



2nd European Sport for All Congress, Barcelona, 2008-10-23/25

**Steps to fitness and health  
from physical activity guidelines  
towards an integrated concept of health promotion**



- (1) Guidelines for “Health Enhancing Physical Activity”:  
focus, aims, recommendations and evidence**
- (2) Guidelines for “Health sport”:  
focus, aims, recommendations and evidence**
- (3) A framework for an integrated concept of  
health promotion**

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## (1) Guidelines for health enhancing physical activities: focus, aims, recommendations and evidence

### Health Enhancing Physical Activity

- should be understood as any form of physical activity that benefits health and functional capacity without undue harm or risk;
- encompass normal and simple activities such as manual labor, gardening, walking, hiking, cycling, swimming, dancing, recreational sport.



**World Health organization (2007)**. Steps to health. A European Framework To Promote Physical Activity For Health. WHO Regional Office for Europe: Copenhagen.



## Guidelines for health enhancing physical activities

### Focus: Prevention of health risks, e.g. overweight and obesity

WHO 2007: Counteracting overweight & obesity is one of the priority areas of public health action

#### Children & Adolescents (3 - 18)

- about 9 % light overweight
- about 6 % heavy overweight (obese)

(Robert Koch Institute, 2006, KIGGS-Study)



#### Adults

BMI 25 – 30

BMI > 30

(obese)

Men

48%

19%

Women

31%

22%

BMI = weight in kg : height in m<sup>2</sup>  
Eurostat 2006

Overweight has a genetic background, but is primarily the result of an unbalanced lifestyle:

- a lack of physical activity and a lack of fitness
- a surplus of food intake

Overweight is often accompanied by other risks (metabolic syndrome)



## Guidelines for health enhancing physical activities

**Aim:** With an energy balance to a reduction/prevention of risk factors (especially of the metabolic syndrome)

### Recommendations for physical activity:

- Accumulate 800 – 1200 kcal/week with a moderate amount of physical activity on most, if not all, days of the week (e.g. 30 minutes of brisk walking, 15 minutes of running, 45 minutes of playing volleyball per day).
- If you are overweight, you should accumulate 1500 – 2000 kcal/week – that means about 45 – 60 minutes of daily activity.
- Children and young people should have at least 60 minutes physical activity a day with moderate-intensity



**American College of Sports Medicine (2006).** ACSM's Guidelines for Exercise Testing and Prescription (p. 6 – 7). Philadelphia etc: Lippincott Williams & Wilkins, 7th Ed.

**WHO (2007).** Steps to health. A European Framework to Promote Physical Activity for Health. Copenhagen: WHO-Europe



## Guidelines for health enhancing physical activities

Many campaigns are designed on the basis of these recommendations, for example:

### **"Germany becomes fit- each day 3000 steps extra"**

Campaign of the German Ministry for Health



Bundesministerium  
für Gesundheit



Idea:

- count your daily steps with a pedometer,
- add 3000 steps by integrating new activity elements in your daily life (e.g. step climbing walking)



<http://www.die-praevention.de/bewegung/steps/index.html>

The evidence of the possible preventive effects of the concept seems to be high – in the lab!

*Bravata, D.M., Smith-Sprangler, C., Sudaram, V., Gienger, A.L., Lin, N., Lewis, R., Stave, C.D., Olkin, I. & Sirad, J.R. (2007). Using pedometers to increase physical activity and improve health: a systematic review. The Journal of the American Medical Association, 298 (19), 2296-2304.*

But till today we don't have any evidence that people are able to integrate the additional activity elements in their daily life - preferably for years





## Guidelines for health enhancing physical activities

### Evidence of the recommendations

A large body of laboratory- and population based studies has shown that respective amounts of physical activity have beneficial effects like risk reductions between 20% to 50% in coronary heart disease and cardiovascular disease incidence rate.

*American College of Sports Medicine* (2006). ACSM´s Guidelines for Exercise Testing and Prescription (p. 6 – 7). Philadelphia etc: Lippincott Williams & Wilkins, 7th Ed.

