

# Welche Faktoren lösen einen Schub aus und wie kann dem vorgebeugt werden?

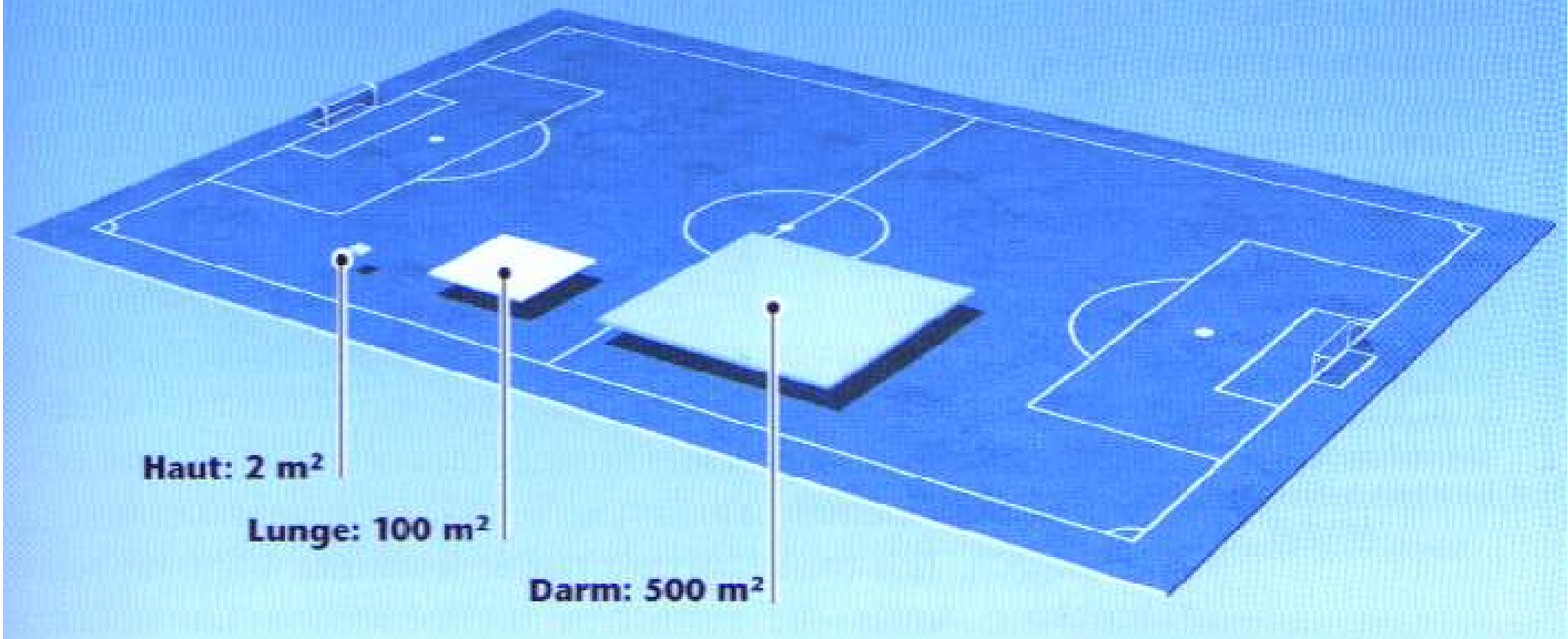
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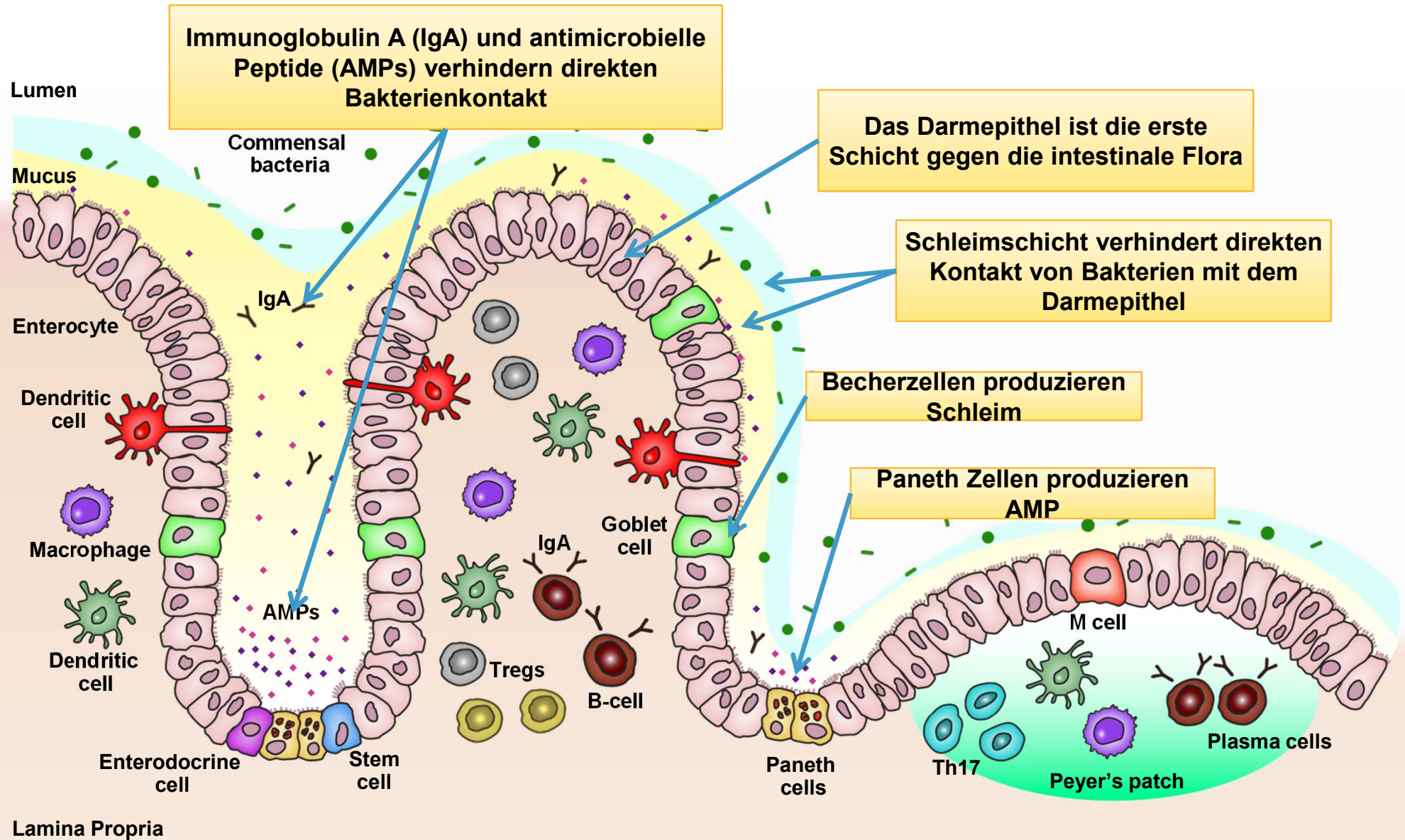
Zentrum für Gastroenterologie  
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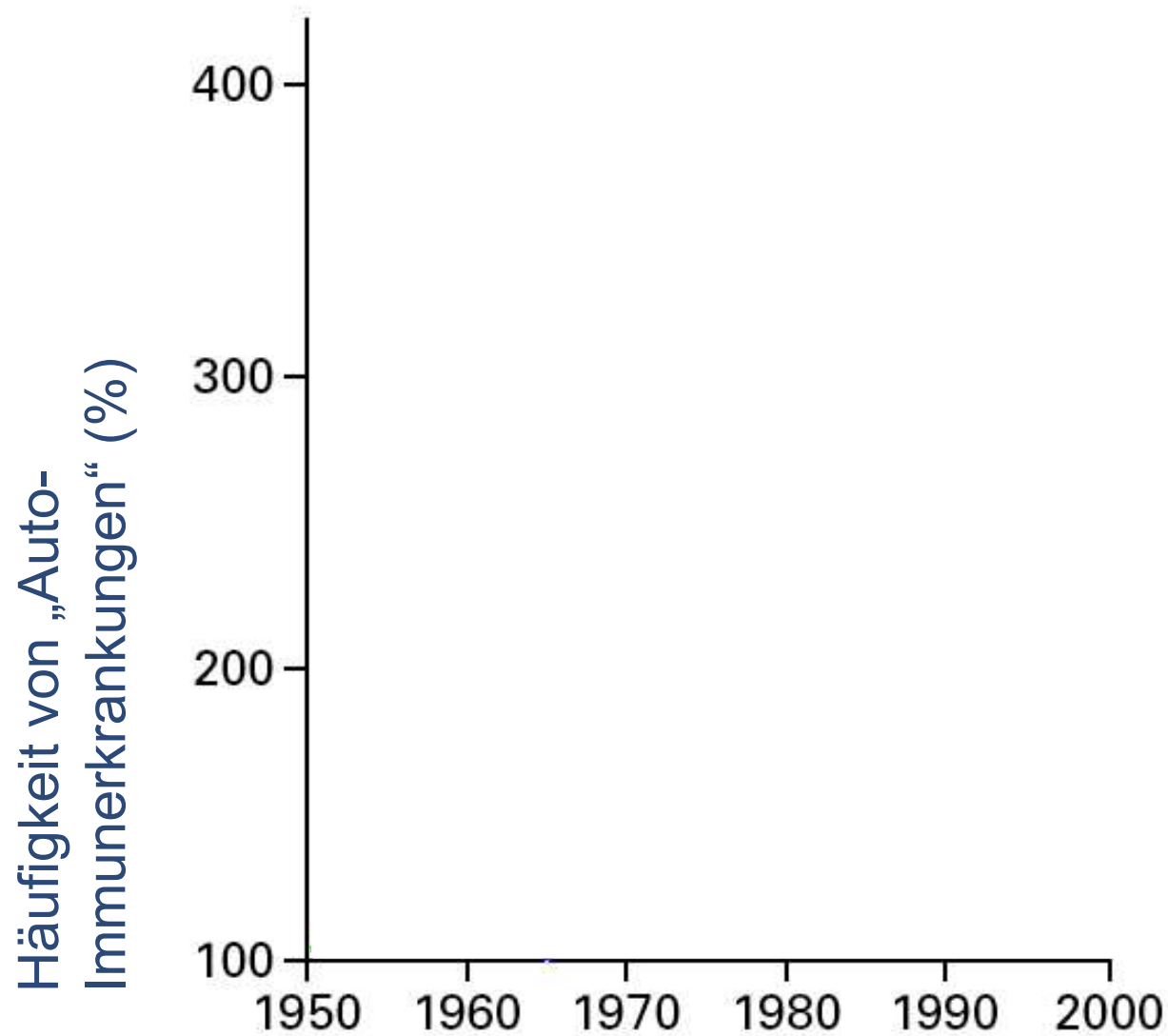
# Der Darm: Hauptkontaktfläche zur Umwelt



