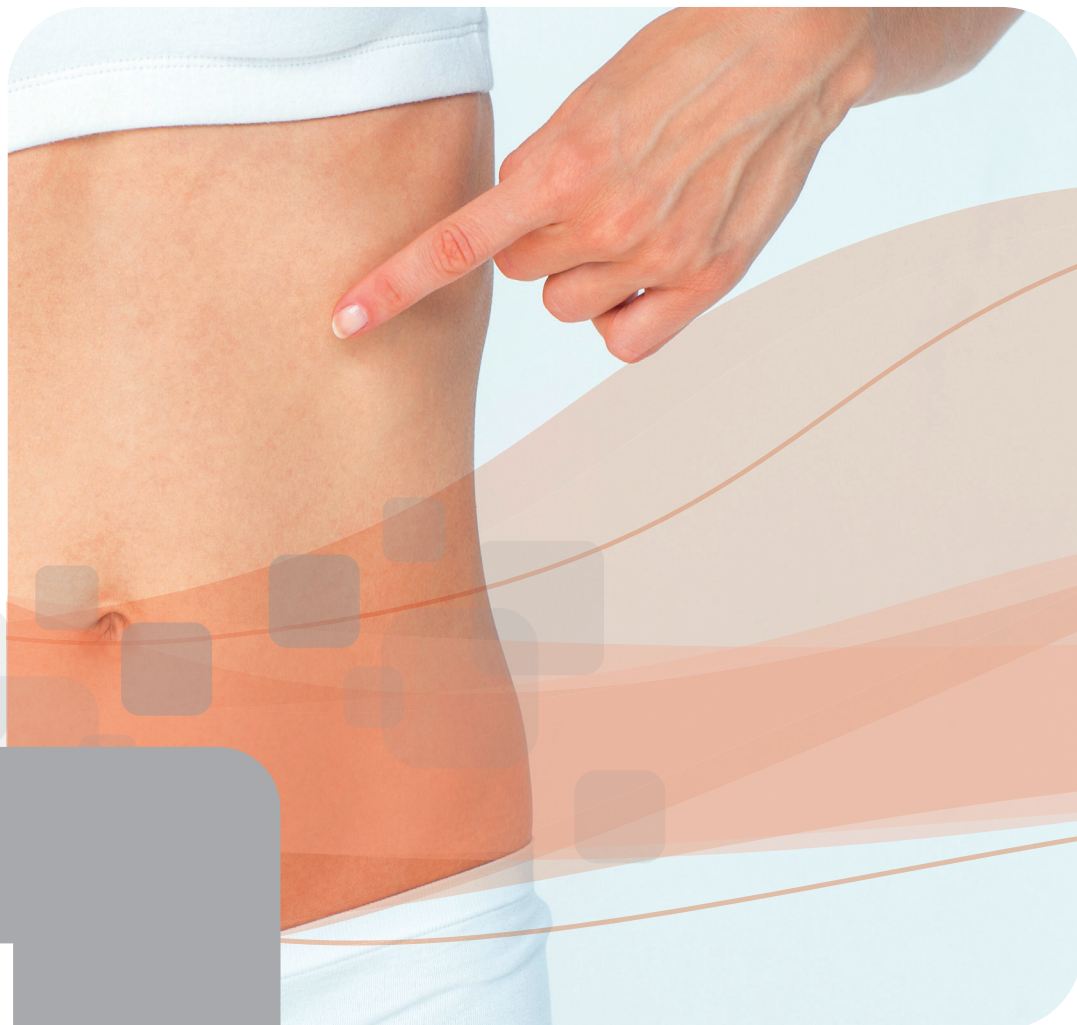


PANACEO



MED DARM REPAIR

Works
5-fold

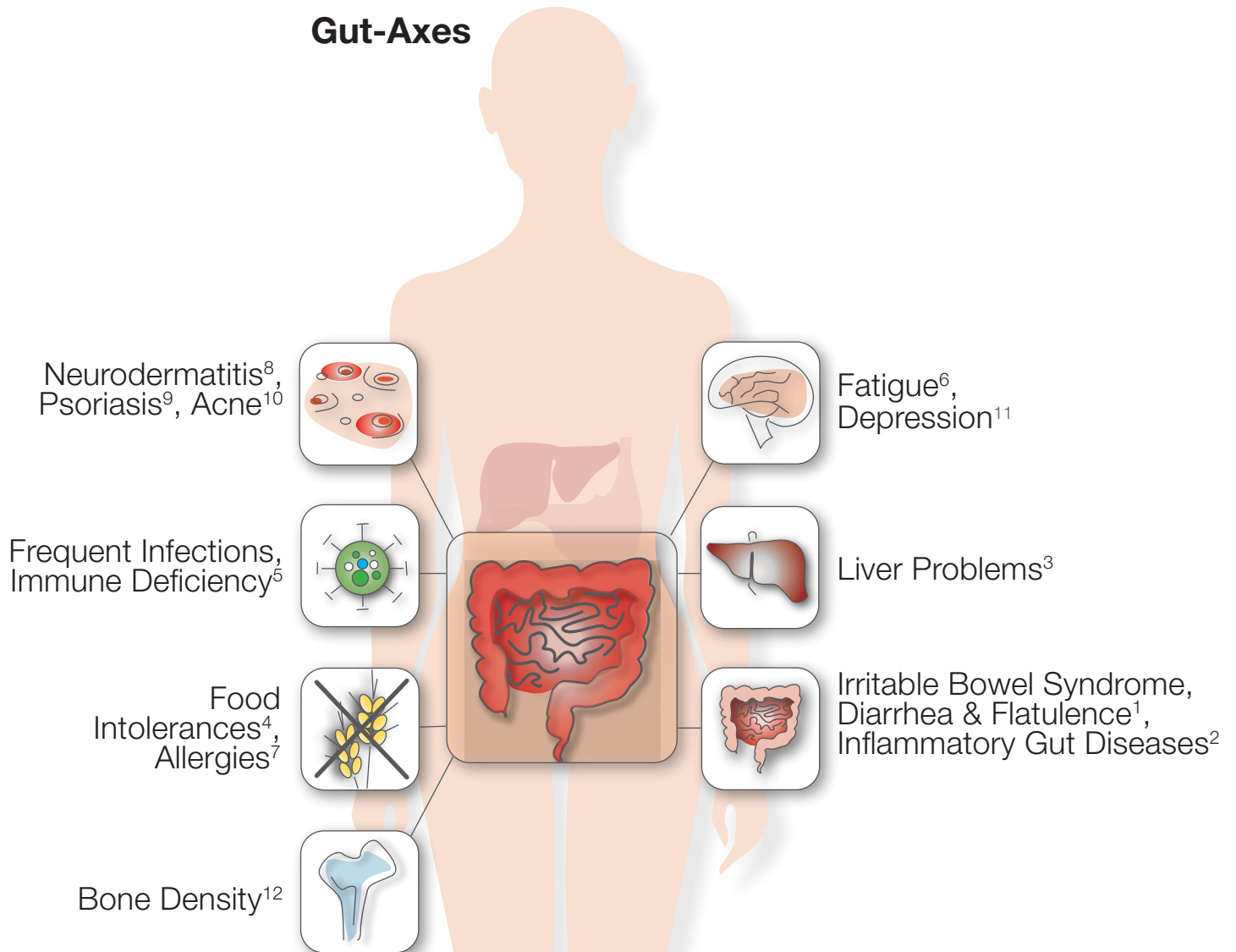


■ **Competent gut care!**

MED
DARM
REPAIR

Restores an **injured intestinal wall!**

Gut-Axes



1 Gecse K et al. (2012)
2 Chang J et al. (2017)
3 Saltzmann ET et al. (2018)
4 Leccioli V et al. (2017)
5 Nalle SC und Turner JR (2015)
6 Morris G et al. (2016)
7 Mansueto P et al. (2015)
8 Craig JM (2016)
9 Pietrzak et al. (2017)
10 Lee YB et al. (2019)
11 Calarge CA et al. (2019)
12 Pavelić Kraljević S et al. (2020)

