

Respiratory Rate Monitor and Its Mechanism

Tomoki suzuki*

Department of Cardiovascular Medicine, Cardiovascular Institute, Tokyo, Japan

Accepted on July 29, 2021

Introduction

Respiratory rate monitor display the respiration of a person per minute. This device consists of the following parts like sensor, audio, LED supply gain, output back panel consist of fuse holder and switch to on and off. Respiration mainly tells about the inhalation and exhalation of a living being this can be measured when a person is lying in a rest position in a stress free condition and involves counting the number of breathes taken per minute by observing the chest rate rises and this respiration may be increased whenever a person suffers from any illness like fever, asthma or other medical conditions. Before conducting this test on a person one should ensure that that person should not have any difficulty in breathing. Compared to children elders have less respiration rate. Children will have almost sixty to eighty per cent higher respiration rate. There are several methods to measure the respiration rate which include impedance anemography and cartography which are commonly used and implemented on the patients. Now days as we are growing technically there are some devices where the sensors in the devices directly tell about the respiration rate.

The diaphragm a dome shaped muscle which is located under the thoracic cavity. Whenever we breathe or inhale the thoracic cavity size increases and the volume of the thoracic cavity increases this increase in volume creates a negative pressure on the thorax. The thorax is a closed chamber and the only opening to outside is from inside the lungs. When the lungs increase the size the pressure created inside the lungs is more than the thorax so the thorax now creates a positive pressure and there will be decrease in the thorax volume this urges to force the pressure out of the lungs and the lung capillaries can extend to sixteen hundred kilometres when placed end to end.

Compared to men breathing in children and women are more. This respiratory monitor consists of a strain gauge. This strain gauge is a sensor whenever the force is applied there will be a change in the strain gauge resistance. this strain gauge senses force, pressure, weight, tension etc. and it is converted into a electrical resistance this electrical resistance can be measured for example when an external forces are applied to a stationary object stress and strain are observed and there will be change in the size, position and then the sensor in the strain gauge senses the change and it is converted into an electrical signal and then we can calculate the amount of force applied.

This respiratory rate varies from person to person example the respiratory rate of a normal person who is in rest varies from an athlete. The rate also depends on the stress created when a person is sad he will have one kind of respiration if one is happy they will have more respiration rate because of excitement .Animals will have more respiration rates compared to human beings. The lungs expand because of the internal pressure occurred in the lungs through air.

Acknowledgement

I thank my professor for his support in my study.

Conflict of Interest

Author declares there is no conflict of interest.

*Correspondence to

Tomoki suzuki
7-368 Moos Tower
515 Delaware St. SE
Minneapolis, MN 55455, Tokyo, Japan
E-mail: tomokisuziki@gmail.com

Citation: Tomoki S. Respiratory Rate Monitor and Its Mechanism. *J Cardiovasc Med Ther.* 2021; 5(4):1