*Oja, P. & Borms, J. (Eds.) (2004)*. Health enhancing physical activity. Oxford: Meyer & Meyer. (Oja, P.: Frequency, Duration, Intensity and total volume of physical activity as Determinants of health outcomes, pp. 169 - 207; Vuori, I. Physical inactivity as a disease risk and health benefits of increased physical activity, pp. 29-95)

- **But:** 70% - 99% of the adult population in Europe state, that they are already physically active for at least half an hour a day.
- **But:** If you ask for more or less structured activities (e.g. walking, cycling) **and** for a level of intensity accompanied with sweating the positive answers go down to less than 20%
- **But:** These qualities of physical activity are important for health effects!

*Rütten, A., Abu-Omar, K., Lampert, L. & Ziese, T.* (2005). Körperliche Aktivität. In: Gesundheitsberichterstattung des Bundes, Heft 26, Berlin: Robert-Koch Institut.

*Woll, A., Tittlbach, S. & Bös, K.* (2006). Aktivität und Gesundheit im Erwachsenenalter. In: K. Bös. & W. Brehm (Hrsg.) Handbuch Gesundheitssport. Schorndorf: Hofmann Verlag, 2. Aufl., S. 129 – 145.



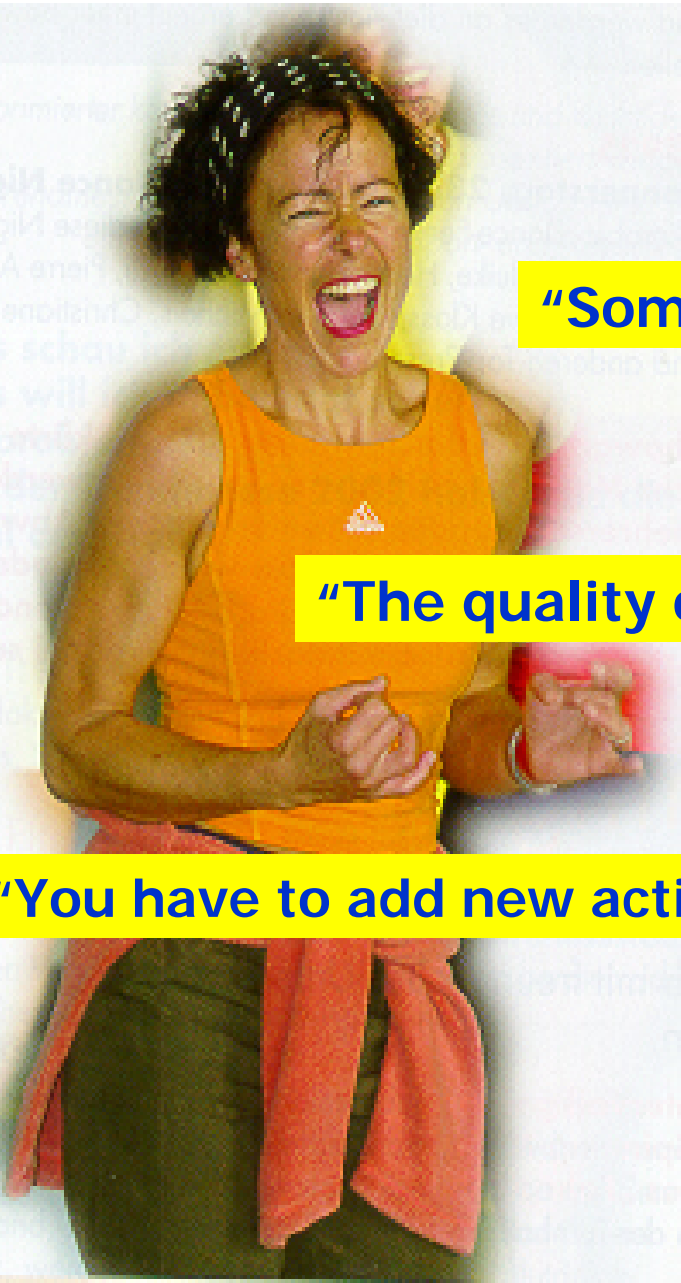
## Guidelines for health enhancing physical activities

