Electroconvulsive Therapy (ECT)

Description of Service:

Electroconvulsive therapy (ECT) is a treatment technique typically administered by a psychiatrist privileged to perform ECT and an anesthesiologist delivered in inpatient or outpatient settings that provokes a therapeutic response by applying an electrical current to the brain to induce a controlled seizure.

The most common principal diagnostic indicators for ECT are:
- Major Depression
- Bipolar Disorder
- Schizophrenia and Other Psychotic Disorders

After the risks and benefits of ECT have been evaluated, ECT is most commonly chosen as a secondary intervention used with patients who have not responded to previous psychosocial or pharmacological treatments. ECT may be used as a primary intervention in the following circumstances:
- There is a need for a rapid, definitive response due to the severity of a psychiatric or medical condition.
- The risks of other treatments outweigh the risks of ECT.
- There is a history of poor response to and/or intolerance of side effects associated with pharmacotherapy.
- There has been a positive response to ECT in a previous episode(s) of illness.
- The patient prefers ECT.

ECT is an intervention rarely indicated in the treatment of children and adolescents. ECT may be considered for a seriously ill adolescent who has not responded to other treatment efforts with the following considerations:
- ECT should be discussed in detail with both parents, guardians and the patient, clarifying the risks and benefits of ECT,
- A second opinion should be obtained from a psychiatrist who is knowledgeable about ECT and not currently treating the patient. The second opinion should concur with the ECT recommendation prior to proceeding; and
- Qualified personnel experienced in treating children and adolescents should administer anesthesia.
Regardless of age, ECT may be indicated with older adults as efficacy does not diminish with age and there may be fewer risks and complications as compared to pharmacotherapy in older adults. The following should be taken into consideration for the use of ECT with older adults:

- Dosages of medications pre-ECT may need modification;
- The level of ECT stimulus should take into account that ECT induced seizure threshold typically increases with age; and
- There is the potential that ECT-induced cognitive dysfunction may be greater in older adult patients and ECT should be modified to minimize adverse cognitive effects.

ECT may be used if indicated in all three trimesters of pregnancy however obstetric consultation should be obtained prior to ECT. The following should be considered when administering ECT to pregnant women:

- The risk of using pharmacotherapy is much higher in pregnant women than the use of anesthesia however potential neonatal toxicities should be discussed during the informed consent process;
- When gestation is over 10 weeks, monitoring of fetal heart rate should be done before and after each ECT treatment;
- If the pregnancy is high risk or near term, the presence of an obstetrician may be indicated at the time of ECT treatment;
- ECT facilities should have a process and resources for managing obstetrical and neonatal emergencies.

There are no absolute medical contraindications that would preclude the use of ECT, or suggest that ECT might be more safely delivered in an inpatient setting. However, the following are associated with substantially increased risk and should be considered in weighing the risks and benefits of ECT:

- The patient has an unstable or severe cardiovascular condition such as recent myocardial infarction, unstable angina, poorly compensated congestive heart failure, or severe valvular cardiac disease.
- The patient has an aneurysm or vascular malformation that might be susceptible to rupture with increased blood pressure.
- There is increased intracranial pressure, as may occur with some brain tumors or other space-occupying cerebral lesions.
- The patient has had a recent cerebral infarction.
- The patient has a pulmonary condition such as severe, chronic obstructive pulmonary disease, asthma, or pneumonia.
- The patient’s status is rated as American Society of Anesthesiologists (ASA) level 4 or 5.

Prior to administering ECT, a pre-ECT evaluation should be completed by a psychiatrist privileged to administer ECT to include:

- The indication for ECT and any potential risks,
- A complete treatment history including previous response to ECT if applicable,
- A complete medical evaluation to define risk factors,
• A pre-ECT global cognitive baseline level of functioning
• An anesthetic evaluation, including the potential risks of anesthesia,
• Informed consent, policies, procedures and education about ECT,
• Laboratory and diagnostic tests (hematocrit, serum potassium, EKG, pregnancy test if applicable) if applicable.
• The selection of a treatment team to consist of the lead psychiatrist, an anesthetist and a recovery nurse.

