Clinical Policy Title: Electroconvulsive therapy

Clinical Policy Number: CCP.1290

Effective Date: March 1, 2017
Initial Review Date: February 15, 2017
Most Recent Review Date: February 5, 2019
Next Review Date: February 2020

Related policies:

CCP.1111 Laser thermal ablation for epileptic seizures

ABOUT THIS POLICY: AmeriHealth Caritas has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas’ clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of “medically necessary,” and the specific facts of the particular situation are considered by AmeriHealth Caritas when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas’ clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas’ clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas will update its clinical policies as necessary. AmeriHealth Caritas’ clinical policies are not guarantees of payment.

Coverage policy

AmeriHealth Caritas considers the use of electroconvulsive therapy to be clinically proven and, therefore, medically necessary when the following criteria are met (American Psychiatric Association, 2008; Canadian Network for Mood and Anxiety Treatments, 2016; Coffey, 2016; Fontanelle, 2015; Khan, 2017; Luchini, 2015; Song, 2015; Tor, 2015; Wang, 2015; Zeiler, 2016):

- **Diagnosis:**
  - Major depressive disorder.
  - Bipolar disorder.
  - Schizophrenia.
  - Schizo-affective disorder.

- **Symptoms:**
  - Catatonia.
  - Psychosis.
  - Severe suicidality.
  - Severe vegetative changes that may lead to significant deterioration of medical or psychiatric condition (e.g., sleep, oral intake, or grave passive neglect).

Policy contains:
- Electroconvulsive therapy.
• Other considerations:
  – Conditions where there is a need for rapid, definitive treatment response on either medical or psychiatric grounds.
  – Clinical circumstances where the risks of other treatments outweigh the risks of electroconvulsive therapy (i.e., co-occurring medical conditions make electroconvulsive therapy the safest treatment alternative).
  – Psychiatric treatment failure (i.e., prior poor response to multiple medication regimens, including antidepressants with adjunctive agents).
  – Intolerable side effects to antidepressant medications (e.g., seizures, hyponatremia, or severe anxiety).
  – Psychiatric illness during pregnancy.
  – Electroconvulsive therapy is expressed as patient preference of therapy with history of positive response.
  – Electroconvulsive therapy is administered at a frequency sufficient to achieve therapeutic effect (e.g., nine to 12 treatments in the acute phase).

Limitations:

AmeriHealth Caritas considers the maintenance use of electroconvulsive therapy to be clinically proven and, therefore, medically necessary when the following criteria are met:
  • Concomitant maintenance therapy consisting of psychotropic medications is prescribed.
  • Maintenance electroconvulsive therapy is administered at the minimum frequency compatible with sustained remission.
  • The need for continued maintenance electroconvulsive therapy is reassessed at least every three months.

AmeriHealth Caritas considers the use of multiple-seizure electroconvulsive therapy to be clinically unproven and investigational and, therefore, not medically necessary.

All other uses of electroconvulsive therapy are not medically necessary.

Alternative covered services:

Routine mental health and psychiatric services provided by an in-network provider.

Background

Electroconvulsive therapy is an effective treatment for major depressive disorder, particularly depression that is resistant to pharmaceutical and cognitive behavioral therapies (Song, 2015). Emerging data (Polyakova, 2015) suggests that electroconvulsive therapy may reduce depressive symptoms by increasing the expression of brain-derived neurotrophic factor; however, conflicting findings have been reported and
Electroconvulsive therapy has found use in the treatment of schizophrenia, bipolar disorder, catatonia, epilepsy, obsessive-compulsive disorder, and various other mental health disorders worldwide (Leiknes, 2012; Lesage, 2016; Luchini, 2015; Wang, 2015; Zeiler, 2016). One useful application of electroconvulsive therapy is during and after pregnancy, when it may be undesirable to administer systemic neuroleptic agents that might find their way to the developing fetus or the breast-feeding newborn (Calaway, 2016; Webb, 2004).

