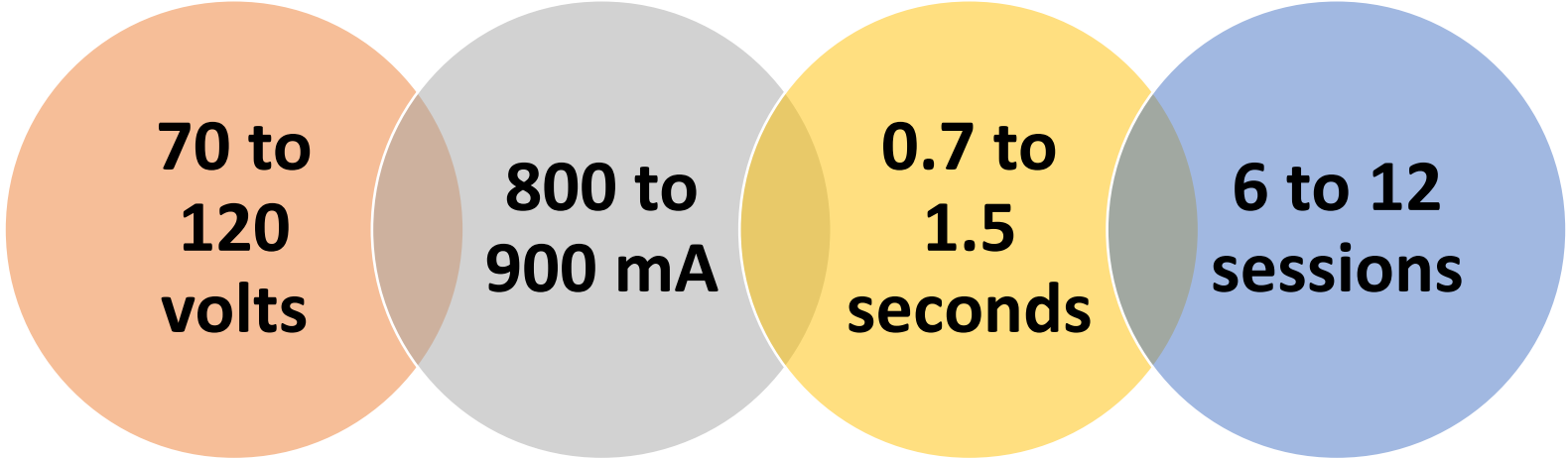


# **ELECTRO CONVULSIVE THERAPY (ECT)**

## DEFINITIONS OF ECT

- ❑ The induction of grandmal seizures by the application of electrical current to the brain is called electroconvulsive therapy.
- ❑ Electroconvulsive therapy is a medical procedure in which a brief electrical stimulus is used to induce a cerebral seizures under controlled conditions.

# PARAMETERS OF ELECTROCONVULSIVE THERAPY



## TYPES OF ECT

### **Direct Electroconvulsive Therapy :**

- Administered electroconvulsive therapy without any medications.

### **Modified Electroconvulsive Therapy :**

- Administered electroconvulsive therapy with muscle relaxants, anesthesia and anti-cholinergic drugs.