# Das Darmepithel



# Häufigkeit von Erkrankungen mit Beteiligung des Immunsystems



# Gesicherte “Umweltfaktoren” bei CED

“Risikofaktoren”	Erkrankung	Effect Size
Vitamin D <sup>1</sup>	Morbus Crohn	0.55 (0.30 – 1.00) (Q4 vs. Q1)
NSAR ≥ 15d/mo <sup>2</sup>	Morbus Crohn	1.59 (0.99 – 2.56) (vs. non-users)
NSAR ≥ 15d/mo <sup>2</sup>	Colitis ulcerosa	1.87 (1.16 – 2.99) (vs. non-users)
Depressive Symptome <sup>3</sup>	Morbus Crohn	2.36 (1.40 – 3.98) (vs. MHI-5 86-100)
Ballaststoffe <sup>4</sup>	Morbus Crohn	0.62 (0.40 – 0.95) (Q5 vs. Q1)
Orale Kontrazeptiva <sup>5</sup>	Morbus Crohn	2.66 (1.52 – 4.64) (current vs. non-users)
Hormon-substitutions-Therapie <sup>6</sup>	Colitis ulcerosa	1.74 (1.09 – 2.77) (current vs. non-users)

1. Ananthkrishnan AN. *Gastroenterology*. 2012;142(3):482.

2. Ananthkrishnan AN. *Ann Intern Med*. 2012;156(5):350.

3. Ananthkrishnan AN, et al. Presented at DDW; May 20, 2012. Abstract 398.

4. Ananthkrishnan AN, et al. Presented at DDW; May 21, 2012. Abstract 863.

5. Khalili H, et al. Presented at DDW; May 20, 2012. Abstract 402.

6. Khalili H, et al. Presented at DDW; May 20, 2012. Abstract 401.

# Achtung bei folgenden Medikamenten und CED

Diese Medikamente sollten von Betroffenen mit einer chronisch entzündlichen Darmerkrankung **NICHT** genommen werden. Bei Fragen und Unsicherheiten wenden Sie sich an Ihren behandelnden Arzt. Die Liste erhebt keinen Anspruch auf Vollständigkeit.



Diese Liste gilt für die Präparate aller **Hersteller, alle Arzneiformen** der aufgeführten Wirkstoffe (egal ob Tablette, Zäpfchen, Injektion, Creme, sowie jede andere Form) und **alle Stärken** (Angabe in mg, forte, mite).

Wirkstoff	Produktname
Acemetacin	Tilur
Dexibuprofen	Seractil
Dexketoprofen	Kettesse
Diclofenac	AMAVITA Diclofenac Coop Vitality Diclofenac 25-N Diclac Sandoz 25 Diclofenac Ecofenac Flector Grofenac Inflamac Olfen Tonopan forte 25 mg Voltaren Voltfast
Diclofenac/Misoprostol	Arthrotec
Flurbiprofen	Angisil-X Dolo mint FlurbiAngin Sandoz Froben neo-angin dolo Strepsils
Ibuprofen	Alges Algifor Amavita Ibuprofen 400 Aspégic ibu L 400 Brufen Contra-Schmerz IL 400 Coop Vitality Ibuprofen 400 Dismenol Dolocyl forte Dolo-Spedifen
Ibuprofen	Grefen Ibu Sandoz 400 Ibufelan Ibufen-L Ibuprofen Irfen Nurofen

Ibuprofen	Optifen Saridon Sonotryl Neue Formel Spedifen Sun Store Ibuprofen 400 Treupel Dolo forte Ibuprofen 400
Indometacin	Indocid-Retard
Ketorolac	Tora-Dol
Mefenaminsäure	Mefenacid Mefenamin Pfizer Mefenaminsäure Sandoz Mephadolor 500 Neo Ponstan Spiralgin 500
Naproxen	Aleve Apranax Naproxen Mepha Proxen
Naproxen, Esomeprazol	Vimovo
Natriumaurothiomalat	Tauredon
Nimesulid	Aulin 100 Nisulid 100
Piroxicam	Felden Piroxicam-Mepha
Tenoxicam	Tilcotil