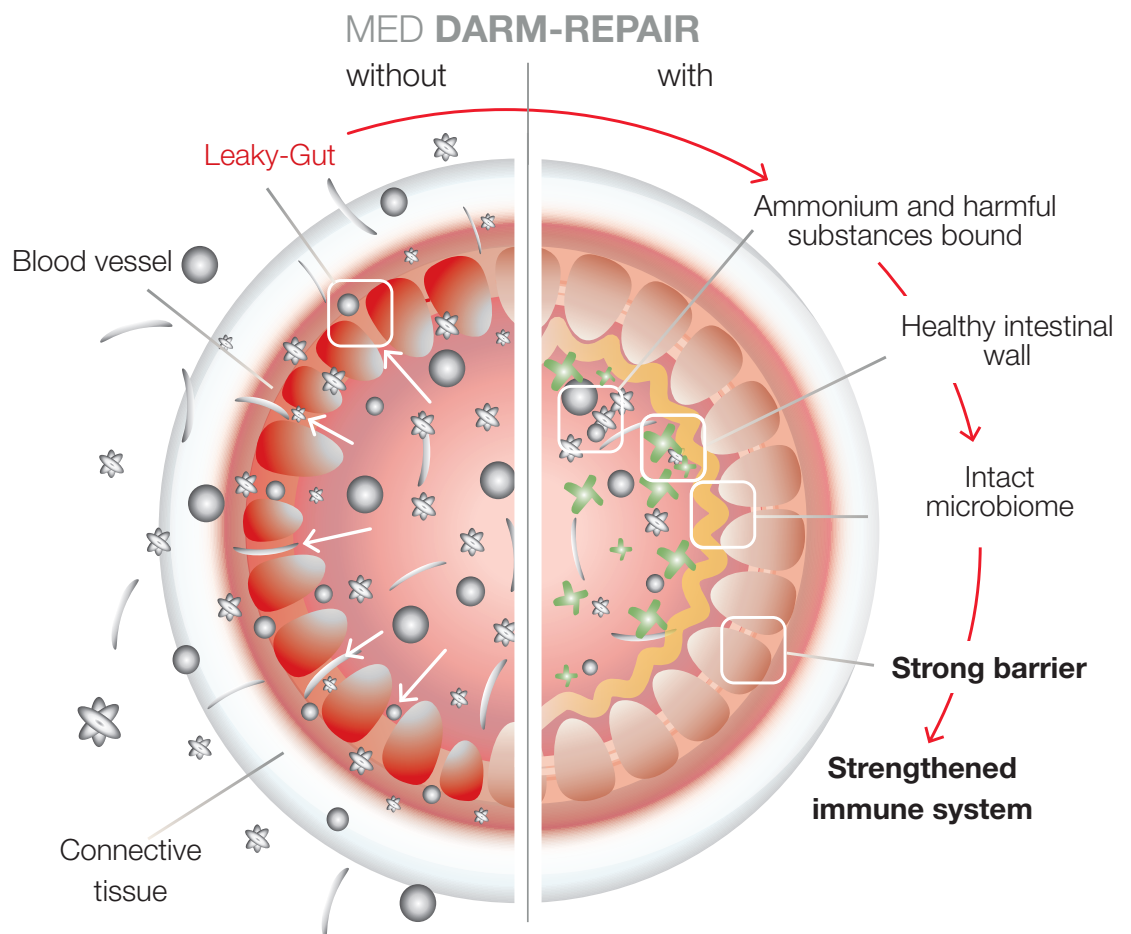
MED DARM REPAIR

The connection between an intact intestinal wall and the microbiome has been **scientifically proven**.