An index ECT course (initial acute phase ECT treatment) may be delivered in an inpatient or outpatient setting. An inpatient setting should be considered when the patient’s psychiatric condition cannot be safely managed in an outpatient setting. Continuation and maintenance ECT are typically delivered in an outpatient setting.

An index ECT course is indicated when all of the following criteria are met:
• The type and seriousness of the patient’s mental illness at the time of ECT do not present a significant risk to management on an outpatient basis including the following:
  o Patients who are at low or no risk for suicide,
  o Patients who do not evidence signs/symptoms of psychosis,
  o Patients who do not evidence substantial cognitive impairment, and
  o Patients who are not otherwise severely incapacitated
• Anticipated risks associated with ECT are detectable and manageable. The treatment site should be readily accessible to the resources needed to treat medical emergencies while maintaining proximity to inpatient psychiatric units.
• One of more significant others or caregivers are available to help ensure patient safety and compliance with the treatment plan including transportation to and from the facility.
• The patient is willing and able, with the assistance of significant others or caregivers, to comply with the behavioral requirements of treatment.
• A physician is designated to maintain overall responsibility for the patient during the period over which ECT is administered. The physician should assess the patient at frequent intervals and should be available to the patient, significant others or caregivers, and the ECT treatment team.

During the acute phase ECT is typically administered 2-3 times per week on non-consecutive days. The patient’s vital signs and mental status should be monitored during post-treatment recovery. A clinical assessment of the patient should be performed every 1-2 treatments to assess response and risk factors. The typical course of acute ECT treatment consists of 6-12 treatments and generally not exceeding 20 treatments.

Continuation of ECT may be indicated if the patient has a history of responding to ECT, and one of the following has occurred:
• Pharmacotherapy alone has not been effective.
• Pharmacotherapy cannot be safely administered.
• The patient prefers ECT, consents to continuation ECT, and is capable, with the assistance of others, of complying with the treatment plan.

If chosen, maintenance ECT should be administered at the minimum frequency to sustain remission, usually at 1-3 week intervals and the need for continued maintenance should be reassessed every 3 months.

If chosen, maintenance pharmacotherapy should be used in consideration of the patient’s diagnosis, side effects and response history to medication.

Maintenance ECT typically continues for 6 months.

Adverse side effects of ECT include cardiovascular complications, prolonged seizures, prolonged apnea, systemic side effects such as headache and nausea, treatment emergent mania and cognitive dysfunction.

Electroconvulsive therapy (ECT) is a treatment technique which is delivered in inpatient or outpatient settings that provokes a therapeutic response by applying an electrical current to the brain to induce a controlled seizure. UnitedHealthcare Community Plan maintains that the use of ECT should be consistent with nationally recognized scientific evidence as available, and prevailing medical standards and clinical guidelines.

UnitedHealthcare Community Plan also maintains that optimal clinical outcomes result when evidence-based treatment is provided in the least restrictive level of available care that is structured and intensive enough to safely and adequately treat a member’s presenting problem and support the member’s recovery.

Indications for coverage of ECT services are summarized as follows:

• The most common principal diagnostic indicators for ECT are:
  o Major Depression
  o Bipolar Disorder
  o Schizophrenia and Other Psychotic Disorders

• After the risks and benefits of ECT have been evaluated, ECT is most commonly chosen as a secondary intervention used with patients who have not responded to previous treatments. ECT may be used as a primary intervention in the following circumstances:
  o There is a need for a rapid, definitive response due to the severity of a psychiatric or medical condition.
  o The risks of other treatments outweigh the risks of ECT.
  o There is a history of poor response to and/or intolerance of side effects associated with pharmacotherapy.
  o There has been a positive response to ECT in a previous episode(s) of illness.
  o The patient prefers ECT.
• ECT is an intervention rarely indicated in the treatment of children and adolescents. ECT may be considered for a seriously ill adolescent who has not responded to other treatment efforts with the following considerations:
  o ECT should be discussed in detail with both parents, guardians and the patient, clarifying the risks and benefits of ECT,
  o A second opinion should be obtained from a psychiatrist who is knowledgeable about ECT and not currently treating the patient. The second opinion should concur with the ECT recommendation prior to proceeding; and
  o Qualified personnel experienced in treating children and adolescents should administer anesthesia.

