INTERFERENCE and RISKS ASSESSMENT DOCUMENT

Information document on specific workplace hazards in the environments and structures of the Institute of Tumors in Naples G. Pascale Foundation Prevention and emergency measures adopted

Addressed to contractors, service providers and non-employees working within the Institute (Pursuant to Article 26, paragraph 1 b) Legislative Decree 81/08 as amended)

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SUMMARY

INTRODUCTION

The purpose of this document is to provide information on the specific risks present in the IRCCS Tumors Institute of Naples - Foundation G. Pascale (hereinafter referred to as the Institute) and their incidence with regard to staff engaged in activities entrusted to a contract or contract 'Works within the Institute (e.g. maintenance, cleaning, etc.). It therefore collects the main safety information prepared by the Institute in application of art. 26 of Legislative Decree 81/08.

It is clear that, for the pursuit of the best security conditions in the work entrusted to non-staff members within the Institute, it is of primary importance to activate an information flow between the various actors involved: Employer **Customer**, Employer **Contractor's** work, Head of structures involved in the work/contract, Administrative or technical structure for the management of the contract, Presidium Medical Direction, Prevention and Protection Service.

This document is configured as operational support in the context of this flow of information and **fulfills the obligation of the employer to provide self-employed contractors/contractors with detailed information on the specific risks existing in the work environments in to which they are intended to operate and the related preventive and emergency measures adopted in relation to their activities** in accordance with Article 26, paragraph 1, letter b).

The information and indications contained in this document constitutes the fulfillment by the Employer's Employer of the obligation of cooperation and co-ordination of prevention and protection measures to eliminate the risks of interference between the work of the various companies involved 'Execution of the whole work, in the case of multiple companies in the same workplace (Legislative Decree 81/08, Article 26 c.2 lect. b), a process which is promoted by the Employer (Legislative Decree 81/08, Article 26 c.3).

This obligation does not extend to the specific risks inherent in the activities of contractors or self-employed workers, as set out in the above c. 3 of art. 26 of Legislative Decree 81/08; However, it was considered useful to include some indications of specific risks inherent in activities typically entrusted to contracting firms within the Institute: these indications, the result of the experience gained on the subject within the Institute, are to be understood exclusively Which suggestions - not exhaustive of all the possible risks inherent in these activities - addressed to employers of contractors or self-employed workers.

There is talk of **interference** in the situation where there is a "risky contact" between the customer's and the contractor's staff or between the staff of different companies operating in the same headquarters with different contracts.
Interference risks can thus be generated by:
• overlapping of several activities carried out by different contractors;
• presence of risks from the contractor's own work in the places where the contractor is expected to operate, in addition to those specific to the contracted activity
• placing the contractor's work at the workplace of the contractor;

- special execution procedures specifically required by the buyer that entail additional risks than those specific to the contracted activity;

According **to Legislative Decree 81/08 and s. And Determination no. 3 of March 5, 2008**, issued by the Supervisory **Authority on Public Works Contracts, Services and Supplies** - "Security in Execution of Services and Supplies Contracts". Preparation of the single risk assessment document (DUVRI) and determination of the cost of security "- no DVR preparation is foreseen in the case where the contract consists of:

- provision of materials or equipment without installation or works and services which last no longer than two days, provided that they do not pose any risks arising from the presence of carcinogens, biological agents, explosive atmospheres or the presence of particular risks (of which all 'Annex XI to Legislative Decree 81/08);
- services for which it is not expected to be executed within the contracting station, meaning for
  'Internally' means all premises / places made available to it for the purpose of completing the service, not including the offices of its own;
- services of an intellectual nature, even if carried out at the contracting station;
- Contracts falling within the scope of Title IV of Legislative Decree no. 81/08, for which the Security and Coordination Plan is to be drawn up, the analysis of interfering risks and the estimate of the related costs are contained in the Security Plan and Coordination and, therefore, in this case it does not appear necessary to draw up the RAD.

SINGLE INTERFERENCES RISKS ASSESSMENT DOCUMENT (DUVRI)

• For each contract of supply of goods and services involving interfering activities, the Client Institute will prepare the DUVRI where the measures taken to eliminate the risk factors caused by the interference between simultaneous activities in the same work environment are indicated.

This document, drawn up pursuant to Article 26 of Legislative Decree 81/08, is shared with the Contractor and is attached to the contract of employment or work.

• For all other cases not covered in the previous paragraph, which in any case present interference hazards, this document is deemed to comply with the provisions of Article 26, paragraph 3 of Legislative Decree 81/08. In such a case, it will be the care of the Institute to provide the non-employees (in any title present in the company) the necessary devices to protect them from any risks associated with the activity carried out at the Institute.

• For works involving the opening of temporary or mobile sites falling within the scope of Title IV of Legislative Decree 81/08, reference is made to the provisions of the same Decree, including the prior study of security aspects in the design phase, in accordance with the figures provided, and compliance with the same legislation being implemented. In any case, the assessment of any critical aspects of security is foreseen (e.g. "Interferences"), with particular reference to the interface areas between the site and the normal activities of the structure.

Contractors or individual self-employed workers, in reporting specific risks **related to their business**, must submit any suggestions of integration (to the Employer and the SPP) to the DUVRI in a timely and formal manner, if they feel that they can better ensure the safety of their work, based on their own experience. In no case may any additions justify changes or adjustments to security

PRESENTATION OF DOCUMENTS RELATING TO SECURITY OF WORK

By the contractor/self-employed

For each contract, the contractor is required to provide security documentation describing the objective of the contract, the working phases and the expected times, the machines and/or equipment required, the materials, the workers employed and the working techniques. This documentation is used in order to highlight the technical and organizational measures to be implemented for the prevention and protection of workers' risks, but also for the protection of third parties whose presence could result in a negative interaction with the activities carried out.

The contractor's employer must indicate the name of the manager or appointed local contact point for the contract.

This documentation is a binding element for the activities to be carried out, the identification of responsibilities and the assumption of commitments to protect the Health of all those involved in the execution of the work.

The awarding company must, prior to commencement of activities, declare to the Institute in writing that he has read and has informed his workers of the content of this document.

1 GENERAL COORDINATION PROCEDURE

This document, prepared by the Health and Safety Executive (HSE), is delivered by the Institute to the Legal Representative of the Contractor Company (or self-employed), pursuant to art. 26 of Legislative Decree 81/08 and 56, with a view to promoting co-operation and co-ordination between the parties on the protection of occupational health and safety and to indicate the measures taken to eliminate interference.

The organizational structures responsible for compliance with the regulatory requirements covered by this document are as follows:

- **Technical Structures**: CS Planning and Building Maintenance and Installations (hereinafter referred to as ST) for all maintenance work on both plant and equipment;
- **CS Property and Services Management** (hereinafter referred to as PSM) for the supply of goods and services (Hall, Watch, Cleaners and Restaurant etc.) and the **CS Research Directorate** for Research Supplies;
- **Presidium Medical Direction** for Clinical Activities.

It is therefore recommended, for any reference, doubt or necessity on the subject in question; to always refer to the figures indicated.

Annex I contains the names and addresses of the HSM, the Qualified Examiner and all other internal consultants and / or professional figures able to provide safety information.

Where it was not possible to eliminate the interference by organizational measures, or other measures taken by the Institute, are assessed separately from the costs incurred by the contractor.

1.1. RESPONSIBLE COORDINATION FIGURES

The operational figures for the coordination of activities in order to avoid interference are:

- ❖ **The operator of the external company.**
- ❖ **The Institute's internal referent for the given activity.**
- ❖ **The Head of the Structure of the Institute in which the activity takes place.**

For the purpose of this document, the **Head of the Structure** is understood, unless otherwise stated:

- **Shelter Areas**: The Director of the Structure or, in the case of absence / unavailability, the Nursing Coordinator or nursing staff in turn in case of absence;
- **Operator Block**: The Director of the Structure or, in the case of absence / unavailability, the Nursing Coordinator or nursing staff in turn in case of absence;

- **Laboratories of Research**: Director of the Structure or the Head of Laboratory in case of absence / unavailability of this;
- **Radiology, Radiotherapy, Nuclear Medicine and Diagnostic Areas and Services**: Structural Director or Technical Coordinator in case of absence;
- **Outpatients**: Presidium Medical Direction or Nursing Coordinator in case of absence
- **Technical Rooms**: Director ST or his delegate;
- **Outdoor Courtyards**: SC Property and Services Management;
- **Administrative Areas**: Director of Structure or staff delegated by him;

The figure of the Manager as above identified coincides in most cases with that of the Manager or Responsible; for the sole purpose of coordinating the activities of external staff, the function of Manager may, for the aforementioned, be carried out by other professional figures, as this responsibility is limited to alerting external staff of the presence of risk factors that each worker is kept to know.

For **Internal Referrer** it is the employee of a Structure of the Institute appointed by the Responsible to follow a certain activity involving the presence of external staff.
For maintenance activities, Internal Referral is always a ST employee; for the supply of goods and services, an employee of SC Property Management and Services / Administrative Research.
The outsourcer's operator must always be recognized by means of an identification card and must comply with the instructions and instructions of the referent.

1.2 COORDINATION AND PERIODICITY OF MEETINGS

The coordination between the figures referred to in paragraph 1.1. It takes place:

- By preparing rules and indications, at the time of writing and formulation of the contract.
- By transmitting this document for information on its own risks and internal organizational arrangements.
- As expressly provided in DUVRI, when activities are considered to be interfering with those of the Customer Service.

For specific organizational arrangements, specific meetings are planned, which may consist of:

- Periodic meetings to assess the quality of the service and / or to check for any safety issues;
- Meetings convened in the event of problems (e.g. injuries, changes or changes in work, damages of various origins and management of related emergencies etc.);
- Communications related to organizational and management changes in workplaces or emergency plans.

1.3 APPLICANT RELATIONSHIP TYPES BETWEEN CUSTOMER INSTITUTE AND CONTRACTORS

- External companies with occasional presence of operators;
- External companies with continuous presence of operators;
- External companies for the opening of temporary worksites;
- Professionals, Healthcare or not.

In all cases mentioned above and at the same time at the beginning of the work to be performed, the Contractor's Operators must notify the Head of the Facility where the intervention, directly or through the Referent, is carried out on the presence of external operators and activities to be carried out, also to acquire any additional specific information useful for the proper and secure performance of the assigned work.

1.3.1 External companies with occasional presence of operators

In the case of companies carrying out their activity at the "one-off" Institute:

- The operator is present at the Institute and requires the presence of the contact person who contacted him;
- The Referent, prior to the beginning of the work, conducts a joint inspection in the work area and illustrates any security related procedures or issues in the area of interest as well as the procedures to be followed to eliminate **the risks of interference** with other operators' companies;
- During the execution of the work, the Referent, as far as competence is concerned, verifies compliance with general or specific security rules with respect to their applicability in the case concerned;
- At the conclusion of the operation a joint control is carried out to **verify the correct and complete completion of the work**, the restoration of the existing conditions and the absence of elements such as to constitute a danger for operators and patients.

1.3.2 External companies with the presence of their own operators

In the case of companies with continuous presence of staff in service at the facility (e.g. cleaning, catering, etc.), in addition to this document, reference must be made to the specifications, which necessarily includes the description of the working typologies carried out.
Among the contractors of the contractor, a "Coordinator" is usually responsible for coordinating with the contracting institute, or with other contractors **in order to eliminate any interference**.

The above-mentioned "Coordinators", whose name must be formalized to the Structures referred to in paragraph 1.1 and to the Prevention and Protection Service, must:

- verify that all the operators involved are wearing the identification mark;
- refer to health and safety issues at PPS;
- for specific work (e.g. structural or plant modifications, etc.), at the conclusion of the intervention, carry out, in conjunction with a ST referent, an inspection to verify the correct and complete completion of the works and complete restoration of the initial conditions, that is, no elements have been introduced such as to pose a danger to workers and patients. Any abnormal situations found must be formally reported to the relevant figures (Structure Director, ST, PPS);
- draw up and deliver to the Structures referred to in paragraph 1.1 any documentation of the interventions carried out.

1.3.3 Temporary Shipyards

For works involving the opening of temporary or mobile works sites, falling within the scope of Title IV of Legislative Decree 81/08, reference is made to the provisions of the same Decree, including the prior study of security aspects in Design phase, in accordance with the figures provided, and compliance with the same legislation being implemented.

The HSM must be promptly informed about the opening of yards in order to be able to evaluate any critical aspects of security (e.g. "interference"), with particular reference to the interface areas between the site and the normal activities of the facility.

1.3.4 External Professionals working at the structure

For unstructured and employed personnel in Healthcare activities, risk assessments and procedures already in place for the Institute's staff are in place, subject to special procedures provided by any external provider of such staff.

The demonstration of operation and post-sales assistance connected with the provision of presidencies and/or equipment, other than cases comparable to mere intellectual performance, shall take place in accordance with the procedures laid down in this document.

2 INFORMATION ON SPECIFIC WORKING RISKS AND RELATED MEASURES FOR PREVENTION AND PROTECTION

present in the environments and structures of the institute

2.1 DESCRIPIONT OF INSTITUTE WORKING ACTIVITY

The Institute of Tumors of Naples - G. Pascale Foundation is an Institute for Hospitality and Care in Science (IRCCS) and as such, pursuant to art. 1, para. 1 of Legislative Decree 288/2003, is defined as a body National importance, with autonomy and legal personality under public law, which, according to standards of excellence, pursues mainly clinical and translational research, together with hospitalization and high-quality care. It is configured as a monothematic IRCCS, exclusively for the study and cure of tumors.

The G. Pascale Foundation was arranged with R.D. n. 2303 on October 19, 1933. On March 14, 1934, began work on the construction of the first building. On April 11, 1940, he received the first acknowledgment of the Institute of Scientific Character (IRCCS), which in the following years has always been confirmed. With the decree of the Provincial Doctor no. 8984 of 4.5.1963 the Institute was classified as "Specialist Hospital" of Category I. Founder and first president of the Institute was Senator John Pascale, General Professor of General Surgery at the University of Naples, chair of the Faculty of Medicine, chairman of the Italian Society of Surgery, and first president of the Italian League for the Fight against Tumors. The purpose of the Institute is to promote and implement biomedical research aimed at advancing the field of application of knowledge in the oncology field, in order to identify new and suitable addresses in the prevention, diagnosis and treatment of cancer diseases. Research conducted at the Institute focuses on the most frequently observed cases of cancer in southern Italy, such as breast cancer, primitive liver cancer, gastrointestinal tract carcinomas, melanomas, thyroid cancer, lymphoma, and AIDS-associated tumors.

The Institute's headquarters are located in a building complex located in the upper area of Naples, with main road access from Via Mariano Semmola; further entrances are located on the west side of Via D'Antona and on the east side of via Pansini. Attached to the Institute is the center of Mercogliano (AV) for the Center for Research on Oncology (C.R.O.M.).

Since 1936 the Institute has gradually expanded the spaces and an original building, now reserved for Research Laboratories, has extended to four buildings where are currently located administrative offices, hospital departments, research laboratories, environments for outpatient activities and Day Hospital:

- Hospital Building, which develops on nine ground floor and two basement floors, and is divided into bodies called bodies (from A to I);
- Day Hospital building, spread over six floors above ground and is distributed in front of Via Mariano Semmola and Via Antonino D'Antona;
- Scientific building, spread over five floors above ground and a basement;
- Administrative building, spread over three floors above ground and a basement floor; In it there are the corporate executive and supportive administrative offices;

- The lodging for sisters, spread over three floors above ground, for a total surface, gross of staircases, technical spaces and elevator rooms, about 250 square feet;
- Center of technological services, with only one ground floor;
- A large outdoor area, on which are housed the concierge, garbage disposal, outdoor parking, water reserve, some technology centers and internal avenues.