Especially patients with predominant IBS-D (Irritable Bowel Syndrome with diarrhea) often show an **increased permeability** of the intestinal wall.^{13,14,15}

Ammonium and heavy metals **cause multiple harm to intestinal health:**

- promote chronic inflammatory reactions¹⁶
- promote the immigration of pathogenic germs (E. Coli)
- change the intestinal milieu and inhibit the growth of desirable germs (e.g. Bifidobacterium, Lactobacillus)
- can have a negative effect on the viscosity of the mucus¹⁷



PMA zeolite in **PANACEO MED DARM-REPAIR** **strengthens** the intestinal barrier (= tight junctions) and thus **prevents** endotoxemia. This strengthens the intestine, immune system and organs.

13 Dunlop SP et al. (2006)

14 Spiller RC et al. (2008)

15 Spiller RC et al. (2000)

16 Bestalozzi E et al. (2015)

17 Muss C (unpublished 2020)

MED DARM REPAIR

What makes PANACEO DARM-REPAIR unique?

The naturally occurring zeolite clinoptilolite* is optimized through a unique technology called **PMA = Panaceo Micro Activation**

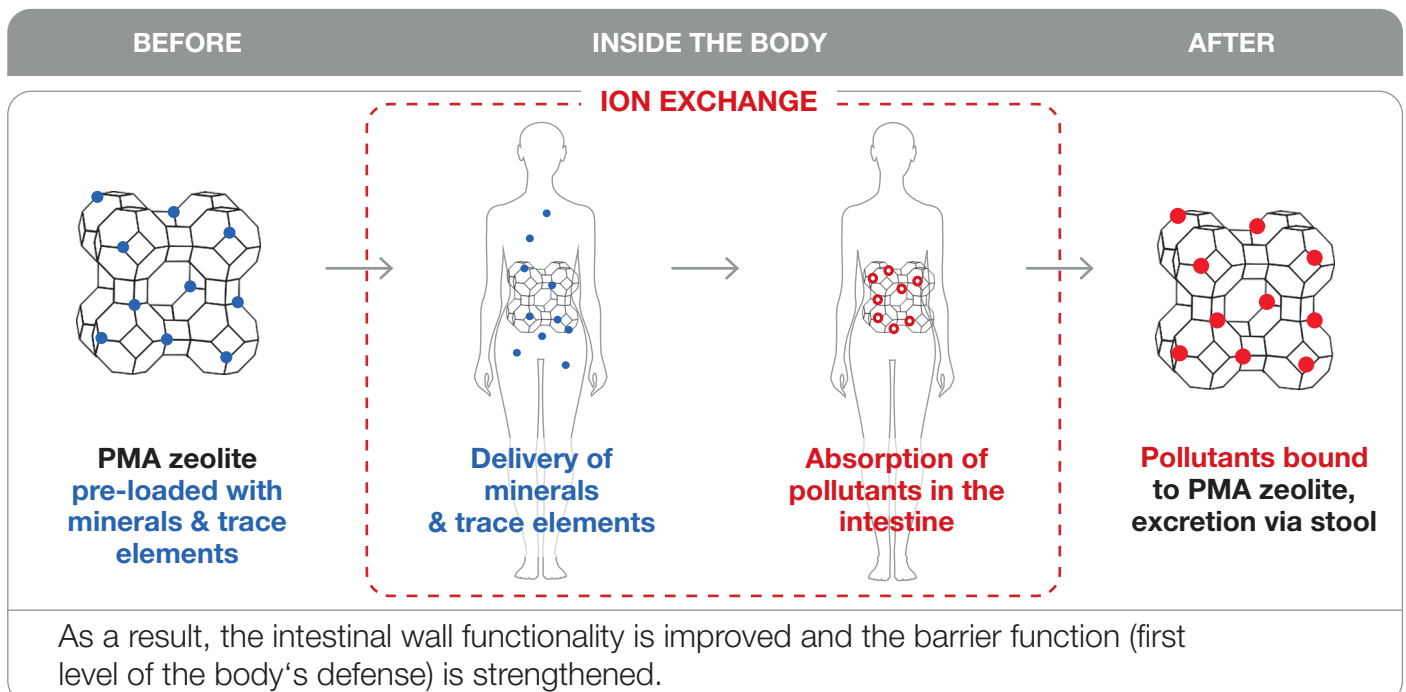
- The PMA zeolite has a particularly high silicon content and thus a very high acid stability.
- The specially patented Panaceo Micro Activation technology allows the usable surface area to be extended to the maximum.
- The PMA technology optimizes the selective ion exchange with regard to the promised effectiveness.

