P R E S E N T S

Dr. Mufa T. Ghadiali is skilled in all aspects of General Surgery. His General Surgery Services include:

- General Surgery
- Advanced Laparoscopic Surgery
- Surgical Oncology

- Gastrointestinal Surgery
- Hernia Surgery
- Endoscopy

ELECTROENCEPHALOGRAM

Multimedia Health Education

Disclaimer

This film is an educational resource only and should not be used to make a decision on **Electroencephalography**. All such decisions must be made in consultation with a physician or licensed healthcare provider.

Mufa T. Ghadiali, M.D., F.A.C.S

Diplomate of American Board of Surgery

6405 North Federal Hwy., Suite 402
Fort Lauderdale, FL 33308

Tel.: 954-771-8888
Fax: 954- 491-9485

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MULTIMEDIA HEALTH EDUCATION MANUAL

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INTRODUCTION

An **Electroencephalogram (EEG)** is a procedure that allows the doctor to detect abnormalities related to electrical activity of the brain. The test monitors the brain activity through the skull. This procedure tracks and records brain wave patterns.

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What is Electroencephalogram (EEG)?

During this test, small metal discs with thin wires, called electrodes, are attached to the head and hooked by wires to a computer. The computer records the electrical activity of the brain.

(Refer fig. 1)

(Fig.1)

The electrodes pick up tiny electrical charges which are produced by the activity of nerve cells in the brain. The charges are amplified and recorded on the computer monitor.
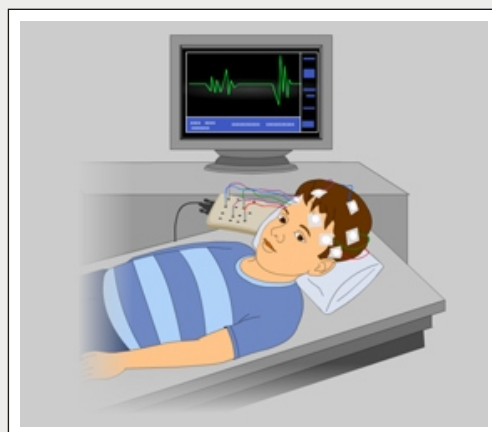
Changes in electrical activity alter the height of the recording. The result is a series of wavy or jagged lines. The recording may also be printed out on paper.

Through an EEG, doctors can look for abnormal patterns that indicate seizures and other neurological problems.

(Refer fig. 2)
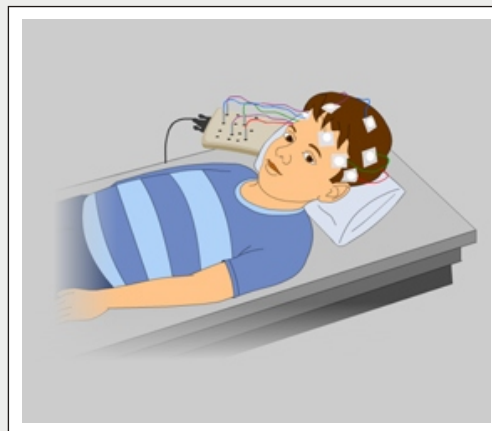
(Fig.2)

Purpose of Electroencephalogram

EEG is used to help diagnose certain seizure disorders, brain tumors, and brain damage from head injuries, inflammation of the brain or spinal cord, alcoholism, certain psychiatric disorders, and metabolic and degenerative disorders that affect the brain.

EEGs can also help to identify causes of other problems such as sleep disorders and changes in behavior.

(Refer fig. 3 & 4)

(Fig.3)

(Fig.4)

EEGs are sometimes used to evaluate brain activity after a severe head injury or before heart or liver transplantation.
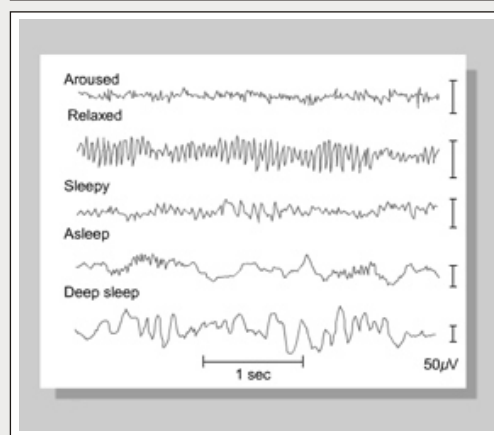
EEGs are used to monitor brain activity when a patient has been fully anesthetized, loses consciousness, or to confirm brain death.