Concerns persist that electroconvulsive therapy may be associated with adverse cognitive side effects, a limitation that potentially complicates its use in older patients. Attempts to segmentally limit electroconvulsive therapy to spare critical brain areas have had mixed results (Tor, 2015). There is also, unfortunately, a social stigma associated with electroconvulsive therapy within the public and a negative bias toward electroconvulsive therapy among some health care providers (Aoki, 2016).

**Searches**

AmeriHealth Caritas searched PubMed and the databases of:

- UK National Health Services Centre for Reviews and Dissemination.
- Agency for Healthcare Research and Quality and other evidence-based practice centers.
- The Centers for Medicare & Medicaid Services.

We conducted searches on December 14, 2018. Search terms were: “electroconvulsive therapy.”

We included:

- **Systematic reviews**, which pool results from multiple studies to achieve larger sample sizes and greater precision of effect estimation than in smaller primary studies. Systematic reviews use predetermined transparent methods to minimize bias, effectively treating the review as a scientific endeavor, and are thus rated highest in evidence-grading hierarchies.
- **Guidelines based on systematic reviews**.
- **Economic analyses**, such as cost-effectiveness, and benefit or utility studies (but not simple cost studies), reporting both costs and outcomes — sometimes referred to as efficiency studies — which also rank near the top of evidence hierarchies.

**Findings**

A comprehensive worldwide systematic review of electroconvulsive therapy over the last 40 years (Lesage, 2016) generated a crude rate of usage at 27 per 100,000 inhabitants in the United States, a rate similar to that of Australia and approximately twice that of the United Kingdom. Electroconvulsive therapy use has diminished over time, probably due to the emergence of effective pharmaceuticals over the period of study, and is now indicated primarily in treatment-resistant situations. Its most common indication is
clinical depression, with a 10-fold rate of usage compared with that of the second-most used diagnosis of schizophrenia. Lesage, et al., indicated that electroconvulsive therapy is probably underused in the treatment of suicidality, and that as many as a fifth of suicides could have been positively impacted by its administration.

This review was preceded by a systematic review encompassing worldwide electroconvulsive therapy since 1990 (Leiknes, 2012). A clinical profile emerged during this period of treatment administered to older women with depression in Western countries and younger men with schizophrenia in Asian countries, with an average of eight treatments of bilateral application.

The Veterans Administration (2016); Department of Defense; and Canadian Network for Mood and Anxiety Treatments (2016) have promulgated clinical practice guidelines for the management of major depressive disorder that include the use of electroconvulsive therapy. These recommendations of electroconvulsive therapy as a modality of therapy for selected indications and conditions are based on a moderate quality of medical evidence and on consensus judgment of practice patterns in North America.

The American Psychiatric Association (2008) addresses the frequency, duration, and number of treatments appropriate for use of electroconvulsive therapy:

“ECT [electroconvulsive therapy] is most commonly performed at a schedule of three times per week. Some practitioners may use increased frequencies of ECT to speed the recovery, particularly in cases of severe symptom presentation; however, prolonged use of daily treatments is usually associated with increased cognitive impairments. There is no evidence that repeated courses of ECT lead to permanent structural damage, or that a maximum limit on lifetime number of treatments with ECT is appropriate. Continuation therapy, typically consisting of psychotropic medications or ECT, is indicated for virtually all patients. Maintenance ECT should be administered at the minimum frequency compatible with sustained remission, often at 1 – 3 week intervals. The need for continued maintenance ECT should be reassessed at least every three months.”

There are very few high-quality randomized controlled clinical trials about the combination of antipsychotic medications and electroconvulsive therapy in the treatment of refractory schizophrenia. A single systematic review and meta-analysis (Wang, 2015) found that the combination of antipsychotic medications and electroconvulsive therapy could improve psychiatric symptoms in patients with refractory schizophrenia; however, there were problems with methodology (e.g., publication bias) and poor quality of evidence that cast a shadow on the validity of the work.