**For enhancing health:**

**"Some activity is better than none activity!"**

**"The quality of the activity makes a big difference!"**

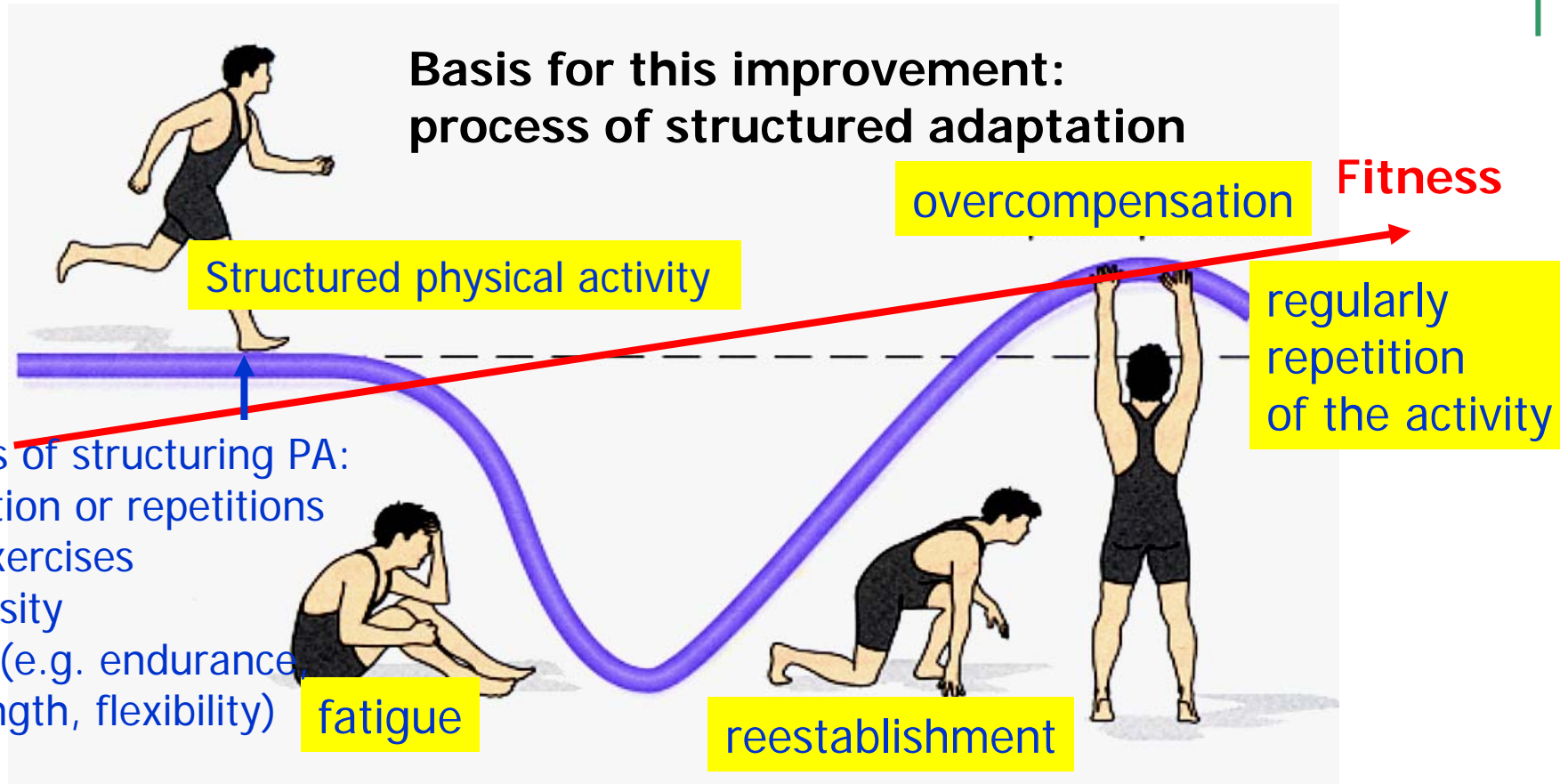
**"You have to add new activity behavior elements in your life style!"**





