

THE IMPACT ON PREVENTIVE EQUIPMENT MAINTENANCE

COVID-19 - The Impact on the Preventive Maintenance of Medical-Hospital Equipment and Diagnostic Support.

With the advancement of hospital medical technologies, Clinical Engineering began to play an important role in controlling the operation and managing the performance of equipment in health services, thus collaborating for the security of the assistance provided and being of great importance for the strategy in the business. In this context, preventive maintenance plans are a mandatory tool for managers to assess equipment availability and reliability rates, considering their direct impact on patient care.

According to ABNT NBR 5462/199, the definition of Preventive Maintenance is: *“maintenance performed at predetermined intervals, or according to prescribed criteria, designed to reduce the probability of failure or degradation of the functioning of an item”*.

The execution of these maintenance is carried out, almost always, by outsourced companies that have specialized technical teams, meeting the legal requirements in force.

Faced with a crisis scenario, such as COVID-19's confrontation of the pandemic, combat measures such as social isolation have been a major concern in restricting or interrupting the provision of services by companies that perform preventive maintenance services. Considering this, this note brings to the discussion alternatives to consider in the face of extreme situations, in order to mitigate the possible impacts for patient care.

Some aspects that can be considered for this decision making:

- Reclassify equipment into critical, semi-critical and non-critical in relation to the profile of this new population served;
- Analysis of the preventive maintenance plan, identifying equipment that is due for maintenance or will need to undergo maintenance in the coming months;
- Consider replacing backup equipment (when available) with preventive maintenance up to date, removing expired ones from operation;
- Survey of the technological park, in relation to the useful life of critical equipment, relating the occurrence of failures within a time interval, which demanded corrective maintenance, despite the execution of preventive maintenance. This analysis can identify the need for alerts for specific functions that need more vigilance and that may have additional accompanying measures in daily inspections;
- Instituting complementary criteria for the periodic inspection and quality control routines, such as increasing the periodicity of these checks against the demand for use;
- Define between the teams, the roles and responsibilities for the execution and monitoring of these additional measures, in order to avoid fatigue with accumulation of tasks for the frontline assistance teams;
- Study the feasibility of producing the equipment due to the increase in demand;
- Review and manage the stocks of inputs from these technologies;
- Maintain the stability of the electric power inputs and analyze the power supply of the nobreaks;
- Study the capacity and structure of medicinal gases in view of the greater number of mechanical ventilators installed in the beds;
- Keeping daily tests with transport ventilators and include as a contingency plan for the remaining ventilators;
- Enforce daily, weekly and monthly cleaning recommended by the manufacturers performed by the operation;

- Validate laboratory equipment on a daily basis through internal or in-house controls;
- Map the risks in sending unusual tests to support laboratories, in relation to the platform, technique used, delivery time and logistics;
- Restore preventive maintenance routines as soon as possible.

It is important to emphasize that these are managerial actions for extreme and temporary situations, which aim to minimize the possible assistance impacts in the face of the lack of option for the service.