Since 2000, the Institute has been refurbishing and commissioning the buildings, also to provide patients with a higher hotel comfort; The work proceeds by step, with the closure of the affected area and simultaneous transfer (and possible merging) of the structures concerned.

The work carried out within the Institute is mainly aimed at the diagnosis and treatment of tumors at the outpatient clinics and outpatient clinics.
They are also made:

- Research and experimentation activities;
- Administrative management, control and programmatic address of health activities to patient patients;
- Technical activities related to the design and maintenance of buildings and equipment and equipment;
- Management of the acquisition of goods and services;
- Physical surveillance of radioprotection of environments, personnel and population at radiological risk by means of a qualified examiner in accordance with current legislation;
- Temporary storage and control of waste disposal.

Currently the Institute is organized in 13 Departments, hosting three Bachelor programs (SUN Nursing, Federico II Biomedical Laboratory Technician and MR Medical Radiology Medical Technician). Special hospitality and outdoor services are provided. The esteem of people who attend the areas of the institute must therefore consider, in addition to the staff, students, university teachers, patients, accompanying people, visiting researchers and suppliers.

Below is a review of the risk factors present in the work environment due to the activities of the Institute; where applicable, the coordination provisions of the various activities are indicated.
It is represented that when emergency situations occur, will be communicated by the Management of the Institute, appropriate provisions in compliance with the Ministerial/ Regional directives.

2.2 BIOLOGIC AGENTS EXPOSITION

The risk of biological agents related to health care, the progressive enlargement and differentiation of nursing places, associated with the high invasiveness of nursing practices that can be performed even in non-residential environments, is presumed to be a ubiquitous in the health care field.

The risk of pathogen infection is a phenomenon, however, well known and essentially three ways:

1. properly known nosocomial (from the environment to patients or crusade among patients);
2. occupational (from infected patient to operator);
3. from infected operator to patient.

2.2.1 Potential biohazard activity

The dangerous aspects of the Institute's activities which, if not followed by the procedures envisaged and reported in this document, may lead to a particular biological risk are the following:

- healthcare services, including surgery, which may require invasive maneuvers for patients outside the operating room, including: injections, catheter insertion, dressings, therapies, enemas, treatment and cleaning at all parts of the patient's body;
- manipulation of leafy effects, sometimes smeared with organic material, as well as food and remains of the meals that the patient has consumed;
- presence in almost all areas of potentially infected hospital waste, which are appropriately harvested in special containers;
- possibilities, albeit unintended and occasionally, of the presence on the ground or in the baskets of potentially infected syringes or the results of dressing (cotton, gauze, similar materials) or medical prescriptions used, or traces of potentially infectious organic material that operations diagnosis, therapy, treatment of patients - or the conditions of the patients themselves or the patients themselves may have unintentionally dispersed in the environments, surfaces, and furnishings.
  As far as extremely rare events are concerned - and the control of the operators of the INT is continuous - it is considered appropriate for any user / operator / guest to be aware of it;
- also, in environments intended for Laboratory and Surgery Samples are handled organic materials potentially infected, tissue samples, blood, urine, faces, fluids taken from patients or laboratory animals, etc. All these materials can be accidentally found in traces, on the benches, on the floors, on the equipment, as well as on the furniture and objects present in the laboratory. With regard to extremely rare events - and the control of the Institute's operators in this regard is continuous - it is considered appropriate that any user / external operator / guest is aware of this;
- in some laboratories, culture fields can be used on which viruses and bacteria can be proliferated.

2.2.2 Biohazard warning signs

The areas and containers inside which materials can be found where the presence of pathogens is found or very likely are identified by a specific placard.
Access to these areas and/or container handling is reserved for specifically trained and authorized personnel.
The biological hazard symbol that may or may not be accompanied by indicative descriptions is as follows.

2.2.3 Biohazard prevention measures

This document is intended to define short-term recommendations to contain infections on the basis of available scientific information.

2.2.3.1 Universal precautions

First of all, it is necessary to constantly and properly wash your hands.
Barrier measures must be taken to prevent accidental contact with blood and other biological fluids:

- Use of Personal Protective Equipment (DPI) such as gloves, overcoats, overwork, masks, glasses or visors;
- proper use and disposal of needles and sharp edges;
- decontamination of surfaces contaminated with potentially infected biological materials.

The barrier measures, examined above:

- must be adopted by all operators whose activities involve contact with users within the Healthcare facility;
- must be applied to all patients in charge of the Institute as the history and diagnostic findings do not allow to identify with certainty the presence or absence of transmissible pathogens in the hosts and therefore all must be considered potentially infected;
- they must be applied routinely when performing care and therapeutic activities and when handling gloves, instruments or equipment that can cause accidental contact with blood or other biological material.

2.2.3.2 Hand washing

The hands of Healthcare professionals are the main vehicle for transferring pathogens from one patient to another and from the patient to themselves. Hand washing is the most effective way to limit this transmission and must be:

- before the start of work;
- before wearing the gloves and after removing them;
- before and after the care procedures;
- between one assisted and the other;
- in the case of biological or chemical contamination even suspected. (In the last two cases an antiseptic soap is recommended).

For further details refer to the provisions of the Hand Hygiene Procedure.

2.2.3.3 Hands care

- Nails should be treated, short, clean and free of nail polish;
- The skin of the hands must be kept intact, also using barrier creams;
- Do not wear rings, bracelets, watches during work.

For further details refer to the provisions of the Hand Hygiene Procedure.

2.2.3.4 Behavioral rules in case of hands contamination

- Washing with water and liquid soap in dispenser for 30 seconds, followed by antiseptic of the hands with suitable disinfectants;
- Washing with antiseptic SOAP solution detergent for 2 minutes.

For more details please refer to provisions in hand hygiene procedure.

2.2.3.5 Barrier measures

Gloves

- They must always be worn whenever possible contact with biological material, cleaning, refuse collection, bed rebuilding and filing of dirty linen;
- Before and after use of the gloves, the operator must wash hands with soap and water;
- When changing from one appliance to another, the gloves must be changed and the operator must wash their hands before wearing a new pair;
- Operators should not touch eyes, skin and mucous membranes, surrounding objects, or other people (except the assisted) with gloves;

- So that the use of the gloves does not become the pathogen disseminating vehicle itself, it is necessary to use them exclusively in the operations where their use is required, such as the hygiene and nursing care of the patient. The gloves in question must be thrown after use.

Protective clothing

- The garment must be intact, clean and of adequate size;
- Appropriate procedures should be developed to lay down how and when to use the garment after use (sanitation);
- The user must personally check the integrity and cleanliness of the garment and suitability of the sizes; he will have to ask for the change of the garment if this is smeared;
- Disposable garments (non-woven fabric overlays) should be used in operational situations that presuppose greater exposure to biological hazards.

Protection of the face and respiratory tract

- Goggles, visors, or screens are recommended when operations may expose the eyes, mouth and airways to sketches of biological material;
- In specific cases it may be necessary to also protect the respiratory tract with suitable respiratory protection devices. The use of surgical masks (which are not a DPI) is subject to specific assessment by the Structure Manager. For further details refer to what is contained in the DPI Booklet.

2.2.4 Associated risks to the use of healthcare equipment

2.2.4.1 Needles and cutting edges

- Sharp tools must be considered dangerous, so they must be handled with care to prevent accidental injuries;
- All operators must take the necessary measures to prevent accidents caused by sharp edges (e.g. scalpel blades, pliers, scissors, razors, glassware, etc.) and needles;
- Many injuries occur due to incorrect removal of needles: it is recalled that it is FORBIDDEN to reinsert the needles; The syringes should be completely disposed of in the yellow colored container;
- Needles and cutters after use should be removed ONLY and EXCLUSIVELY in the appropriate, rigid, watertight containers with a hermetic closing closure;
- Disposal containers must be kept at hand during work so as not to defer the disposal of needles or sharp edges and dispose of them at the same time as use.

2.2.4.2 Handling of tools and equipment

The instrument washing maneuvers are particularly at risk and, except for extreme cases in which handling cannot be avoided, washing with mechanical means.

In no case shall the COMPANY's operators sanitizing or decontamination of laboratory equipment for carrying out examinations, safety booths, laboratory instruments, work surfaces or other surfaces on which biological samples are to be taken, if not explicitly authorized by the Health Director and by specific specifications.

2.2.5 Particular risks

2.2.5.1 Tuberculosis infection risk

Patients in healthcare facilities, especially long-distance, are part of the groups at risk of tuberculosis (TB Guidelines issued by the State-Regions Conference on the proposal of the Ministry of health - Prov. 17/12/98 - OJ 18/02/99, No 40).
Patients with TBC diagnosis are not treated at the Institute, any cases ascertained after hospitalization are immediately transferred to other facilities.
For the foregoing, the Institute is classified as low risk for TBC.

2.2.6 Precautions against biological risk in cleaning and sanitization operations

As a general assessment of the biohazard in non-health care and support services in a hospital environment, it can be said that in the course of cleaning the premises (or maintenance activities in general), the possibility of biological contamination is normally, very low.

First of all, a contagion can generally occur when there is direct contact with the patient and in the execution of care procedures that are exclusively the responsibility of the personnel involved in the care.
In addition, the assurance of adequate security conditions for external staff working within the care facilities is ensured by the application of the precautionary safety precautions commonly used in any Healthcare environment, the application of which is controlled by the structure.

More specifically, each **department manager** (cf. section 1.1) should facilitate the conduct of external business operators by avoiding accidental exposure to biological agents by ensuring that:

- support personnel observe the application of universal precautions for the handling and disposal of potentially infected waste in the prescribed manner and time (correct needle disposal and cutting in rigid containers);
- there is a systematic control of the adequacy and observance of the correct procedures in the department as regards manipulation of biological samples;
- systematically provide information to contractors in relation to possible exposure hazards, especially with regard to patients under precautionary measures of isolation; information on how to transmit infectious agents and the precautionary measures to be taken (if necessary and the type of protective device to be used, procedures that may potentially expose the risk of contagion during normal housekeeping) must be provided.
  In this regard, it should be noted that the Institute does not normally receive patients infected with infectious diseases; If any of these results in the transfer of the patient to appropriate facilities to ensure proper care; The patient is temporarily placed in isolation: after the transfer of the patient the room is appropriately ventilated (opening the windows for at least 20 minutes) and if not restored the initial safety conditions following cleaning and sanitization.

Personnel involved in ordinary, extraordinary or maintenance operations should generally observe the following:

- Before commencing any ordinary, extraordinary or maintenance cleaning, you should generally contact the Manager or the Referent to inquire about any specific risks or the need to take special precautionary measures;
- In no case must the sanitary equipment or laboratory decontamination be carried out to carry out examinations, safety booths, laboratory equipment, work planes or other surfaces on which biological samples are to be taken, unless expressly authorized By the Laboratory Manager;
- Must wear suitable work uniforms, complete with anti-slip shoes, possibly water repellent and fully closed or at least in the front; It is to avoid the use of slippers or hooves, which do not guarantee the full coverage of the forefoot or that do not guarantee the correct fit during work. The use of open shoes may be the cause of injury as a result of accidental trauma injuries such as wheelchairs, door edges, etc.;
- Before wearing normal cleaning, wear gloves (home-made), which must be replaced according to the environments to which they are intended (possibly differentiated by color: 1 pair for the rest areas, 1 pair for the baths). All operators must be duly informed of the correct maintenance procedure for the supplied gloves (cleaning after use, wear assessment etc.);
- Wear, whenever the department manager reports to you, protective gloves such as overwork and masks suitable for the type of work provided by the contractor;
- In some departments, cleaning personnel may be required to wear masks and shoes and overspray before entering the hospital rooms. This request is for the protection of hospitalized patients and usually does not involve any exposure to the infectious risk of the staff;
- In the event of the need to protect the respiratory tract for the prevention of exposure to infectious agents, personnel must be equipped with respiratory protection devices suitable for the purpose and must be properly informed of their correct use and maintenance.

Absolutely avoid:
• to put your hands in trash bins or bags for waste collection;
• to collect needles or the like without the necessary precautions, in the event of the assistance of the service personnel who will arrange the correct disposal;
• to manipulate appliances or gaps in contact with the patient.

2.2.7 Precautions against biological hazards in handling and storage of hospital waste

Personnel handling and transport at the storage site of hospital waste containers not comparable to urban areas may result, due to incorrect handling procedures, potentially exposed to the risk of biological contamination, puncture, cutting or accidental contact with material Biological waste.

In order to avoid this possibility, waste handling workers must be properly informed by their employer of the nature of the materials they must transport.

It is absolutely forbidden:

• open the containers and insert their hands, or turn them over with the risk of leakage of the content material;

• manipulate the containers without wearing suitable protective gloves provided by the employer; It is advisable to use protective gloves also for cleaning the trolleys used for transport;

• touch naked bare hands visibly dirty or damp; In this case, tell the department managers the drawback so that container can be safely replaced.

It is recommended to wear a workwear to be worn when collecting and storing non-urban hospital disposable waste and suitable non-slip shoes, to prevent accidents from falling or slipping.

2.2.8 Precaution against the biological hazard connected to the lavanolo service

The risk of exposure to organic agents for the staff of the lavanolo service is very limited.

There are no cases of infectious diseases reported by the staff in this literature, although there are indications of accidental contact with biological material as a result of accidental puncture caused by prescriptions erroneously disposed between the linens.
The provisions given to departments in order to unambiguously identify dirty linen with biological material or fluids reduces the risk of coming into contact with these substances.

To prevent exposure to biological material from accidents, however, it is recommended to all personnel working in this service to:

- avoid opening bags containing lingerie or lethal effects identified as potentially infected;
- avoid or reduce manual sorting of laundry, however, during all machine loading and manipulation, wear appropriate cutting-edge protective gloves, in order to avoid accidental puncture with sharp edges in the linen;
- wear protective gloves during mattress and pillow removal and arrange for autoclave disinfection of all visible viscous effects (even if stains are small);
- wear appropriate FFP1 mask during lettering cut-off operations in order to avoid repeated powdery and latex exposures that are released into the environment during the maneuver;
- wear suitable vinyl gloves during the refinement of the letterhead effects.

2.2.9 Precautions against the biohazard associated to the maintenance and technological services

Generally, it should be noted that, while respecting the basic hygienic standards, the risk of contracting outbreaks of infectious disease in the hospital environment for the internal or external staff working in this field is not superior to the same activities carried out in other environments of work.
Therefore, for these personnel the possibility of contracting pathologies of infectious origin at work is to be considered extremely low.

- In the case of maintenance work in the departments, if you require intervention in the rooms and the hospital services, it is recommended that you contact the Nursing Coordinator or department staff beforehand to obtain information about Any precautionary measures to be taken.

- It is recommended especially for sanitary and / or toilet maintenance, the use of rubber gloves and boots, and any other barrier means to prevent contact with sewage or dirty water.

- In environments with biological risk and in any case during work, it is forbidden to consume food and beverages, smoke or apply cosmetics as such operations may favor the incorporation of pathogens.

2.3 DANGEROUS SUBSTANCES

2.3.1 Generality

In all sectors of the hospital, chemicals are used, albeit in limited quantities and for limited uses.
Among the first measures suitable for the prevention of incongruous exposure are:

- adequate reporting of risks related to the use of chemicals, in particular with regard to the presence of adequate labeling on all containers,
- the presence of the Safety Data Sheets (SDS) of the substances used
- the correct information of operators using these substances.

In wards and hospital services, the most common chemical substances are DETERGENTS and DISINFECTANTS.

