Diseases and stress factors also negatively influence the intestinal situation. Intestinal flora alterations may be a first indication of disorders or diseases.

Stool Flora Analysis – Why?

Microbiological stool flora analyses supply valuable information about the intestinal situation. The flora status detects microbial balance disorders and provides for conclusions concerning the immune defence condition. If you want to know about the state of your gastrointestinal tract, please ask your doctor to have a flora status done. You will receive a stool tube including shipping material and stool collector. Please make sure to take samples of several different places of the stool and fill the tube to the marked level. Label the tube with your name and date of the sample. Please take the packed sample to the surgery or directly to the post office. In case of extreme weather conditions like frost or heat longer storage in the mailbox may make the sample unusable.

Responsibilities of the Intestinal Flora:

- **Supports immune defence (colonisation resistance)**
- **Nutrient supply of the colon mucosa**
- **Stimulation of bowel function (motility)**
- **Development of vitamin K**

The microbiological balance will be disturbed by...

- **unbalanced diets (lots of fat, protein)**
- **drugs (laxatives, antibiotics, corticoids)**
- **intestinal tract diseases, infections**
- **allergies, intolerances, stress**

The biovis flora status provides individual information about...

- **the most important aerobic bacteria**
- **the most important anaerobic bacteria**
- **yeast and mildew population**
- **possible disease causing properties (pathogenicity) of existing fungi**
- **acid degree (pH-value) for analysing the milieu**
- **possibilities for regeneration of a healthy balance**
  (therapy recommendations and dietary advice)

Are you interested in further information? Contact us, we gladly provide advice.

biovis'

Diagnostik MVZ GmbH

Justus-Staudt-Straße 2
65555 Limburg
Tel.: +49 6431 21248 0
Fax: +49 6431 21248 66
info@biovis.de
www.biovis.de

Handed over by

STAMPOFSURGERY

bio|vis'
DIAGNOSTIK

The intestinal tract and its population!