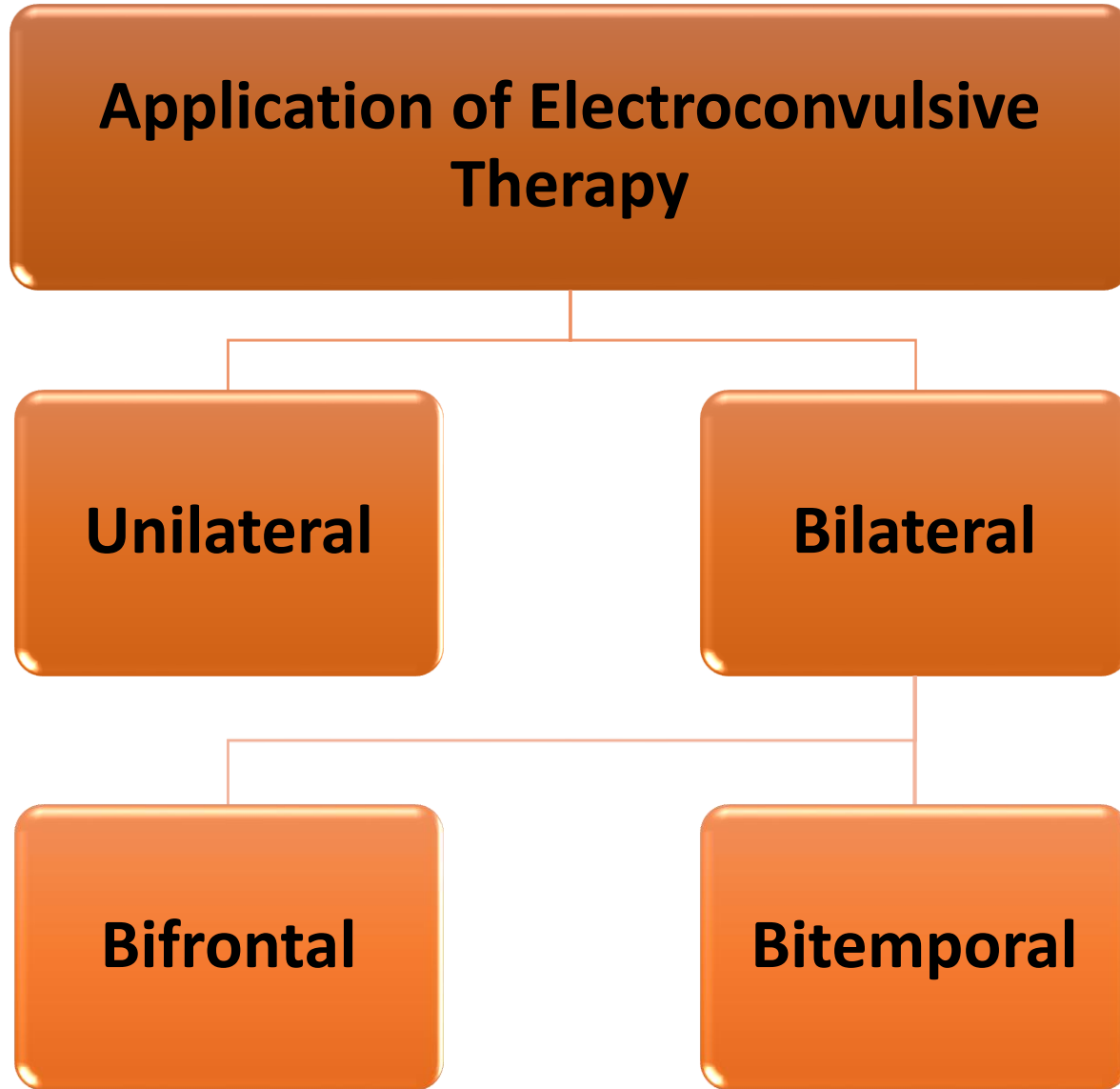
# Application of Electroconvulsive Therapy

**Unilateral**

**Bilateral**

**Bifrontal**

**Bitemporal**



# APPLICATION OF ELECTRODES IN ELECTROCONVULSIVE THERAPY

## **Unilateral:**

In this, the stimulus is given only to one hemisphere. In this one electrode is placed on frontal temporal site usually non-dominant side (right side of the head in a right-handed individual).