## Guidelines for health enhancing physical activities

**Focus: Improvement of fitness (endurance, strength, flexibility, coordination, relaxation)**







## Guidelines for health enhancing physical activities

**Aim:** With an overall improvement of fitness and an energy balance to a reduction/prevention of risk factors.



### Recommendations for physical activity

(1) Accumulate at least 800 kcal/week with structured physical activities and sports (in 2 – 5 units). Stimulate all relevant fitness factors (endurance, strength, flexibility, coordination, relaxation).

(2) Accumulate additionally 600 kcal/day with “everyday physical activities” like standing & walking, stair-climbing, household, gardening, shopping.



*American College of Sports Medicine* (2006). ACSM’s Guidelines for Exercise Testing and Prescription (p. 133 - 163). Philadelphia etc: Lippincott Williams & Wilkins, 7th Ed.

*Bös, K. & Brehm, W.* (ed.) (2006) Gesundheitssport. Hofmann Verlag: Schorndorf

*Oja, P. & Borms, J.* (ed.). Health Enhancing Physical Activity. Meyer & Meyer Verlag: Adelaide



## Guidelines for health enhancing physical activities

### Evidence of the recommendations

Population based studies and some longitudinal studies show evidence

- for an improvement of the quality of life (better fitness, less complaints, better emotional status);
- for preventive effects (reduction of risk factors of the metabolic syndrome).

*Brehm, W., Janke, A., Sygusch, R. & Wagner, P.* (2005). *Gesund durch Gesundheitssport. Zielgruppenorientierte Konzeption, Durchführung und Evaluation von Gesundheitssportprogrammen.* Weinheim und München: Juventa Verlag.

*Oja, P. & Borms, J.* (Eds.) (2004). *Health enhancing physical activity.* Oxford: Meyer & Meyer.

*Abu-Omar, K. & Rütten, A.* (2006). Sport oder körperliche Aktivität im Alltag. Zur Evidenzbasierung von Bewegung und Gesundheitsförderung. *Bundesgesundheitsblatt* 11, 1162 – 1168.

- **But:** Less than 50% of the adult population in Europe accumulate 600 kcal/day of every day physical activity.
- **But:** Only 10% - 20% of the adult population in Europe accumulate 800 kcal/week or more with structured physical activity and sport.
- **But:** The amount of unstructured and structured activity decrease with age.

*Rütten, A., Abu-Omar, K., Lampert, L. & Ziese, T.* (2005). Körperliche Aktivität. In: *Gesundheitsberichterstattung des Bundes, Heft 26*, Berlin: Robert-Koch Institut.

*Woll, A., Tittlbach, S. & Bös, K.* (2006). Aktivität und Gesundheit im Erwachsenenalter. In: K. Bös. & W. Brehm (Hrsg.) *Handbuch Gesundheitssport* (S. 129 – 145). Schorndorf: Hofmann Verlag, 2. Aufl.,



## Guidelines for health enhancing physical activities: focus, aims, recommendations and evidence

### Some conclusions

The guidelines for health enhancing physical activities focus on the improvement of the physical resource fitness and the prevention of risk factors (e.g. metabolic syndrome);

The guidelines for health enhancing physical activities have

- a quantitative perspective: Burn more calories!
- a qualitative perspective: Improve your fitness with exercise! (structured physical activities)

The guidelines for health enhancing physical activities are insufficient with respect to four aspects:

- the psychological and social health resources;
- the process from an inactive to an active lifestyle;
- the settings for health enhancing physical activities;
- the special needs of "sedentary persons".



## (2) Guidelines for health sport: focus, aims, recommendations and evidence

### „Health Sport“ is a subset of physical activity

- with aims based on the idea of health promotion (WHO),
- with carefully planned and structured programs,
- with quality management,
- for persons with a sedentary lifestyle and connected risks/health problems.

