[Updates] in the management of COPD and Asthma

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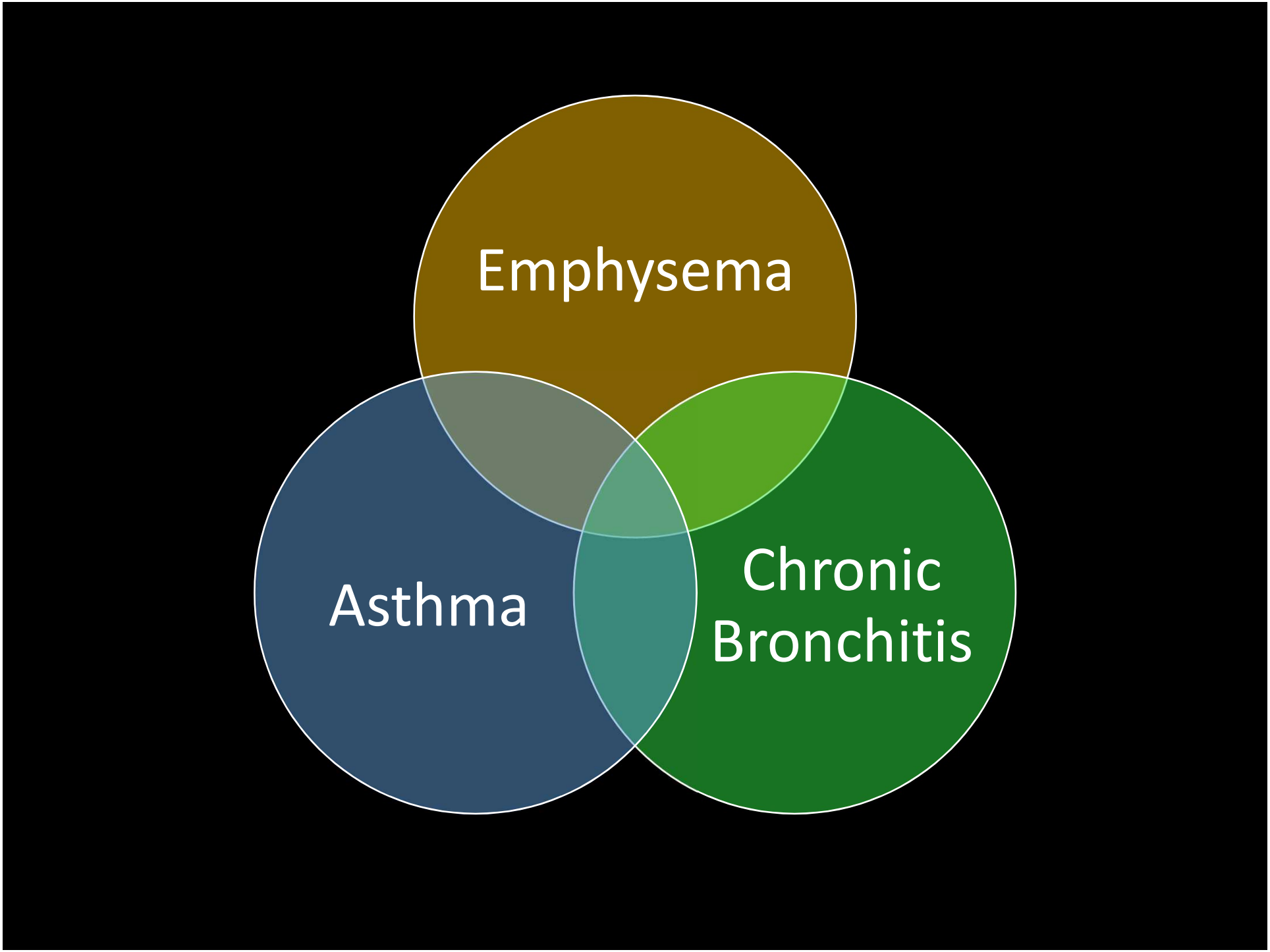
Disclaimer


Emphysema
Asthma
Chronic
Bronchitis

Significant extrapulmonary effects

Background

- Chronic obstructive pulmonary disease is a preventable and treatable disease.
- Pulmonary component is characterized by airflow limitation that is not fully reversible. The airflow limitation is usually both progressive and associated with abnormal inflammatory response of the lungs to noxious particles or gases.
- Some **significant extrapulmonary effects that may contribute to the severity in individual patients**.

