

International Hazard Datasheets on Occupation



Nurse, operating room

What is a Hazard Datasheet on Occupation?

This datasheet is one of the International Datasheets on Occupations. It is intended for those professionally concerned with health and safety at work: occupational physicians and nurses, safety engineers, hygienists, education and Information specialists, inspectors, employers' representatives, workers' representatives, safety officers and other competent persons.

This datasheet lists, in a standard format, different hazards to which nurse, operating rooms may be exposed in the course of their normal work. This datasheet is a source of information rather than advice. With the knowledge of what causes injuries and diseases, is easier to design and implement suitable measures towards prevention.

This datasheet consists of four pages:

- Page 1: Information on the most relevant hazards related to the occupation.
- Page 2: A more detailed and systematized presentation on the **different hazards** related to the job with indicators for preventive measures (marked as numbered shields and explained on the third page).
- Page 3: Suggestions for **preventive measures** for selected hazards.
- Page 4: **Specialized information**, relevant primarily to occupational safety and health professionals and including information such as a brief job description, a list of tasks, notes and references.

Who is an operating room nurse?

An operating room nurse is a healthcare worker who is a professional registered nurse and assists the surgeon and the surgical team in their tasks. Operating room nurses are responsible for the supply of all of the surgical needs and for keeping of inventory of all of the various items that were used during the operation. They also tend to the health and care of the patient in the operating room, oversee the work organization within the operating theatre, and mediate between the various hospital departments, the surgeons, and the management.

What is dangerous about this job?

- The main hazards in the work of operating room nurses are due to their direct involvement in the surgical operation.
- Operating room nurses may suffer from cuts, stabs, scratches, and stings stemming from the use of syringes and scalpels.
- Operating room nurses may be exposed to anesthetic gases, drugs, and radiation.
- Operating room nurses use cleaning, disinfecting, and sterilizing agents that may damage the skin, mucous membranes, and respiratory system.
- Contact with hot surfaces, faulty electrical equipment, etc. may cause skin burns.
- They may suffer from musculoskeletal problems and back pains resulting from the handling of heavy patients. Continuous work while standing or walking causes fatigue and leg problems.
- Operating room nurses may suffer from stress and burnout caused by shift work, night work, and other psychological and organizational factors.

Hazards related to this job

Accident hazards 	<ul style="list-style-type: none"> • Injuries to legs and toes caused by falling objects, e.g., medical instruments. 	1
	<ul style="list-style-type: none"> • Slips, trips, and falls on wet floors, especially during emergency situations. 	1
	<ul style="list-style-type: none"> • Stabs and cuts from sharp objects, especially needle-pricks and cuts by blades. 	2
	<ul style="list-style-type: none"> • Burns and scalds from hot sterilizing equipment. 	
	<ul style="list-style-type: none"> • Electrical shock from faulty or improperly grounded equipment, or equipment with faulty insulation. 	3 4
	<ul style="list-style-type: none"> • Acute back pain resulting from awkward body position or overexertion when handling heavy patients. 	
Physical hazards 	<ul style="list-style-type: none"> • Exposure to radiation from x-ray and radioisotope sources. 	5
Chemical hazards 	<ul style="list-style-type: none"> • Exposure to various anesthetic drugs (e.g. N2O, halothane, ethyl bromide, ethyl chloride, ether, methoxyfluorane, etc.). 	6
	<ul style="list-style-type: none"> • Skin defatting, irritation, and dermatoses because of frequent use of soaps, detergents, disinfectants, etc. 	
	<ul style="list-style-type: none"> • Irritation of the eyes, nose, and throat because of exposure to airborne aerosols or contact with droplets of washing and cleaning liquids. 	6 7
	<ul style="list-style-type: none"> • Chronic poisoning because of long-term exposure to medications, sterilizing fluids (e.g., glutaraldehyde), anesthetic gases, etc. 	
	<ul style="list-style-type: none"> • Latex allergy caused by exposure to natural latex gloves and other latex-containing medical devices. 	8
Biological hazards 	<ul style="list-style-type: none"> • Infections due to the exposure to blood, body fluids or tissue specimens possibly leading to blood-borne diseases such as HIV, Hepatitis B and Hepatitis C. 	9 10 11 12
	<ul style="list-style-type: none"> • Risk of contracting a nosocomial disease as a result of a prick from a syringe needle (e.g. infectious hepatitis, syphilis, malaria, tuberculosis). 	
	<ul style="list-style-type: none"> • Possibility of contracting palm and finger herpes (Herpes Whitlow). 	
	<ul style="list-style-type: none"> • Increased hazard of spontaneous miscarriages. 	
Ergonomic, psychosocial and organizational factors 	<ul style="list-style-type: none"> • Fatigue and lower back pain due to the handling of heavy patients and to longed periods of work in a standing posture. 	13
	<ul style="list-style-type: none"> • Psychological stress caused by a feeling of heavy responsibility towards patients. 	
	<ul style="list-style-type: none"> • Stress, strained family relations, and burnout due to shift and night work, overtime work, and contact with sick patients, especially when patients don't recover from the operation. 	
	<ul style="list-style-type: none"> • Problems of interpersonal relations with surgeons and other members of the operating team. 	
	<ul style="list-style-type: none"> • Exposure to severely traumatized patients, multiple victims of a disaster or catastrophic event or severely violent patients may lead to post-traumatic stress syndrome. 	14