In details:

- in the Departments of Hospitalization, you use detergents, disinfectants, sanitary sterilizers, sterilizers and various products for disinfection and treatment of patients or equipment, environments, surfaces, etc. All chemicals are contained in regularly labeled packages. Any labels that are not labeled must not be handled properly. Many of these salts, if they are not ingested, are harmless but may have flammable or dangerous properties, corrosive, irritating, sensitizing, harmful, etc. The products may also exceptionally trace on surfaces or floors, for example following Accidental spills. The staff of external companies must take care to scrutinize the surfaces on which they are to work.
- in the clinic and Departments of Hospitalization, medicines may be used, which may be traceable on surfaces or floors.
- in the "sheet development" environments of Radiology – where not already digitized – there are installed automatic developers that can only release chemical vapors accidentally, the quantity and toxicity of which, given the low quantities involved, does not cause problems, even considering the presence of implants of aspiration, which provide for the normal air exchange.
- in Research Laboratories, more than in any other environment, concentrated acids and bases are used, toxic, irritant, occasionally also carcinogenic, oxidizing and combating, teratogenic or mutagenic, sensitizing, water-incompatible products or causing serious reaction with water. In these environments, the ban already presents in other areas of the Institute, the manipulation of containers without authorization, as well as the duty to interfere with the Responder, becomes even more rigorous.

2.3.2 Chemical hazard warning

There is no, or rather it is not applicable, particularly in hospital, a generic chemical risk signal. Signals indicating chemical risk may, but not always, be present on containers of laboratory reagents; the main signals are as follows:


CORROSIVE


TOXIC


IRRITATING

In all cases we recommend caution when handling or using preparations which, if present, indicate on the label the following risk phrases:

- H350: may cause cancer;
- H350i: may cause cancer by inhalation;
- H351: suspected of causing cancer;
- H340: may cause genetic defects;
- H341: suspected of causing genetic defects;
- H360: may damage fertility or the unborn child;
- H361: suspected of damaging fertility or the unborn child.

It should be noted that the drugs do not display these risk phrases, as no mandatory reporting on pharmaceutical substances.

2.3.3 Anesthetic gases

Among the chemical agents that can be exposed Healthcare workers include the anesthetic gases used in the operating theatre; the gases used are the Sevorane and nitrous oxide (very rarely).
Generally environmental air exchange in the operating room guarantees exposure control.

During all stages of using these gases must not occur the presence of unauthorized persons.

For all special cases, subject to agreement on how to safely access, appropriate information is to be carried out by the operator's activities (Technical Coordinator/Nurse-Anesthetist).

2.3.4 Antineoplastic Chemotherapy

Among the chemical agents that can be exposed Healthcare workers are considered also the antineoplastic drugs, some of which may have teratogenic and carcinogenic effects.
During all phases of handling these drugs, should not obviously occur non-medical personnel or in any case not authorized.
For all special cases, subject to agreement on how to safely access, must be implemented adequate information from the responsible for the preparation/handling of antineoplastic drugs.
The risk associated with use of antineoplastic drugs is still under control; provides all the necessary preparation protocols are respected and DPI/handling provided for the purpose.
The proper implementation by the Health staff, all precautions to reduce the risk of exposure to these drugs is to eliminate the incidence of this risk factor on non-medical personnel – be they internal or external (e.g. cleaning, maintenance etc.).

Not intended for use by employees of the undertaking or other external companies in limiting any spills of chemicals. Only after reclamation operation that is carried out by qualified and aware of the risks associated with the handling of substances and preparations, you can request the assistance of cleaners for final restoration of the premises.

2.3.5 Latex and connected risks

In institutions using "latex artifacts" such as disposable gloves and medical, therefore no structure can be defined as "Latex-free environment", that is totally free of latex: are possible traces of product on surfaces or in airborne form.
For those who are sensitive to latex the risk is not commonly considered virtually nil.
Conversely, those who have in the past expressed latex allergies, or who suspect such an allergy or who have concerns about this, should contact their employer and competent doctor before entering in Institute, as in any other hospital.

2.3.6 Cryogenic liquids and gases

Many samples and laboratory cultures are stored at very low temperature in liquid nitrogen (cryobank); many samples are stored in laboratories, not equipped with centralized supply system of nitrogen.

Nitrogen is a gas that, if present in excessive concentrations, can cause rapid suffocation. In fact, although the nitrogen is not a toxic gas, is dangerous if you replace the oxygen in the environment. You should also have in mind that a small amount of liquid evaporates it creates a large amount of gas.
Liquid nitrogen for contact may cause severe frostbite in the eyes or skin.
The two main security issues to consider when using the liquid nitrogen are thus adequate ventilation of the premises where the work and protection of eyes and skin.

For security reasons, it is forbidden to carry on lifts and elevators cryogenic liquid containers with a capacity exceeding 250 cc with the people.
For providing the Institute's laboratories transportation clerk must place the container into the freight elevator, walk up to the target plane and call the freight elevator.
The staff, called the freight elevator to move between floors, should find the same occupied by nitrogen container must close the door to allow the installation to complete.

2.3.7 Compressed gases and cylinders

Compressed gases are used in many Healthcare facilities. Can be found in containers (cylinders) of various sizes and in pure form or compound (examples: oxygen, carbon dioxide and nitrogen).

Compressed gases can be toxic, flammable and explosive. These effects result from the gas compression and the Health effects that may have the chemicals themselves.

Control of this risk factor involves essentially adopting caution in all phases of use of compressed gases and handling of its vessels; These precautions are to be the subject of specific training and information for Health care workers exposed to this risk factor.

Strict adherence to General measures sets in the specific paragraph of this document, together with the behavioral principles of workers, contained in particular in article 20 of Legislative Decree 81/08, shall be such as to minimize the impact of this risk factor with regard to the staff of outside firms and/or non-medical staff still called to operate in areas where the same risk is present.
The only risk associated with not only the use of tanks, remains strictly injuries by shock and fall on the cylinder itself (see section 2.9.2.3.).

2.3.8 Prevention measures for chemical risk

It is strictly forbidden to manipulate, move, open containers of chemicals that may be present in Healthcare environments in which firms are called upon to operate without just cause and without express permission from the head of the Department.

It is also forbidden to use, even temporarily, and for the sole use of a single processing, used containers of liquid food to keep detergents, solvents, chemicals or non-edible products.

As regards chemicals which can still be found in environments, attention is drawn to the fact that the same-under the responsibility of department managers-are locked in containers labeled by law and any possible problem or accidental contact with them should be immediately reported to the same Department Manager, who will suggest appropriate action.

The introduction of materials and/or dangerous equipment (for example, flammable gas cylinders, chemicals, etc.) must be authorized in advance by the figures referred to in point 1.1.
Chemical risk environments and still at work, it is forbidden to consume food and drink, smoke or apply cosmetics, as such operations may facilitate the incorporation of any dispersed chemicals.

Exposure to chemicals, as for the staff of contractors, and in particular to the personnel of companies involved in cleaning and waste handling or maintenance, you can consider limited exposure to substances (detergent/disinfectants, solvents, etc.) used for carrying out their activities.
In order to ensure safety in the use of these substances, outside firms must request the safety data sheets of each product used, and provide information for their employees (and if necessary also by third parties, if any, to avoid risky interference), about the dangers and risks of using/handling/correct use of substance and of suitable DPI.

If for processing, the contractor introduces and/or using chemicals, it is required:

- give the Institute the safety data sheets of chemicals used;
- read the safety data sheets that accompany the products, wear personal protective equipment specified therein, follow the safety advice given on labels and tabs, and in particular prevent dispersal in the environment (atmosphere, soil or water) of substances dangerous to man and/or the environment, as stated in paragraph 12 of safety data sheets of the products used on the ecological information pursuant;
- never use unlabeled containers and if you feel the presence, not open and handling the content;
- do not mix incompatible substances;
- remove waste (debris, packaging, parts of machinery, etc.) resulting from the implementation of activities in the contract and, specifically, provide for the collection, storage and final disposal pursuant to Legislative Decree n. 152 del 2006, is the sole responsibility of special waste management company.

2.3.9 Chemical risk assessment

Without prejudice to compliance with procedures including those indicated on the material safety data sheets of each preparation or substance, the chemical risks can be considered low for safety and irrelevant to the Health of workers.

2.4 ELECTRICAL EQUIPMENT AND EQUIPMENTS

The main damage to Health due to electrical hazards are painful shocks, deep burns (electric and thermal), heart rhythm irregularities, to respiratory arrest and death.
Exposure can occur by lack of maintenance of any electrical equipment or careless use or lack of knowledge of the equipment and/or its controls. Oxygen-enriched atmospheres and water can help make riskier conditions.

2.4.1 Installations

The operation of all the implants of the Institute must always be guaranteed in that critical issues on any of the plants might affect patient safety.
In this chapter we provide guidance in relation to aspects of safety, since the electrical system in order to prevent risks to workers and patients.

2.4.2 Electrical equipment

In Institute there are:
- scientific and medical equipment, some of which are powered by dangerous gases for their flammability or explosive or oxidizing properties or toxicity;
- appliances or apparatus equivalent, including e.g. the bedpan washers.

Much of the electrical system of the Institute, and then many of the equipment, are fed, in the absence of external independent electrical supply network from source (generator set-ups).
Then in any hospital environment, equipment or a wire of the electrical installation may be in tension even when the network of outside vendor is inactive, or when it looks like "power failure."

2.4.3 Provisions for the prevention by interference risks

- Any work on the equipment of the Institute must be previously authorized by ST. Never make interventions and/or repairs on electrical systems or equipment unless you have specific knowledge and technical skills required by legislation: tampering with an implant or component makes them lose the manufacturer's warranty as well as an electrical system or equipment defined safe can become dangerous as a result of improper service or repairs.

- In order to ensure a suitable containment of electrical hazards, electrical facilities and equipment staff user must pay particular attention to ensure that these are in good condition, fully functional and undamaged. To avoid the risks associated with the use of broken or damaged, you should periodically check its conservation status: any situation deemed ineligible, must be reported promptly to their superiors and to the ST, which will enable checks and appropriate interventions.

The use of defective electrical components (wires with insulation if damaged, broken cases, approximate electrical connections, broken Sockets and plugs etc.) significantly increases the risk of electrical contacts. Therefore, it is forbidden to use non-insulated cables or equipment and lines or circuits whose cutting of live parts direct control or not sure of sectioned parts.

- It is advisable for the connection of electrical devices to the hospital network, for any reason whatsoever, be preceded by an audit thereof by the inspection staff of medical equipment (SS Health technologies), to determine their compliance with current safety standards and compatibility with the mains. It is therefore to avoid the use of devices that have not been previously authorized, and above all it must be controlled and minimized the electrical connection of devices for personal use.
- Firms in contract for the performance of its tasks use tools or machines for power supply, use only equipment conforming to applicable standards, and provide for their proper maintenance.
- Do not use electrical components do not comply: all the security of a system ends when using electrical loads (e.g. plugs, adapters, power strips, extension cords, portable lamps, etc.) which do not comply with the rules. All plug sockets used must be protected against direct contact with cable restraint device, removable only by the use of a tool (e.g. screwdriver) and must not allow single-pole plug insertion.
- Do not use electrical components or machines for purposes not foreseen by the manufacturer, in which case the misuse of electrical or mechanical component can raise risk situations, not foreseen at the time of its construction.
- For all matters relating to the supply of electrical equipment, companies will have to acquire the necessary information from ST and follow the directions from the same provided.
- Particular attention should be paid to the possible use of equipment or power tools in the vicinity of medical gas outlet points because of the increased risk of fire and explosion; in these cases, you should always ensure that there are no disturbances or danger, asking information to the head of the Department/service in which they operate. Similarly, unaware electrical equipment should not be used in conditions of increased electrical hazard (e.g. with wet hands, on a wet floor or in wet areas).
- Do not perform cleanup operations on electric machines with liquid sprayed or with wet cloths, before you unplug the power plug.
- Do not allow electrical equipment (cables, extenders, drills etc.) abandoned on roads: in addition to determining the way and risk of tripping and falling, they may be subjected to mechanical stress does not manufacturer resulting in situations of risk

Throughout the access mode **have to be agreed** with the Representative of the Institute.

The staff of the company must not in any way interact with medical devices and systems present in the environments of the Institute with the exception of those for which they are authorized.

In the case of specific hazards linked to a particular environment and/or an activity carried on within it, it is mandatory to respect the protective measures adopted and the safety signs.

The Institute's staff is trained in the use of equipment and complies with safety procedures.

2.5 PHYSICAL AGENTS

For the following physical agents, given the absence of sources, it is not considered necessary to have any indication under article. 181 paragraph 3 of Act:

- Infrasound
- Ultrasound
- Hyperbaric atmosphere

2.5.1 IONIZING RADIATIONS

2.5.1.1 Generality

Ionizing radiations are generated by radiogenic machines or radioactive sources.

The radiogenic machines pose a risk from ionizing radiation only when they are connected to the electricity grid and are used in graph and/or scope mode providing bundle RX.
Graph mode assumes a duration of issue, at every "snapshot" of a few tenths of a second, how scope mode presupposes a continuous output that altogether can be of the order of several minutes.
These exposure modes, is associated with the **risk of radiation**.

Radiation sources retain their danger until complete decay; decay time is characteristic of each radioactive substance and in many cases can be particularly long.
The radioactive sources, therefore, must always be adequately confined.
In particular the sources "unsealed" present a danger as well as external radiation even internal irradiation due to possible contamination, while the "sealed sources" are dangerous only for external radiation, similarly to a radiogenic machine.
A source "unsealed" is dangerous because it radiates outward and both because it can be incorporated through ingestion, inhalation, skin contact and continue to radiate absorbed from within critical tissues from very small distances. In this case we talk about **risk of internal contamination**.
The use of ionizing radiation takes place under the supervision of the Qualified Expert, that is the professional responsible for assessing risk and define the standards of protection and safety procedures.
Medical surveillance is carried out by Licensed Physician or in specific cases by the Occupational HEALTH Physician responsible for the medical surveillance of exposed workers.

2.5.1.2 Areas of use of ionizing radiations

Diagnostic radiology area there are x-ray machines within the diagnostic CT and conventional rooms.
In Interventional Radiology (angiography, urology, endoscopy) taken in a manner particularly invasive diagnostic procedures to the patient.

Other radiogenic machines are used normally in the operating theatre during certain operations; in special cases in wards can be used a portable radiological equipment for radiographic examinations at the patient's bedside.
In radiotherapy using a radiogenic machine, linear accelerator, to administer high doses of radiation to patients in a secure facility (bunker) as well as engage in brachytherapy.
Unsealed sources are used in nuclear medicine for diagnostic and therapeutic purposes, Radiometabolic, even Therapy; radiopharmaceuticals are produced also (Cyclotron and Radiochemistry).

2.5.1.3 Risk signage from ionizing radiation

At the Institute you can find the following signs:

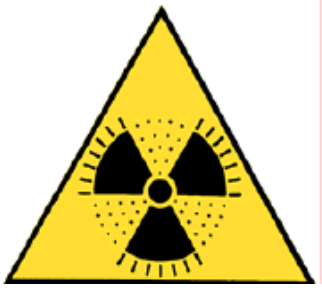
Risk of irradiation

Outside the diagnostic rooms the symbol is placed on the door and on a fixed white light signal (caution, radiological equipment powered) and a flashing red light (attention, RX dispensing in progress, no access).
The risk exists, when issuing radiant (flashing red light), opening the screen door that delimits the diagnostic.
The sign posted on the door of a room, may be accompanied by one of the following warnings:

- **controlled area**: means that the stay in the territory for work done in a calendar year, may result in exceeding the limits for workers; this applies during the delivery of the spokes and access is restricted to staff not specifically authorized.
- **supervised area**: means that the stay in the territory for work done in a calendar year, may result in exceeding the limits for the population; in these areas during the delivery of the rays, you are not allowed to stay after finishing their work.
-

Pregnant women may not perform activities in classified areas.

