



Lecture No.: 15

Date: 20th April, 2020

CORE CONCEPT OF  
Group C - Microbiology

HONOUR'S PART 1  
Paper - 1

## BACTERIA AND HUMAN HEALTH

Bacteria are known to be responsible for a number of human diseases. They are of major importance to mankind for they includes some of his most destructive enemies. Injurious species include those responsible for diseases of human beings. Activities of many bacteria have been harnessed for various industrial purposes to produce valuable chemicals, medicines and various other products essential for human society. Bacteria are everywhere including entire human body. Bacteria also act as "turning fork" for our body, immune system. It helps in digestion, respiratory systems and maintain immunity. It also help out by doing things cells are ill-equipped to do. They help us absorb the fatty acids which cells need to grow. Some species of bacteria in our bodies can cause diseases like diabetes, cardiovascular diseases and others. The bad bacteria that normally are kept in check have room to grow, creation and environment ripe for disease. These days medical science and research suggests that efforts to make a clean environment free from bacteria are contributing autoimmune diseases. Our immune system needs the right combination of bacteria so we can stay healthy. Antibiotics remain powerful tool to keep us healthy but should not be used when they are not needed they are pathogenic to human beings plants and animals also. They can be killed only by certain antibiotics such as tetracycline. The cases of fertility in human beings are largely attributed to the infections caused by mycoplasma. The bacteria produce toxins which damages specific tissues in the body. Actively growing bacteria reproduce by binary fission. Dividing into two equal parts can occur every 15 minutes for the top contamination of food and water with bacteria leads to headline catching outbreaks of all the cholera. Transplant patients are very vulnerable to infections because essential drugs which are used to prevent tissue rejection, lower their natural immunity. Sometimes bacteria are transmitted directly or indirectly through animal to humans and cause diseases such infections are called zoonotic infections. Other bacteria spreads via sexual contacts. It controls use of preventive vaccinations. Here are some bacterial diseases given - In human influenza is caused by



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Hemophilous influenzae. Syphilis is caused by Treponema pallidum, tetanus or lockjaw is caused by bacillus tetani. Meningitis by Nelsseria meningitidis, plague is caused by Pasteurella Pestis, cholera by Vibrio Cholerae, Diptheria caused by Corynebacterium diptheriae, Scarlet fever is caused by streptococcus Scarlatinal, Tuberculosis is caused by mycobacterium tuberculosis, Pneumonia is caused by pneumococcus pneumoniae, leprosy is caused by mycobacterium leprae and gonorrhoea is caused by Neisseria gonorrhoeae.

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