**Focus:** Health promotion on the basis of the New Public Health Paradigm, especially for sedentary people.



Health and behavior effects by

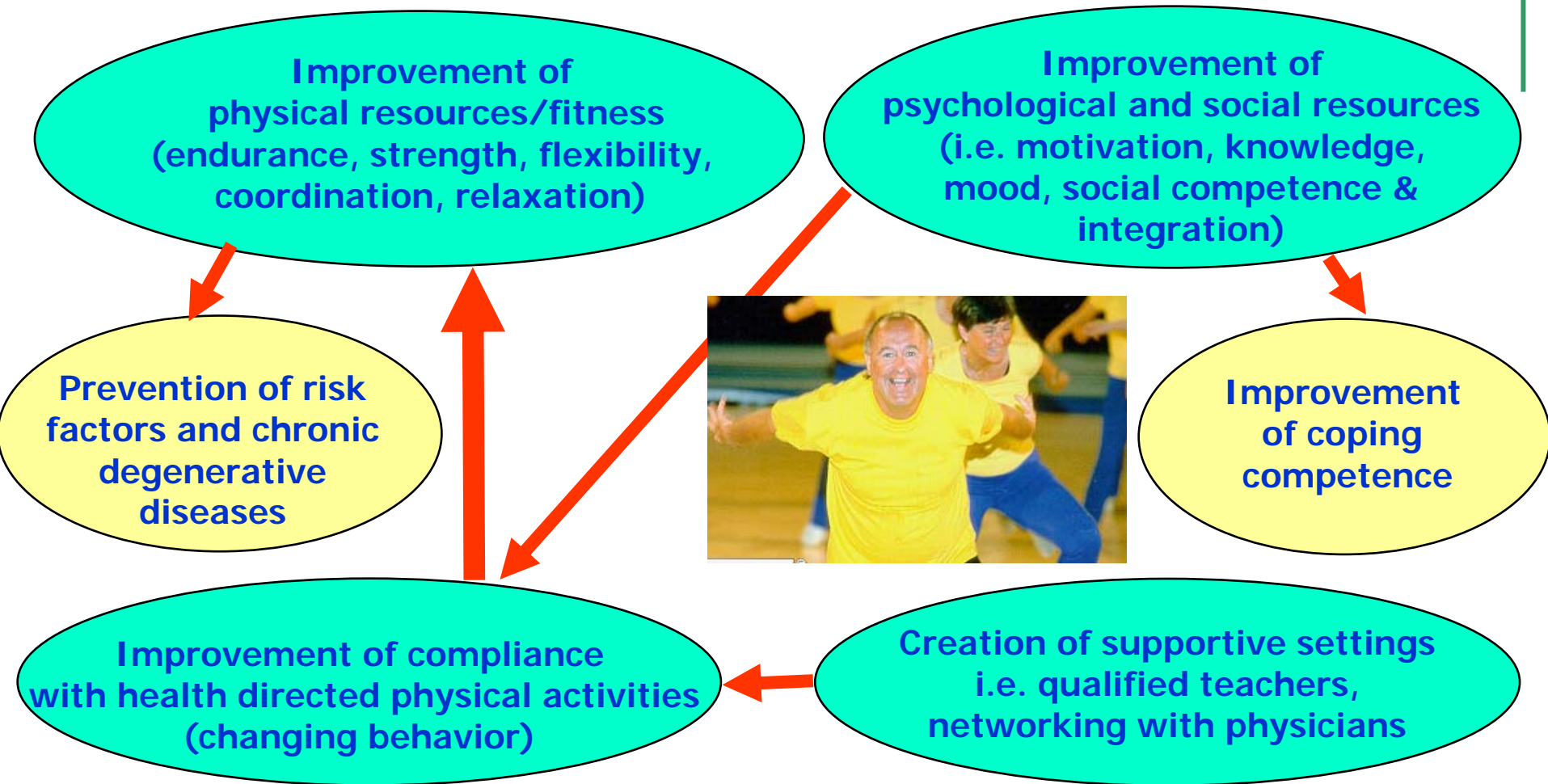
- Empowerment: Improving health resources.
- Prevention: Avoidance and reduction of risk factors.
- Coping-Competence: Avoidance and reduction of complaints.
- Setting-Orientation: Creation and integration.