All regulated and controlled areas and supervised access in those areas must be observed radiation protection standards set out in the annex II (regulation of access and radiological protection procedures for Contractors).



Irradiation and contamination risk

The sign is in nuclear medicine, radiochemistry and local area at the door of radioactive waste.
In this area you must observe the "rules for the staff and the housekeeping staff" listed in the annex II.
In case of maintenance and/or calibration by contractors in these areas, there is a coordination between the Qualified Expert of Contractor and the contractor.

2.5.1.4 Rules for reducing risk from ionizing radiation

The following paragraph shows the basic rules of radiation safety and procedures for access to the interventions in the area of nuclear medicine and radiologic area
In particular, for the premises in which there are x-ray machines, please note the following:

- during delivery of the rays have to be suspended all nonessential activities and unnecessary personnel should dismiss the safety distance indicated by the sanitary technician radiographer present or, in his absence, the doctor who performs the delivery
- in each case must be observed radiation protection standards posted on the premises.

If you need an entrance in a workshop or a warehouse of radioactive substances, make (asking about the Department's managers) on whether or not to wear personal protective equipment.
You can still reasonably be considered insignificant the incidence of this risk factor on the staff of outside firms still operating in areas classified as at risk because:

- in the hospital are currently applied radiation protection measures to safeguard, not only Health professionals but also and mainly, patients and visitors, then measures safeguard any staff of outside firms and/or non-medical staff was called to operate in areas at risk;
- while the conduct of the activities of third parties within the Healthcare facilities, the same should not be going on any kind of Health activities and in particular of radiological activities;

- for special cases where you will need to access from outside firms and/or non-medical staff in areas at risk, the Department will communicate the precautions against the risk of exposure to ionizing radiation, agreeing times and ways of intervention, in the occasion of contacts before start of works (see next paragraph - radiation protection procedures for companies operating in a controlled and supervised area).

2.5.1.5 Radiation protection for the external maintenance workers

The following points are the access regulation and radiation safety procedures for workers outside firms compiled by qualified expert:

1. Regulation for access to the controlled area;

2. Radiation protection procedure for workers of contractors operating in areas controlled or monitored for maintenance activities and/or calibration;

3. Radiation protection procedure for workers of the cleaning company operating in areas controlled or supervised the functional area of nuclear medicine pursuant to Legislative Decree 230/95 and as amended.

1. RULES FOR ACCESS TO THE CONTROLLED AREA

- Access to controlled areas, both for all workers that members of the public, must always be authorized by the head of the functional Area where the controlled area is placed, felt the qualified expert.

- Functional Area access of nuclear medicine, including locals Cyclotron, Radiochemistry and Radiometabolic therapy, must always be accessible only via intercom and/or special badges.

- Badges can be issued by the controller itself, the only authorized personnel access to the Department

- Can access to the Department:

    1. The staff in service at the Institute Pascale specifically authorized and possibly classified by the Qualified Expert;
    2. Personnel carrying out cleaning according to established procedures;
    3. The staff of contractors who must operate in Controlled or Supervised areas where there are radionuclides or x ray equipment operating (by following the procedures set forth in the DUVRI);

4. Staff of contractors that need not operate in areas Controlled or Supervised where there are radionuclides or x ray equipment operating;
5. The staff of the Pascale Institute and/or visitors who don't need access to areas controlled and/or monitored.

- The personnel of contractors who need access to areas controlled or supervised where there are radionuclides or x ray equipment in operation, should always be accompanied by a responsible functional Area where the controlled area is located. The person in charge shall assist the staff of contractors to ensure compliance with internal rules of radiation safety functional Area.

- During activities carried out by the workers of the company must be always present a charge that the staff of the company should refer to any problem.

- The Pascale Institute's personnel and/or visitors who don't need access to areas controlled and/or monitored, must always be accompanied by a worker of the functional area that assists their proper stationing in premises where there is no risk associated with exposure to ionizing radiation (Office of the Director, Reporting, medical offices, Secretaries, etc.).

- Additional workers or members of the public can access the controlled area only after the head of Functional scored the written consent of the qualified expert.

- The person in charge of the Functional Area will have to access the staff who must operate in areas controlled or Supervised where there are radionuclides or x ray equipment in operation only after verifying that the predicted electronic direct reading dosimeter staff either issued by Health Physics.

- People in charge and employees of the contractor are required to comply with the ***procedure for radiation protection for workers of contractors operating in areas controlled or supervised pursuant to Legislative Decree 230/95 and as amended for maintenance activities and/or calibration.***

- The people in charge and cleaning company workers are required to comply with ***the procedure for radiation protection for workers of the cleaning company operating in areas controlled or supervised the functional area of nuclear medicine pursuant to Legislative Decree 230/95 and as amended.***

- Anyone who notices a fire principle should contact the telephone number 350 to alert the Emergency Management Center.

- The Coordinator of MR shall promptly make operational emergency procedures in case of fire of the functional Area.

- Anyone within the functional area will have to follow the instructions that will be provided by the coordinator for the evacuation, including the order of evacuation, with respect to emergency procedures exist in the functional Area.

2 RADIO PROTECTION PROCEDURE FOR WORKERS OF CONTRACTORS OPERATING IN CONTROLLED OR SUPERVISED AREAS PURSUANT TO THE LEGISLATIVE DECREE 230/95 AND AS AMENDED FOR MAINTENANCE AND/OR CALIBRATION ACTIVITIES

This procedure derives from the need of the employer of the Institute of radiation protection obligations borne by Pascale of technical maintenance service contractors and/or radiogenic sources installed calibration and working at the Foundation Pascale, and, more generally, workers maintenance companies for carrying out their work in a controlled area or Guarded at the Foundation Pascale.

This procedure applies only in cases where workers of contractors, to carry out their task, ***have the absolute necessity to operate in Areas Controlled or Supervised where there are radionuclides or x ray equipment operating.***

Each Director of the functional areas of Nuclear Medicine, Radiotherapy, Radio diagnostics, Health Physics and Interventional Radiology must ensure compliance with the provisions in the DUVRI (SINGLE INTERFERENCES RISKS ASSESSMENT DOCUMENT), edited by the Qualified Expert of the Pascale Institute and each Contractor.

Each Director of the functional areas of Nuclear Medicine, Radiotherapy, Radio diagnostics, Health Physics and Interventional Radiology must ensure compliance with the provisions in the document prepared by the radiation protection Experts coordinating by the Qualified Expert of the Institute Pascale and Contractor.

The Department of Health Physics is responsible for administering direct reading electronic dosimeters.

The Department of Health Physics is responsible for the provision of direct reading electronic dosimeters to workers of contractors for tasks that they must perform in controlled or Supervised areas where there are radionuclides or x ray equipment operating. If the staff of the contractor is classified under Legislative Decree 230/95, the furnishing of electronic direct reading dosimeter will occur after the person in charge will have received a copy of the medical fitness of the worker in

accordance with Legislative Decree 230/95.

Each Director of the functional areas of Nuclear Medicine, Radiotherapy, Radio diagnostics and Interventional Radiology must first communicate to the Director of the Department of medical physics the day, time and the planned duration of the maintenance work that must be done by employees of contractors at the areas controlled or Supervised the Pascale Foundation.

Each Director of the functional areas of Nuclear Medicine, Radiotherapy, Radio diagnostics and Interventional Radiology must identify a reasonable number of Officers of the respective functional area that must be present during the activities carried out by the workers of contractors.

The person in charge must be officially commissioned by the Director of the functional areas of Nuclear Medicine, Radiotherapy, Radio diagnostics and Interventional Radiology and accept in writing the post.

The directors of the functional areas of Nuclear Medicine, Radiotherapy, Radio diagnostics and Interventional Radiology must ensure that at least one responsible by functional area is present during activities of employees of contractors.

The Director of the Department of Medical Physics must identify a reasonable number of Officers who are in charge of providing the staff of contractors with appropriate direct reading electronic dosimeters before the predicted personnel work in the Controlled or Supervised where there are radionuclides or x ray equipment operating.

At the end of the intervention, the Contractor's Worker must return the electronic dosimeter to the Physical Sanitary Responsible for transcribing the reading indicated by the electronic dosimeter on a special register established by the Director of the Physical Sanitary Unit. The register must include: date, contractor, employee contractor, Health physician, effective dose read on the electronic dosimeter worn by the contractor's employee, signature of the contractor and signature for knowledge of contractor's work.

Each page of the Register must to be signed for knowledge by the Director of Operative Unit of Physician Sanitary. The Registry must be kept by the Director of Operative Unit of Physician Sanitary. Monthly copy of the pages of the Register used must be sent to the Qualified Experts and to the HSM for the appropriate assessments of competence.

3 RADIOPROTECTION PROCEDURE FOR CLEANING COMPANY WORKERS OPERATING IN CONTROLLED OR SURVEILLED AREAS OF THE FUNCTIONAL AREA OF NUCLEAR MEDICINE PERSUANT TO THE LEGISLATIVE DECREE 230/95 AND AS AMENDED

This procedure arises from the requirement of the Pascale Institute's employer to fulfill the radiation protection obligations borne by the employees of the Cleaning Offices who perform their work performance in a Controlled or Supervised Area at the Functional Area of Nuclear Medicine and Metabolic Therapy of the Pascale Foundation.

The Director of Nuclear Medicine Functional Area must ensure compliance with the provisions of the DUVRI (SINGLE INTERFERENCES RISKS ASSESSMENT DOCUMENT) prepared by the Pascale Institute and the Cleaner Company.

Workers of the Cleaning Company must comply with the *Internal Rules of Radiation Protection* posted in rooms where there is a radiological risk, in particular in the "Controlled Areas" and therefore easily accessible by them.

The nominative list of the personnel of the Cleaning Company that can operate at the Nuclear Medicine and Metabolic Therapy Functional Areas is identified in the staff, previously classified, equipped with specific PPE, trained and informed on specific risks, pursuant to art. 61, comma 3-e of Legislative Decree. n. 230/95 and as amended.

Additional staff of the Cleaning Company that could be used for activities involving the risk of exposure to ionizing radiation at Classified Areas, pursuant to art. 82 of Legislative Decree. n. 230/95 and as amended. must also follow a specific training course and comply with the Internal Standards of Radiation Protection.

The staff of the Cleaning Company that operates at the of Nuclear Medicine and Metabolic Therapy Functional Areas must be subjected to Physical and Medical Radiation Protection Surveillance by the same company and must also be guaranteed all the requirements relating to the "coordination" referred to in Articles. 63 and/or art. 65 of Legislative Decree. n. 230/95 and as amended.

The Cleaning Company is required to inform, in advance, the intention to modify the list of Cleaning Personnel belonging to the S.C. of Nuclear Medicine and Metabolic Therapy.

The staff of the Cleaning Company that operates at the Nuclear Medicine and Metabolic Therapy Functional Areas is not used to clean technological equipment such as hoods, cells and technical material.

The Director of the Nuclear Medicine and Metabolic Therapy Functional Areas must identify an adequate number of Officers who must be present during the activities carried out by the workers of the Cleaning Company.

The persons in charge identified must be officially appointed by the Director of Nuclear Medicine and Metabolic Therapy Functional Areas and accept in writing the assignment.

The Director of Nuclear Medicine and Metabolic Therapy Functional Areas must ensure that at least one officer is present during the activities of the workers of the cleaning company.

Access to the premises by the staff of the Cleaning Company must always be subject to the authorization of the person in charge of radiation protection.

In the presence of any contamination, the person in charge, following the internal rules of radiation protection, must ensure that any contamination is eliminated before giving access to the affected area to the worker of the Cleaning Company.

The staff of the Cleaning Company, during the performance of activities within the Nuclear Medicine and Metabolic Therapy Functional Areas, must wear the specific PPE made available to them.
These PPE must be used exclusively in that structure.

The cleaning company staff is provided with:

- Washable sockets supplied to each worker;
- Disposable uniforms in TNT, the type used in the operating room for visitor staff;
- Waterproof PPEs type raincoats, type for supply in chemotherapy;
- Gloves, of the type used for administering radiopharmaceuticals to be worn above gloves generally used for cleaning;
- Disposable Gloves (Responding to Technical Standard (UNI EN 241));
- Disposable uniforms (Responds to the Technical Standard (UNI EN 1073)).

All the equipment used for cleaning must be used exclusively in these rooms and disposed of, by the personnel of Nuclear Medicine and Metabolic Therapy, according to the waste management protocol of the departments themselves.

The rags and cloths for cleaning the hot toilets of the patients, must be used only for the cleaning of said premises.
Even for inpatient rooms and hot waiting rooms, exclusive rags and cloths must be used.

2.5.2 ARTIFICIAL OPTICAL RADIATIONS

At the Institute's laboratories there are germicidal lamps and transilluminators for gel plates that generate UV radiation.
Germicidal bulbs are also installed on biological hoods in laboratories (including chemotherapy manipulation) and are only lit when the hood is properly closed (hood glass can absorb radiation).
Transilluminators can only be switched on if there is no personal area in the surrounding radiant space (2 m), unless this wears the Individual Protection Devices (mask). The UV sources of analytical apparatus are normally protected by screens that render the radiation unattainable. During maintenance or adjustment operations, however, the beam may become accessible.

Such adjustment operations should normally be carried out by the personnel in charge of maintenance, provided with the necessary training and, where appropriate, the appropriate DPIs.

During maintenance work, non-staff members must be kept safe at all times.

Class 3B and 4 laser devices can be hazardous when exposed to direct beam or even diffuse radiation.
Devices of this type may also be present in the research laboratories associated with analytical instruments identified with the following description, even in this case the beam is accessible only in case of special maintenance work reserved for the staff.

2.5.2.1 Optical radiations signage

There is no specific signage for germicidal lamps and transilluminators

On the doors of the rooms where class 3B and 4 lasers are present, the signal is exposed.

Laser source in the Institute can only pose a risk during maintenance operations that lead to the suspension of security devices installed on the instruments.

The same pictogram may be present near the laser aperture of other equipment, such as centering beams of the radiation accelerator.

These lasers are less dangerous, but being their safety feature based on the ability of the human eye to react to stimuli, it is still good to not look directly at a laser source. For direct exposure to the laser beam, skin and eyes burns can be reached until blindness is achieved. Exposure to ultraviolet light can also cause cataracts.

During all phases of use of this equipment, therefore, there must be no non-health personnel in the same premises; For special cases appropriate information will be provided by the head of the department and will be agreed upon with the access, timing and working arrangements in the environments concerned.

2.5.3 ELECTROMAGNETIC FIELDS

Electric maintenance personnel may be exposed to magnetic induction fields generated by electrical installations at higher current absorption.
Using reference values in Directive 2004/40/CE, subsequently extended by 2012 by Directive 2008/46/CE, considering the installed electrical power, magnetic induction field levels close to the action values may be present at most main cabin, in the hands position at the time of the operation of the general low voltage switches, where the circulating current can reach or exceed 1000 A.
For reasons of electrical safety, these switches automatically open in case of a failure without the intervention of personnel or, in the case of maintenance, they are opened manually after disconnecting the main serviced utilities, therefore under low load conditions, not to create potentially damaging overcurrent for the implants themselves. Personnel exposure is therefore extremely unlikely. Portable radio frequency and microwave telecommunication systems, including wireless computer networks, generate electromagnetic fields far below the action values. With regard to clinical applications and research, the Institute has Magnetic Resonance (MR) equipment in Radio diagnostic. For pacemakers or other implanted devices, it may be dangerous to access environments affected by the presence of electromagnetic fields even if these are safe for Healthy subjects.

