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**MLS 304 ASSIGNMENT**

**Question: Describe how you can maintain the automatic analyzers in ABUAD multisystem hospital and keep them in good condition.**

 First of all, the laboratory quality management system which ensures that the necessary procedures are put in place to produce quality and reliable results plays a big role in laboratory equipment maintenance. It does this by implementing a well-organized equipment management program, **which in return ensures that all equipments have a system of maintenance.** It is compulsory that all laboratories have a well-organized equipment management program.

 With that being said, if a well-organized equipment management program is put in place in the laboratory at the ABUAD multisystem hospital, the automatic analyzers would be in an excellent sate of maintenance. Below is an explanation on how the automatic analyzers can be maintained by using a well-organized equipment management program.

 **An equipment management program contains some of the following;**

* **Preventive maintenance-** It is the daily maintenance of equipments which involves activities such as cleaning and inspection designed to retain the healthy condition of laboratory equipments. Preventive maintenance should be carried out on the automatic analyzers because it would retain the healthy condition for a long time, it also reduces overall costs.
* **Standard operating procedure for use of lab equipment-** When standard operating procedures are established for the sole purpose of the use of equipments, it ensures that the correct use and maintenance of the equipment is integrated within the daily routine work, it enables the laboratory scientists to use these equipments in the appropriate manner which serves as a form of maintenance, this can be done for the automatic analyzers in the hospital.
* **Equipment maintenance documentation-** This simply is just a collection of all the information regarding particular equipment. It is a reference document for equipment maintenance that can be used to understand the history of the equipment, assuming a repair has been done to an equipment, the document would contain a description of that repair work, or deep cleaning of the equipment too, so that the next time a repair would be done, the document can be checked to see all the procedures that have been done on that equipment to avoid spoiling the equipment, this serves as a system of maintenance.

**Other ways by which automatic analyzers can be maintained are;**

* **Regular cleaning-** Regular cleaning of the automatic analyzers ensures that it is ready for use when needed, and stubborn stains/substances do not get a firm hold on the automatic analyzer leaving it to look good as new. It should be done before and after each use and the cleaning policy given by the manufacturer should be strictly followed.
* **Calibration-** Calibration involves comparing the measurements of the automatic analyzer against the standard unit of measure for the purpose of verifying its accuracy and then making the necessary adjustments. This should be done overtime.
* **Repair and Refurbishments-** It is very necessary to repair or refurbish worn out parts of the automatic analyzer without delay to prolong the life span of the equipment.
* **Deep cleaning-** Once in a while, deep cleaning should be done on the automatic analyzers to remove dust, particles etc which may have entered deep into the equipment. It is done by removing the outer frames of the automatic analyzer and cleaning the inner accessible parts of the equipment. It is also necessary to follow the cleaning policy given by the manufacturer.

**When all of the points listed above are carried out on the automatic analyzer, it is going to be maintained rightly and kept in an excellent condition.**