• Regardless of age, ECT may be indicated with older adults as efficacy does not diminish with age and there may be fewer risks and complications as compared to pharmacotherapy in older adults. The following should be taken into consideration for the use of ECT with older adults:
  o Dosages of medications pre-ECT may need modification; o The level of ECT stimulus should take into account that seizure threshold typically increases with age; and
  o There is the potential that ECT-induced cognitive dysfunction may be greater in older adult patients and ECT should be modified to minimize adverse cognitive effects.

• ECT may be used if indicated in all three trimesters of pregnancy however obstetric consultation should be obtained prior to ECT. The following should be considered when administering ECT to pregnant women:
  o The risk of using pharmacotherapy is much higher in pregnant women than the use of anesthesia however potential neonatal toxicities should be discussed during the informed consent process;
  o When gestation is over 10 weeks, monitoring of fetal heart rate should be done before and after each ECT treatment;
  o If the pregnancy is high risk or near term, the presence of an obstetrician may be indicated at the time of ECT treatment;
  o ECT facilities should have a process and resources for managing obstetrical and neonatal emergencies.

• There are no absolute medical contraindications that would preclude the use of ECT, or suggest that ECT might be more safely delivered in an inpatient setting. However, the following are associated with substantially increased risk and should be considered in weighing the risks and benefits of ECT:
  o The patient has an unstable or severe cardiovascular condition such as recent myocardial infarction, unstable angina, poorly compensated congestive heart failure, or severe valvular cardiac disease.
  o The patient has an aneurysm or vascular malformation that might be susceptible to rupture with increased blood pressure.
  o There is increased intracranial pressure, as may occur with some brain tumors or other space-occupying cerebral lesions.
  o The patient has had a recent cerebral infarction.
o The patient has a pulmonary condition such as severe, chronic obstructive pulmonary disease, asthma, or pneumonia.

o The patient’s status is rated as American Society of Anesthesiologists (ASA) level 4 or 5.

Site of Service: Inpatient versus Outpatient ECT

- Index ECT may be delivered in an inpatient or outpatient setting. Continuation and maintenance ECT are typically delivered in an outpatient setting.

- In addition to the above indicators, outpatient index ECT is indicated when all of the following criteria are met:
  - The type and seriousness of the patient’s mental illness at the time of ECT do not present a significant risk to management on an outpatient basis including the following:
    - Patients who are at low or no risk for suicide
    - Patients who do not evidence signs/symptoms of psychosis
    - Patients who do not evidence substantial cognitive impairment
    - Patients who are not otherwise severely incapacitated
  - Anticipated risks associated with ECT are detectable and manageable. The treatment site should be readily accessible to the resources needed to treat medical emergencies while maintaining proximity to inpatient psychiatric units.
  - One of more significant others or caregivers are available to help ensure patient safety and compliance with the treatment plan including transportation to and from the facility.
  - The patient is willing and able, with the assistance of significant others or caregivers, to comply with the behavioral requirements of treatment.
  - A physician is designated to maintain overall responsibility for the patient during the period over which ECT is administered. The physician should assess the patient at frequent intervals and should be available to the patient, significant others or caregivers, and the ECT treatment team.