251 million cases in 2016

3.17 million deaths globally in 2015

90% in low and middle income countries

Global Burden of Diseases Study 2015

4.7% of global DALY's

Two-thirds of these due to COPD

$32 billion in direct costs

$20 billion in indirect costs

Guarasci et al 2013

Can we address this burden?

Pulmonary Rehabilitation

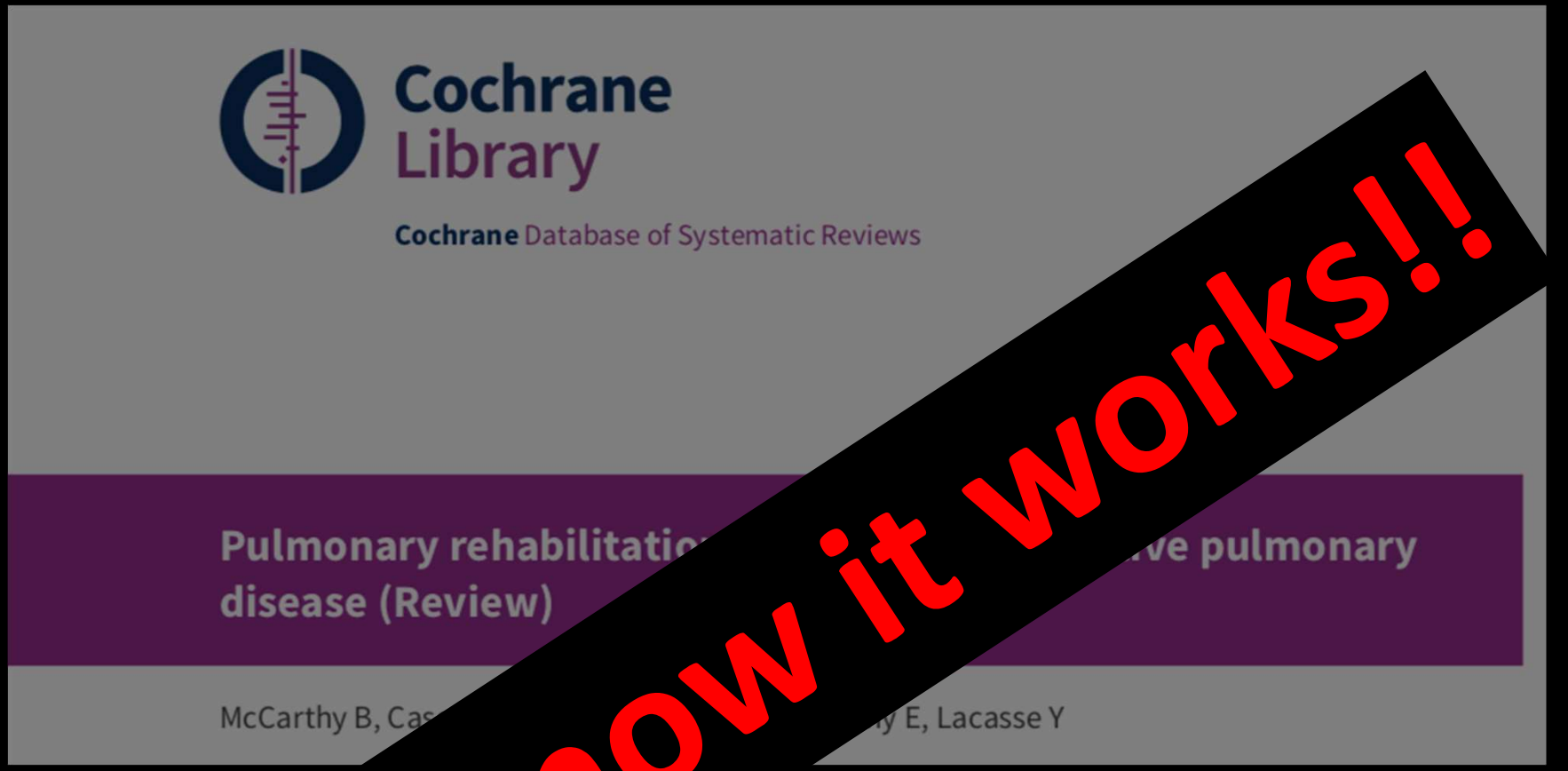
Comprehensive

Patient tailored

Exercise, education, behavior change

Promote health enhancing behaviour

Spruit et al 2013



We know it works!!