PANACEO MED DARM-REPAIR selectively binds harmful substances & releases precious trace elements & minerals

18 Pavelić Kraljević S et al.
(unpublished 2017)

* PANACEO obtains zeolite clinoptilolite from an audited and certified mine and further processes the material in Austria with regard to highest quality standards.

- reduction of **ammonium within the gastro-intestinal-milieu.**
- with a dosage of 3 g PMA zeolite (= approx. 1 serving spoon of powder) the **reduction of ammonium was approx. 60 %.**¹⁸



MED DARM REPAIR

Strengthens the intestinal wall¹⁹ and has an anti-inflammatory effect²⁰

Study Design: prospective, controlled randomized double-blind study
Inclusion Criteria: adults with mild intestinal wall permeability disorder (zonulin already above cut-off)

Duration: 12 weeks

Number of Patients: n = 52

Dosage: 2 g PMA zeolite (verum, equivalent to 4 capsules MED Darm-Repair) or microcrystalline cellulose (placebo).

Method & Diagnostics: parameters in blood and stool (including zonulin, cytokines, redox biology).

Scientific Lead:

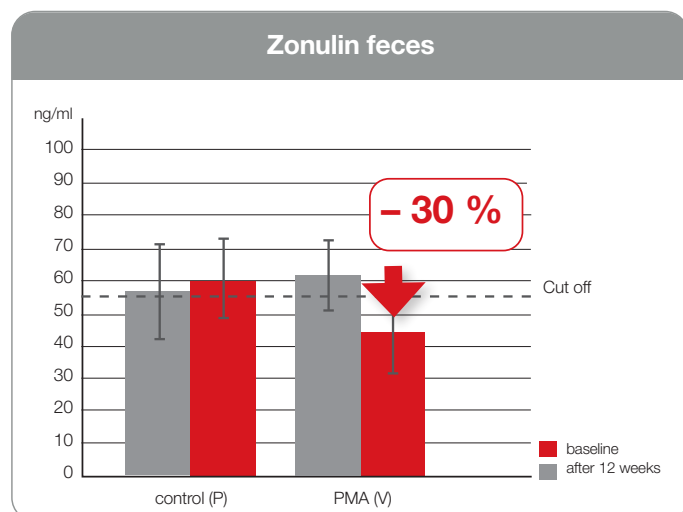
Mag. Dr. Manfred Lamprecht

Leaky-Gut double-blind study

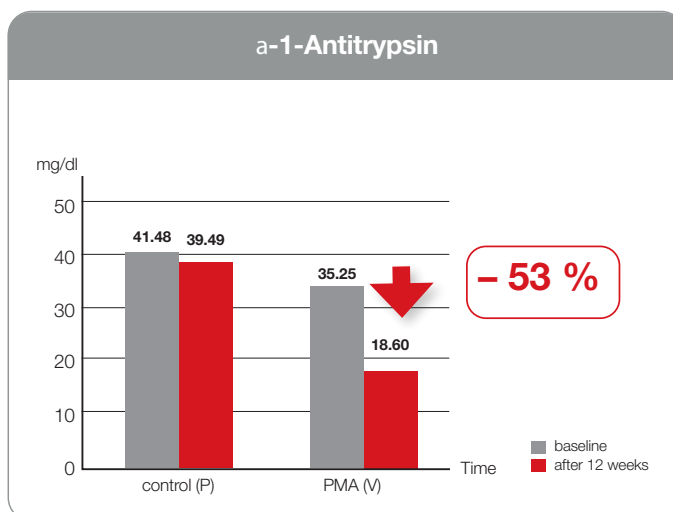
Elevated zonulin and a-1-antitrypsin (A1A) levels are markers of increased intestinal permeability and associated inflammatory responses of a disrupted intestinal barrier.