- The ECT treatment team should consist of at least the following. All persons involved in the delivery of ECT should be privileged in the performance of clinical ECT-related duties.
  - An ECT psychiatrist who has overall responsibility for the proper administration of ECT.
  - An anesthesia provider who is responsible for maintenance of the airway and oxygenation; delivery of the anesthetic, relaxant and adjunctive agents; and management of emergent adverse reactions.
  - A recovery nurse who is responsible for monitoring vital signs and mental status during the acute postictal/postanesthetic period, managing the flow of intravenous fluids, administering oxygen, suctioning oropharyngeal secretions, managing postictal disorientation and agitation, and determining when intervention by the anesthesia provider or ECT psychiatrist is indicated.
• The pre-ECT evaluation should include the following:
  o A psychiatric history and examination, including an assessment of the effects of any prior ECT, to determine the indication for ECT
  o A pre-ECT baseline level of global cognitive functioning should be obtained and reassessed after each ECT treatment as there may be cognitive effects with ECT treatment.
  o A medical evaluation to define risk factors
    • Medical consultation with a specialist (e.g., neurologist, cardiologist) may be used to obtain a better understanding of the patient’s medical status, or when assistance in the management of medical conditions is desirable.
    • An evaluation by someone privileged to administer ECT as documented in the clinical record by a note summarizing indications and risks and suggesting any additional evaluative procedures, alterations in ongoing medications, or necessary modifications in ECT technique
  o An anesthesia evaluation addressing the anesthetic risk and advising of the need for modification in ongoing medications and anesthetic technique
  o Informed consent from the patient or the patient’s authorized representative.
  Additionally, the following should be done when the patient is a child or adolescent:
    • Concurrence with the recommendation for ECT should be provided by two consultants who are experienced in the treatment of children and adolescents
• Medications that may interfere with the therapeutic properties of ECT or cause other adverse effects should be decreased or withheld including the following:
  o Theophylline should be discontinued or decreased as much as is compatible with satisfactory pulmonary function because of the risk of status epilepticus.
  o Lithium should be discontinued or its levels should be kept in the low therapeutic range based on the risk/benefit analysis of potential toxicity versus the risk of affective relapse.
  o When clinically feasible, patients should be tapered from benzodiazepines before the start of ECT.
  o If benzodiazepines are necessary, dose should be minimized and a medication with a relatively short half life used.
  o Anticonvulsant medications used for psychotropic properties should be discontinued before the start of an index ECT course.
    • When anticonvulsant medications are used for treatment of a seizure disorder, the morning dosage is often withheld and blood levels kept in the low therapeutic range.
  o Hypotension in the presence of a MAOI should not be treated with an indirect-acting vasopressor.
• Medications that may augment ECT include the following:
  o Antipsychotic medications may be continued during ECT. This procedure is best established in the treatment of schizophrenia but may pertain to other psychotic conditions.
  o Consider combining ECT with an antidepressant medication for patients with Major Depressive Disorder to enhance antidepressant response or to reduce the risk of relapse when ECT is stopped.
  o Except during stimulus delivery, oxygenation using positive pressure ventilation should be maintained until adequate spontaneous respiration resumes.
  o Consider premedication with an anticholinergic agent prior to anesthetic induction to reduce the risk of vagally mediated bradyarrhythmias or asystole.
  o ECT should be carried out using ultra-brief, light general anesthesia.
  o A skeletal muscle relaxant should be used to minimize convulsive motor activity and to improve airway management.
• Choice of right unilateral versus bilateral electrode placement should be driven by weighing the risk of cognitive side effects with the potential benefit. Generally, the risk of cognitive side effects is higher with bilateral placement.
• The primary consideration with stimulus dosing is to produce an adequate ictal response (i.e., a seizure).
• There are three methods for selecting stimulus dosage:
  o Empirical titration is the most common method. In this method an initial dosage that is expected to elicit an adequate seizure in a minority of patients is administered. If the stimulus was subconvulsive, the stimulus intensity is increased until there is an adequate ictal response.
  o Formula-based procedures adjust electrical intensity for factors such as electrode placement, gender, age anesthesia dosage, and concomitant medications. The simplest formulas adjust stimulus intensity to the patient’s age.
  o The third method is to administer a fixed stimulus intensity. A higher fixed dosage strategy should be reserved for rare situations in which serious concomitant medical conditions preclude the safe use of subconvulsive stimulation.
• When the patient is a child or adolescent, stimulus dosing must take into account the fact that seizure thresholds are likely to be considerably lower. Use of empirical dose titration with low initial dosage settings is encouraged. Because of the possibly increased likelihood of prolonged seizures, the treatment team should be prepared to intervene with appropriate medications to terminate the seizure.
• The patient’s vital signs and mental status should be monitored during post-treatment recovery.
• ECT is typically administered 2-3 times per week on non-consecutive days.
• A clinical assessment of the patient should be performed every 1-2 treatments to assess response and risk factors. Assessments should be conducted at least 24 hours after a treatment to allow acute cognitive side effects to clear. For outpatients this may involve evaluation prior to the next treatment.
  o Modifications to the treatment plan should be considered if there are adverse effects.
• The total number of treatments should be a function of the patient’s response and the severity of adverse effects.
  o In Major Depressive Disorder, an ECT course generally consists of 6-12 treatments.
  o Consider doing a formal assessment of the need to continue ECT beyond 12-20 treatments.