## COX-II selektive NSAR («Coxibe»)

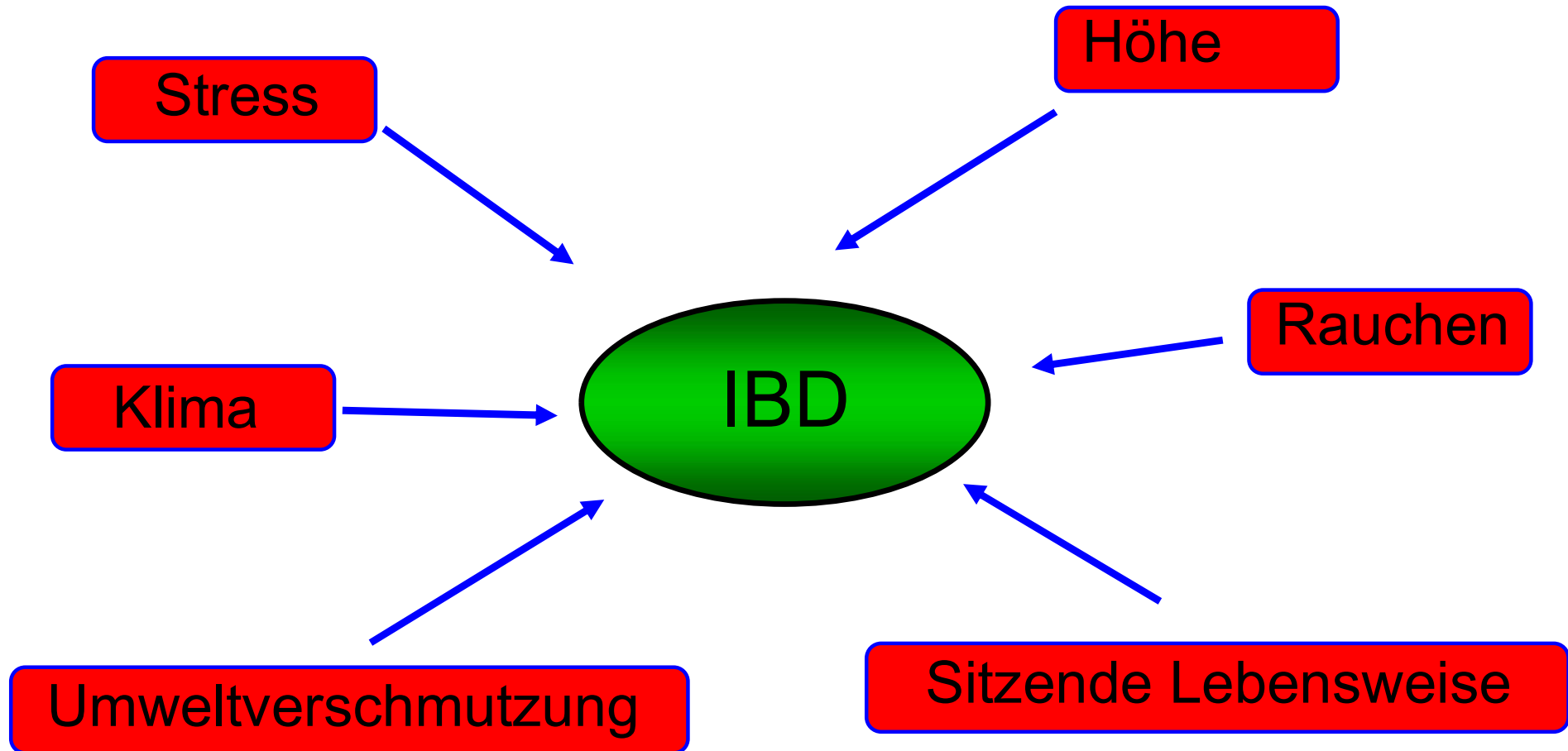
COX-II selektive NSAR («Coxibe») gelten auch bei IBD als sicher und lösen höchstwahrscheinlich keine Schübe aus. Dies wurde in Studien bei Patienten mit IBD bewiesen. Nur im Falle eines zuvor beobachteten Zusammenhangs zwischen Einnahme von Coxiben und einem Schub sollte auch auf diese Medikamente verzichtet werden.

Celecoxib	Celebrex Celecoxib
Etodolac	Lodine
Etoricoxib	Arcoxia

Bei den folgenden Medikamenten (Salicylate) ist das Risiko einer Unverträglichkeit noch nicht klar erforscht. In kleineren Dosen (wie z. B. bei «Aspirin cardio») sind Salicylate für CED-Betroffene vermutlich unproblematisch.

Salicylate, inkl. Kombinationen	Alca-C Alcacyl Alka-Seltzer Amavita Dolopirin-N ASA-Tabs Ascosal Aspégic Aspirin Aspro 500 Contra-Schmerz plus Coop Vitality Acetylsalicylsäure 500 KAEX dolo
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# Umgebunsfaktoren als Auslöser von IBD

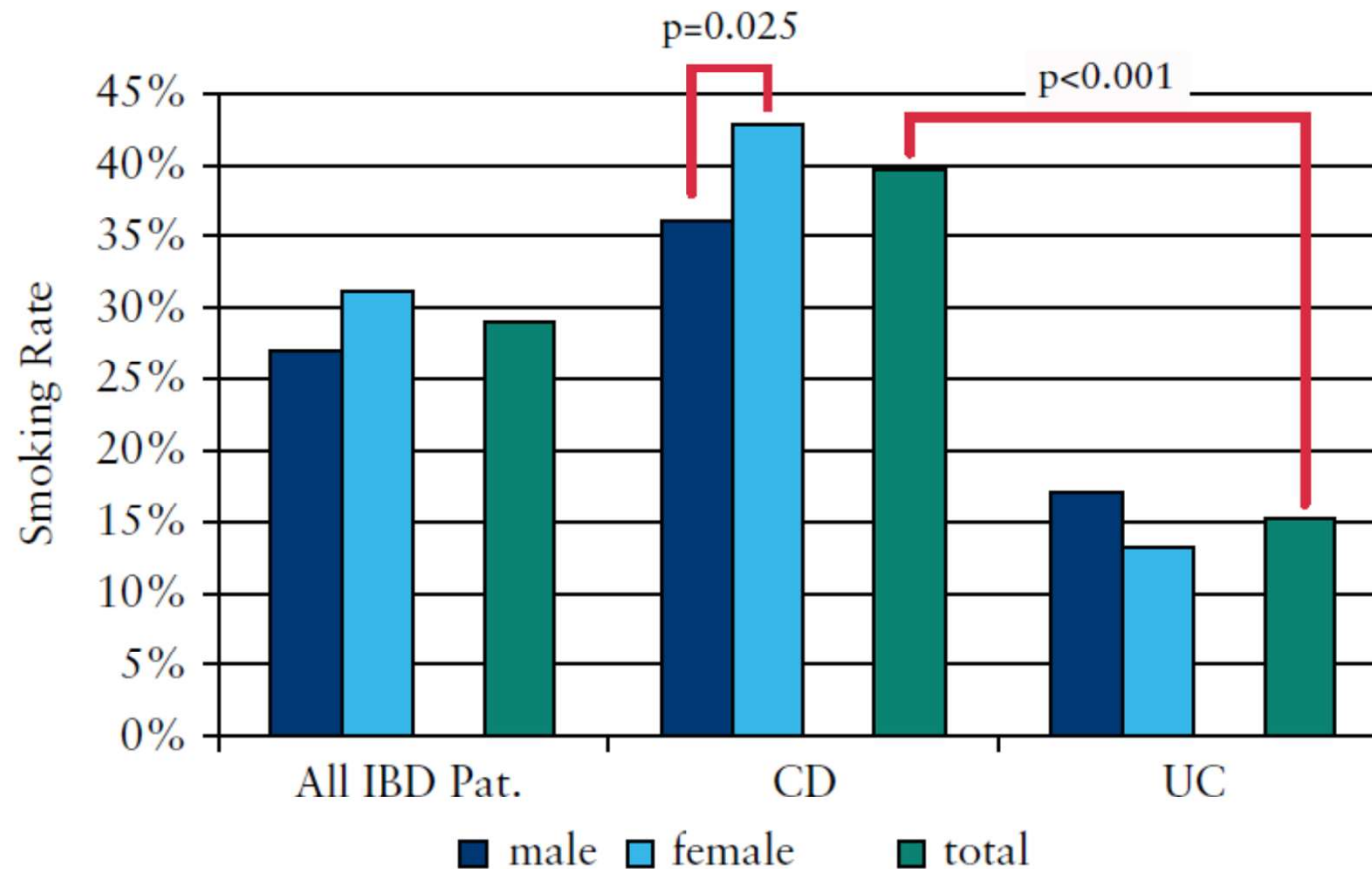


Viel hat sich verändert in den  
letzten 60 Jahren!