The risks associated with these devices are essentially related to the projection of objects by the effect of the static magnetic field. Remember that the magnetic field is also present in the absence of power supply.

It is also recalled that the force of attraction increases very rapidly as distance decreases; small movements within the area at risk may therefore result in sudden movement of ferromagnetic objects hand-held or even transported into pockets. Even if the projection of these objects does not produce injuries, they may remain attached to the magnets with significant damage to the Institute and to the patients. Other risks are related to the fact that in particular external or external emergency situations, the liquid helium used as magnesium coolant can invade environments and replace oxygen.
There are special ventilation systems and alarm systems to prevent the choking hazard.

2.5.3.1 Electromagnetic fields signage

The signal indicates the presence of an electromagnetic field (frequency other than zero). The values of these fields in the Institute are, however, below the values of action deemed safe by international law. The sign indicates the presence of a magnetic stimulator or, at the electrical cabin or special equipment, the presence of conductors where high currents pass through. The following signs indicate the presence of the static magnetic field and the main associated risks; placed at the entrance of the controlled area of the RM units, indicate the dangerous area for the pacemaker carriers that also contains the dangerous area for the attraction effects of ferromagnetic objects.

Simbolo di avvertenza
Warning sign

Avvertenza, rischio di intenso campo magnetico
Warning. risk of strong magnetic field

Simbolo di avvertenza
Warning sign

Avvertenza, rischio di radiazione non ionizzante
Warning. risk of non-ionizing radiation

Simbolo di divieto
Prohibition sign

Vietato l'accesso a persone con stimolatori cardi
No access for person with pacemaker

Simbolo di divieto
Prohibition sign

Vietato l'accesso a persone con impianti metallic
No access for person with metal implants

Simbolo di divieto
Prohibition sign

Vietato l'accesso con oggetti metallici o orologi
No access with metallic pieces or watches

2.5.3.2 Behavioral Rules

The intervention on any equipment or system in MR must, as always, be coordinated with the Technical Structures heard, if necessary, by the Responsible Expert.
The access regulation contained in the regulations issued by the Responsible Authority must be strictly observed, in particular it is strictly forbidden to access the local magnet with ferromagnetic objects.
In the absence or unavailability of trained and authorized personnel, contracting firms do not perform service in controlled areas of installations at MR.

2.5.4 MICROCLIMATE AND VENTILATION

Situations of non-thermal comfort can be found in all areas of the Institute, particularly in the course of maintenance work; in the case of shipyard activities that require decommissioning, even partial, of the plants in the summer season, appropriate measures should be taken to reduce the temperature in the working area.
Without this clarification, the risk associated with the microclimate is to be considered low.
However, microclimate risk factors can only be associated with thermal stress situations.

2.5.5 NOISE

The noise generated by the MR diagnostics is significant (> 90 dB), but only for the patient undergoing the examination. Workers must always work with the part of the sealed closed magnet

2.5.6 VIBRATIONS

The only tools used to generate significant vibration levels are sometimes used by surgeons and affect only the hand-arm exposure of the same.

2.5.7 ELIMINATION OF INTERFERENCES BY NOISE AND VIBRATIONS

Given the delicate nature of the equipment installed at the Institute, as well as clinical patient histories, prior to using equipment capable of causing significant levels of noise and vibration on the structures, the Health Department must be informed in order to agree on the timing of the interventions.

2.6 EXPLOSIVE ATMOSPHERES

No work area is possible to form explosive mixtures under Title XI of the U.T. Since:

- the use of flammable substances is limited to low concentrations; it should be remembered that the accumulation of flammable agents is forbidden under the hoods of the laboratories and that the use of ethers for the sedation of laboratory animals must be done under a glass bell using the minimum necessary quantity;
- in case of oxygen leak, the procedures of the Emergency Plan apply.

It is recalled that the use of gas appliances, as per DPR 15/11/96 n. 61, is not subject to the provisions of the U.T.

It is not possible in any work area to form explosive dust mixtures.
Maintenance work with the use of the oxyacetylene torch should only be carried out after the ventilation of the premises and the removal of combustible materials.
At the end of the work the cylinders must be stored in the site of the site in a suitable and protected place.

2.7 MANUAL HANDLING OF LOADS

2.7.1 Handling of loads

The manual movement of loads by unstructured outside personnel mainly concerns the activities of:

- tug-thrust of laundry trolleys (lavanolo service) and food trolleys (canteen service) for hospitality departments;
- tow thrust of cleaning trolleys, pick-up and waste collection (cleaning service)

Staff members must be suitably trained on the correct handling of cargoes and subjected to Health surveillance.

2.7.2 Handling of patients

At NIT the handling of patients is usually carried out by nursing or support staff.
It is known that lifting/treating with weaker weights, recruiting and maintaining unmanageable or incorrect postures can result in the onset of painful episodes more often located at the lumbar spine or in any case of skeletal muscle disorders.
Training and informing workers in this context are crucial on topics such as:

- correct use of auxiliary equipment (smaller lifters and auxiliaries);
- knowledge of how to relocate/relieve patients related to disability;
- criteria for choice of auxiliaries depending on the patient's disability.

2.8 VIDEOTERMINAL EQUIPMENTS

According to Art. 174 paragraph 3 of the U.T. Workplaces must comply with the requirements of Annex XXXIV; such prescription is valid regardless of the time of use of the post office and the employment relationship with the Institute. Please note that in accordance with point f) of Annex XXXIV, the prolonged use of laptops requires the provision of the appropriate accessories to make the workplace standard (mouse, keyboard, screen, etc.).
VDT staff for more than 20 hours a week should be subjected to Health surveillance; in the Institute, no work requires such a long-term use of VDT for its development.

2.9 SAFETY RISKS

2.9.1 FIRE RISK

The Legislator, in the Decree of March 10, 1998 on Emergency Management, classified hospitals as "High Risk of Fire" Structures. Therefore, the risk of fire in the Institute is to be considered high. Today, in the Healthcare facilities, the MD is applicable on March 19, 2015 Updating of the fire prevention technical regulation for the design, construction and operation of public and private Health facilities under the Decree of 18 September 2002. (15A02307) (OJ General Series N.70 of 25-3-2015)
There are fire extinguishers, hydrants, compartment doors, fire detectors, gas leak detectors, alarm buttons, filter zones, safety outputs, reported routes.
Furthermore:

- Laboratories, kitchens, and thermal plants are rooms served by a gas fuel system; therefore, any intervention on the gas system or near the plant or which may somehow affect its operation must be agreed upon with the Technical Structure.

- Extremely hazardous area is the storage of oxygen cylinders in the yard.

- Flammable solvents are used in research laboratories; the execution of hot work, however agreed with the technicians, must also be agreed with those responsible for the laboratory, who must dispose of the materials at risk beforehand

Behavioral Rules

Every worker must carefully observe fire prevention and fire protection devices (e.g. fire extinguishers, hydrants, alarm buttons, etc.) and specific behavioral rules (e.g. directions, escape planes, and meeting places) of the site in which he is called to operate.
For the purpose of limiting the risk of fire, the roads and safety exits shall be left unmounted by any type of material; Fire-fighting devices must be properly located and in good condition: any situation deemed unsuitable must be reported promptly to the TS for the purposes of the checks.

External contractors, service providers and other non-employees are therefore encouraged to comply with the provisions of DM 10/3/98 and, in particular, all possible organizational and management measures such as:

- Respect for order and cleanliness;
- Respect the smoking ban in all facilities;
- Checks on safety measures in the form of internal rules on the measures to be observed;
- Information and training of workers.

In section 3.1, the emergency measures are reported in case of fire.

2.9.2 INVESTMENT, FALL AND BUMP RISKS

Investment risks, fall and bump can be made in all internal and external areas of the Institute and in common pathways for the presence of means of transport or other means or people (operators of contractor Companies, workers, patients and visitors of the Institute) present in the business areas.

2.9.2.1 External viability

Access of vehicles and people to the external spaces of the buildings involves a risk of injury related to the simultaneous possibility of transit or parking of other persons or the passage of vehicles or equipment (forklifts, cars, trucks, electric pallets or manuals etc.). Risks of:

- investment of people with vehicles
- falling loads on people passing through the loading and unloading operations
- slipping and falling (especially if it rains)
- stumble or bump because of the materials present

It is an aggravating circumstance of the risk of lower illumination in the evening.

Preventive measures

Circulation in the external path of the Institute must be carried out strictly by observing the rules of road traffic and horizontal and vertical signage; the speed must be limited (manually or at a maximum of 10 km/h); however, it is absolutely forbidden to stop at safety exits, hydrants, fire extinguishers, piston motors, disabled access routes.

Vehicle access with significant dimensions (over 35 q.li) must be coordinated with the Technical Structures. In case of necessary access to special or particularly bulky means (e.g. cogwheels, truck cutters, etc.), there must be additional staff of the Company for assistance in maneuvers in order to prevent accidents.

In reversing maneuvers, in addition to the buzzer, provision should be made for other procedures that limit the risk of an accident (presence of another operator of the company who co-operated in camera maneuvering and / or camera with cabin screen and / or proximity sensors or other).

The stop, the loading/unloading activities must take place in accordance with the procedures agreed with the Customer Service.
In the case of multiple vehicles, each operator will wait for its turn in accordance with the order of arrival without interfering with unloading activities being completed and without hindering the viability of the medical and / or private means.
There is an obligation to turn off the engines in the exhaust areas.

Cargo loading and unloading operations by truck or crane truck must be carried out with additional on-ground personnel to ensure that operations are carried out without interference with persons moving on site; If a longer operation is expected, the loading and unloading area must be delimited by moving transitions.

Materials and equipment must not be deposited, even temporarily, along the transit routes or in the entry yards; in case of impossibility to operate differently, they must be adequately reported.

Avoid access to outside areas during night and night; in case of need to operate in areas with low natural or artificial lighting, use of portable lamps should be used.

Pay particular attention during transit in the outdoor areas during the winter season and always in case of rain.

2.9.2.2 Internal viability

Access by people to the interior of the buildings involves risks from:

- investment of people with materials transported along the transit routes, in particular the corridors, and lifts
- fall of people by stumbling or banging due to temporarily deposited materials along the transit routes

The transport of materials in the elevators, considering the absence of dedicated hoists, can lead to people's investment risk during cabin travel; there is also the risk of pinching the upper limbs when materials of considerable width are introduced in relation to the cabin door width.
Access to elevators may have a height difference that can cause stumble or actual trauma due to load handling.

In the interior corridors of the Institute you can pass heavy manual and heavy-duty carts (medication, meals etc.), stretches, beds, wheelchairs with patients, self-propelled floor cleaning equipment etc. Additional danger may be the opening of the doors of some premises towards the transit area in the corridors.

The floors of some premises can be slippery: in this sense, it is at risk that the cleaning company's staff are presently and regularly present, especially when floor cleaning or electric cleaning appliances are used (for the presence of electrical floor wires).

Despite the constant commitment to improvement, sometimes electrical and telephone cables and multiple plugs may still be present in the premises, which may be the cause of stumbling.

In some areas there are narrow passages (widths less than 70 cm) with a risk of impact on the edges, especially in technical areas where the presence of pipes, valves, etc. is a condition of increased danger.

Preventive measures

- Considering the ever-present presence of patients, visitors and staff of the Institute, transportation of equipment and materials along the Institute's internal pathways must always take place with great caution, without prejudice to the safety of people and without harm to the structure.
- In the case of transport of bulky equipment in the transit zones, the Presidium Medical Direction and the Heads of the Facilities involved must specify the date, time and route to be followed from the discharge zone to the point of delivery in order to limit the interference.
- In the case of use of lifts for the transport of bulky and/or heavy equipment, it is necessary to check the capacity beforehand, never carry it at the same time as there are persons (not climbing if other persons are present and preventing it from climbing during the ride) And always keep the cargo against the cab wall during racing, carrying out the operation with two people. Always pay attention to the difference between the cabin and the landing; The bulky material should be pushed without inserting the hands into the interstitial with the cabin and moving in two people.
- In case of passage or parking in technical premises, caution should be exercised for the presence of obstacles with a risk of stumbling and falling or bumping. It is imperative to wear helmet and accident shoes; there must always be at least two people present, one with a cell phone or radio to report emergencies.
- Materials and equipment must not be deposited, even temporarily, along the transit routes; In case of impossibility to operate differently, they must be adequately reported.
- Avoid working at the same time with the cleaning company; The latter have an obligation to have on both sides access to the danger of slipping when the floor is wet.
- Operators of the institute are alerted to cautiousness and care in the handling of carts, stretches, beds, prams or other mobile devices.

2.9.2.3 Risk of injury from portable gas cylinders

The presence of medical gas cylinders (oxygen etc.) taken by the wards is a risk of injury, with the possibility of an explosion, if the tank is hit and falls to the ground.
Under normal conditions, the cylinders are anchored to the wall with chains (or stacked tracks); This risk is mainly due to the fact that the cylinders are transported to patients' beds or prams.

Preventive measures

- The cylinders must be permanently anchored away from the transit areas or along the escape routes.
- The transport of cylinders must only be carried out by means of a special cart; in case of patient transport, only on a stretcher or wheelchair equipped with a bumper accessory.
- Do not touch the gas cylinders.
- If the presence of cylinders hampers work, ask for the shift to the department manager.
- The cylinders with a protective cap must keep it mounted when the pressure reducer is not applied; Protect gear reducer and flowmeter by mechanical action.
- Keep the cylinders away from electrical equipment or electrical components (minimum distance: 1.5 m), flammable substances or combustible material, heat sources or sunlight.

2.9.3 BURN RISKS

This risk is present in the kitchens, thermal and local sterilization plants, for the presence of steam and hot water and can be achieved either by contact with hot materials, pipes and valves, or by investing operators by high fluid jets temperature due to breakage of valves, equipment or other technical devices (e.g. condensate drainers).

Preventive measures

- Use specific PPEs (protective gloves against thermal assaults, protective clothing against heat).

2.9.4 ELECTROCUTION RISK

This risk for those who use electrical equipment to connect to fixed electrical outlets, albeit very low and almost irrelevant, is to be considered in case of obsolete electrical cabinets or with unprotected or improper use of alveoli.
The electrical systems are all protected against indirect contact between differential switch and ground system.

Preventive measures

- Every electrical intervention must be carried out by qualified external contractors on the Technical Structure mandate: never carry out any repairs or repairs to electrical systems or machinery if you do not have the specific knowledge or professional characteristics required by current legislation.
- Never use deteriorated equipment (wall-mounted or unsuitable for use with the equipment).

- Contact the Technical Facilities of the Institute for the Disconnection of the Electric Power Plants for the premises that are the subject of the intervention.
- Should demolition work be carried out or otherwise affect or interfere with the installations, it is necessary to inform them in advance of the presence of live conductors.
- Pay particular attention to the insertion and deactivation of plugs in unprotected alveoli jacks.
- Always report situations of obvious danger (wall-pulled outlets, open cabinets etc.).

2.9.5 PHYSICAL INJURY: RISK OF AGGRESSIONS

The risk is not particularly relevant (given the absence of Emergency Assistance or a Psychiatric Service) but is still present in all premises where there is simultaneous public access

Preventive measures

- Avoid situations, languages, and / or behaviors that may be misdiagnosed by patients and/or accompanying persons.
- Do not leave or leave unattended tools, utensils, lighters, dangerous substances, or whatever else may be misused.