*Brehm, W., Wagner, P., Sygusch, R., Hahn, U. & Janke, A* (2005). Health Promotion by means of Health Sport. A framework and a controlled intervention study with sedentary adults. *Scandinavian Journal of Medicine and Science in Sports*. 15(1):13-20.



## Guidelines for health sport

# Aims of health sport & relationships of the aims





## Guidelines for health sport

In Germany these “Aims of health sport“ are accepted as a quality standard by:

- German Sport Federation (DOSB), since 1998;
- German Gymnastic Federation (DTB), since 2000;
- German Federation of the health insurance companies, since 2003.





## Guidelines for health sport

### Recommendations for individuals (sedentary adults):

- Join a health sport program in a qualified setting (e.g. sport-club) for at least one session (90 minutes) a week.
- Stimulate additionally all fitness-factors and be physical active in everyday life where ever possible.
- Test/examine your health- and fitness-condition regularly .





## Guidelines for health sport

### Recommendations for settings (e.g. sport-clubs, health-institutions)

- Build up networks to reach the target groups of sedentary adults and of individuals with specific risks (e.g. with medical doctors and health insurance companies).
- Establish the health sport programs of relevant sport-federations and health-institutions in your setting.
- Build up in addition long-term offers and groups.
- Qualify the instructors.







## Guidelines for health sport



# Recommendations for Sport-Federations and Health-Institutions (e.g. health insurance companies, universities)

- Communicate the aims of health sport as a quality-standard.
- Develop a qualifying system for the instructors in the field of health sport.
- Develop and communicate health sport programs with a high evidence.
- Publish these programs as manuals for the instructors.



**Brehm, W.** (2006). Gesundheitssport – Kernziele, Programme, Evidenzen. In: Kirch, W. & Badura, B. (Hrsg.). *Prävention*. Springer Medizin Verlag: Heidelberg. (243 – 265)

**Hartmann, H., Opper, E. & Sudermann, A.** (2005). Qualitätsmanagement von Gesundheitssport im erein. Schorndorf: Hofmann.



# A high quality of health sport programs can be guaranteed by an examination of the...

## ...evidence of the program (income evidence):

- Standard of the definition of aims.
- Standard of the structure and contents of the exercise sessions.
- Standard of the long term program concept.
- Consideration of the demands of special target groups.

## ...evidence of the effects (outcome evidence):

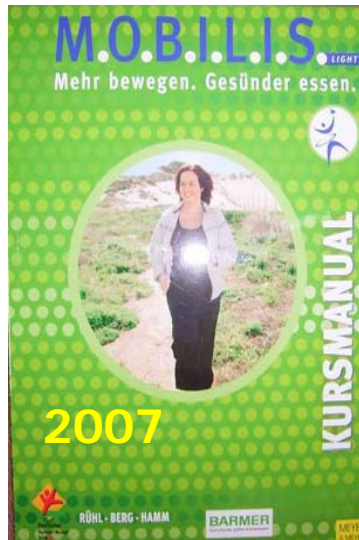
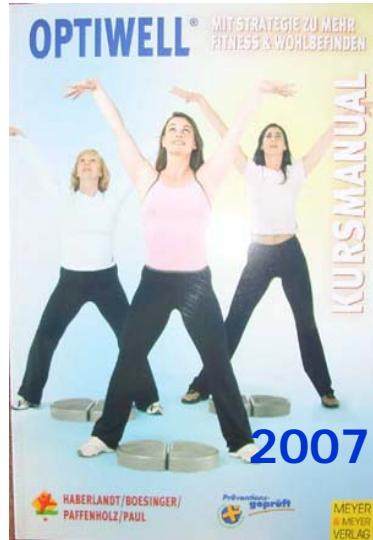
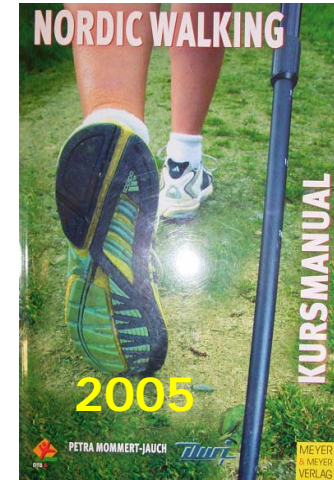
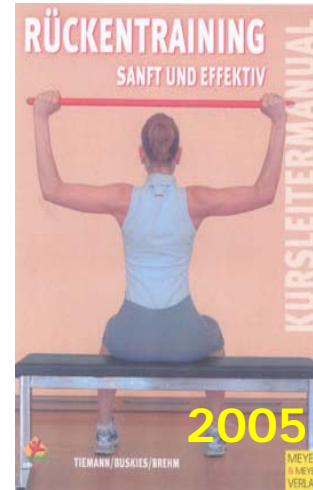
- Evaluation of the health sport program.
- Methodological standard of the study.  
(Levels 5: Expert opinion, Level 4: Case Series; Level 3: Field Study, Level 2: Controlled Study, Level 1: Systematic Review)