Continuation and Maintenance ECT
• Continuation and maintenance ECT are typically provided in an outpatient setting.
• Pharmacotherapy and/or ECT are typically used during continuation treatment.
• Continuation of ECT is indicated if the patient has a history of responding to ECT, and one of the following has occurred:
  o Pharmacotherapy alone has not been effective.
  o Pharmacotherapy cannot be safely administered.
  o The patient prefers ECT, consents to continuation ECT, and is capable, with the assistance of others, of complying with the treatment plan.
• Unless contravened by adverse effects, the regimen for continuation ECT is typically as follows:
  o Frequency: initially weekly tapering off to monthly depending on clinical response.
  o Duration: typically at least 6 months.
• Maintenance ECT is indicated for patients who have a strong history of recurrent illness, or when symptoms have returned during attempts to stop or taper off continuation treatment.
• The duration of maintenance ECT should be determined on the basis of risk/benefit taking into account factors such as the history of treatment, tolerance of maintenance ECT, patient preference, and the ability of the patient to comply with treatment.
• As part of obtaining informed consent to outpatient ECT, the patient and/or significant other caregiver should be informed about the type and duration of behavioral limitations including the following:
  o Avoid activities such as driving that are likely to be substantially impaired by the anticipated adverse cognitive effects of ECT especially on the day of treatment.
  o Follow the prescribed dietary, bowel, bladder and grooming instructions before each ECT treatment.
  o Comply with the specified medication regimen.
  o Report any adverse effects of ECT and/or changes in medical condition before the next treatment.
COVERAGE LIMITATIONS AND EXCLUSIONS

Inconsistent or Inappropriate Services or Supplies – UnitedHealthcare 2001, 2007, 2009

Services or supplies for the diagnosis or treatment of Mental Illness that, in the reasonable judgment of UnitedHealthcare, are any of the following:

- Not consistent with generally accepted standards of medical practice for the treatment of such conditions.
- Not consistent with services backed by credible research soundly demonstrating that the services or supplies will have a measurable and beneficial health outcome, and are therefore considered experimental.
- Not consistent with UnitedHealthcare’s level of care guidelines or best practice guidelines as modified from time to time.
- Not clinically appropriate for the patient’s Mental Illness or condition based on generally accepted standards of medical practice and benchmarks.

Additional Information: The lack of a specific exclusion of a service does not imply that the service is covered.

The following are examples of inconsistent or inappropriate ECT services (not an all inclusive list):

- Services that deviate from the indications for coverage summarized in the previous section.
- Services continue even though treatment goals have been completed.
- Services continue despite repeated failures to adhere with recommended treatment despite the deployment of motivational enhancement interventions, peer support and other community resources.