

THE IMPORTANCE AND / OR THE NEED FOR ENVIRONMENTAL ASSESSMENTS FOR ENVIRONMENTS AT RISK DURING THE PANDEMIC: TYPES OF RELIEFS, CHANGES IN THE USE OF ENVIRONMENTS STARTING WITH THE RISK

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ABSTRACT

The hospitals, and in particular the areas with Very High, High and Medium infectious risk, those with Controlled Contamination (Clean Room) and laboratories, are workplaces in which both patients, but above all users, are widely exposed to various risks.

For the aforementioned reasons, and in compliance with current legislation, the U.O.C of Prevention and Protection of the ASL Napoli 2 Nord considers it of absolute importance to carry out six-monthly environmental checks during which, meticulously, they are monitored, during the period of work activities carried out in environments, all the necessary parameters a global assessment of all risks thus providing a tool for planning technical measures to choose in order to control the effectiveness of the prevention measures of environmental pollutants, for the protection of health and the safety of both operators and patients.

OBJECTIVE

Sanitary emergency

The Covid-19 emergency and the need to cope with it have led to a profound restructuring - in a very short time - of the Italian hospital system, entire departments or sectors, in fact, have been reconverted with total reorganization.

This radical change, therefore, inevitably marked major changes in the methodology of carrying out environmental monitoring as well as on the methods of endorsing decisions regarding the conversion of hospitalization environments.

What previously appeared to be standardized actions, have been subjected to a radical revolution in order to also preserve the health of the company's Prevention Technicians, who, on the front line and in full pandemic, have never stopped accessing in hospitals and especially in the new Covid-19 wards to ensure continuity in monitoring the company prevention and protection system, thus avoiding exposing health workers, who are committed to coping with the significant workload, to further risks

WORK

Planning and management of environmental monitoring

The planning of the planned monitoring and checks was carried out, as a practice, taking into account the frequency and the last control date, or in conjunction with any structural and / or equipment change.

At present, the main parameters monitored in each hospital are:

Monitoring of anesthetic gases

It allows you to check the concentration of anesthetic gases (nitrous oxide and halogenates) during surgery, in order to assess the exposure of healthcare workers, the efficiency of the air handling unit and the correct functioning of the system and devices for anesthesia as they are subject to progressive deterioration of the pneumatic seals;

Circular no. 5/89 of the Ministry of Health. (a) TLV-Ceiling

Microclimatic monitoring

It allows you to check the correct functioning of the controlled contamination ventilation and conditioning system, in order to ensure the correct air changes and the "thermal comfort" of the health workers who work within the operating room;

Presidential Decree n. 37/97, D.G.R. Campania 7301/2001 and Microclimate Guidelines, ventilation and lighting in the workplace (I.S.P.E.S.L. 2006); Guidelines for the definition of safety and hygiene standards in the workplace (I.S.P.E.S.L. 2009) and UNI EN ISO 7730: 2006.

Particle monitoring

It allows you to check the correct functioning of the controlled contamination ventilation and conditioning system, in order to ensure the retention of particulate matter, a potential carrier of microorganisms present in the environment, depending on the ISO class of each individual operating room.

ISPESL 2009 Guidelines

Microbiological monitoring

It allows to check the level of contamination by microorganisms on surfaces and in the air and therefore to evaluate the effectiveness of the sanitization / disinfection protocols adopted, the effectiveness of the air handling unit, compliance with the behavioral procedures by the staff.

UNI EN 13098: 2002; UNI EN ISO 14698: 2004

Chemical Monitoring and Antitubercular Drugs - UMACA

It allows you to check, on the basis of actual use, the methods and quantities used, the level of contamination of chemical agents, paying particular attention to the presence of carcinogens and mutagens.

The checks are carried out on surfaces (floors, handles, work tools), monitoring the presence of tracer drugs such as:

1. coordination compounds of platinum
2. 5-Fluorouracil
3. Cyclophosphamide

Technical Standards of Oncological Galenics (SIFO 2016), Legislative Decree 81/08 and subsequent amendments Title IX chapter I

Legionella Pneumophila monitoring

This monitoring allows to prevent colonization and bacterial multiplication in water distribution, heating and air conditioning systems and reduce the risk of Legionella pneumophila pneumonia in hospitalized people and hospital staff.

Guidelines for the prevention and control of legionellosis

Activities undertaken

The Prevention and Protection Unit of the Napoli 2 Nord ASL, in the face of the radical and necessary change in monitoring due to the Covid-19 emergency, immediately undertook training and training campaigns for personnel dedicated to the activities.

Dressing and undressing, disinfection and sanitization of instrumentation and rescheduling of monitoring

times are just some of the initiatives implemented by the U.O.C:

- The main training and training activity regarding dressing and undressing was carried out through the dissemination of demonstration videos in compliance with the anti-contagion measures provided for by the Prime Minister's Decree;
- For the disinfection and sanitization of monitoring equipment (microclimatic station, particle counter, anesthetic gas monitor, sas, bubbler for peracetic acid, sound level meter, accelerometer), the UOC has set up filter areas dedicated to the sanitization of the equipment through the use of the Micro-Defender system.
- This technique, through aerosolization interventions, allows a highly effective preventive action against all pathogenic microorganisms;
- Finally, thanks to a great coordination work between UOC and the staff of each single hospital unit, it was necessary to reshape the monitoring times in compliance with the routine activities carried out by the health personnel, thus avoiding interference between the various activities carried out and drastically reducing the contamination risk.

CONCLUSIONS

All the above activities were made possible thanks to teamwork and great participation and collaboration on the part of both the Prevention and Protection Unit and the health personnel of the environments being sampled. This meticulous work has ensured that all the personnel dedicated to it have never found any positivity in the course of their work and that all the hospitals in the area have continued to receive support in the field of prevention and protection

In fact, in full emergency, approximately 360 monitoring of all possible environmental pollutants were guaranteed even in the covid-19 wards, also paying close attention to sensitive departments such as hemodynamics, operating rooms and dialysis.

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