Results (Graph 1):

- **After 12 weeks of substitution with PANACEO MED DARM-REPAIR, a positive effect** of PMA zeolite was shown in subjects with mild intestinal permeability (biomarker zonulin).
- Strengthening the intestinal wall barrier by **decreasing zonulin levels by > 30 %** (significant decrease in zonulin; $p < 0.05$).
- **Tendency of anti-inflammatory effect** (slight increase cytokine IL 10, $p < 0.1$).



Graph 1: Zonuline-concentration within the stool in the verum or placebo group after 0 and 12 weeks of supplementation. Values are medians \pm SD, $p < 0.05$ (ANOVA), $n = 27$ (verum), $n = 25$ (placebo).



Graph 2: a-1-antitrypsin in stool (mg/dl) at the beginning of the pilot study (=baseline) and after 12 weeks. The average score was statistically significantly reduced ($p = 0.037$) within the verum group compared to the placebo group.

Study Design: prospective, controlled, double-blind, randomized pilot-study

Inclusion Criteria: Adults suffering from IBS Irritable Bowel Syndrome) with flatulence, diarrhea or obstipation diagnosed through ROM III score

Duration: 12 weeks

Number of Patients:

41 diagnosed IBS-patients (Irritable Bowel Syndrome)

Dosage: 3 g PMA zeolite orally 2 times a day or micro-crystalline cellulose (control group)

Diagnostics: Symptom load, blood & stool inflammation parameters such as hsCRP, zonulin, a-1-antitrypsin (permeability parameter), interleukin IL-10, and changes in the gut microbiome.

Scientific Lead:

Prof. Dr. med Wilhelm Mosgöller
Petkov et.al 2021

Pilot study irritable bowel syndrome (IBS)

Results (Graph 2):

- Significant reduction of **a-1-antitrypsin** (A1A) parameter for inflammations and permeability in the stool) compared to the placebo group ($p < 0,037$).
- **Reduction of high sensitive C reactive protein** (hsCRP, inflammation marker in the blood-serum mg/dl).
- Increase of bifidobacterial and lactobacillus types within the gut.

¹⁹ Lamprecht et al. (2015)

²⁰ Petkov V et al. (2021)

Competent gut care!

MED DARM REPAIR

Regulates the stool²¹, especially when suffering from diarrhea and **reduces abdominal pain**

Preliminary results of the NIS

Study Design: NIS
(non interventional study)

Inclusion Criteria:
People diagnosed with IBS (Irritable Bowel Syndrome): flatulence, diarrhea or obstipation and pain

Duration: 8 weeks

Number of Patients: 200,
completed 54

Dosage: 2 x daily,
1 scoop PANACEO MED DARM-REPAIR orally

Method: ROM III-criteria and SF-36-questionnaire/comparison "before" the intake and "after" the intake PLUS diaries.

Recruitment: 60 % of patients from general medical practices, 40 % study call via media.

Scientific Lead: Univ. Prof. Dr. Harald Vogelsang

Graph:

Development of stool consistency of 54 patients during 8 weeks of treatment, daily diary (n = 54). The difference within the improvement is statistically significant.

