

# Normal flora and their benefits



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## Normal Flora and their benefit

The normal flora is a bacteria found in or on ones' bodies on a temporary basis without causing disease. In that respect are larger numbers of bacteria than cells present in ones' body. The human body contains around  $10^{13}$  cells, whereas the human physical structure is home to around  $10^{14}$  bacteria. One-fourth of fecal weight consists of bacteria.

They mainly inhabit the Large Intestine. They are likewise set up in the respiratory tract, particularly the nose, the Digestive tract, i. e., in the oral cavity and the terminal ileum and also in the Urinary tract.

## Discussion

The normal flora of humans are extremely composite and comprises of more than 200 species of bacteria. The physical composition of a typical plant life gets influenced by several agents, including genetics, age, sex, strain, nutrition and diet of the mortal.

## The normal flora of the digestive tract

The stomach contains fewer bacteria due to its high acidity nature. However, there are some bacteria that survive there like the *Helicobacter Pylori* whose human interaction got discovered in the 1980's and that is currently proving to be the cause of most cases of gastritis and peptic ulcers.

Likewise, the small intestine contains small numbers of Streptococci, Lactobacilli, and yeasts, particularly *Candida Albicans*. Nevertheless, bigger

numbers of these bacteria are found in the lower parts of the ileum, which is a section of the small intestine before the large intestine.

The colon is the main site for bacteria in the body. Several bacteria like Bacteroides, Bifidobacterium, Eubacterium, Coliforms (e. g. E. coli), Streptococcus, Lactobacillus and Clostridium reside in the large intestine. Approximately twenty percent of the faeces of an ordinary person consist of bacteria, most of which have come from the colon.

The respiratory Tract's Normal Flora.

A large number of bacterial species inhabit the upper respiratory tract since it lacks ciliated epithelium that is an efficient cleansing action. For example, the nostrils are always heavily colonized, with Staphylococcus epidermis.

The Microbe of the Skin

Man's epidermis is not a fertile region for microorganisms to inhabit since the surface is comparatively dry and somewhat acidic. It, therefore, impede the development of many microbes but, however, inhabited by few that have adjusted to the skin. An example is the Propionibacterium acne and the Staphylococcus epidermidis.

The Nostrils' Normal Flora.

Organisms' nostrils are a habitat to the Gram-positive pathogens as Staphylococcus aureus. The Microorganism is recognised well for its duty in health centres in which it is the primary causal agent of systemic infection and surgical injury.

Thither are many dissimilar types of kinship that the body can induce with the normal flora. These are:

Mutualism.

In this type of relationship, both the Microbe, and the host benefit from the relationship. For instance, the E. Coli. These organisms reside in the intestines, where they get nourishment, and in turn produce Vitamin K, that the human body requires for the cognitive operation of the blood coagulation. In essence, as the Microbe acquires a stable contribution of nutrients, stable environment, protection and interest, the host also obtains individual nutritional and digestive gains as well as the development and natural action of the immune system which protects it against the pathogenic infection by the microbes.

Commensalism.

Commensalism refers to a kind of kinship in which one collaborator of the association benefits, while the other collaborator neither benefits nor get harmed.

Parasitism.

This kind of relationship is one in which one organism benefits at the expense of the other. However, mostly, the Microorganism benefits at the cost of the ringmaster. For instance, an external parasite is said to cause infestation while an internal parasite is said to cause infection to the host.

Pathogenic.

This sort of relationship is one in which the microorganism causes destruction to the ringmaster during infection. An Opportunistic Pathogen causes an infection in the host that is physically impaired or debilitated. Mostly, the opportunist organism is harmless; however, it takes advantage when the host's defenses are impaired, for example, when the immune system is being suppressed by drug treatment or other illnesses.

### Characteristics of the Normal Flora

The Normal flora exhibit certain characteristics. These are:

Not disease-inducing:

They normal flora are also known as Microbiota and are not typical disease causing micro-organisms found in and on healthy individuals.

Very abundant:

The normal flora are extremely abundant in terms of sheer numbers. For instance, an ordinary human has approximately  $10^{13}$  body cells and  $10^{14}$  individual normal flora.

All found externally:

Normal flora are found more often than not on the skin, eyes, nose, oral fissure as well as on the throat and lower parts of the urethra and the large intestine

### Benefits of the Normal Flora

There is an increased ability of the host to nourish itself since the bacteria produce vitamins that the human body is ineffective to give forth like vitamin B12 and vitamin K.

They help digest food as they break down foodstuffs that are normally indigestible by the host into forms that are easily digestible by the hosts.

The Normal flora protects the host against infection by pathogenic organisms. Similarly, this takes place as the normal flora out-competes the invader for available nutrients, therefore, starving the invader and preventing it from reproducing. Likewise, the normal flora may pre-occupy the favorable ecological niches for bacteria, e. g. the intestinal villi, so confronting the invading pathogen with the trouble of getting somewhere to anchor itself. Similarly, certain members of the normal flora produce anti-bacterial chemicals as a side product of their metabolism, therefore, taking a local antibiotic effect which hinders the invader.

The Normal flora helps in hiking up ones' immune system. The germ-free animals given birth to and brought up in a germ free environment are very susceptible to disease when transferred from the germ free environment since their immune system is still underdeveloped. Therefore, the presence of the Normal flora helps in protecting the human body from highly pathogenic organisms.

They synthesize and excrete vitamins in surplus of their individual wants, which are useful to the host and which can be taken in as nutrients. For instance, in humans' body, enteric microorganisms produce and discharge

Vitamin K and B12 whereas lactic acid microorganisms release vitamin B that are mostly utilized by the host as nutrients.

The microbes as well harbor colonization by microorganisms by contending for attachment places as well as for the essential nutrients. Consequently, this is considered their most significant profitable effect, that presents itself in the mouth, the bowel, the epidermis as well as in the vaginal epithelial tissues.

The Microbes induces the production of natural antibodies and thus contribute to the immunity in the human body. likewise by stimulating low levels of circulating and secretory antibodies, they enhance the bodies' immunity.

It may also counteract other microorganisms through the output of substances that stamp down and bottle up non-endemic classifications. The intestinal microorganisms fabricate a diversity of materials ranging from non-distinct fatty acids to distinct bacteriocins, that stamp and kill other microorganisms.

The microorganisms induce the growth of particular body tissues which include the individual lymphatic tissues and the caecum within the GI region. The caecum of bacterium-free organisms is thin walled, filled with fluids as well as enlarged in size in comparison to the ones in standard animals. Likewise, found upon the capacity to withstand immunological stimulation, the enteric lymphatic materials of the Conventional animals are highly developed as compared to those of the germ-free animals.

They stimulate an immunological response, in particular, an antibody-mediated immune response as they act as antigens in the human body. Low volumes of antibodies brought forth against the constituents of the microbes are acknowledged to respond with particular related microorganisms, and thus preventing infection as well as invasion of the human body. The antibodies fabricated against the antigen ingredients of the microbes are at times known as inborn antibodies, and which lack in bacterium-free organisms.

Intestinal human flora carry out a diverseness of all-important metabolic reactions that give rise to various compounds. The compounds include vitamins B12 and K and gas.

### Conclusion

The Normal Flora as well has limitations to the human body. For instance, Most flora are pathogens and; therefore, they may be agents of diseases. Similarly, if they gain access to certain issues, they may cause infections as well as destruction. Likewise, the Microbe may absorb some of the hosts' nutrients due to competition, leading to the development of bacterial antibiotic resistance in humans.

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