3 EMERGENCY MEASURES FOR AUTONOMOUS BUSINESSES AND WORKERS

3.1 FIRE / EVACUATION

Behavior of any worker still operating within the hospital

Circumstance	***Action***
ALWAYS	Every worker must carefully observe the fire prevention and fire protection devices (fire extinguishers, hydrants, alarm buttons, etc.) and specific behavioral norms (indications, escape planes and meeting places) of the place where they are called to work.
IF A PRINCIPLE OF FIRE IS OPENED	Any worker who becomes aware of a fire or danger in general is obliged to intervene immediately in the following manner: • contact the Heads of Service at no. 350 communicating the place and the type of event; • if it is a fire and the worker has been trained, intervene using the nearest fire extinguisher.
IF YOU ARE INVOLVED IN AN EMERGENCY	Follow the instructions of the emergency management personnel (departmental staff, first intervention group, emergency teams, VVF). If requested: • provide help for patient displacement and evacuation; • help keep calm, do not run, do not scream, avoid panic; In the other cases: • exit the department by following the safety exit signs and head towards the collection point shown in the planimetry attached to the walls of the place where you are and wait for instructions. It is forbidden to return to emergency environments until ceasefire communication.

3.2 BIOLOGICAL RISK: ACCIDENTAL CONTACT WITH DISPOSABLE MATERIAL

In case of contamination incident:

- immediately notify your manager and the head of the Institute;
- detect in detail;
- the place where the incident occurred and how it occurred.

Immediate measures:

A) Percutaneous injuries in case of needle or wound puncture with instruments contaminated with biological material:

1. causing bleeding of the lesion by squeezing it;
2. wash the wound for 10 minutes with water and soap and disinfect (e.g. with iodine solution or chlorine compounds 5% - ask the ward staff).

B) Contamination of mucous membranes:

1. rinse abundantly with running water for 10-15 minutes without rubbing, avoiding the use of solutions, detergents or disinfectants; only in case of oral mucosa contamination can be rinsed with water and chlorinated solutions at 5%.

C) Contamination of damaged skin:

1. wash abundantly with running water in the affected area and disinfect (e.g. with iodine solution or chlorine compounds 5% - ask department staff).

After these measures:

- Immediately notify your manager and the manager of the department/service in which you work;
- Detail the place where the incident occurred and how it happened, in case of puncture or cut during the waste management activity, also highlight the Structure, the accumulation points and the type of material causing the accident;
- Submit the data collected to your HSE and the Presidium Medical Direction and the HSE of the Institute;
- Follow the instructions of your person responsible for the possible post-exposure assessment prophylaxis (remember that in case of exposure to a patient at risk of HIV, chemoprophylaxis should be initiated within 1-4 hours);
- Submit the INAIL Certificate to your Affiliate.

3.3 CHEMICAL RISK: ACCIDENTAL INJURY OF PREPARATIONS OR CHEMICAL WASTE

- Open the windows and close the access doors to the premises, alerting the perpetrators of the danger.
- Immediately notify the manager of the department/service where he/she works and his/her manager; if there is no one in the premises where the spread has occurred, report the event to the Presidium Medical Direction to activate the procedures for reclamation.
- If present in the room, cover spreading with inert (sand or synthetic adsorbents); Never use paper or rags.
- It is forbidden to collect this material with your hands.

ATTENTION

In the event of accidental exposure to hazardous chemicals (inhalation of vapors, contact with hands or other parts of the body, splashing in the eyes) during its operation, the procedures set out in the safety plan should be adopted; in case of unavailability of this, consult the area manager and/or staff present and follow the following indications:

- **In case of inhalation of vapors**
  - Immediately remove the operator from the polluted area;
  - Foster the breathing of clean air;
  - If necessary, consult a physician (first aid).
- **In case of contact with body parts:**
  - Wash the exposed part with plenty of water;
  - Remove contaminated clothing;
  - In case of skin injury, consult a doctor (first aid).
- **In case of eye contact**
  - Wash your eyes with plenty of running water;
  - Or consult a doctor (first aid).

P.N. When the environmental or health emergency ceases and normality has been restored, it is appropriate to report on the incident to the Medical Control Department and the Prevention and Protection Service.

3.4 RADIOLOGICAL RISK: RADIOACTIVE SUBSTANCES

- Immediately notify the head of the department/service where he/she works and his/her manager and jointly assess the situation and the protective measures to be taken and the necessary DPI.
- If present in the room, cover spreading with inert (sand or synthetic adsorbents); never use paper or rags.
- It is forbidden to collect this material with bare hands without using protective gloves.
- Immediately notify the Health Physics of the necessary remedial measures.

ATTENTION

If accidental exposure to radioactive substances (inhalation of vapors, contact with hands or other parts of the body, splashes in the eyes) occurs during the activity, take and activate the procedures set out and contained in the Radiation Protection Standards.

Always warn the Health Physics Service in case of an accident.

4 MEASURES OF CONDUCT AND PRECAUTIONS TO BE ADOPTED DURING THE EXECUTION OF WORK OR SERVICES AT THE INSTITUTE

4.1 GENERAL MEASURES OF CONDUCT

The inevitable presence of a high number of risk factors, which is unique to each Health structure, which is a heterogeneous context where there may be coexistence of a fair number of very different activities, with the resulting Health and safety concerns of the present operators, it is impossible to establish specific criteria and procedures for all possible situations.

However, it is considered appropriate to recall a series of general indications to which all external operators responsible for carrying out any type of work within the Institute's structures and areas must follow:
It is argued that it is not possible to exclude cases in which a company's employees are operating together with other external companies (e.g. construction sites). For this purpose, **before the work begins, the two companies must provide for mutual co-ordination** in accordance with current regulations, in particular Article 26 of Legislative Decree 81/08, **in order to avoid dangerous interference** (to be agreed directly Their load, with the other companies involved, at the time, on site).

In any case, the Contractor's staff in order to access and operate the buildings and the relevant areas of the Institute **must**:

- wear work clothes;
- be identifiable by name on the garment from the work of the corporate recognition card: it is recommended that compliance with the provisions of Article 26, paragraph 8 of Legislative Decree 81/08 is recommended: **all external operators must be equipped with a special acknowledgment card, with the obligation to exhibit that card.** No card template is established, but are required: photographs, general information of the worker and indication of the company/employer;
- agree on the timing (days and hours of access to Customer premises) with the company references provided at the conclusion of the contract in order to avoid any interference with the Institute and/or third companies;
- view the emergency evacuation plans in close proximity to the places where the work will be carried out and must take a material view of the exits before the start of the activities covered by the trust;
- access the areas of the Institute by carefully following the dictations communicated to avoid any interference with pedestrian and/or emergency routes;

- all necessary precautionary and protective measures to protect the safety of workers during work (work orders, delimitations, fencing, signage, personal protective equipment, etc.) must be prepared and implemented before the beginning of the work and for the risks specific to those specifically identified by the Client for the purpose of eliminating interfering risks; Therefore, before commencing a work, if necessary, it is necessary to enclose or otherwise delineate clearly and visibly (using transitions, signage, two-color ribbons, etc.) the working area, whether it is excavation or under construction, which takes place in elevated position, or when there is a possibility of causing people to transit nearby and these must be kept at a distant distance;
- carry out their roles and maneuvers safely without damaging people or things;
- store the work material at the place indicated at the time of the award: it is not allowed to store products and/or equipment at unidentified and unauthorized locations by the Customer and, above all, it is forbidden to shred by means, materials and/or equipment Exit routes and emergency exits and/or abandon materials and equipment that may be a potential source of danger in transit and work places (unless this is done with due authorization and under safe conditions) or in a balance position unstable (if this is indispensable, the presence must be duly reported);
- dispose of containers, boxes, baskets, rollers, empty pallets and waste quickly;
- safeguard the handling of material and, if necessary, with the help of special carriers or accessories of the Contractor;
- when operating on plants and/or equipment and/or machinery, always consult the technical instruction manuals and/or technical references of the Institute before starting work and make sure the machine/plant stop cannot be detrimental the physical presence of staff, patients and visitors and does not affect the organization of the individual sectors of the Commission. If it is necessary to stop the machine/plant, it must schedule the intervention with the technical and Healthcare staff of the Institute;
- comply with the prohibitions and limitations of safety signs, in accordance with the instructions given by the specific monitor billboard (flammable deposit, protected area, biological contamination, suspended loads, etc.) both outside than inside the structures of the Institute: scrupulously observe the signs, signs, rules or procedures given by staff responsible for the purpose or displayed and taken by the Institute;
- it is compulsory to use the appropriate Personal Protective Equipment (DPI) provided by your employer for each work, as well as to employ machines, tools and utensils that comply with the applicable law;
- always use machines, tools and utensils that comply with current law;
- request the intervention of the Customer's contactor in case of anomalies found in the working environment and before proceeding with interventions in locations with specific risks;
- immediately report possible deficiencies of safety devices or the existence of hazardous conditions (by working directly, in case of urgency and within the scope of their powers and possibilities, to eliminate such deficiencies or hazards);

- in cases where it is necessary to remove voltage from parts of the electrical installation subject to repairs or repairs, or to interrupt the distribution of water, gas, etc. It is necessary to agree in advance with times and arrangements with the staff of the Technical Structure;
- the custody of the equipment and materials necessary for the execution of the works within our offices is fully care and the risk of the contractor, who will then have to fulfill its obligations;
- it is necessary to transmit to the Institute any changes relating to safety not previously agreed;
- for emergency and/or emergency situations in general (e.g. fire, explosion, flood) and in case of evacuation, it is compulsory to comply strictly with all procedures (fire, evacuation and first aid) provided by the staff of the present Institute and, however, abandon the work area if necessary, following the appropriate prepared and reported emergency paths without causing any panic, not before switching off appliances and utensils, closed gas cylinders in use, etc.;
- carefully follow the instructions on using mobile phones. For this purpose and in the event of any doubt or lack of reporting on this matter, request authorization from the Institute's staff.

Remember that it is strictly **forbidden**:

1. Intervene on the work in progress;
2. Access to the restricted access to authorized personnel unless specifically authorized by the facility manager with a special authorization, which includes prevention and protection measures;
3. Remove or tamper in any way the safety devices and/or protections installed on machines or machines or make any changes to machinery and plant owned by the institute without the prior authorization;
4. Carry out on its own initiative maneuvers and operations which are not of their own competence and may therefore also compromise the safety of other persons, machines, equipment, facilities or other property of the institute without prior authorization;
5. Do welding work, use free flames or smoke in places with fire or explosion hazards and in all other places where there is a prohibition. For this purpose and in the event of any doubt or lack of reporting on this matter, authorization must be requested from the institute staff; it is considered appropriate to underline that, under current laws, **there is an absolute ban on smoking within all the closed spaces of the institute**. In the case of welding or use of open flames, the prior written authorization must be requested from time to time to the institute's contact person;
6. Block pedestrian passages or carriages, corridors, escape routes, stairs, doors, safety exits, etc. with materials of any nature;
7. Perform any operation (on cleaning, lubrication, repairs, recordings, etc.) on running equipment;
8. Access, without specific authorization, in electric cabins or other places where there are live electrical installations or equipment, valves, pressure containers (cylinders), gas installations etc.;

9. Access or stay in places other than those where you have to work;
10. Make modifications of any kind to machines and plants of the institute without prior authorization;
11. Use, in the workplace, clothing or clothing that, in relation to the nature of the operations to be carried out, may pose a danger for the wearer.

In addition, it is reported that:

- Hygienic services that can be used by the hirer's staff are reserved for users, appropriately reported and easily identifiable;
- Emergency and corporate communications are available in the operating units and individual sectors of work, with the permission of the Institute's staff; for the use of mobile phones, careful attention must be paid to the information contained herein. For this purpose and in case of doubt or lack of specific reporting, request authorization from the Institute staff;
- For technical problems, you can find the technical operators of the buyer. Ask the staff on site;
- Inside the premises of the Customer Service the emergency exits must not be obstructed;
- It is absolutely prohibited to smoke and/or use free flames within the environments of the Institute and in the vicinity of the accesses, as regulated by specific signage;
- It is forbidden to throw butts, cigarettes and flammable materials near the areas of the Institute;
- It is forbidden for any employee of the Institute and the Contractor to take any alcohol or drugs in any quantity during working hours or present at the Institute's premises under the influence of alcohol or drugs.

4.2 RESPECT OF THE USERS

Personnel contractors, operators, and other non-employee operators are required to follow rules of behavior and respect for users. They will have to keep confidential what they will know, during the service, about the patients and the organization and activities carried out by the institute.

In the event of a variety of occurring in the normal course of work, reference should be made to the Executives or Zone Counselors to report the problems encountered.

4.3 MAIN PRECAUTIONS TO BE TAKEN AGAINST RISKS INTERFERING

4.3.1 MAIN PRECAUTIONS FOR SAVING YOUR HEALTH AND SAFETY

You must always know beforehand about the risks present in the place where you are going to do your work; if the activity to be carried out, according to the detailed criteria and indications in the existing contract, entails potential access to all premises and areas of the Institute, the existence of a particular risk within one of the above Premises or areas, it will be previously reported by a Structural Officer or a person in charge. In case of necessity, detailed information will also be given on the type of protection to be adopted, or appropriate DPI.
It is advisable to report immediately to the Institute any accidents that have occurred to its employees in the workings carried out within the premises and spaces of the same;
In the event of an accident (e.g. accidental contamination with biological fluids or chemical substances etc. at the Institute) it is recommended that the operator of the Company immediately report the incident to the staff of the facility where the accident occurred, so that they can be undertake the necessary interventions, remediation and/or prevention actions; then, subsequently, warn or advise about the Institute's Prevention and Protection Service and the Presidium Medical Direction of the Institute.

4.3.1.1 Precautions against biological risk

The intrinsic characteristics of the work typologies carried out at the facility, despite ongoing prevention and protection activities, cannot exclude a potential risk of exposure to biological hazards. It is therefore recommended that non-sanitary personnel not approach and do not touch containers, syringes, vials, etc. without permission. And to report promptly any accidental contact or problem to the Institute staff present on site;

- Always warn managers and supervisors of their workplaces;
- Ensure the need to use specific DPI that will be provided by the Institute (unless otherwise provided by the contract) and/or to observe special access procedures;
- Avoid touching objects and instruments that you do not know about, and in any case without the permission of the departmental / departmental executives;
- During work, avoid contacting places, activities, people who are not planning to do so, in order not to be an obstacle or danger to them; Pay particular attention to the execution of fire prevention instructions (see section specific to this document);
- Apply hygiene rules, avoiding to put your hands to your eyes or mouth, eating and smoking;
- It is good practice to wear specific gloves during work, wash your hands after surgery, cover with patches or dressings for scratches or skin lesions.

4.3.1.2 Precautions against Chemical Risk

- Always warn managers and employees of their workplaces;
- Ensure the need to use specific PPE that will be provided by the Institute (unless otherwise provided by the contract) and/or to observe special access procedures;
- Avoid touching objects and instruments that are not known to be used, and in any case without the permission of Managers and Managers of the department/ service;
- During work, avoid contacting places, activities, people who are not foreseen, so as not to be a nuisance or danger to them; Pay particular attention to the execution of fire prevention instructions (see section specific to this document);
- Apply hygienic rules, avoiding to put your hands to the eyes or mouth, to eat and to smoke;
- It is good practice to wear specific gloves during work, wash your hands after surgery, cover with patches or dressings for scratches or skin lesions;
- Do not touch bottles and containers in the wards and laboratories;
- Refrain from carrying out dangerous operations near containers containing chemicals and in any case within the Institute's laboratories;
- It is forbidden to use chemicals and products in the Institute's departments;
- If the job to be carried out involves contact with hazardous substances, it is mandatory to wear the PPE provided by your Prevention and Protection Service.

