

Normal flora of the human body

Normal bacterial flora includes all bacteria that colonize the human body. In addition to bacteria, viruses, fungi and parasites also physiologically inhabit the human body.

The microbial flora is **completely unique** to each person and **changes** during life. Only some organ systems are bacterially colonised. The total amount of bacteria reaches up to 10^{14} , which is approximately 1-2 kg of a person's total mass.

Related terms:

- **microbiota** - non-pathogenic commensal organisms
- **microbiome** - the collection of all microbial genomes in a distinct environment

Classification

- resident (permanent) - e.g.: gastrointestinal tract
- transient - e.g.: lungs

Functions of the microbiota

- stimulates the immune system
- maintains acid-base balance
- protects against pathogenic organisms
- produces vitamins (K, B7, B9, B12)
- helps digest nutrients

Permanently colonized organs

- **skin** - mainly moist areas and skin derivatives
- **respiratory tract** - upper respiratory tract, (lower only incidentally or transiently)
- **GI tract**
- **urogenital system** - distal urethra, genital tract

The rather sterile organs

- nervous system
- eyes
- middle and inner ear
- lower respiratory tract
- glandular organs of GI tract
- kidney, ureters, bladder, proximal part of urethra
- genital tract (excluding genitalia)
- bones, joints
- cardiovascular system

The most common bacteria forming the normal microflora

- staphylococcus aureus
- coagulase negative staphylococci
- streptococci
- diphtheroids
- Nonpathogenic Neisseria
- Enterobacteriaceae
- enterococci
- clostridia

Sources

Lékařská mikrobiologie – repetitorium / Jakub Hurych, Roman Štícha et al. ; ve spolupráci s Ústavem lékařské mikrobiologie 2. LF UK. – Vydání 1.. – Praha : Stanislav Juhaňák – Triton, 2020. – xii, 621 stran