Benefi ing health-related quality of life capacity

No fu er RCTs are warranted

More cost effective than drugs!

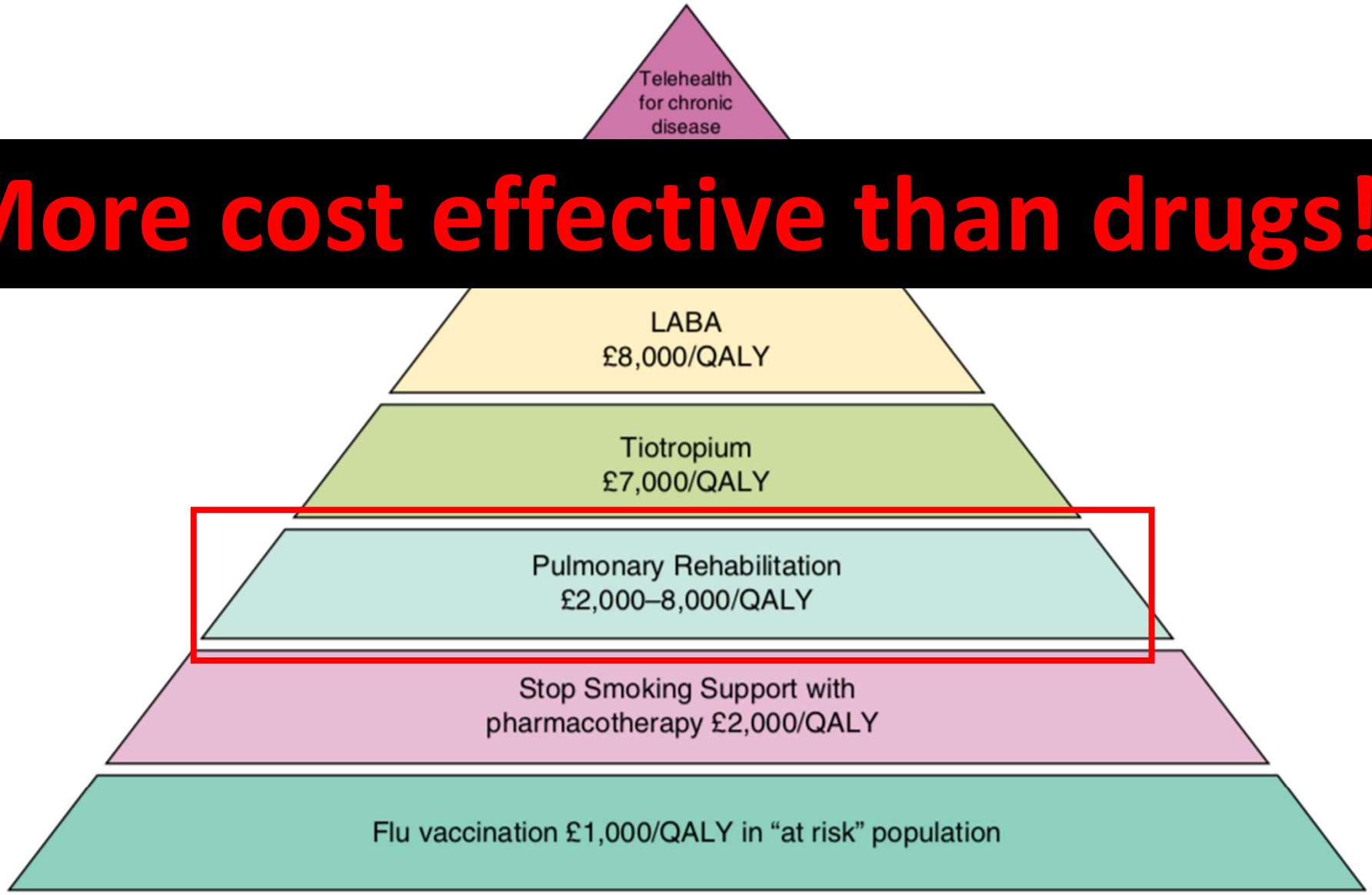
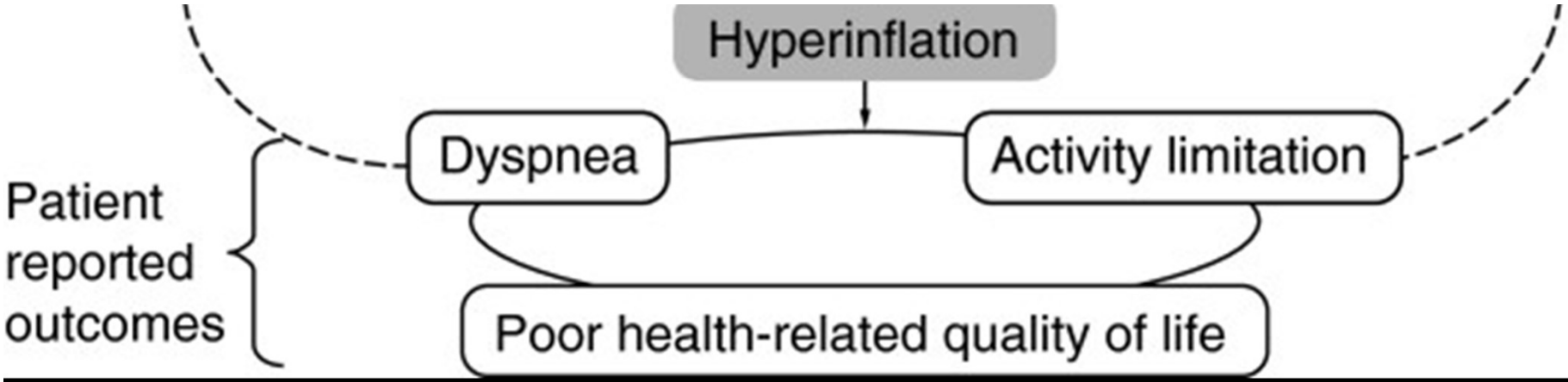