4.3.1.3 Precautions against Radiological risk

- Access radiologically rated venues only when radiogenic machines are off and/or when the sources have come back and the department manager from the access permission;
- Ensure the need to use any specific PPE that will be provided by the Institute (unless otherwise provided by the contract) and / or to observe special access procedures;
- Avoid touching objects and instruments that are not known to be used, and in any case without the permission of the departmental and departmental managers;
- During work, avoid contacting places, activities, people who are not foreseen, so as not to be a nuisance or danger to them; pay particular attention to the execution of fire prevention instructions (see section specific to this document);
- Apply hygienic rules, avoiding to put your hands to the eyes or mouth, to eat and to smoke.

4.3.1.4 Required to wear personal protective equipment

All external business operators, operators and other non-employees are required to make use of the individual protection devices defined in their respective safety plans during their stay at the Institute; In some cases, specific PPEs may be indicated for access to particular environments; in that case, they will be provided by the Customer Service.

It is possible to view the document relating to all IPRs adopted at the Institute at the Prevention and Protection Service.

4.3.2 MAIN PRECAUTIONS FOR SAVING HEALTH AND SAFETY OF PATIENTS, USERS AND PERSONNEL OF THE INSTITUTE

During the execution of works or supplies, you can:

- Risk of damage to dust production or dispersion (also after capture and diffusion by ventilation systems): the danger is connected with demolition work, wall piercing, removal of suspended ceilings, furniture or other material, penning etc. Local with presence of immune depressive and/or allergic patients;
- Nuisances due to noise production: the danger is connected with the use of pneumatic hammer, demolition, small generator sets, hammers, chisels and debris discharge operations;
- Risk of unintentional interruption of service of the electrical system due to the insertion of high-power electrical equipment (which may cause the current to be discharged due to overload) or involuntary interruption of live cables during demolition or drilling of walls;

- Risk of unintentional interruption of service of technological installations (medical, water and heat gases): During wall or installation demolition work, hot water / cold water pipes (with any flooding) or medical gases (oxygen, Nitrous oxide and medical air);
- Risk of damage to material falls during loading operations in the warehouse.

4.3.2.1 Precautions to be taken in case of work

It refers to compliance with the regulations on site security standards: the preparation of the POS, which must always be transmitted to the Design and Maintenance Department, the drafting of the PSC, in the cases and terms provided by the decree, as always where provided, the PIMUS for the use, installation and dismantling of scaffolding, etc.

In general, construction sites for maintenance and interior renovation at the departments will have to guarantee:

- clear delimitation of site areas with ban on access to patients, visitors and, in any case, to unauthorized personnel;
- the maximum possible separation between clinical and site activities, with particular reference to dust, noise and vibration.

Particular attention must be paid to the presence of ventilation systems outside of the air intakes.

4.3.2.1.1 Height works

Workers involved in carrying out work at a height (i.e. with a risk of falling) must ensure compliance with applicable law and operating procedures and be equipped with appropriate individual and collective fall protection systems where required. As this is a specific risk of the activity carried out by an external company at our company, must be subject to preventive and protective measures taken by the company itself.

Access to cover areas outside the appropriate guard (railings, balustrades etc.) is allowed only to personnel who are required to undertake the intended interventions authorized and only if they have appropriate Individual and Collective Protection Equipment compliant with current regulations.

4.3.2.1.2 Construction work not involving the PSC editing

The following precautions should be taken in the case of construction works that do not include the preparation of a specific PSC (internal room renovations, technological upgrades involving fixed installations of machinery and/or installations):

- take all the precautions provided in Annex II: (Guidelines for dust protection and dust dispersion during work and for the prevention of infections by Aspergillus);
- during work, if necessary, the Technical Structure is planned to shut off/disconnect the air conditioning, fire detection, medical gas etc., and ducts must be suitably protected;
- the intervention area must be completely insulated and surrounded by barriers extending from floor to ceiling, including any false ceilings;
- sealing of windows and/or other possible communication routes between the work area and neighboring Health facilities must be ensured; any holes in the walls made during the work must be repaired by the same day or temporarily sealed;
- the air intake vents for the adjacent sanitary blocks must be protected by the installation of additional metal mesh and pre-filters and the scheduling of more frequent maintenance;
- there must be a dedicated signpost for visitors and staff so that the passage takes place away from the work areas;
- there must also be a suitable signpost for the workers' trails so as to guarantee a range of respect to preserve access areas for Healthcare, and in any case so as not to pass through sleeping areas, limiting the maximum opening and closing the doors with the relative displacement of air and dust;
- if possible, after assessing the locations where the occupant needs to be carried out, a filter zone must be set where the technicians, leaving the work area, may be subjected to dust extraction and cleaning of the shoes or can Wear protective clothing and overkill caps so as not to pollute the areas that involve the presence of patients;
- precise areas for the storage of equipment used must be identified;
- the timetables and timing of the work must be precisely established and communicated to those responsible and/or contact persons for health activities;
- the resultant material (rubbish, electrical equipment, etc.) must be removed immediately following a well-defined path, avoiding the dispersion of dust, in closed containers or bags;
- the working area must be properly cleaned every day.

4.3.2.1.3 Obligation to contain environmental pollution

The hirer is obliged to respect all the norms and precautions that avoid the environmental pollution of any type:

- powder containment obligation (see Annex II: Guidelines for the protection against dust generation and dispersion during work and for the prevention of infections by Aspergillus);

- exhausted or landfilled materials must be placed inside containers; for example, when replacing filters, when transported to avoid unnecessary contamination in other areas, they should be contained in envelopes or sealed bags on which the material code is highlighted.

4.3.2.1.4 Connecting to the grid and / or work on the electrical system

In case you need to use the electrical network of the Institute, you must agree in advance with the technical staff of the responsible and competent Institute.
Electrical equipment in the wards must always be connected to the service sockets (and never to those of the head bed).
It is possible to connect power devices of less than 2 Kw independently; for the others, and in any case always in case of doubt, you should contact the Technical Structure.
It is however compulsory to contact the Technical Structure beforehand in the event of operations that may result in the automatic switching of the switches for overload protection (insertion and startup of high-power electrical equipment) or differential (presence of water or high humidity caused from operations) in departments where potentially life-threatening patients are potentially present. The departments where continuity of the supply of electricity is essential are essentially Intensive Therapy, Operational Blockage and Pharmacy (refrigerated area). In any case, the deactivation/interception and disconnection of the power supply of the plants, which supply the premises covered by the interventions, must be carried out with the assistance and consultation of the Institute's internal staff. Because of the possibility of ongoing Health activities, it may not be possible to disable all electrical systems globally, so there are likely to be live conductors in the areas affected by the work; consequently the Contractor's technicians will have to take all the cautions of the case especially when and if the demolition operations are to be carried out; During such work, the Contractor must be provided with special protection devices as well as suitable equipment for live cable detection even under trace. In the case of cable interception, the technical staff must be alerted immediately.

4.3.2.1.5 Wall punching operations

The Institute is not always able to indicate the presence of pipes or electrical installations embedded in masonry.
Before performing holes in walls, it is therefore necessary to:

- agree on the intervention with the Technical Structures;
- ensure, before drilling, the presence of pipes or electrical systems that are enclosed by appropriate instrumentation;
- that the firm has its own instrumentation that guarantees its quality.

4.3.2.1.6 Works on thermo-hydraulic plants, medical gas and air treatment

During the demolition, installation of equipment, plant remediation according to the technical specifications for the introduction of new technologies, it may be possible to accidentally catch hot/cold water pipes and medical gas pipes (oxygen, medical air, nitrogen prototype) and vacuum.
In the event of liquid or gaseous fluids leaking, after airing the environments, it will take:

- disassemble the pipes upstream or block the loss, for example by pressing the ends of the copper tubes;
- immediately alert the operators of the Technical Sector in order to limit the consequences and disadvantages;
- in the event of oxygen or oxygen spillage, aerate the affected environments and take the measures specified in the Safety Data Sheets.

Before the demolition and/or installation operations, the workers must use suitable equipment to detect metal pipes under trace.

In the event of an accident or an emergency situation, the necessary precautionary measures (buffering leakages, fire extinguishing, disabling and removing, if possible, electrical equipment, etc.) must be taken before reaching the nearest exit to the area of works. Use in the manufacture of flammable or combustible substances, if provided and authorized, shall be limited to the minimum necessary and operators shall be advised of the risks and caution to be taken; Operators must have fire extinguishers in number and type appropriate to the type of substance used; the contractor company must still comply with the rules of DM 10/3/98.
Any peculiarities and information on electrical, gas, fire, and related risks will be provided by the contracting structure.

4.3.2.1.7 Obligation to contain noise/vibration

The Contractor must contain noise emissions within the limits compatible with Healthcare; so, you will have to use machinery and equipment meet the standards for the control of noise emissions in force at the time the conduct of work.
In the case of noisy work processes, he assumes the burden to circumscribe the environments by means of panels and shields, closing doors and/or the adoption of appropriate measures to limit the propagation of sound waves in the premises used for the Health activities.
The upgrading and maintenance of equipment and any construction work should be conducted in ways that provide the least impact in terms of vibration; In case the inevitable use of means or equipment that causes significant vibrations, the contractor will have to agree with the Institute's staff for alternative strategies such as deferral of work with respect to Health activities or the transfer and/or reduction of the surrounding Health activities all the time.

4.3.2.1.8 Waste management

It is the Contractor's obligation to keep the environmental impact of waste from work, demolition and supply of materials (packaging, etc.).

4.3.2.1.9 Obligation to contain fire risk

In the case of maintenance and refurbishment work, external firms must consider the following issues (DM 10/3/98) related to the execution of the works:

- accumulation of combustible materials;
- obstruction of the exodus;
- fire-resistant doors opening.

At the beginning of the working day it is necessary to make sure that the exodus of people from the workplace is guaranteed; at the end of the working day, checks must be made to ensure that fire-fighting measures have been implemented and that work equipment, flammable and combustible materials are secured and that no fire conditions exist.

Particular attention should be paid to places where hot work is carried out (welding or free flame use): a preventive inspection must be carried out to ensure that any combustible material has been removed or adequately protected against heat and sparks, portable fire extinguishers and, at the end of the activity, it is necessary to ensure that no residual materials and/or braces are left.

Flammable substances must be stored in a safe and ventilated place; When they are used, smoke and the use of free flames must be prohibited.
Unused gas cylinders cannot be stored inside the workplace.

Particular precautions should be taken in the maintenance work on electrical and gas supply systems.

4.3.2.2 Precautions to be taken in case of material delivery

Companies supplying the Institute of Materials and Products of various kinds must comply with the following provisions to prevent the risk of material falling during the discharge, transport and storage operations:

- The pallet used for loading the material must comply with applicable safety regulations and applicable technical standards (see ISPM – 15 "Wood Packaging International Trading Regulation – WPITR);
- pallets should be handled with a forklift or pallet truck;
- European pallets are: 120 cm long; Width 80 cm; Height 15 cm;
- the type of pallet (dried epal, dsa storage, midheaven, lightweight etc.) must be commensurate with the load carrying capacity; pallets used only if they are in good conservation conditions;

- the pallet must keep the entire raised ground load of at least 15 cm;
- in the assembly of the pallet you have to use the method that guarantees the best stability and strength. The packages should be stacked one above the other, because this is what gives the pallet maximum strength;
- pay particular attention to the loading of different size holes because often the difference may not allow the correct load stability on the pallet, resulting in displacement during transport, loading and storage and risk of material fall with possible damage to the pallet Present (operators, employees and people in transit);
- delivery/retraction of materials etc. must be agreed in advance and must take place at times when the presence of users is minimal.

5 CONCLUSIONS

The Institute requires to fulfill the following requirements:

- comply with the obligations specifically provided for by current legislation on health and safety at work;
- comply with applicable environmental regulations as applicable.

and to ensure:

- a proper attitude of staff replacing those who do not respect their duties;
- the execution of works with capital, machinery and equipment owned and in accordance with current safety standards and good technical standards;
- to regularly carry out social security and insurance obligations (INAIL, INPS, etc.).

As a general rule, in the performance of their duties, the workers of contractors must:

- proceed carefully to handling materials;
- maintain limited travel speeds with operating modes;
- increase visibility and identification of the media (e.g. with headlamps on or flashing lights);
- separate hazardous areas with transits or the like;
- use acoustic or visual signals wherever possible;
- observe the displayed road signs.

The Institute is required to comply with all the provisions of this document.

The supervisor must undertake to implement the provisions set out above and to provide the personnel responsible for the work provided for in the contract with precise provisions, instructions and appropriate information/training, for safe access to the Institute's different environments and areas of activity.

Annex I

Names and addresses of all professional figures qualified to provide safety information

NAPLES INSTITUTE OF TUMORS - G. PASCALE FOUNDATION

Head Office Mariano Semmola Street 80131 Naples
Tel. 081 5903111 Fax 0815462043 F.C. 00911350635

Chief of employers: General Manager Dr. Attilio Antonio Montano Bianchi

Emergency center -350-
Tel. 081-5903350

Health and Safety Manager Eng. Francesco Florio
Tel. 081-5903806 E-mail: spp@istitutotumori.na.it

Health and Safety Management Eng. Fabio Florio
Tel. 081-5903806 E-mail: f.florio@istitutotumori.na.it

Medial Director
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Tel. 081-5903530 E-mail: dsp@istitutotumori.na.it

Competent Physician: Dr. Simona Menegozzo
Tel. 081 – 5903646. Email: s.menegozzo@istitutotumori.na.it

Authorized Physician: Dr. Biagio Pecori
Tel. 081 – 5903304 E-mail: b.pecori@istitutotumori.it

Qualified Expert: Dr. Vincenzo Cerciello
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Dr. Fabrizio Cammarota
Dr. Leonardo Baldassarre
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Workers Representative:

Dr. Antonio Marfella E-mail: a.marfella@istitutotumori.it

Dr. Maria Napolitano E-mail: m.napolitano@istitutotumori.na.it

Dr. Marco Correra E-mail: m.correra@istitutotumori.it

Dr. Cecilia Cavaliere E-mail: c.cavaliere@istitutotumori.it

Activity: Sanitary

Annex II

Provisions for the prevention of dust production and dispersion during work (prevention of Aspergillus infections)

1 INTRODUCTION

During building construction and construction activities in Healthcare facilities it is possible to produce a lot of dust; this may also be contaminated by a ubiquitous fungus, Aspergillus spp, which has been isolated from unfiltered air, ventilation systems, horizontal surfaces, food and ornamental plants.
Nosocomial aspergillosis represents an increasingly commonly recognized cause of serious disease and mortality in patients with a high degree of immune composability, such as can be oncologic patients.
Therefore, before the start of construction work, the likelihood that patients or healthcare workers will be exposed to powders, possibly including high spore loading of *Aspergillus spp*, during work will need to be assessed, resulting in the need to develop a Plan to prevent such exposures.

2 PURPOSE

The purpose of these Guidelines is to:

- Minimize the production of powders from ongoing restructuring or construction work at the Institute and prevent its spread in areas where Healthcare professionals and / or patients are present, particularly with regard to those at higher risk.
- Provide precise technical-preventive indications to be included in the contract documents relating to the completion of services or works that may produce dust.
- Identify functions and responsibilities for monitoring and verifying the correct application of these Guidelines.

3 APPLICATION FIELD

These guidelines should be included in:

- Contract work assignments, within which they are binding requirements;
- Drafting of coordination plans during design and / or execution, within which they are binding requirements.