*Badura, B. & Strodtholz, P. (2003). Qualitätsforschung und Evaluation im Gesundheitswesen. In: Schwarz F.W., Badura, B. u.a. (Hrsg.). Public Health. München: Urban & Fischer, 2. Aufl., 714 - 724*  
*Oxford Center for Evidence Based Medicine: [www.cebm.net](http://www.cebm.net)*



## Guidelines for health sport

The German Gymnastic Federation has published and is communicating 10 health sport programs of high quality



More in detail: Pia Pauly, Iris Pahmeier & Michael Tiemann within this conference



## Guidelines for health sport

# (Outcome) Evidence of these Health Sport Programs

**Till now several longitudinal evaluation studies were conducted,**

- with the evidence levels 3 (field study) and 2 (controlled study);
- with a duration between three months and three years;
- measuring direct effects of the health sport programs (behavior, health status) and the stability of these effects.

**The global good news of these studies are,** that health sport programs focusing the target group “sedentary adults” have

- preventive effects (e.g. a reduction of risk factors of the metabolic syndrome);
- an improvement of the quality of life (e.g. better fitness, less complaints, better emotional status);
- a high chance for a stable behavior change towards more physical activity (After three years 75% of the initial participants are still regular active !)

*Brehm, W., Janke, A., Sygusch, R. & Wagner, P.* (2005). Gesund durch Gesundheitssport. Zielgruppenorientierte Konzeption, Durchführung und Evaluation von Gesundheitssportprogrammen. Weinheim und München:Juventa Verlag

*Wagner, P., Brehm, W. & Sygusch, R.* (2004) The Seven-Sequence-Intervention – Sedentary adults on their way to fitness and health. Research in Sports Medicine. 12, 265 – 282.



## It could be shown that these effects necessitate

- a high quality of the program structure and the exercises (income-evidence of the health sport program);
- a good fit between program and target-group;
- a systematic training of the instructors;
- high competence and a satisfying equipment in the setting (e.g. sport club or fitness club).

## Stable behavioral effects are promoted by

- improving the psychological and social resources especially in the first six months (e.g. mood enhancing, group integration, knowledge);
- an unproblematic transition from the “starting program” in another more permanent one (with a stable social group).





# (3) A framework for an integrated concept for health promotion

## Stages of change in the modification of sedentary behavior

In an effective health promotion concept for sedentary persons the focus on behavior is the precondition for health