# Rate der Raucher bei IBD Patienten, aufgeteilt nach Krankheit und Geschlecht



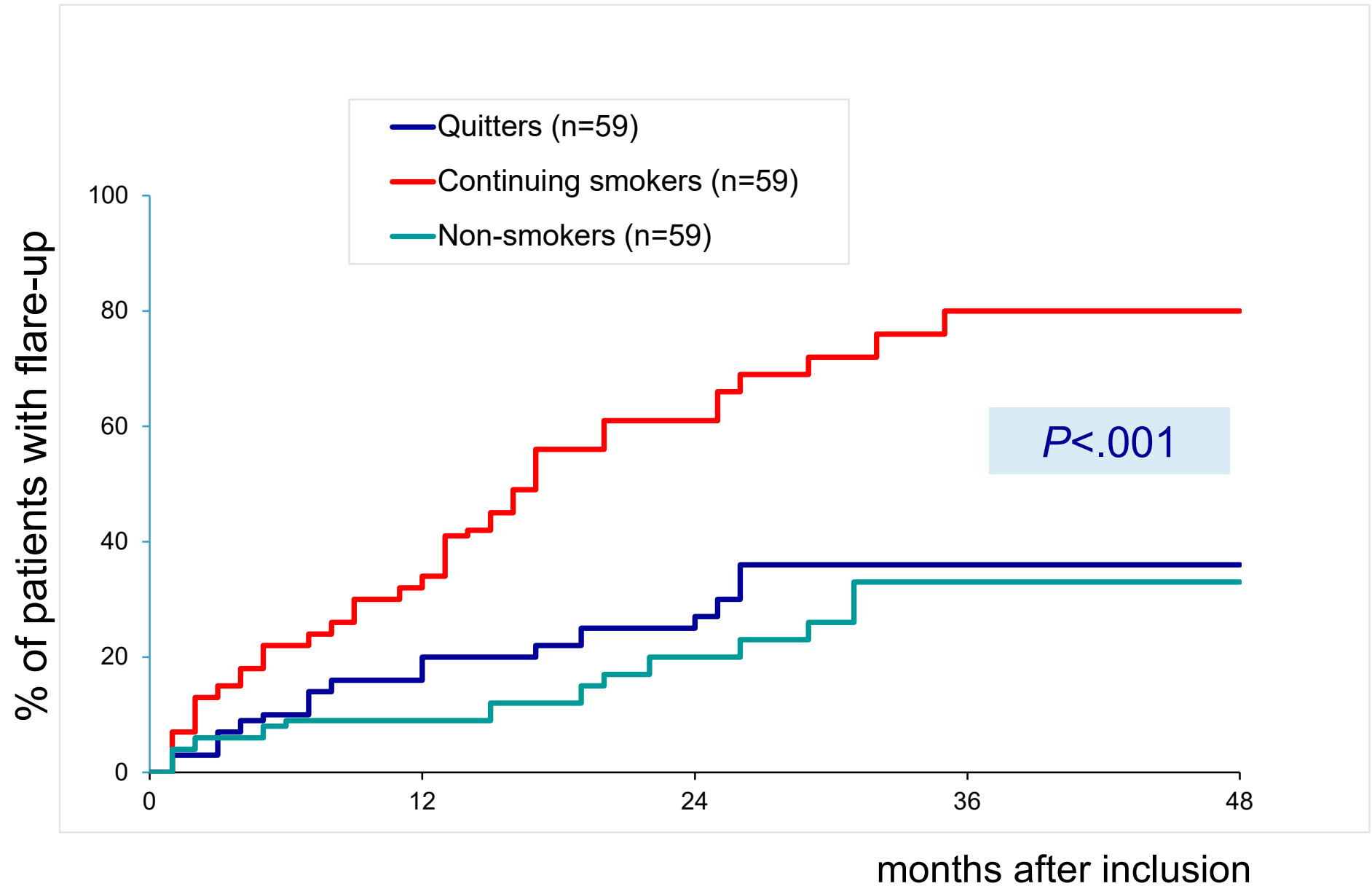
# Rauchen und Krankheitsoutcome

**CD Raucher entwickeln häufiger**

- **Komplikationen (Strikturen-Fisteln)**
- **Rückfälle**
- **Brauchen mehr Steroide und IS**
- **Höheres Risiko für Operationen**

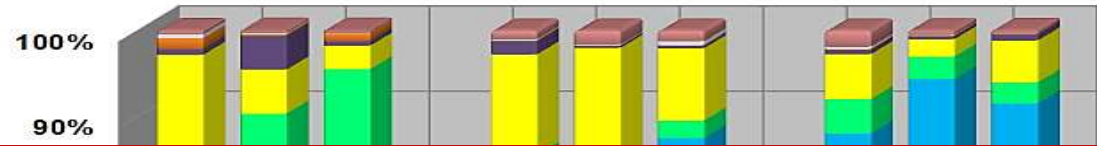
Reference	Study type	CD	Control	Significant finding	Location
Aldhous et al., 2005 [16]	Retro	388	—	Smoking is associated with stricturing and penetrating-type CD. Heavy smokers are more likely to demonstrate these patterns than light smokers.	Edinburgh, UK
Picco et al., 2003 [23]	Retro	203	—	Tobacco smoking is associated with progression to stricturing- and fistulizing type-disease.	Jacksonville, FL
Louis et al., 2003 [24]	Retro	163	—	Active smoking is associated with both penetrating- and stricturing-type CD.	Liege, Belgium
Lautenbach et al., 1998 [25]	Retro	88	—	Perforating-type CD at diagnosis is associated with more future operations and a shorter duration to initial surgery.	Philadelphia, PA
Rocca et al., 1997 [26]	Retro	301	—	More current smokers display penetrating- or stricturing-type CD than nonsmokers.	Torino, Italy
Breuer-Katschinski et al., 1996 [27]	Retro	287	—	Smokers with CD are more likely to have one (OR: 3.9) or more (OR: 10.8) surgeries than nonsmokers with CD.	Essen, Germany
Cosnes et al., 1996 [19]	Retro	400	—	Current smokers with CD have a higher risk than nonsmoking CD patients of developing more severe CD. This risk increases in heavy smokers.	Paris, France

# Effect of Stopping Smoking on CD Course



# Rauchen verändert das Darmmikrobiom

- the big four phyla:  
97.3% of all sequences



## Morbus Crohn

- Nicht rauchen !**

## Colitis ulcerosa

**Stop rauchen !**

**Wegen erhöhtem kardiovaskulärem Risiko und Krebsrisiko**

- Stable microbiota in both control groups

# Luftverschmutzung in Ländern mit steigender Inzidenz?



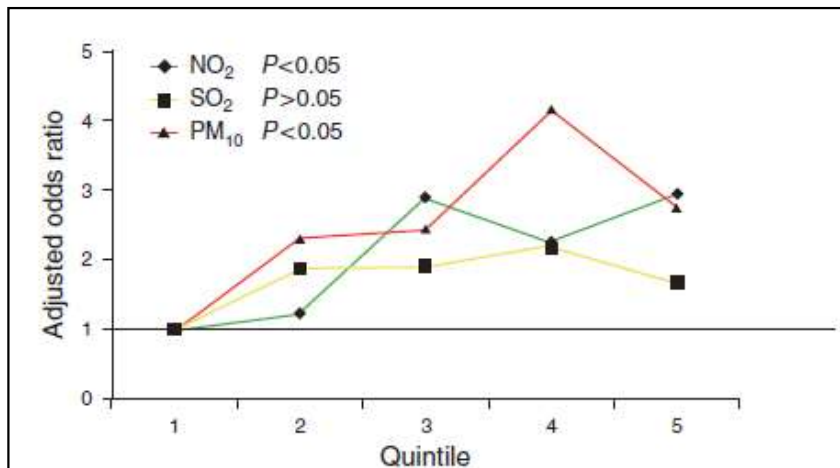
# Air pollution?

**Table 3.** The age-stratified adjusted risk of developing Crohn's disease among individuals living in wards with higher concentrations of NO<sub>2</sub>, SO<sub>2</sub>, and PM<sub>10</sub>

	Crohn's disease odds ratio (95% confidence interval) <sup>a</sup>				
	All ages <sup>b</sup> , n=367/1,833	≤23 Years <sup>c</sup> , n=93/465	24–43 Years <sup>c</sup> , n=95/474	44–57 Years <sup>c</sup> , n=84/420	≥58 Years <sup>c</sup> , n=95/474
NO <sub>2</sub>	1.02 (0.79–1.32)	2.31 (1.25–4.28)	0.68 (0.41–1.13)	0.56 (0.33–0.95)	1.28 (0.78–2.09)
SO <sub>2</sub>	0.95 (0.74–1.21)	1.23 (0.73–2.05)	0.88 (0.55–1.43)	0.67 (0.40–1.11)	1.09 (0.68–1.76)
PM <sub>10</sub>	0.91 (0.71–1.17)	1.73 (0.98–3.03)	0.76 (0.46–1.27)	0.48 (0.29–0.80)	1.10 (0.67–1.82)

NO<sub>2</sub>, nitrogen dioxide; NSAID, non-steroidal anti-inflammatory drug; PM<sub>10</sub>, particulate matter <10 μm; SO<sub>2</sub>, sulfur dioxide.