Although little is known about the long-term treatment outcomes following electroconvulsive therapy for catatonia, its use is encouraged to avoid undue deterioration of the patient’s physical and mental condition (Luchini, 2015).
The authors of UpToDate describe the indications and technical aspects, including the frequency and duration of treatment, of treating the catatonic patient with electroconvulsive therapy:

“ECT is generally safe, even in patients whose general medical status is compromised, as well as patients who are pregnant or elderly. However, the success of ECT depends upon an appropriate pre-ECT evaluation, the goals of which are to optimize treatment efficacy and minimize the risk of cognitive and other side effects associated with ECT. ECT is typically administered with the same technique used for other indications. Catatonic patients with motor immobility and muscle damage are at increased risk for transient hyperkalemia associated with the muscle relaxant succinylcholine. Bitemporal electrode placement and brief pulse current are generally preferred. ECT is generally given three times per week on alternating days. However, for patients with malignant catatonia, we suggest daily treatments until the patient is physiologically stable, which often occurs within two to five treatments. At least six treatments are given regardless of the catatonia subtype to reduce the risk of sudden relapse. Most patients receiving ECT regardless of the indication remit with 6 to 12 treatments, but some patients may require 20 or more.”

Electroconvulsive therapy is usually terminated after the acute catatonic episode has remitted, but one case report from the University of Chicago (Pontikes, 2010) described maintenance electroconvulsive therapy for a patient with recurrent catatonia:

“Catatonia is a rare complication of multiple sclerosis (MS). We present a case of a 28-year-old inpatient with MS successfully treated with electroconvulsive therapy (ECT) after developing a catatonic syndrome. A subsequent relapse also responded to ECT, after which the patient received maintenance ECT for 13 months without complications. Follow-up 18 months later did not reveal any evidence of neurological deterioration. We conclude that ECT was a safe and effective treatment in this MS patient.”

The Centers for Medicare & Medicaid Services has issued a National Coverage Determination with regard to multiple-seizure electroconvulsive therapy (2003):

“The clinical effectiveness of the multiple-seizure electroconvulsive therapy has not been verified by scientifically controlled studies. In addition, studies have demonstrated an increased risk of adverse effects with multiple seizures. Accordingly, MECT cannot be considered reasonable and necessary and is not covered by the Medicare program.”

A single systematic review (Fontanelle, 2015) found that 60 percent of patients with obsessive-compulsive disorder reported or exhibited some form of a positive response to electroconvulsive therapy; however, it cannot be stated that the evidence is persuasive that electroconvulsive therapy is indeed effective for obsessive-compulsive disorder.
Electroconvulsive therapy for refractory status epilepticus (Song, 2015) cannot on the basis of available medical evidence be recommended at this time. Further prospective study of this therapy is required in order to determine its efficacy.

Finally, even though brief pulse electroconvulsive therapy compared with ultra-brief pulse unilateral electroconvulsive therapy (Zeiler, 2016) is an increasingly used treatment option that can potentially combine efficacy with lesser cognitive side effects, current trials are sufficiently underpowered or have conflicting results, so it cannot be routinely recommended.

Policy updates:

In the 2018 update, we added 16 publications to the peer-reviewed reference list.

In the 2019 update, we added five peer-reviewed publications and three InterQual® sources to the reference list. The policy ID changed from 04.02.10 to CCP.1290.

References

Professional society guidelines/other:


InterQual® 2015. BH: Adult psychiatry. Adult electroconvulsive therapy (ECT) continuation/maintenance.


Peer-reviewed references:


**Centers for Medicare & Medicaid Services National Coverage Determinations:**

160.25 National Coverage Determination: Multiple Electroconvulsive Therapy (MECT).

**Local Coverage Determinations:**

No Local Coverage Determinations identified as of the writing of this policy.

**Commonly submitted codes**

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

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