 1980, several studies suggest that state hospitals experienced a decline in ECT use of about:

a. 5%
b. 25%
c. 50%
d. 75%

6. In this particular study, improved quality of life for patients treated with ECT was suggested by:

a. Increased length of hospitalization
b. Reduced frequency of seclusion and restraint
c. Reduced access to ECT
d. Increased exposure to psychotropic medication

7. ECT in state hospitals is:

a. A widely used treatment modality
b. Completely banned from use in any state hospital
c. Associated with a number of significant complications for this treatment population
d. An effective form of treatment that may be underutilized

Answers to the January 2000 CME posttest

1. b 2. c 3. b 4. c 5. c 6. c 7. b 8. b 9. d

Circle the one correct answer for each question.

1.	a	b	c	d
2.	a	b	c	d
3.	a	b	c	d
4.	a	b	c	d
5.	a	b	c	d
6.	a	b	c	d
7.	a	b	c	d

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1. Was the educational content relevant to the stated educational objectives? ❑ Yes ❑ No

2. Did this activity provide information that is useful in your clinical practice? ❑ Yes ❑ No

3. Was the format of this activity appropriate for the content being presented? ❑ Yes ❑ No

4. Did the method of presentation hold your interest and make the material easy to understand? ❑ Yes ❑ No

5. Achievement of educational objectives:
   A. Enabled me to discuss the use of ECT in treatment-resistant patients with psychiatric disorders.
      ❑ Yes ❑ No
   B. Enabled me to select a population of patients who are likely to respond to ECT. ❑ Yes ❑ No

6. Did this CME activity provide a balanced, scientifically rigorous presentation of therapeutic options related to the topic, without commercial bias? ❑ Yes ❑ No

7. Does the information you received from this CME activity confirm the way you presently manage your patients? ❑ Yes ❑ No

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   _____
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10. How much time did you spend completing this CME activity?
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