**Is your intestinal flora healthy?**
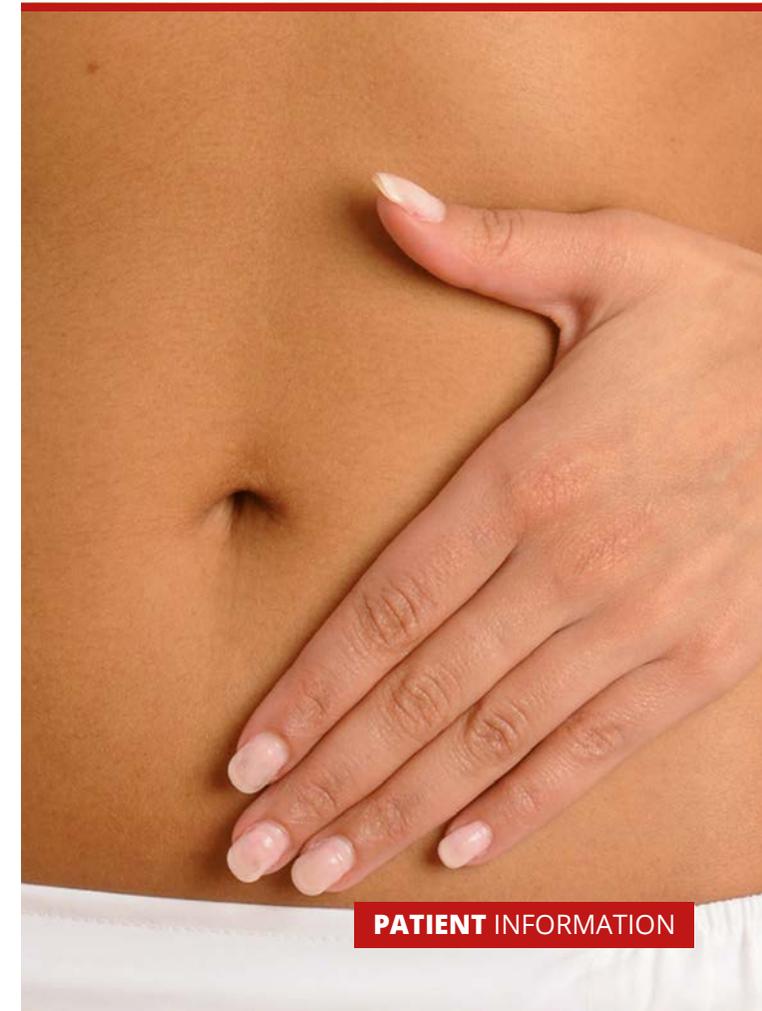
PATIENT INFORMATION

www.biovis.de

Did you often have a cold last winter? Do you suffer from skin diseases or flatulence, recurring diarrhoea, constipation or stomach aches?

More often than generally assumed the roots of such complaints are found in the intestinal tract. This tube-like organ, which is about five to six meters long, has many important responsibilities aside from food utilization.

The major part of the work, however, is not done by the intestine itself, but by its population – the numerous bacteria. Their number is so immense, that it would – if it was threaded string of pearls, encompass earth two and a half times. After all they represent about half of our intestinal content. Many of the useful microorg nisms live at the gut walls, too.

According to today's knowledge the intestines are populated by 10^{12} to 10^{14} bacteria – this means trillions of microbes. To provide enough room for them, the i testinal surface is enlarged several times by folds, villi and microvilli (delicate diverticula [outpouching] of the surface). Its size is about that of a tennis court – which means around 400 square meters.
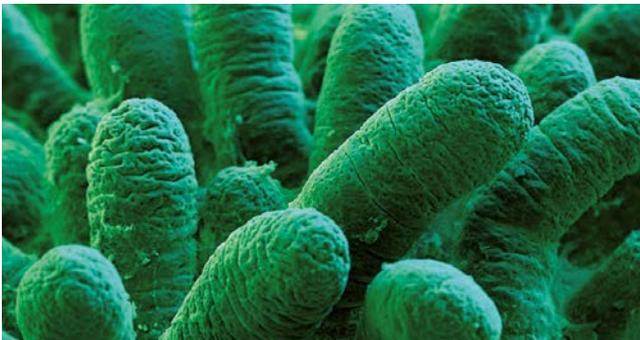
Which micro-organisms live in our gut?

Our intestinal tract consists of small intestine and colon. While the upper intestinal section – the small intestine – participates more in active digestion processes, the colon makes sure that the gut content is thickened and minerals are absorbed. The oxygen content in the intestines becomes continuously less when moving downward.

Therefore we find different milieus in every gut section; the intestines provide habitats for at least 500 to 600 different bacteria species.

Although every species has its own special metabolism, one can generally divide the intestinal flora into acidification and putrefactive flora.

Lactobacilli, bifido bacteria and enterococci for example belong to the acidification flora. They mainly utilize carbohydrates. Putrefactive bacteria, like for example E.coli or clostridia preferably metabolize fat and proteins and subsequently develop alkaline metabolic products like ammoniac, hydrogen sulphide or indole respectively skatole. These substances are responsible for strong smelling stool.

Why do we need such a variety of intestinal bacteria?

Everyone who underwent an antibiotic therapy may r member a typical side effect – diarrhoea. In addition the susceptibility to get infections increases.

Antibiotics cause extensive destruction of the intestinal flora.

The actual **„protective barrier"** uof our immune system is temporarily out of order. The intestinal population uses different strategies.

On one hand they create a dense "lawn" on the mucosa to prevent pathogens from docking at or even penetrating the mucosa. On the other hand they compete with them for vital nutrients. In addition many species are able to develop antibodies, which inhibit or even destroy the intruders.

When do alterations of the intestinal flora occur?

Many influences may disturb the balance. Before all antibiotics, laxative abuse and unbalanced diets should be mentioned here.If the daily fat and protein consum tion is too high, mainly putrefactive bacteria proliferate. Their metabolic production cause e. g. flatulence and bloating.