Figure 1. Cost-effectiveness of pulmonary rehabilitation relative to other treatments for chronic obstructive pulmonary disease. Reprinted from Reference 96. *Cost per quality-adjusted life year (QALY). LABA = long-acting β-agonist.

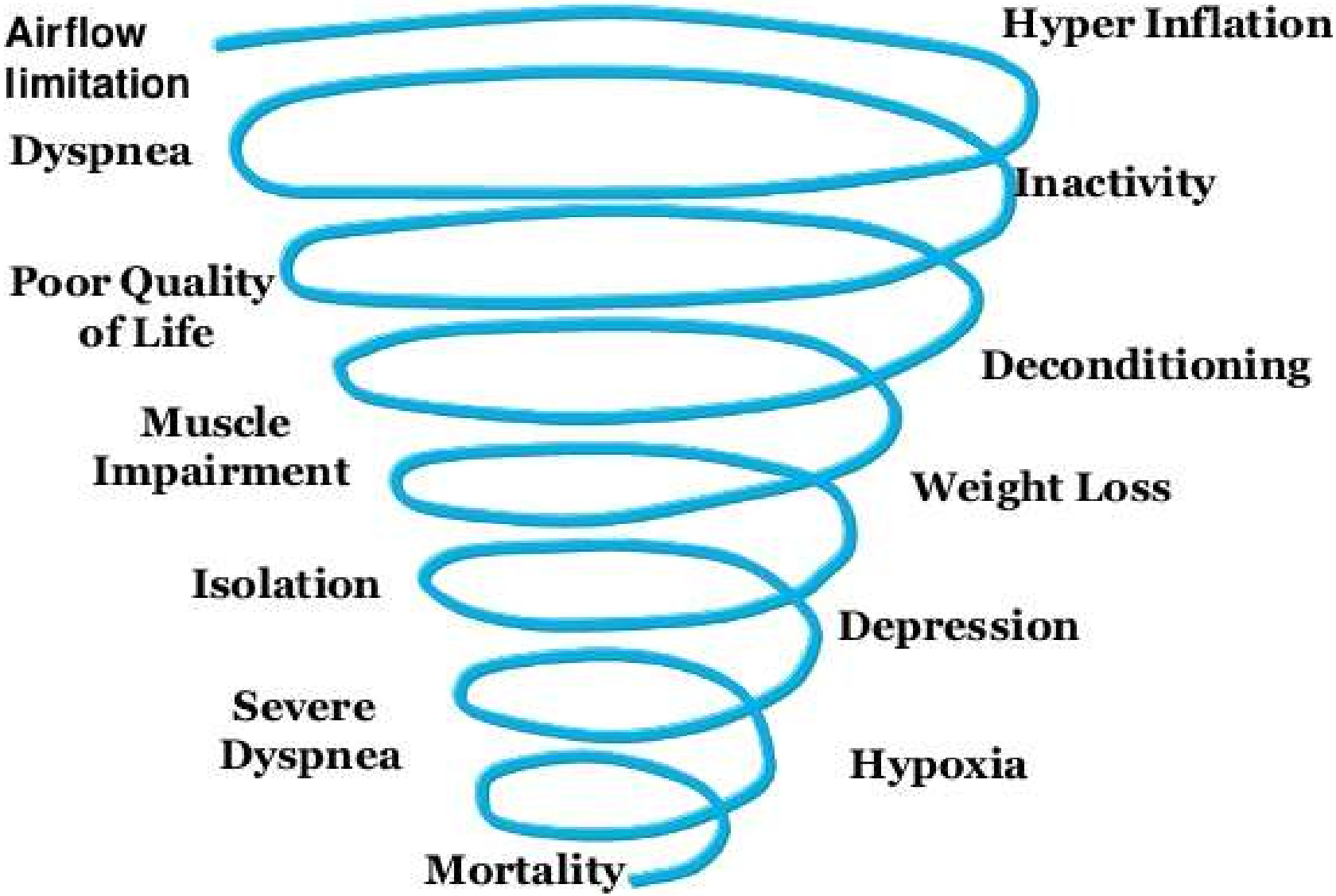
Zoumot Z, Jordan S, Hopkinson N (2014)