in the modification  
,  
ore Press.  
Determinants,

**Physical Activity**

**Stabilization**  
perform „physical activity“ regular (more than 2 hours per week)

**Exploration**  
perform the new behavior „physical activity“

**Preparation**  
of changing the behavior to „physical activity“

**Inactivity**

**Contemplation**  
of „physical activity“



**behavior-effects**

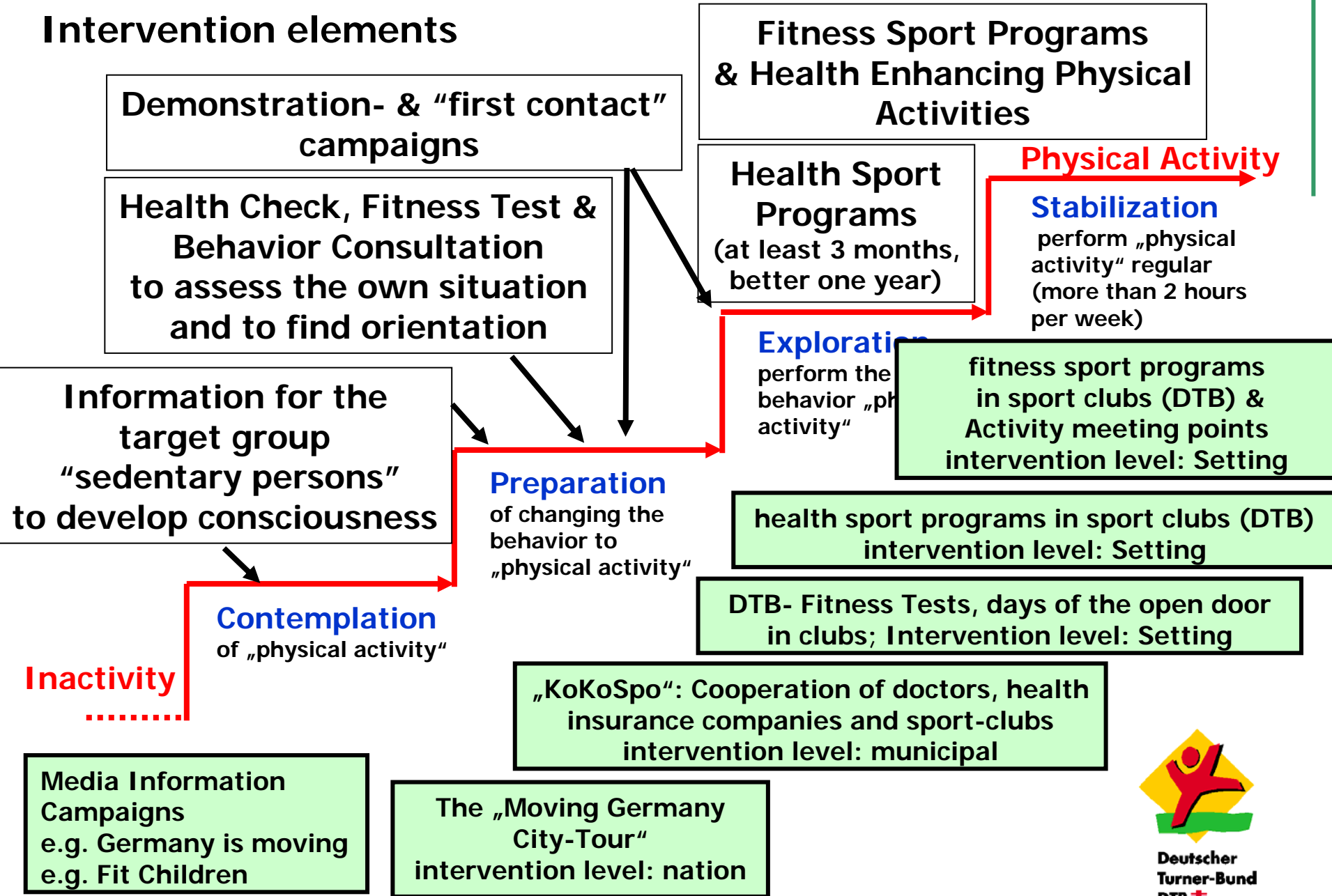
**health-effects**





## A framework for an integrated concept for health promotion

### Intervention elements





You can hear more about the health promotion concept of the German Gymnastics Federation (DTB) in track 1 (health enhancing sport programs, projects and campaigns):

Pia Pauly: Concepts of intervention and quality initiatives of the German Gymnastics Federation in the field of health sport

Iris Pahmeier & Michael Tiemann: Quality securing of health sport programs in the DTB.



**To end up with a final recommendation:  
become fit like a Leo**