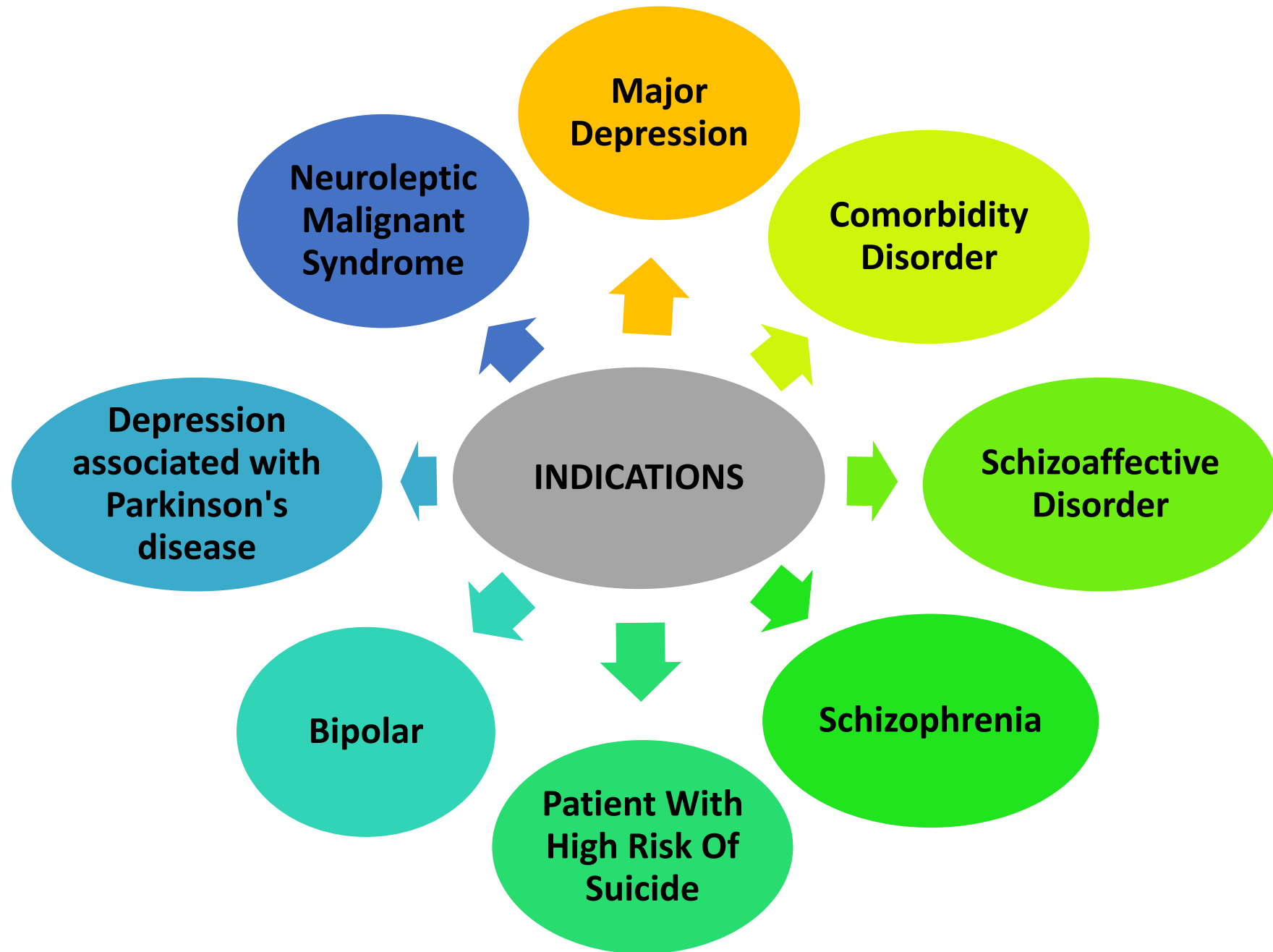
## **Bilateral:**

Bifrontal

Electrodes are placed 5 cm above outer canthus.

Bitemporal

The electrodes are placed 1 inch above the midpoint of fronto temporal sides.