EEGs are used to diagnose epilepsy and assess the types of seizures that are occurring. EEG is the most useful and important test in confirming a diagnosis of epilepsy.
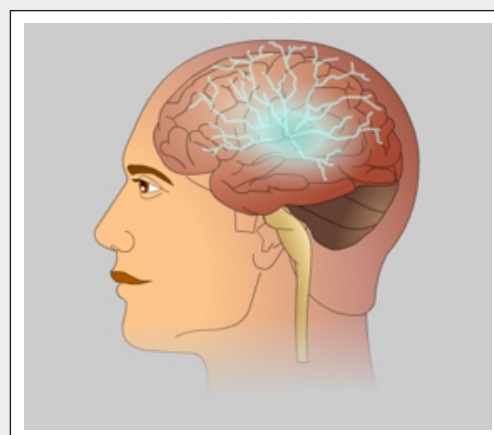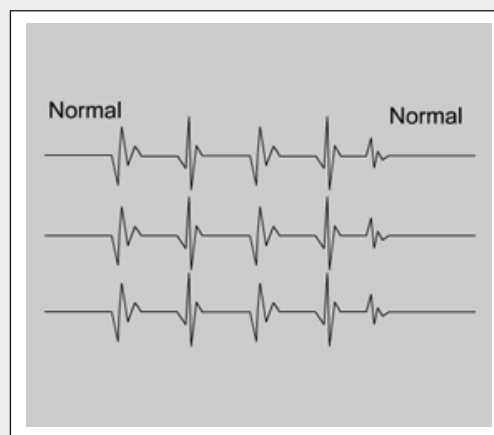
(Refer fig. 5 & 6)
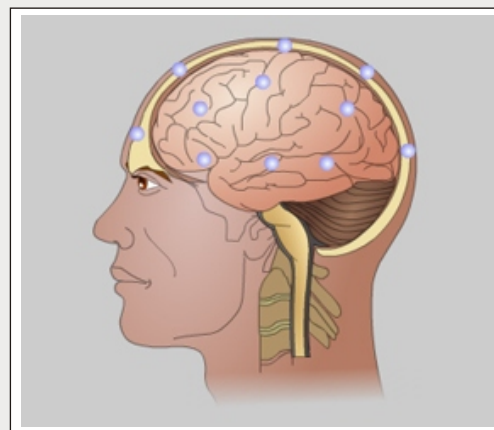

(Fig.5)

(Fig.6)

Unit 2:   Purpose of Electroencephalogram

How to Prepare?

Your doctor will give you instructions to follow prior to undergoing an EEG test. Common guidelines may include:

- Stop taking seizure medications or stimulants 1-2 days before the test.

- Do not eat or drink foods that have caffeine.

- Avoid using hair styling products (hair spray or gel). It is important to keep the hair clean and free of sprays, oils, creams and lotions on the day of test.

- If the patient undergoes a sleep EEG, then he may be asked to stay awake the night before the exam.

(Refer fig. 7)
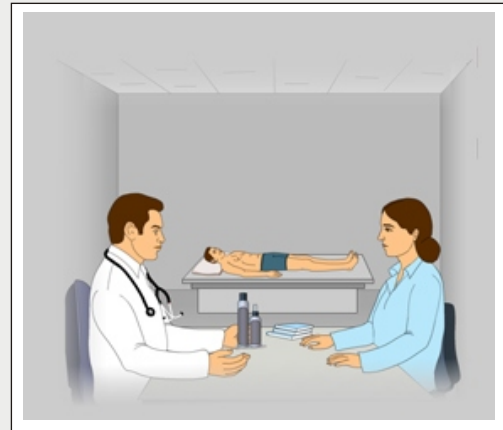
(Fig.7)

How is an EEG Performed?

EEG is a painless, risk-free test that can be performed in a doctor's office or a hospital or testing facility by an EEG technician.