<sup>a</sup>Matched for age and sex and adjusted for smoking, socioeconomic status, prior appendectomy, and NSAID use. Air pollution levels were stratified into high exposure (third, fourth, and fifth quintiles) and low exposure (referent).



**Figure 1.** Dose–response relationship across quintiles of nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and particulate matter <10μm (PM<sub>10</sub>) exposures for the adjusted odds ratio of developing Crohn's disease ≤23 years.

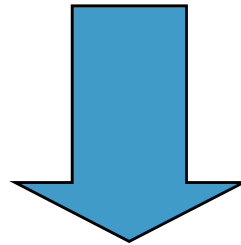
367 CD and 591 UC patients  
from the UK health improvement  
Network database

**STRESS/DISTRESS**

**?**

**IBD ACTIVITY**

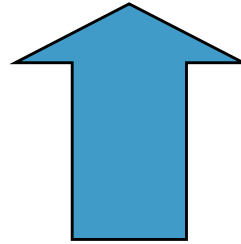
**STRESS/DISTRESS**



**IBD ACTIVITY**

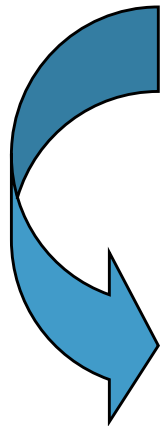


**STRESS/DISTRESS**



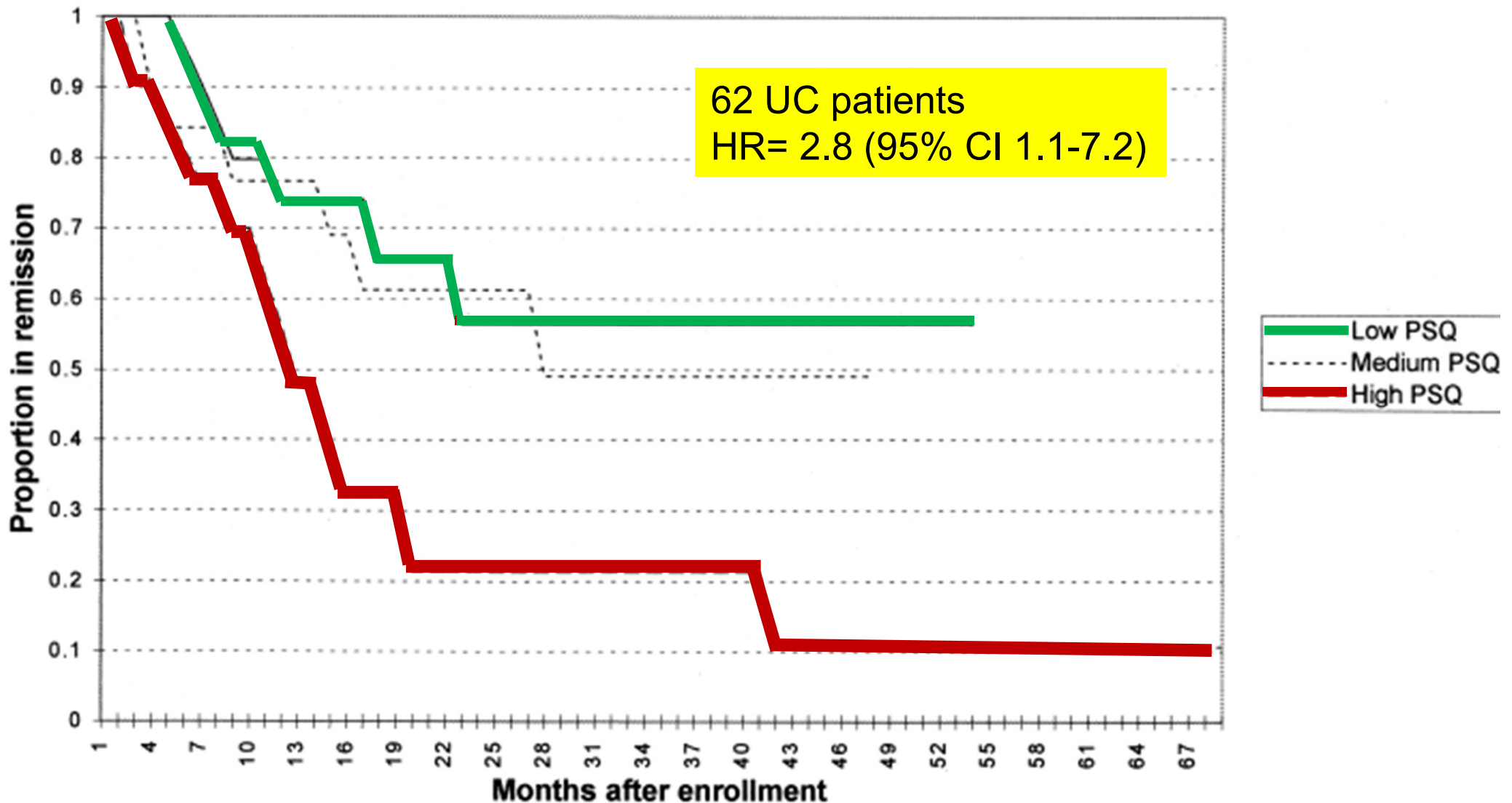
**IBD ACTIVITY**

**STRESS / DISTRESS**



**IBD ACTIVITY**

# Stress and risk for flares in IBD



PSQ= perceived stress questionnaires score

*Levenstein, Am J Gastro 2000*

# Does psychotherapy help in IBD?

## Selection criteria

Randomized, quasi-randomized and non randomized controlled trials of psychological interventions in children or adults with IBD- with a follow up time of 2 months.

## Main results

21 studies were eligible for inclusion. *In adolescents, there were positive short term effects of psychotherapy on most outcomes assessed including quality of life and depression.*

**There is no evidence for efficacy of psychological therapy in adult patients with IBD in general.**



# Does psychotherapy help in IBD?

TABLE 2: Options for management of psychological disorders in patients with IBD.

Treatment	Study	Effectivity		
		Psychological problems	Course of IBD	Quality of life
Supportive-expressive and psychodynamic therapy	Keller et al. [80] and Wietersheim et al. [81]	Ineffective	Ineffective	Not reported
CBT or stress management	Boye et al. [45, 82], Sibaja et al. [83], Schwarz and Blanchard [84], Mussell et al. [85], Szigethy et al. [86]	Effective	Ineffective	Effective
	Garcia-Vega and Fernandez-Rodriguez [87], and Shaw and Ehrlich [88]	Effective	Effective	Not reported
IBD-focused counseling	Wahed et al. [89]	Effective	Effective	Not reported
Lifestyle modification program	Langhorst et al. [26, 90]	Effective	Not reported	Effective
Mind-body therapy	Elsenbruch et al. [91]	Effective	Not reported	Effective
Antidepressants	Mikocka-Walus et al. [7, 92]	Effective	Controversial	Not reported

