Biosafety levels prescribe the work practices, engineering controls, personal protective equipment, and facility requirements required for working with biological agents. The risk group classification is only one factor to consider when determining the appropriate biosafety level for a particular agent.

Risk groups and Biosafety levels

There are four Biological Hazards levels :-

1- Level One : (No or low individual & community risk).

Usually, low pathogenic bacteria which is relatively harmless to human & animals. e.g; E.coli, soil bacteria…. The best way to protect persons from this level of hazards is to wear PPE & we can help prevent the spread of these germs by washing our hands frequently during the day .

2- Level Two:- (Moderate individual risk & low community risk).

The biological hazards are usually bacteria or viruses that cause mild symptoms in most peoples that become infected. e.g; Salmonella bacteria , common cold virus. To prevent peoples from these hazards by: Frequent hands washing& disinfectant is suggested along with PPE.

3- Level Three :- (High individual risk & low community risk).

Biological hazards can cause severe or even fatal symptoms in human but can usually prevented by vaccines or other treatments. e.g; Anthrax, Malaria, Tuberculosis, Hepatitis.

4- Level Four :- (High individual & High community risk).

Is the worst type of biological hazards . They can cause severe illness or death in human & have no known vaccine or treatment. e.g; virulent human viruses (zoonotic) ,Like Avian influenza virus, Ebola virus…. Effective treatment &preventive measures are not available. Then full hazardous material body suites are required & its necessary to wear oxygen mask to avoid breathing in harmful hazards.

Full hazardous material body suites with oxygen mask