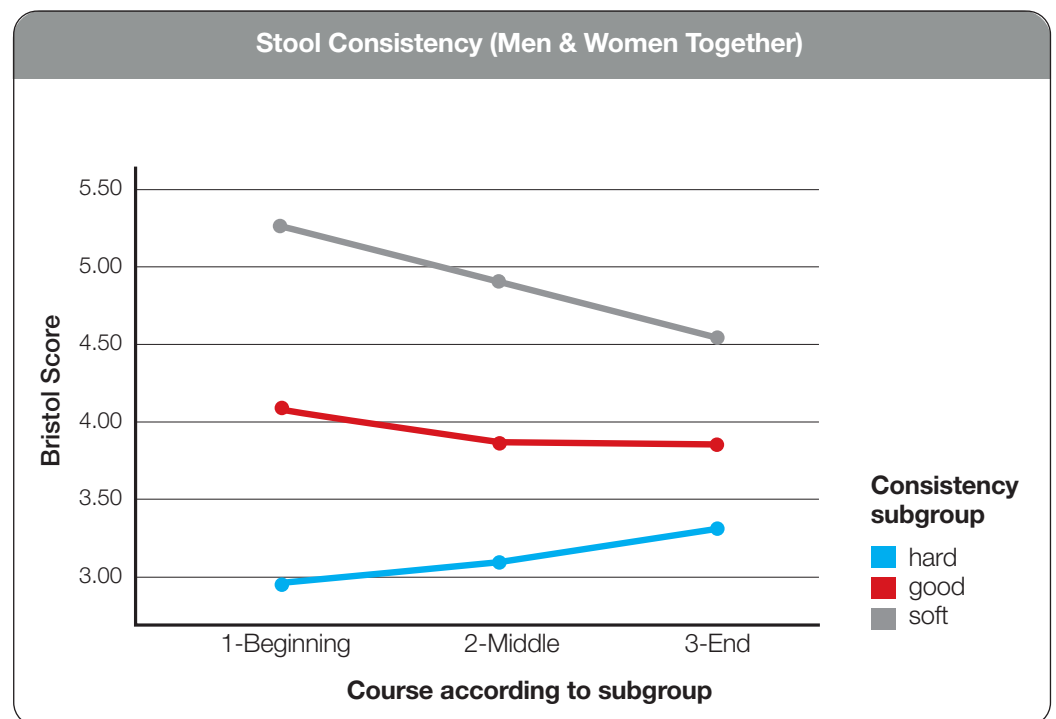
*Stool-regulation in dual way

²¹ Vogelsang, unpublished

Table: diary, daily record, statistical evaluation through analysis of variance with measurement repetition, comparison of three periods (beginning, middle, end)

Results:

- **Improvement of stool consistency**, when suffering from diarrhea as well as with obstipation*.
- **Reduction of pain and flatulence.**



Significant improvement of the symptoms after 8 weeks

Diary-Documentation (n = 54)

		Significance/p-Worth
Days with abdominal pain	Continuous Improvement: total	p < 0.001
Days with flatulence	Continuous Improvement: total	p 0.001
Median number of days with bowel movements	Continuous Improvement: total (currently positive trend)	p 0.067
Stool frequency - diarrhea	Too much, becomes less	p 0.039
Stool consistency	To hard, becomes softer	p < 0.001
	To soft, becomes harder	p < 0.001

MED DARM REPAIR

Brings liver values back into balance²²

Study Design: Austria-wide plausibility study - liver protection. Pilot study in collaboration with general practitioners, clinics and internists.

Inclusion Criteria: Patients with elevated liver values

Duration: 2 months

Number of Patients: 130

Dosage: 1 serving spoon
PANACEO MED DARM-REPAIR
2x daily

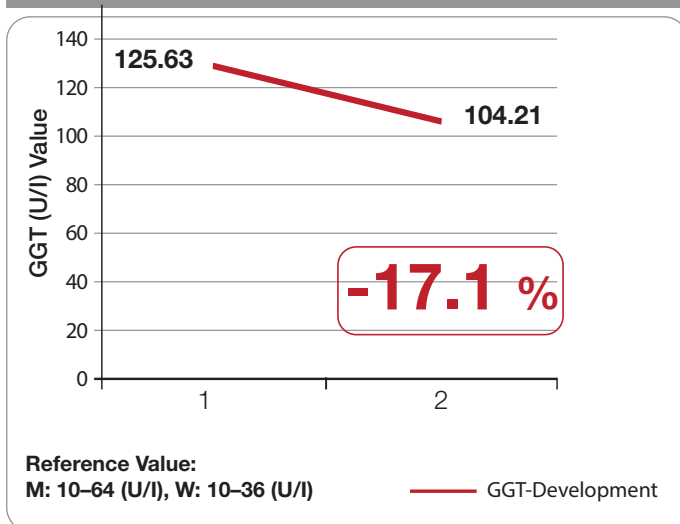
Diagnostics: Blood values – GGT, GOT und GPT

Gut-Liver Axis: increased intestinal permeability has an impact on liver parameters.