CBT= cognitive behavioral therapy

# Sitzender Lebensstil



# Physical Activity: Interventional Studies in CD

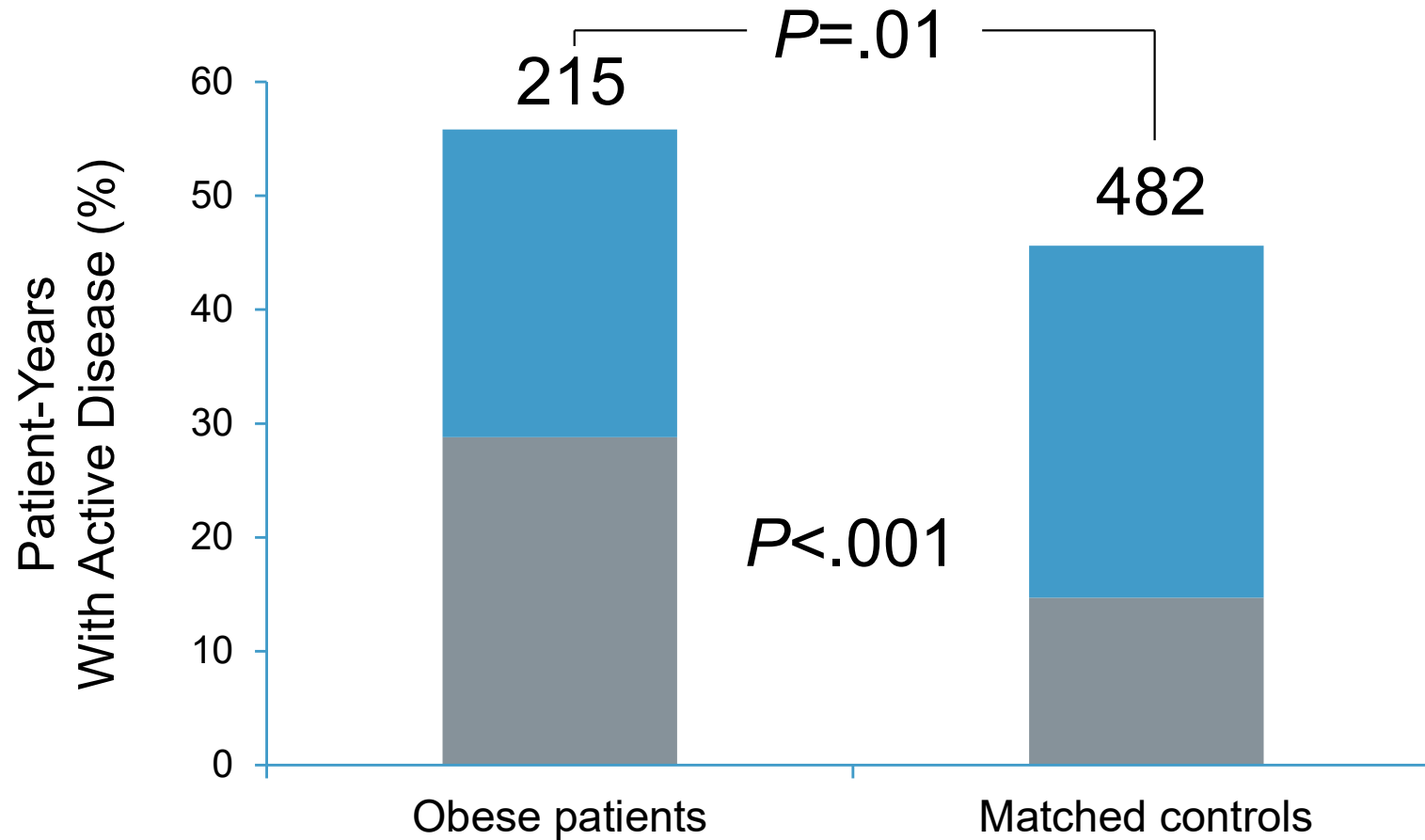
- 3-month intervention (low-intensity walking program)<sup>1,2</sup>
  - Decreased BMI
  - Psychological improvement
  - Improved quality of life
  - No detrimental effect on disease activity
- 12-month home-based low-impact exercise<sup>3</sup>
  - Trend for increased bone mineral density
  - No detrimental effect on disease activity

Loudon CP et al. *Am J Gastroenterol*. 1999;94:697-703.

Ng V et al. *Clin J Sport Med*. 2007;17:384-388.

Robinson RJ et al. *Gastroenterology*. 1998;115:36-41.

# Increased CD Activity in Obese Patients vs Controls





# High Altitude Journeys and Flights are Associated with the Increased Risk of Flares in IBD Patients



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Gerhard Rogler<sup>2</sup>, Sandra  
Maetzler<sup>2</sup>, Benjamin  
Misselwitz<sup>2</sup>, Christine  
Manser<sup>2</sup>, Kacper Wojtal<sup>2</sup>,  
Alain M. Schoepfer<sup>3</sup>

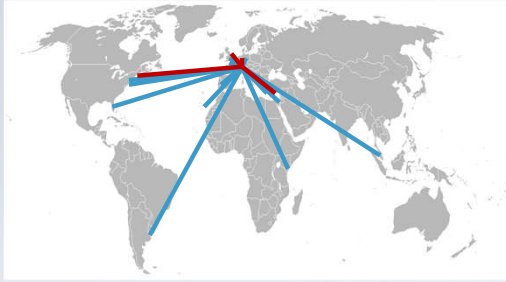
Municipal Hospital Triemli, Zurich<sup>1</sup>  
University Hospital Zurich<sup>2</sup>, University  
Hospital CHUV, Lausanne<sup>3</sup> Switzerland



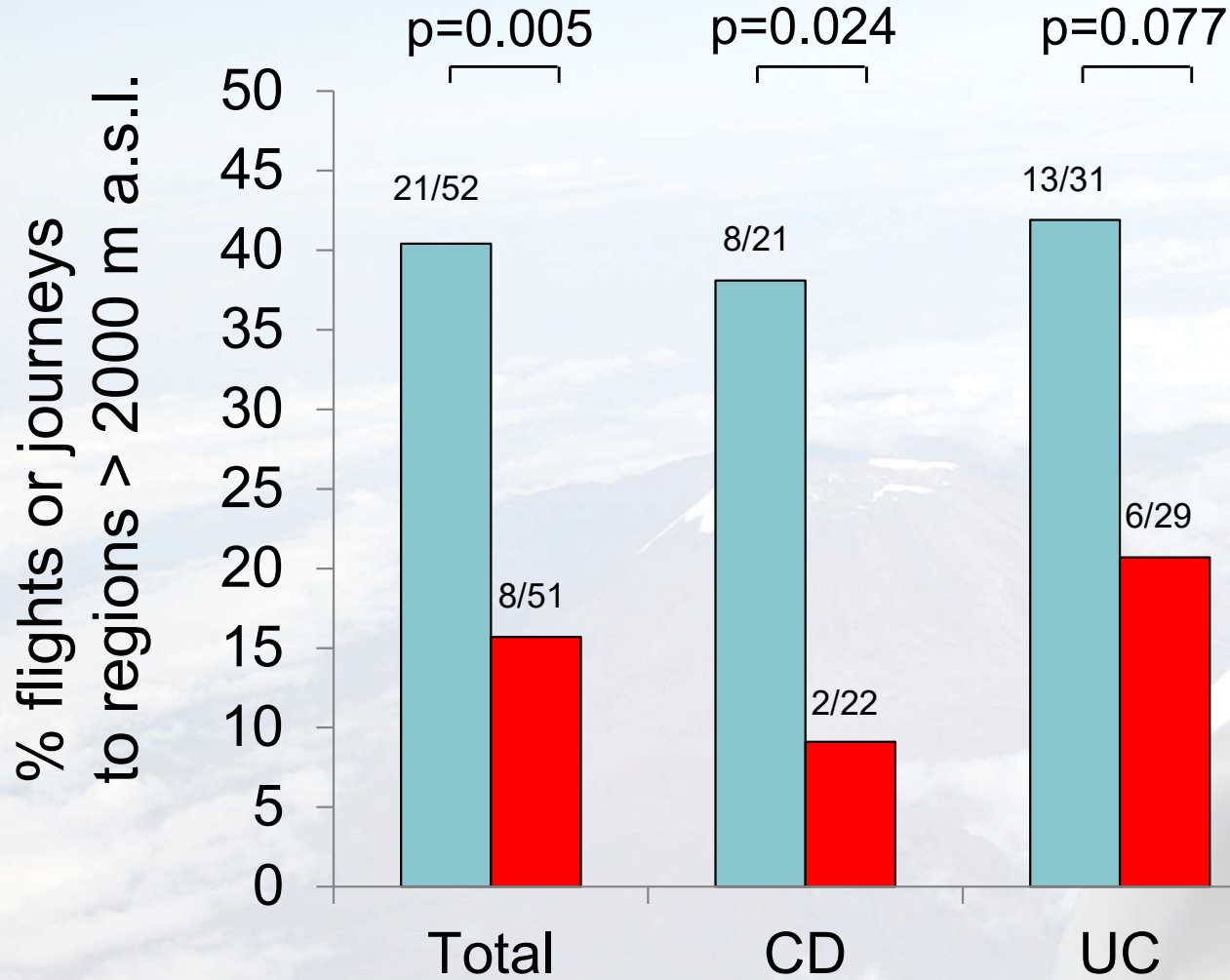
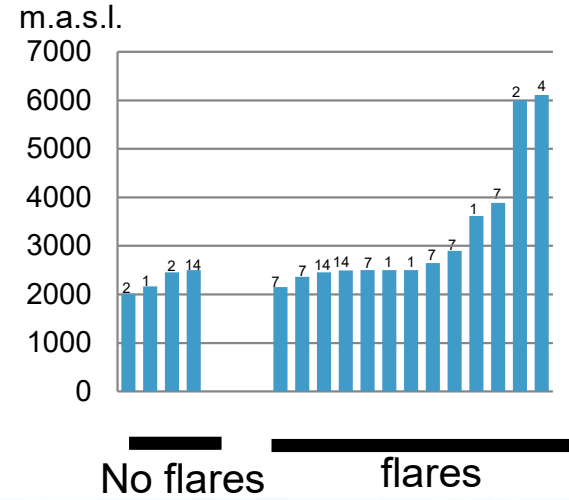
**Stadt Zürich**  
Stadtspital Triemli