Why do patients need pulmonary rehabilitation?

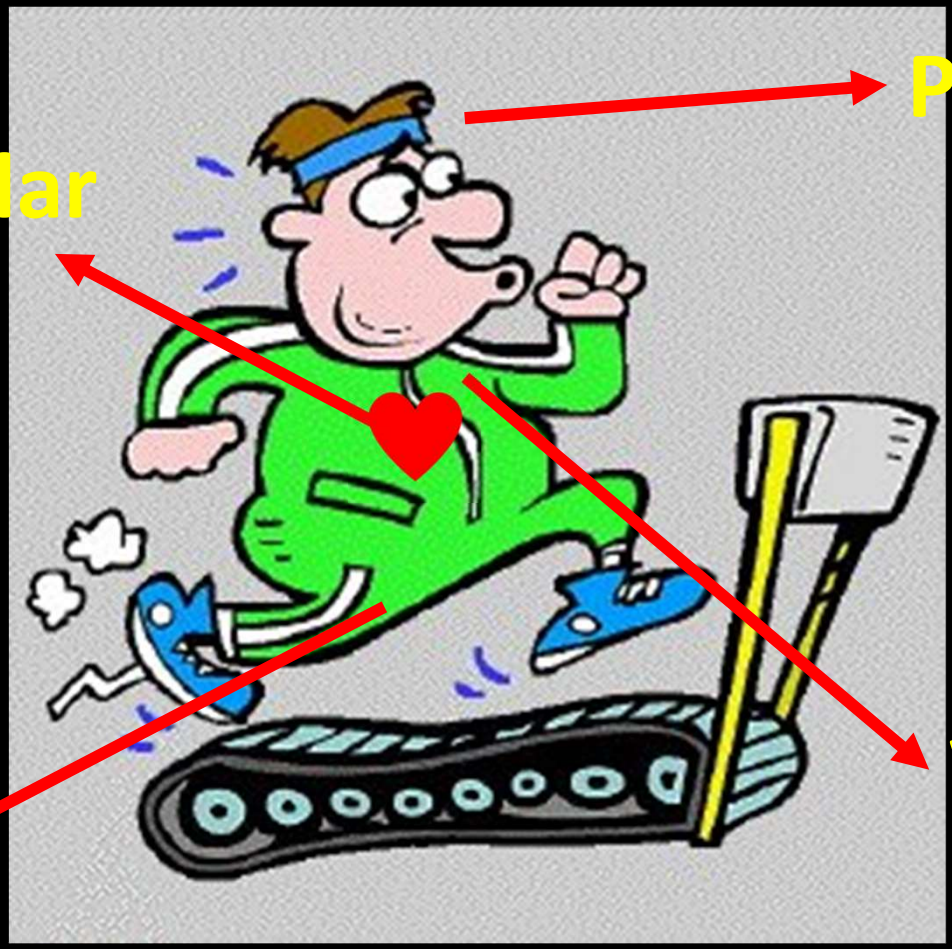


Troosters et al 2013

" The Downward Spiral "