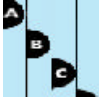
Preventive measures

- 1 Wear shoes designed for nurses, with non-slip soles.
 - 2 Handle sharp objects with extreme care; use special safety receptacles to store used hypodermic needles until disposal. Use safety needles, if available.
 - 3 Install ground fault circuit interrupters; call a qualified electrician to test and repair faulty or suspect equipment.
 - 4 Comply with all safety instructions regarding the installation and periodic inspection of electrical medical equipment.
 - 5 Wear a radiation dosimeter (badge or other) when exposed to radiation; comply with all safety instructions to reduce exposure to a minimum.
 - 6 Install air conditioning with effective general ventilation in the operating room to reduce heat stress and remove odors, gases, and vapors.
 - 7 Provide eye wash bottles or fountains.
 - 8 Nurses sensitive to natural rubber latex must use non-latex or powder-free latex gloves and avoid contact with other latex products.
 - 9 Follow established appropriate infection control precautions assuming blood, body fluids and tissue are infectious
 - 10 Routinely use barriers (such as gloves, eye protection (goggles or face shields) and gowns)
 - 11 Wash hands and other exposed skin surfaces after coming into contact with blood or body fluids
 - 12 Follow appropriate procedures in handling and disposing of sharp instruments or needles
 - 13 Provide lifting aids for the lifting and transport of heavy patients; consult an occupational safety specialist on the safe handling of heavy patients.
 - 14 Procedures and counselling services should be available to workers exposed to post-traumatic stress syndrome
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Specialized information

Synonyms Industrial nurse; nurse, staff, industrial; occupational nurse

Definitions and/or description Provides nursing services and first aid to employees or persons who become ill or injured on premises of department store, industrial plant, or other establishment. Takes patient's vital signs, treats wounds, evaluates physical condition of patient, and contacts physician and hospital to arrange for further medical treatment when needed. Maintains record of persons treated and prepares accident reports and insurance forms. Develops employee programs such as health education, accident prevention, alcohol abuse counseling, curtailment of smoking, and weight control regimens. May assist physician in physical examination of new employees [DOT].



Related and specific occupations Resident nurse (any specific workplace), nursing superintendent - occupational health, occupational health consultant

Primary equipment used Blood collection or infusion equipment; cleaning, disinfecting and sterilizing equipment; diagnostic equipment (e.g., x-ray, ECG, blood pressure, etc.); first-aid equipment; inoculation equipment; office equipment (including, e.g., computer and peripherals); patient handling equipment; personal protective equipment (safety shoes, goggles, medical gloves, etc.); resuscitation equipment

Workplaces where the occupation is common Employee healthcare clinics or first-aid rooms in industrial plants, miscellaneous services, universities, research laboratories, and other public institutions or private enterprises

- Notes**
1. In large workplaces, the employee's healthcare premises are frequently equipped as, and provide the services of, a small hospital. As a result, the occupational health nurse is exposed to many hazards similar to those of emergency-room staff. Also, there are the hazards of operating modern diagnostic equipment used for employee's medical examinations (e.g., x-ray equipment).
 2. In any workplace, the occupational health nurse is exposed to the specific environmental hazards of that place, e.g., chemical hazards in chemical and pharmaceutical plants, radiation hazards in a nuclear power plant, etc.



References Encyclopaedia of Occupational Health and Safety, 3rd Ed., ILO, Geneva, 1983, Vol.2, p.1528-1532.



Occupational Disease - A Guide to their Prevention. DHEW- NIOSH Pub. 77-181,1977 (Multiple pages - see entry "Nurses" in index).

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