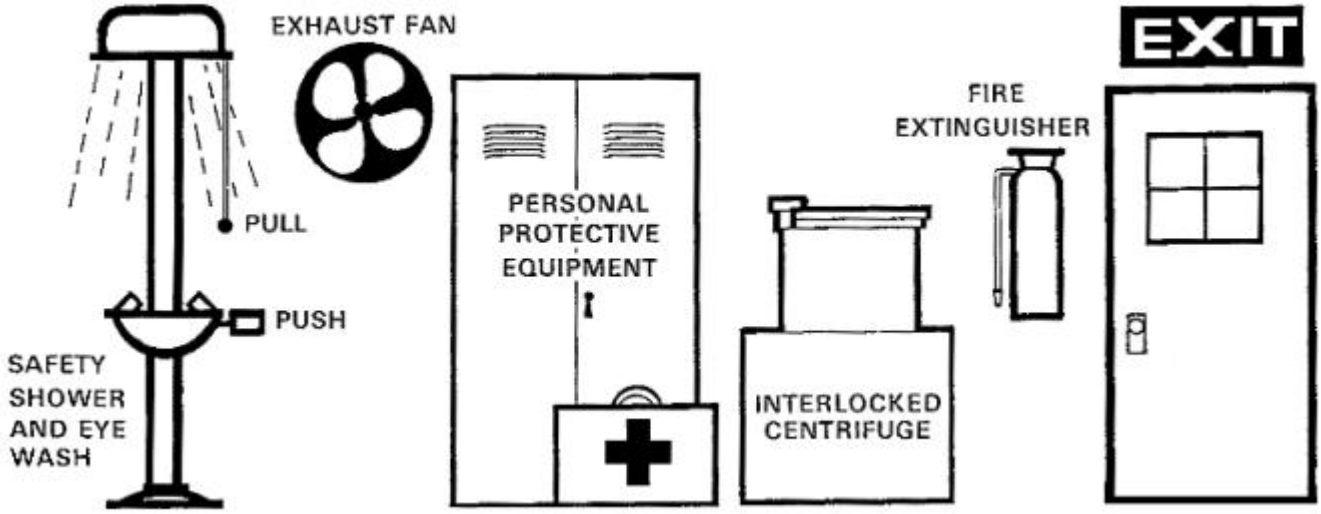
	NORTH CAROLINA DEPARTMENT OF LABOR	**No. 80-2**
	OSH DIVISION	**Date: 10/2009**
	OSHNC INDUSTRIAL DATA REPORT	**Pages: 3**

Industry: **Medical & Other Health Services**	Sub-Group: **Medical and Dental Laboratories**
SIC: **8071 and 8072**	NAICS: **621511, 621512 and 339116**

PROCESS DESCRIPTION: No full detailed account can be given for the numerous and varied functions that are performed by workers in the many laboratories in which research, analysis testing and process control are conducted. Toxic, corrosive, flammable and explosive substances are handled often in fragile glass apparatus. Ionizing and other forms of radiation are studied and used, electrical apparatus at lethal voltages may be assembled, tested and operated, and diseased-infested tissue and animals may have to be examined, tested and assessed. The hazards are not always obvious to the laboratory workers. Neglect of safety and health measures can have serious consequences.

PROCESS FLOW:



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Hazards Analysis

Major Hazards			Other Hazards		
Location	**Item**	**Hazard**	**Location**	**Item**	**Hazard**
Throughout laboratory	Chemical/corrosives use	Inhalation; eye or skin burns	Throughout laboratory	Ventilation	Overexposure to air contaminants
	Centrifuges	Amputations and crushed		X-rays	Contamination, dermatitis, radiation burns, cancer
	Mechanical power transmission apparatus	Amputations and crushed limbs		Needlesticks and body fluid contact	Bloodborne pathogens
	Electrical equipment and wiring	Shock, source of ignition, fire			
	Flammable liquids	Fires and explosions			
	Housekeeping	Slips, trips and falls	Dental laboratory	Mercury	Inhalation and skin absorption
	Compressed gases (flammable and non-flammable)	Fires, explosions personal & property damage from improper handling and storage		Beryllium, Methyl methacrylate, Monomer and Cyanide	Inhalation; overexposure, skin, eye injuries
				Noise	Hearing loss

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Key OSHNC Standards

Reference	29 CFR 1910 — General Industry Standards
Subpart D	Walking and working surfaces
Subpart I	Personal protective equipment
Subpart O	Machinery and machine guarding
Subpart S	Electrical
1910.94	Ventilation
1910.95	Occupational noise exposure
1910.106	Flammable and combustible liquids handling and storage
1910.151	Eyewash and emergency showers
1910.1000	Air contaminants
1910.1030	Bloodborne pathogens
1910.1048	Formaldehyde
1910.1096	Ionizing radiation
1910.1200	Hazard communication
1910.1450	Occupational exposure to hazardous chemicals in laboratories

Inspection Analysis

The hospital inspection should begin in the auxiliary areas such as the maintenance shop, boiler room and laundry. Check for properly guarded machinery (power transmission apparatus, points of operation, rotating parts, interlocks). Throughout the hospital, exits must be properly identified and operable. Fire extinguishers must be examined and maintained, stairs and work platforms guarded, work areas in a clean, orderly and sanitary condition, fans properly guarded, equipment effectively grounded, switch boxes marked and electrical parts guarded. In the kitchen, guarding of meat saws and grinders is required. Refrigerator release bars or buttons must be checked. In the laboratory, the use of appropriate personal protective equipment and eye/body washes for persons exposed to injurious corrosive materials is required. Ventilation may be needed. In the operating room, the area up to five feet above the floor is considered a Class I, Division 1 hazardous location and this must meet appropriate electrical requirements. Ventilation may be needed here also.

Other Pertinent Comments: Because of the variety of substances and procedures used in laboratories, emphasis must be placed on the effective and proper use of engineering controls, personal monitoring and personal protective equipment.