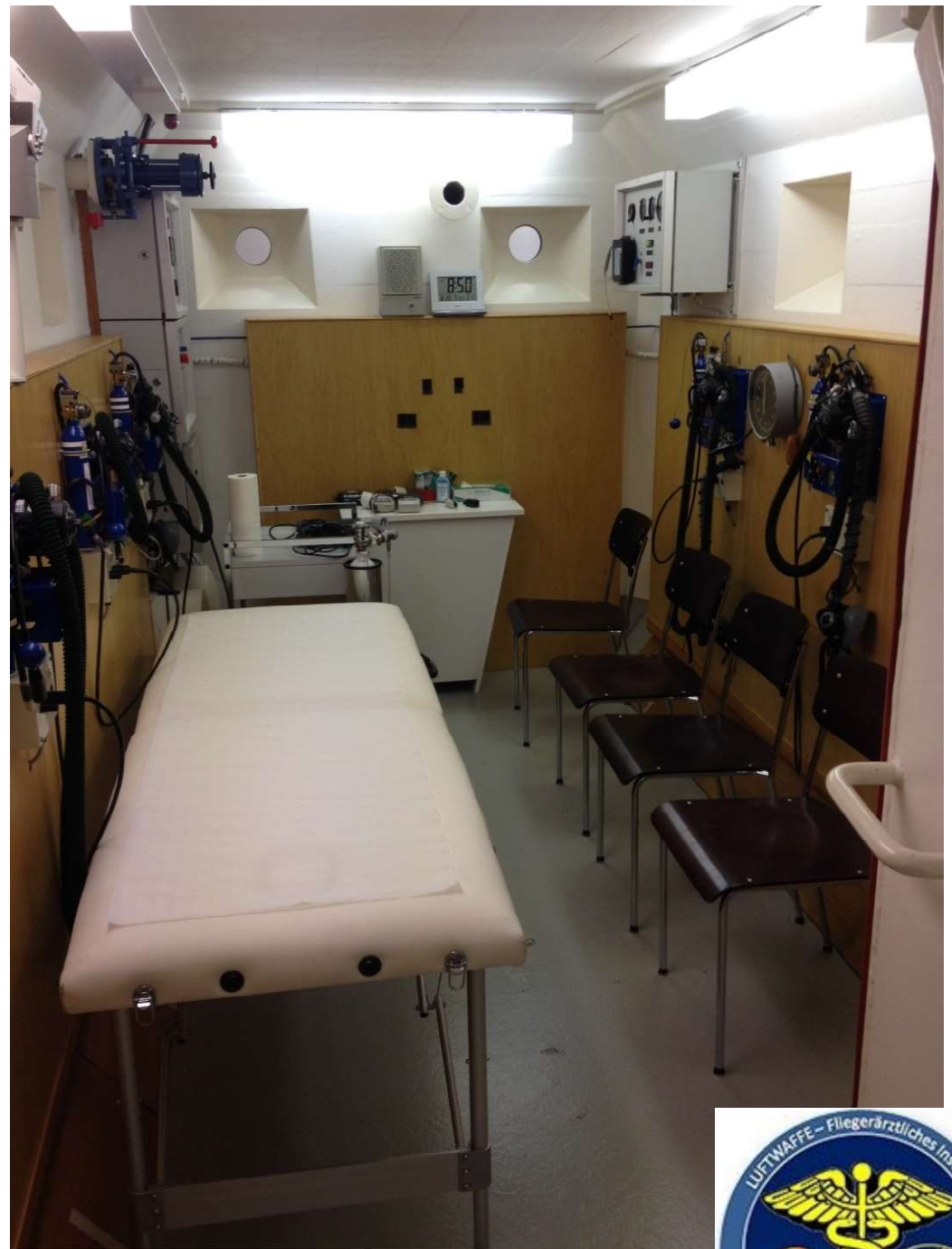


**UniversitätsSpital**  
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# Resultate





Fliegerärztliches Institut in Dübendorf, Schweiz



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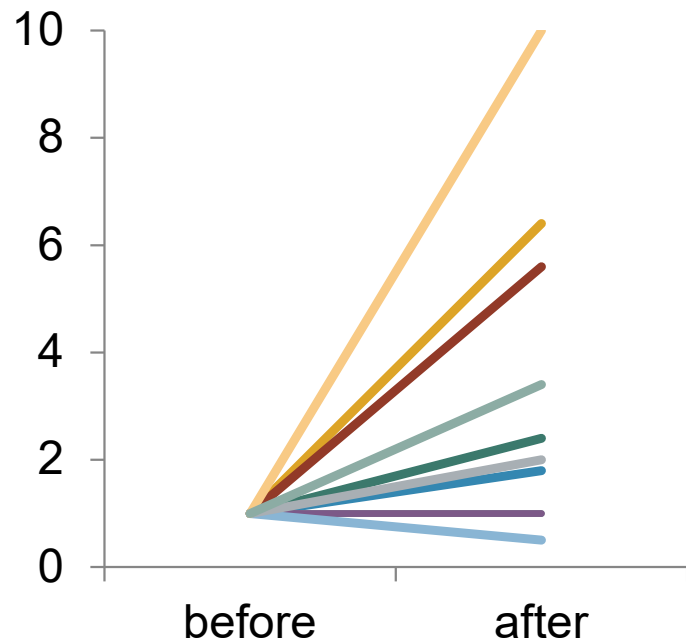
# Hypoxie Druckkammerexperiment