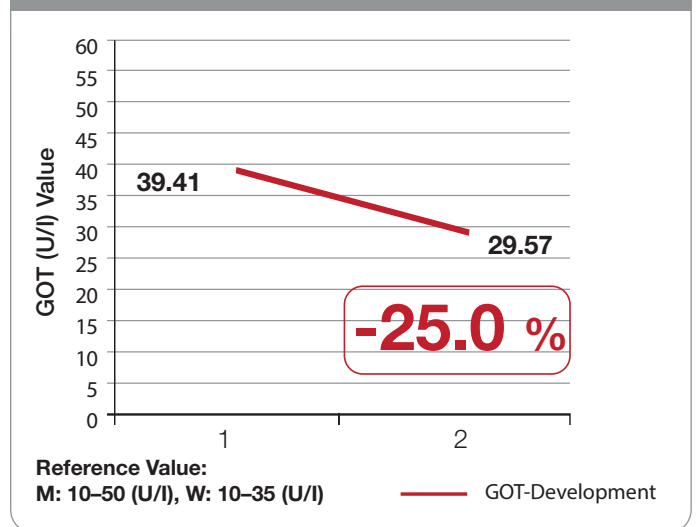
Results:

- A **significant decrease in liver enzyme levels** has been shown in 2/3 of patients, indicating the **improvement of liver health**.

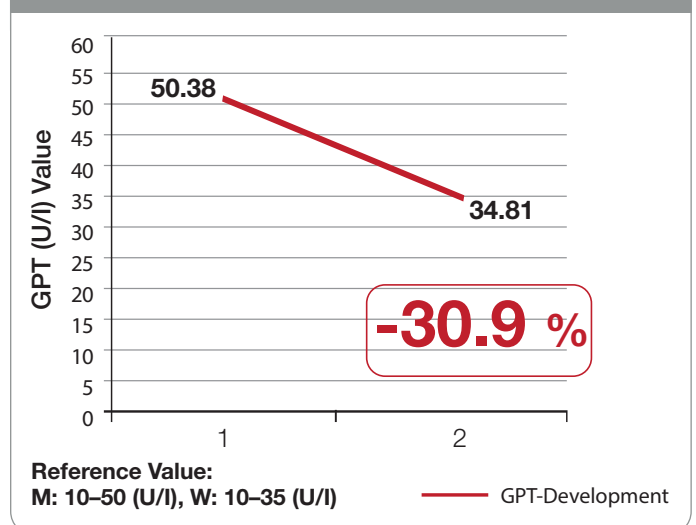
Comparison GGT (U/l) before and after the intake of MED DARM-REPAIR



Comparison GOT (U/l) before and after the intake of MED DARM-REPAIR



Comparison GPT (U/l) before and after the intake of MED DARM-REPAIR



Graph:

Decrease in liver enzyme values, plot based on median value

²² Oberwinkler et al. (2013 unpublished)

■ **Competent gut care!**

MED
DARM
REPAIR



- **Regulates** the stool
- **Reduces** flatulence, abdominal pain and inflammation of the intestine
- **Supports** the microbiome
- **Strengthens** the intestinal wall & the immune system
- **Protects** intestines & organs*

Recommended Application: Take one level serving spoon or 3 capsules with a glass of water (100 ml) 2-3 times a day.



8 - Quality Criteria

- Highest Raw Material Quality
- Certified Medical Device
- 100 % Natural
- 20 Years of Research
- Independent Gold Standard Studies
- Measurably Higher Effectiveness
- Patented PMA Technology
- Made in Austria



* through the selective binding of ammonium & pathogen substances (lead, cadmium, arsenic, chromium, nickel)

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Tips for patients that tend to get obstipation:

- Doctors recommend to start with half of the dosage within the first week.
- If obstipation occurs: immediately reduce dose and support the gut mobility with increased water intake as well as other substances.
- Intake of medication within a time difference of 2 hours.

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www.panaceo.com

Competent gut care!