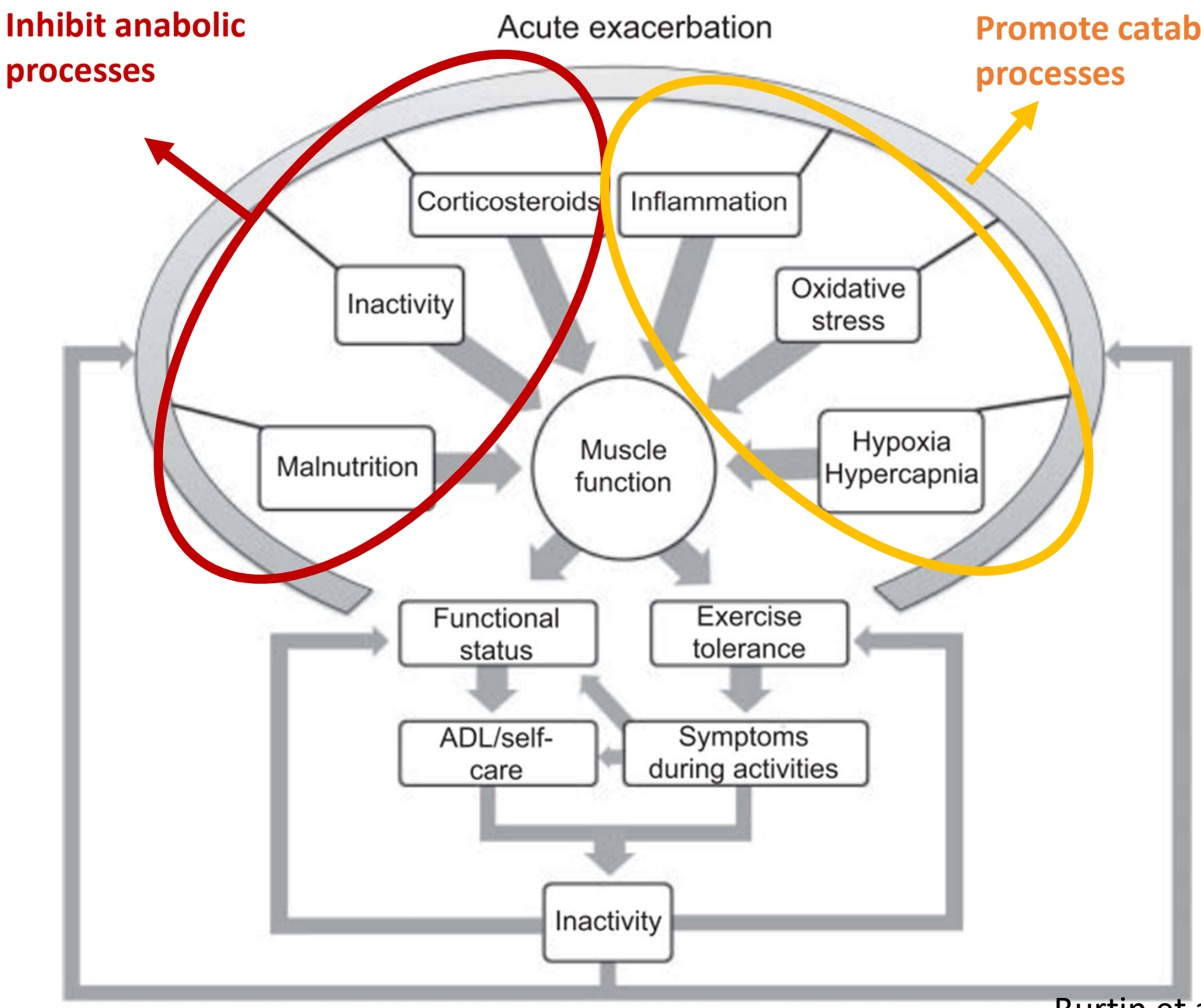
Factors affecting exercise tolerance


Psychogenic