They must be used as:

- Technical and operational reference for work executives;
- Evaluation reference on the work of Contractors at the Institute;
- Organizational/management address for the Structural Directors involved.

4 WORKS CALSSIFICATION

Hospital construction work can be classified as:

- **works outside the structure**: these are essentially working of building new pavilions or elevations, as part of specific expansion projects; they are mostly working of great magnitude and duration;
- **works inside the structure**: renovations involving hospital departments or hospital services.

An assessment scale of the possibility of producing dust from a construction site can be intuitively constructed on the basis of the magnitude and duration of the work itself, assuming that as these parameters increase, it also increases the chance for exposure patients and Healthcare professionals dust; obviously, additional exposure risk indicators are the performance of such work in active wards or services (with simultaneous presence of operators and users) or inactive, and whether or not access to the yard from the outside is possible.

The greater the risk would be for:

- demolition and/or renovation works of a whole non-active department;
- demolition work carried out in active units or involving high internal flow passages of patients, when demolition affects a large area or when the duration of the work is greater than two days;
- works of any magnitude and duration that involve higher-risk departments (Intensive Therapy, Operator block, Degrees, DH chemotherapy etc.);
- works involving the shutdown of aeraulic implants;
- decoration/painting works that involve shaving/scratching surfaces> 10 sqm;

5 PREVENTIVE MEASURES

They consist essentially of measures for:

- reduce dust production on site;
- contain dust dispersion from construction sites;
- reduce patient and operator exposure to site dust;

5.1 MEASURES TO REDUCE POWDER PRODUCTION IN CONSTRUCTIONS

They are borne by the Operators of the Company and concern any kind of dust-producing work on any site, both external and internal, in active and inactive departments:

1. The surfaces of areas destined for demolition or any other work that produces dust must be moistened during the activities; likewise, all the inert materials should be thoroughly wetted away, without prejudice to the possible risks arising from the presence of liquid;
2. rubble should be removed at the end of each working day, using hospitals only when there is no other viable alternative;
3. in the case of work involving puncture or puncture of the walls, it is recommended to maintain a negative pressure by using exhaust air intake systems outside the building (using HEPA filters if the work is located in multi- high risk), making sure that this expulsion takes place away from

the recesses of the implants intended for the hospitality areas.

5.2 MEASURES TO CONTENTS POWDER DISPERSION OF CONSTRUCTIONS

These measures are also borne by the operators of the companies and vary according to the type of work depending on whether the site is external or internal to the structure, and in the latter case, in active or inactive departments.

5.2.1 Behavioral Rules for Workers

- Staff working **outside** construction sites cannot have access to workrooms, indoor Healthcare facilities used by users or Healthcare staff (bars, newsstands, etc.);
- Staff working **on site** structures must limit as much as possible access to indoor Healthcare facilities used by users or Healthcare staff (bars, newsagents, etc.) in work clothes, especially if they are clearly contaminated (use disposable covers); such personnel must be clearly recognizable by users and Healthcare workers wearing clothing and identification cards that allow the identification of the company they depend on;
- For work within active departments, where possible, access to the area of activity should be identified, using the most distinct route possible from the areas of greater transit of patients and staff; If workers' passage is to take place through the department, it is necessary to agree with the Head of Department (e.g. agreeing on the transfer of materials and workers at defined times, also limiting patient movement in the department during activities Higher dust production); workers should always wear overhead caps and disposable hoods (provided by the department) before entering or exiting the work area. For the transport of debris or other material, it is necessary to limit the use of internal routes, especially if these are common with the user and Healthcare personnel.

5.2.2 Measures for external constructions

Normally, these are great work and durability.

- Construction site areas must be delimited by appropriate dust containment systems with non-flammable and leakproof material both on the ground (up to 2 mt height) and long scaffolding and scaffolding where dust is produced.
- Any external slides for the inertia discharge must be closed, perfectly sealed at the points of connection between the elements; the landfill of discharges must be in a sealed cage or any other system that guarantees the containment of the dust as much as possible.
- Careful cleaning of the site must be done at the end of each working day, removing all debris and other residues after having been dampened.
- When work is being carried out near watercourses or cooling towers, these must be adequately protected and the water quality of the plants should be checked.
- If the work is carried out near the outer joints of the UTA of the airplanes, it is necessary to periodically check the contamination status and, if necessary, to clean the outside of the air intakes and replace the filters.

5.2.3 Measures for internal construction

5.2.3.1 Measures for larger internal shipyards

- The site of the internal site must be sealed with high-hold dust systems, especially if the premises are completely insulated, as is the case with the renovation of a whole ward.
- In the entrance/exit areas of the yard, always place towels/rugs to be kept damp; they should be aspirated daily or when they are visibly dirty with HEPA filters. In high-risk departments it is mandatory to set up a real antechamber to the site area.

- The site access path should be as separable as possible from the most transitory areas of users and Healthcare personnel.
- The windows and doors of the site must be kept closed at least during the performance of the most dust-producing activities.
- The passage points of the hydraulic and electrical systems and the ventilation openings in the site area must be sealed.
- Prevent external scaffolding or winches for handling the material. In the event that removal of the rubble can only take place using the internal paths, the ones with a lower risk for the patients should be identified by using lifts for the exclusive use of the yard (and by indicating the provisional use with visible signs at the doors) and only if this is not possible, it will be possible to allow the transit of hermetic trolleys, with prior agreement (prior to or after the most intensive Health care activity) and on routes, which will Be as short as possible and subjected to continuous and immediate cleaning.
- When work is being carried out near the outer joints of the UTA of aeraulic systems, it is necessary to ensure the implementation of tightest barriers around the site, periodically check the contamination status, provide external air intakes and replacement of the Filters and possibly check the air quality of the plant used.

5.2.3.2 Measures for smaller internal shipyards

This type of work includes a whole series of works for which, as a rule, a real yard is not being prepared, but there is still a need to put in place precise arrangements to contain the dust produced:

- inspect the area as much as possible from the ward;
- in the entry/exit areas of the yard, always place damp cloths/carpets, even when extruding or wall punching is carried out, it is compulsory to use dust aspiration systems (with HEPA or evacuation on the outside if jobs are located in higher risk areas) during the working phase;

- When the jobs that have produced bulkheads or demolition walls are not finished at the end of the day, these areas must be wetted with a disinfectant solution (10% chlorine solution) and covered with waterproof canvas to remove the next day, activities)

5.3 MEASURES TO REDUCE THE EXPOSURE OF PATIENTS TO DUST POWDER

These measures are instead borne by the Health care personnel who will have to implement them during the execution of the work; obviously the measures to be implemented will vary depending on the clinical features of the hospitalized, the location of the work compared to the stays and the routes commonly used by users and Health workers and structural characteristics (presence of filter, possibility of creating "bearing", possible alternative accesses etc.).

In general, the recommendations to be implemented are:

- identify patients at risk and appropriate preventive measures **before starting work;**
- constantly evaluate **during the execution of the work** the type of patients at highest risk (primarily immunocompromises), ensuring that they are removed from the areas adjacent to the work, especially during the phases of maximum dust production, or by fitting airway protection to those necessarily passing near the site area;
- encourage patients to stay in adjacent areas of the yard;
- keep the doors of the hospital rooms closed (especially during work involving dust production);
- Systematically inspect the dust protection barriers and report any deficiencies in the containment.

Annex III

Floor plans Internal Road Access

Top view: INT IRCCS G.Pascale Foundation

The headquarters of the Institute is located in a gated building complex that is spread over an area of about 50000 square meters, located in the upper area of Naples and bordered to the north by the Cardarelli Hospital to the south-west with Via Mariano Semmola, south-east with Via Antonino D'Antona, to the west with Via Pansini and to the east with an area owned by the company Enel S.p.A.
The main car access is from Via Mariano Semmola (photo 1), where there is also another daytime access (photo 2).

Photo 1

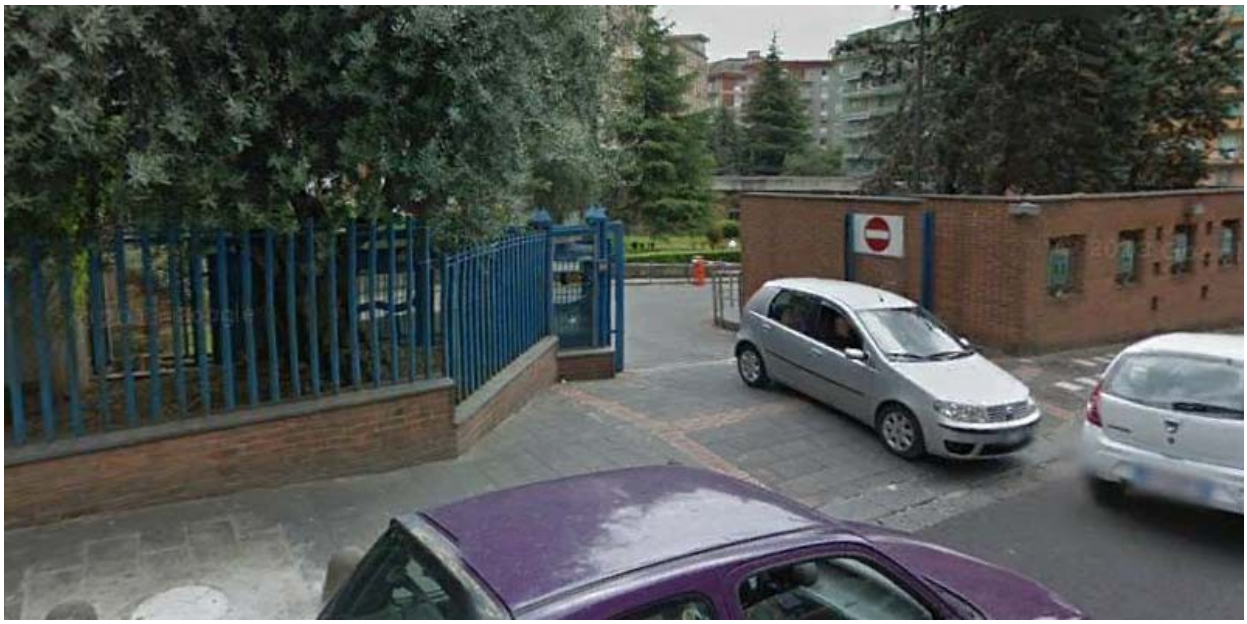


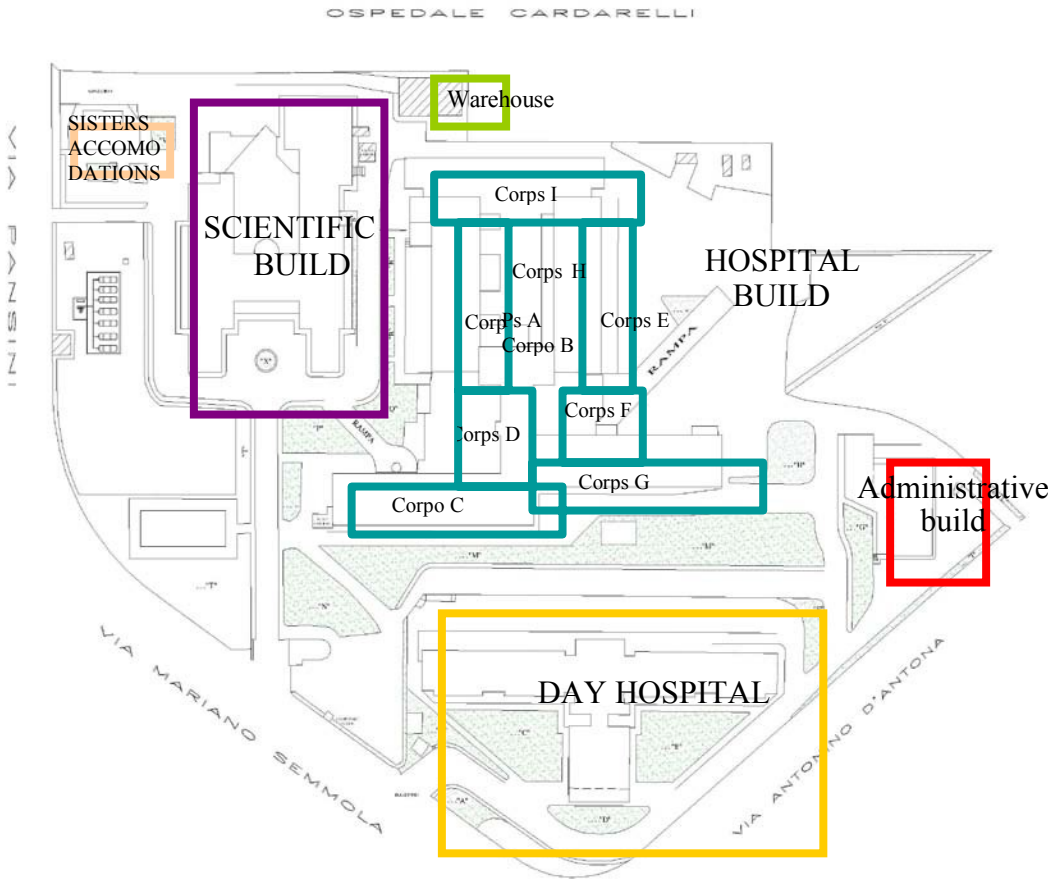
Photo 2

Further entrances are located one on the east side of Via D'Antona (photo 3) and the other on the west side of Via Pansini (photo 4), normally closed and unattended, with electrically operated opening.

Photo 3

Photo 4

G. Pascale Foundation



Planimetry I.N.T IRCCS G. Pascale Foundation

Since 1936, the Institute has gradually expanded the spaces and an original building, now reserved for Research Laboratories, has been extended to four buildings in which are located administrative offices, hospital departments, research laboratories, environments for Ambulatory activities and the Day Hospital.

At present, the Institute's conformation is as follows:

1. Hospital Building (hospital admissions);
2. Day Hospital Building (Day-Surgery and Ambulatory);
3. Research Building (Research Laboratories);
4. Administrative Building (Management Offices).

Annex IV

Acceptance tab and view of the information document.

INFORMATION DOCUMENT FOR SUPPLIERS, AUTONOMOUS WORKERS, OPERATING PRESTATORS AND OTHER OFFICIAL OPERATORS IN THE NATIONAL INSTITUTE OF NAPLES - IRCCS FOUNDATION G. PASCALE

OBJECT:

CONTEST_____

ORDER N._____ON_____REF._____

THE UNDERSIGNED_____

BORN IN_____ON_____

FISCAL CODE_____

IN QUALITY OF_____OF THE BUSINESS_____

BASED IN_____

VAT NUMBER_____

DECLARES

To have read the contents of the information document and the rules and arrangements to be implemented there in and to inform its employees that they will apply it.
The information document was consulted at the web address:
http://www.istitutotumori.na.it/IstitutoPascale/DocUnicoValutazioneRischi_Pascale_eng.pdf

_____ (Place and date)

_____ (Full stamp and signature of the declarant)

P.N. This document must be courteously returned by the Contractor, the Provider, or any other external operator within 7 days of the date of receipt; In the event of a non-return within the aforementioned period, the recipient's silence will be interpreted and considered as implicit acceptance and consideration of what is contained in the document referred to in and to the effect of art. 26 and 36 of Legislative Decree 81/08

PLEASE SEND THIS DOCUMENT TO:

☐ CS Director Asset and Service Management

☐ CS Administrative Coordination of the Scientific Directorate

☐ CS Director Installations Planning and Maintenance

Tumors Institute of Naples – Pascale Foundation– Mariano Semmola Street – 80131 Naples