# CONTRA-INDICATIONS

**Cerebral aneurysm cerebral artery dilation**

**Brain tumor**

**Acute myocardial infarction**

**Cerebral hemorrhage**

**Congestive cardiac failure**

**Retinal detachment**

# SIDE EFFECTS



Memory impairment

Drowsiness

Confusion

Restlessness

Poor concentration

Headache

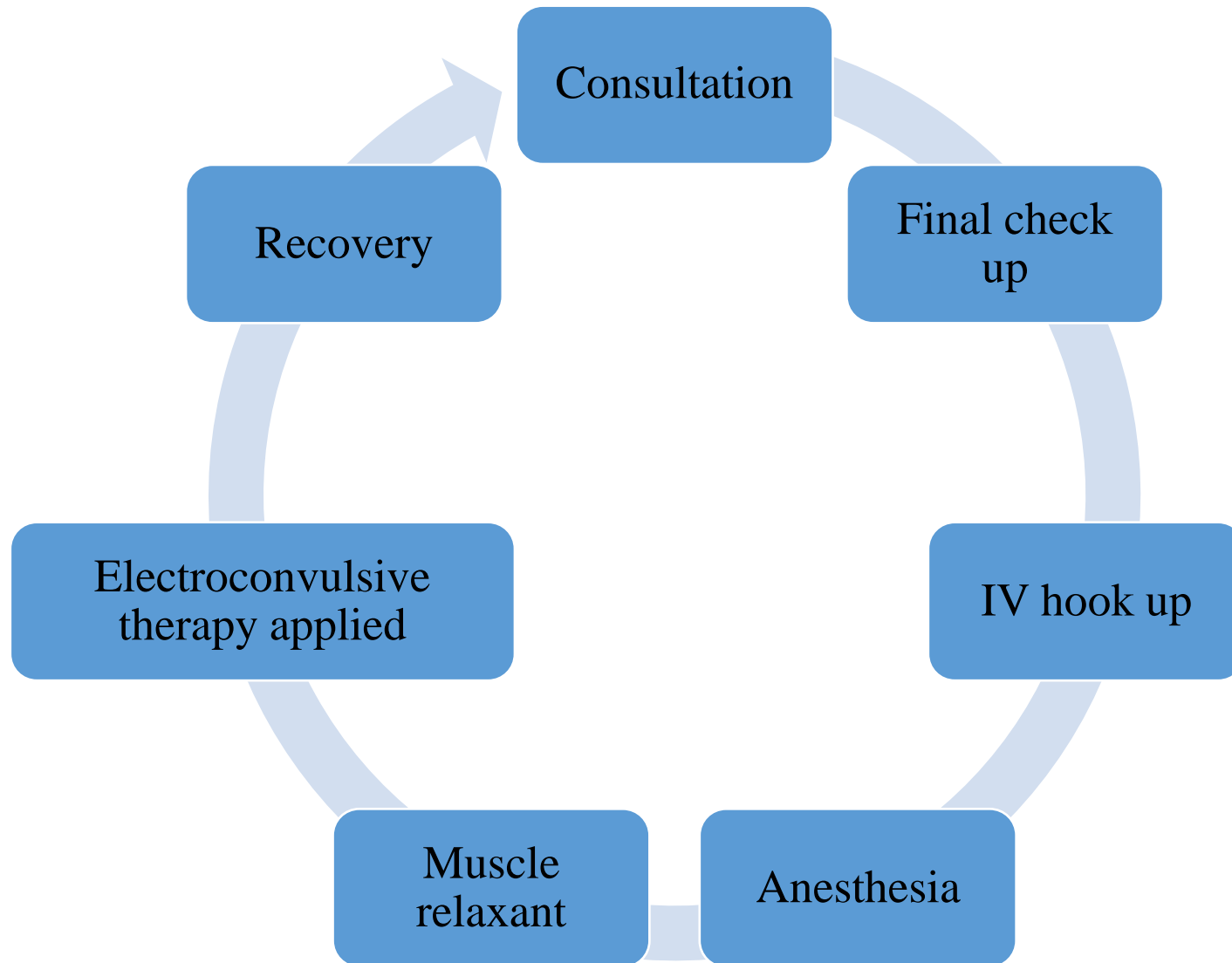
Muscle ache

Dry mouth

Palpitations

Sweating

# PROCESS OF ECT



# MEDICATIONS USED

## 1. ANESTHESIA

- Methohexitane 0.5- 1mg/kg
- Thiopentone 3-5mg/kg
- Etomidate 0.15-3mg/kg
- Ketamine 2-3mg/kg
- Profolol 0.75-1mg/kg