10 gesunde Probanden  
10 CD Patienten  
9 UC Patienten

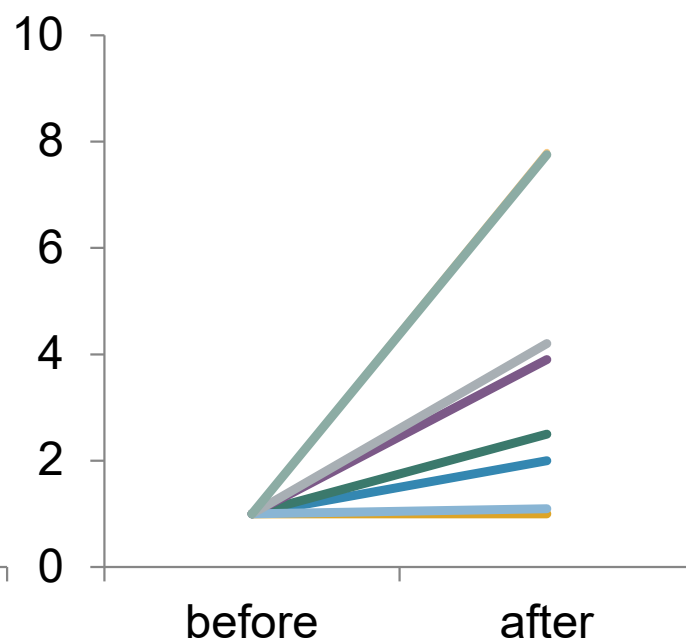


# Calprotectin x-facher Anstieg vor und nach der Durckckammer bei Gesunden, CD und UC Patienten

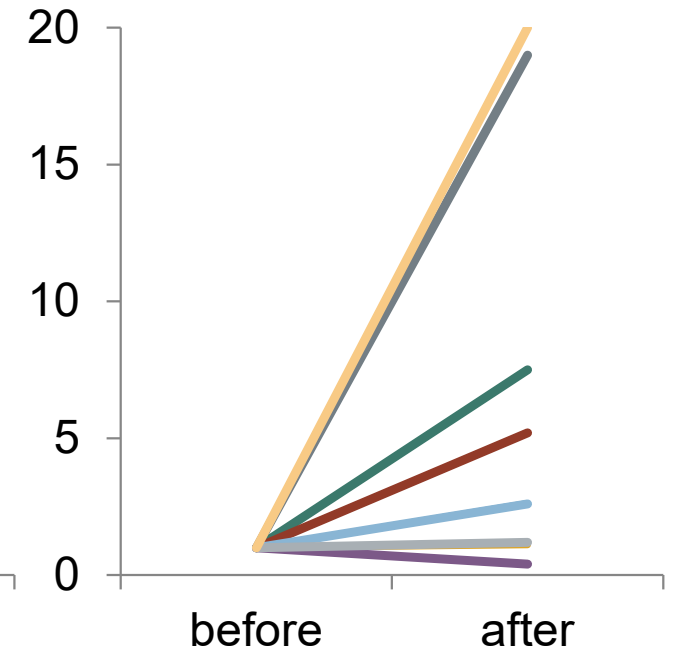
Gesunde



CD Patienten



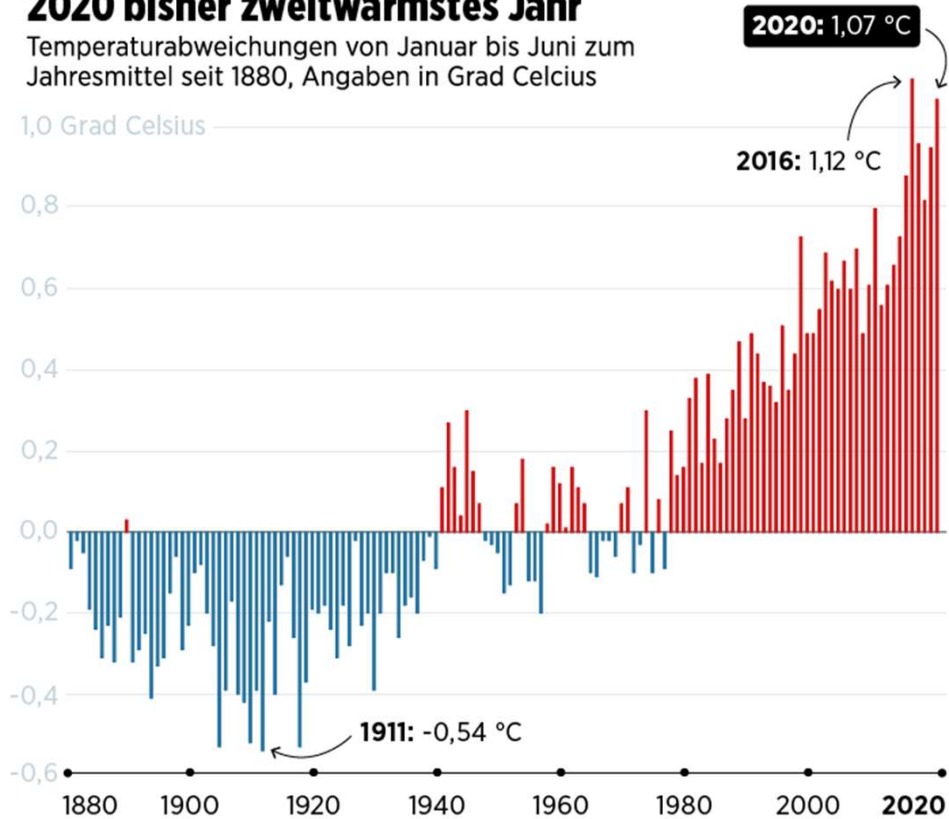
UC Patienten



# Klimawandel

## 2020 bisher zweitwärmstes Jahr

Temperaturabweichungen von Januar bis Juni zum Jahresmittel seit 1880, Angaben in Grad Celcius



info.BILD.de | Quelle: NOAA

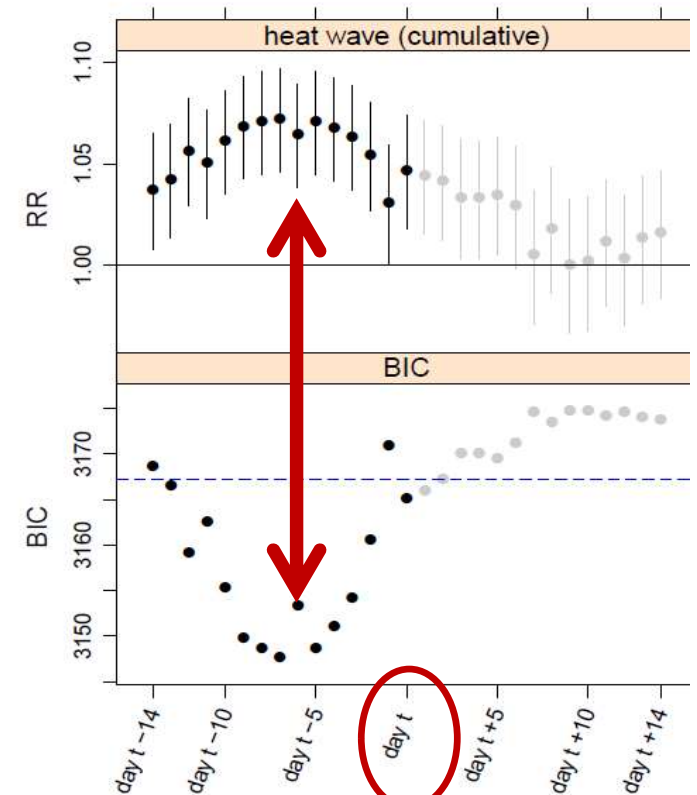
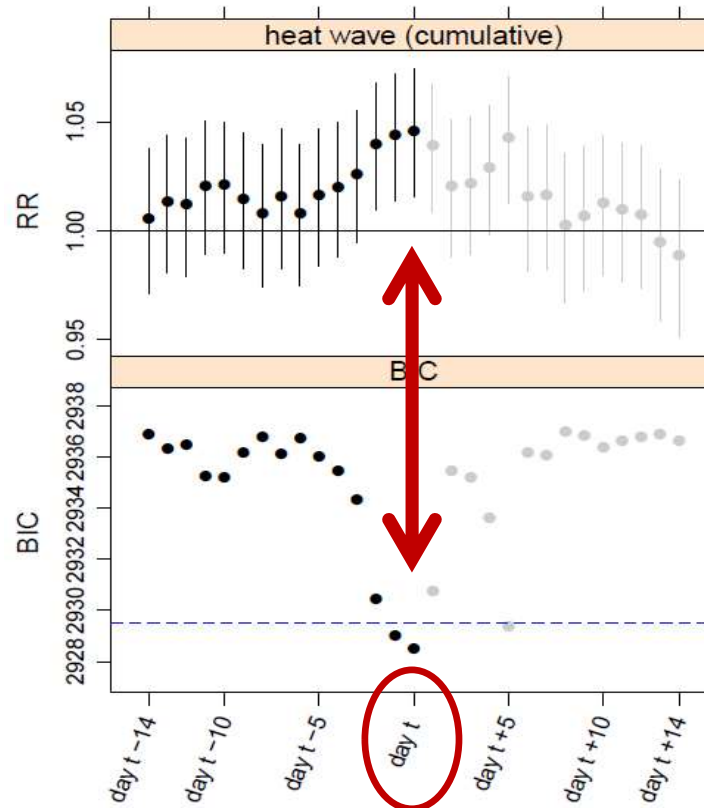


# Hitzewellen bedingen CED Schübe

	IBD			Infectious gastroenteritis		
	RR	95%-CI	p-value	RR	95%-CI	p-value
day-of-the-week	–	–	< 0.0001	–	–	< 0.0001
time trend (per year)	1.16	[1.12, 1.21]	< 0.0001	0.98	[0.93, 1.03]	0.33
Jahreszeit	–	–	0.81	–	–	0.059
Hitzewelle	1.26	[1.05, 1.50]	0.014	1.35	[1.07, 1.67]	0.011

**Hitzewellen  
steigern CED  
Schübe um 25%**

Manser et al.  
Am J Gastroenterol  
2013





A group of people, likely a military or police unit, are seated in an audience. They are wearing dark uniforms with visible insignia. Many of the individuals have their heads resting on their hands or are otherwise appearing to be asleep or resting. The text "Vielen Dank für Ihre Aufmerksamkeit" is overlaid in the center of the image.

**Vielen Dank für Ihre Aufmerksamkeit**