

A Simple Suction Unit for use in Thoracic Surgery

By

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Suction pumps in many hospitals, are attached to one or more bottles and placed under the patient's bed or hung from it. In these situations they may be kicked over or pulled apart accidentally by careless attendants. To avoid the difficulty, a simple device has been in use at the Mayo Clinic and at many other institutions in the United States for many years. This Unit was designed by Dr. Robert Glove of Philadelphia formerly a fellow at the Mayo Foundation.

This simple suction unit was introduced to W.T. Sanatorium by Dr. Timothy Takaro, Director of Surgery and Ag. Medical Superintendent in the year 1954.

As you notice the Electric noiseless simple pump is available in India. The wooden box, open at the top and along one entire side, to allow to observe the contents of the cylinder, rubber corks, glass tubes and test tubes are available in medical stores or in big companies such as M.M. Shah, Bombay Surgical in Bombay City.

The advantages of this Suction unit

1. The entire unit thus assembled, can readily be moved about as a single piece of apparatus and requires no sterilization, aside from the provision for sterile rubber tubing to extend from the unit to the patient's chest drain.

2. (a) When a Surgeon or a nurse makes round, at a single quick glance at the apparatus can judge the amount and the nature of the fluid drained from the chest.

(b) Could check the degree of negative pressure being maintained.

(c) Whether the chest tube is opened or not.

(d) Whether or not the patient is blowing "air" from the lung or bronchi.

Caution

All Rubber and glass connections pertaining to this Pump should be air-tight and it is worked on electricity.

Purposes of the Pump

1. To suck out air or fluids such as blood, pus or serum from the chest cavity into the cylinder.

2. To keep up negative pressure in the chest cavity to help in expansion of the lung.

Pump is used in the following cases

1. Wet pleurisy
2. Empyema
3. Spontaneous Pneumothorax *i.e.* sudden collapse of the lung or in pleural rupture due to accidents.
4. Resection of the lung.

The Method of Working

When the motor is on, the coloured fluid in No. VIII and mercury in No. VII begin to fluctuate, making the coloured fluid rise up in the glass tube, V, showing negative pressure. The amount of pressure required is checked by the adjustment of glass tube No. X.

Note: (i) The more the tube is immersed in mercury the greater the negative pressure is.

(ii) While these are functioning, any air or fluid from the chest cavity is drained into the glass cylinder.