Safety and biosecurity

Lecture.7

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Control of biological hazards

The best way to prevent disease is to reduce or eliminate exposure to biological agents. Here are some tips to protect yourself from injury:

1. Practice good personal hygiene (such as regular hand washing) it is one of the best ways to prevent cross infection.

2. Keep your vaccinations up-to-date.

3. Ensure that any equipment that may harbor biological hazards (such as fans, and ventilation systems) is regularly maintained, cleaned and sterilized.

4. Cleaning and disinfecting work surfaces often.

5. Clean up stains instantly.

6. Treat and dispose of all hazardous biological waste safely.

7. Wear personal protective equipment (such as gloves, masks), where appropriate

Methods of control biological hazards

A. Construction design and furnishing of the laboratory

When preparing and equipping science laboratories, the following requirements and rules have been taken into consideration, which will help in reducing and controlling risks:

1. The area of the laboratory must be proportional to the numbers of students, in order to allow them freedom of movement during the conduct of experiments without crowding.

2. There must be two doors in the laboratory hall for entry and exit, and the direction of opening the doors should be to the outside (in the direction of people rushing).

3. Windows shall be provided with fire-resistant curtains and movable protection bars.

4. Floors for laboratories, sinks and tables must be of types that are not affected by chemicals.

6. The necessity to equip laboratories with comfortable and easy-to move seats inside the laboratory, whose height can be controlled according to the student's height.

7. The laboratories must be equipped with a sufficient number of electrical points with covers (socket protectors) on both the laboratory walls and the student and teacher tables.

8. The gas pipelines must be made of copper pipes so as not to rust and be carried out in accordance with the technical principles recognized in this field to ensure that gas does not leak in the laboratories.

9. Laboratories must be equipped with the necessary water and sewage installations.

10. Laboratories must be equipped with primary firefighting means (fire extinguishers and dry sand buckets) and keep them in a visible place in the laboratory and carry out regular maintenance for them on an ongoing basis and ensure their suitability for use in emergency situations.

12. A cabinet should be provided for first aid and first aid supplies, and chemistry laboratories should be equipped with an emergency shower in order to quickly carry out the first aid operation in the event of injuries to anyone in the laboratory.

13. It is recommended to provide a means of communication to the administration and an alarm device to alert those present in the laboratory in the event of a fire, provided that it be connected to the main fire alarm panel located in the guard's room.

Note: - The laboratory must not be used for anything other than the purpose that it was established for, and in the event of an urgent need for that, a modification must be made in the laboratory that is compatible with the nature of the new work.