# MEDICATIONS USED

## **2. Anti-cholinergic drugs:**

- Atropine 0.6mg
- Glycopyrolate 0.2mg/kg

## **3. Neuromuscular blocking:**

- Succinylcholine 0.5-1mg/kg
- Atracurium 0.3-0.5mg/kg
- Mivacurium, rocuronium and rapacuronium are alternatives to succinylcholine.

## EQUIPMENTS USED

- Infusion set
- IV fluids
- Oxygen mask
- Oral and nasopharyngeal airway
- Electrodes and electrode gel
- Suction catheter
- Mouth gag
- Suction apparatus
- Treatment devices and supplies including gauze pads and saline.
- Monitoring equipment including ECG, BP cuff
- Pulse oxymetry
- Stethoscope
- Reflex hammer

# NURSING CARE IN ELECTROCONVULSIVE THERAPY

Electroconvulsive therapy is treated like a minor surgical procedure that requires pre operative preparation and post operative care.

1. Providing education and emotional support.
2. Pre treatment planning and assessment.
3. Preparing and monitoring patient during actual procedure.
4. Post treatment care and evaluation.

# PROVIDING EDUCATION AND EMOTIONAL SUPPORT

- Explain the procedure to the patient.
- Obtain an informed consent from the patient and care taker.
- Respond to patients concerns and feelings.
- Educate the patient concerning the procedure and explain the patient the necessary tasks associated with a ECT.

# PRE TREATMENT PLANNING AND ASSESSMENT

- An adjustable height stretcher trolley.
- Complete the pre treatment checklist.
- The patient's identity is checked and the patient wears an identity bracelet.
- Ensure safe keeping of the patient's valuables
- Nil per oral for minimum 4 hours before treatment to prevent possible aspiration during anaesthesia
- The patient's hair should be clean and dry to allow for electrodes contact.

## PRE TREATMENT PLANNING AND ASSESSMENT (CONT...)

- Hair pins, bracelets, body piercing should be removed to avoid burns
- Patient should be encouraged to pass urine before the treatment to avoid incontinence during the procedure
- Prosthetics, glasses, hearing aids, contact lenses should be removed
- Minimize anxiety through anxiety management techniques
- Standard practices should be practiced regarding general anesthesia care

# PREPARING AND MONITORING PATIENT DURING ACTUAL PROCEDURE

- Transfer the patient on a trolley from waiting room to the ECT room on a well padded bed and placed in a comfortable dorsal position or supine position
- Small pillow is placed under lumbar curve
- Apply ECG electrodes, BP cuff and pulse oxymetry sensor
- Give short acting anesthesia agent
- Support shoulders and arms of patient. Restraint thighs with the help of sheet

## PREPARING AND MONITORING PATIENT DURING ACTUAL PROCEDURE (CONT...)

- Hyperextension of head with support of the chin
- Administer oxygen
- Make observation of the convulsions
- The presence of initial tonic stage which lasts for 10 to 15 seconds followed by clonic stage which last for 25 to 30 seconds then there is a phase of muscular relaxation
- Do suction immediately
- Restore respiration by giving oxygen if necessary

# POST ELECTROCONVULSIVE THERAPY CARE

- Observe and record the vital parameters
- Place the patient on side lying position clean the secretions
- Transfer the patient from recovery room. Record the vital signs every 15 minutes for 30 minutes and once in every 30 minutes till patient recover to the normal stage
- Allow the patient to sleep for 30 minutes to 1 hour
- Reassure the client and re oriented to the word
- Allow patient to have tea or any other drinks
- Record the procedure