Object: COMMONLY USED INSTRUMENTS IN EXPERIMENTAL PHARMACOLOGY

In spite of a tremendous development in electronic devices and recording systems are followed in institutions and research laboratory. Some common instruments are used in experimental pharmacology

Organ bath:

The tissue bath used to put the animal tissue for studying the drug actions is called student organ bath. This was first designed by Rudolph Magnus in 1904. The organ bath essentially consist of

An outer jacket made of up of steel or glass or Perspex.•

The inner organ or tissue bath made up of glass with a capacity varying from 10 -50 ml

- Thermostatically controlled heating rod Stirrer to keep the water in the outer jacket at uniform temperature
- Oxygen or delivery glass tube which also serves as tissue holder
- Glass coil, one end of which is connected having the physiological salt solution.
- The student organ bath having two units of inner tissue bath is called double unit organ bath.

Rota rod apparatus:

For the study of muscle relaxant property of diazepam in mice. The loss of muscle grib in an indicator of muscle relaxation. This effect can be studied in animals using an inclined plane or rotating rods.

Actophotometer:

It is used to study CNS depressant property of chlorpromazine on the loco motor activity of mice. CNS depressant drugs like alcohol reduces the motor activity with the stimulants like caffeine and amphetamines increases the activity. The actophotometer operates on photoelectric cell which is connected in circuit with counter.

Electro-convulsiometer

It is used to study the anticonvulsant activity of phenytoin against electro-convusiometer induced in rat. The electric shock is applied through the corneal electrodes; it produces 5 phases such as tonic flexion, tonic extensor, clonic convulsion, stupor, and recovery/death.

Pole climbing apparatus

It is used to study the anxiolytic activity in rat and mice. The basic principles of pole climbing apparatus is based on a neuro-chemical mechanism of anxiety disorders drugs like benzodiazepam are used. Analgesiometer: It is used to study the analgesic effects of drugs in mice and rat. The inducer of pain such as heat, physio compression and chemical inducers. The basal reaction time was noted as a inference of pain sensation drugs like morphine and other NSAID are used.

Metabolic cage: It is used to study the metabolic parameters such as faecal an urine for the study of purgative or laxative, animals such as rat and mice are used.