Prior to having an EEG, the patient must avoid caffeine intake and prescription drugs that affect the nervous system.

(Refer fig. 8)

(Fig.8)

The patient will be asked to lie on their back on the bed or relax in a chair with their eyes closed. A series of cup-like electrodes are attached to the patient's scalp, either with a special conducting paste or with extremely fine needles. The electrodes (also called leads) are small devices that are attached to wires and carry the electrical energy of the brain to a machine for reading.

A very low electrical current is sent through the electrodes and the baseline brain energy is recorded. The technologist may ask the patient to do different things during the test in order to record the brain activity while the patient performs a task.
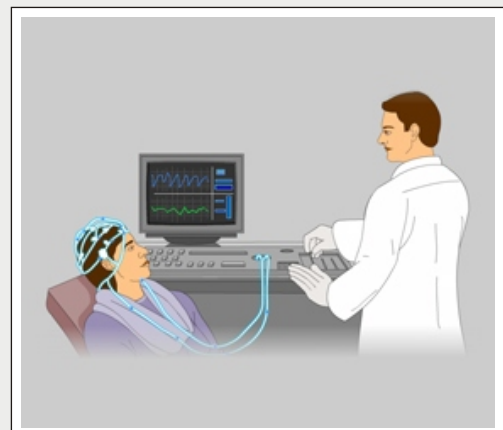
The technologist may shine a flashing light into the eyes, or ask the patient to open and close the eyes rapidly a few times or they may be asked to sleep depending on the purpose of the test.

The electrodes then transmit the resulting changes in brain wave patterns to the computer.

(Refer fig. 9)

**(Fig.9)**

Unit 3: **Procedure**

What are the Risks?

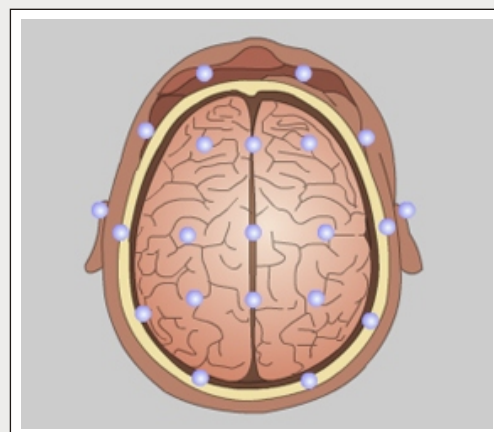An Electroencephalogram (EEG) is a safe test with very few risks.

If the patient has a seizure disorder such as epilepsy, the doctor may want to stimulate and record a seizure during the EEG. A seizure can be triggered by flashing lights or a change in breathing pattern.

There is a small risk of injury with initiating a seizure.

(Refer fig. 10 & 11)
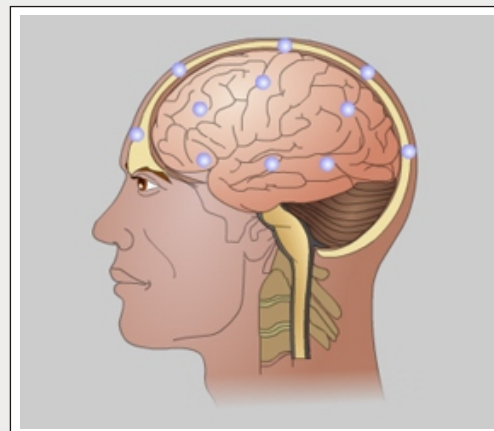
(Fig.10)

(Fig.11)

Although every effort is made to educate you on **ELECTROENCEPHALOGRAM** and take control, there will be specific information that will not be discussed. Talk to your doctor or health care provider about any concerns you have about **ELECTROENCEPHALOGRAM.**

| | | | **YOUR SURGERY DATE** |

READ YOUR BOOK AND MATERIAL

VIEW YOUR VIDEO /CD / DVD / WEBSITE

PRE - HABILITATION

ARRANGE FOR BLOOD

MEDICAL CHECK UP

ADVANCE MEDICAL DIRECTIVE

PRE - ADMISSION TESTING

FAMILY SUPPORT REVIEW

Physician's Name : _____

Physician's Signature: _____

Date : _____

Patient's Name : _____

Patient's Signature: _____

Date : _____