Cardiovascular
Ventilatory
Muscular

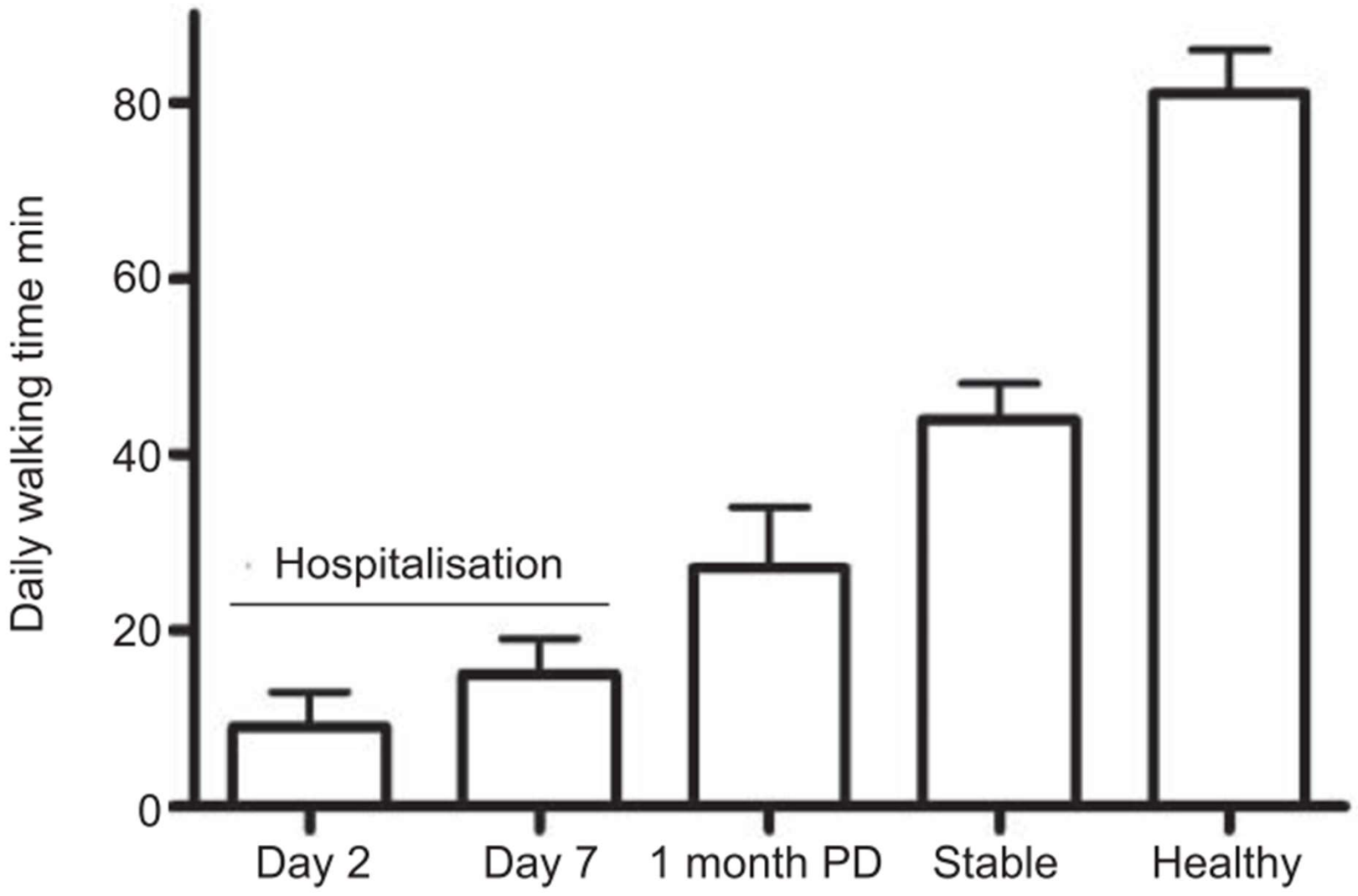
Person

Disease

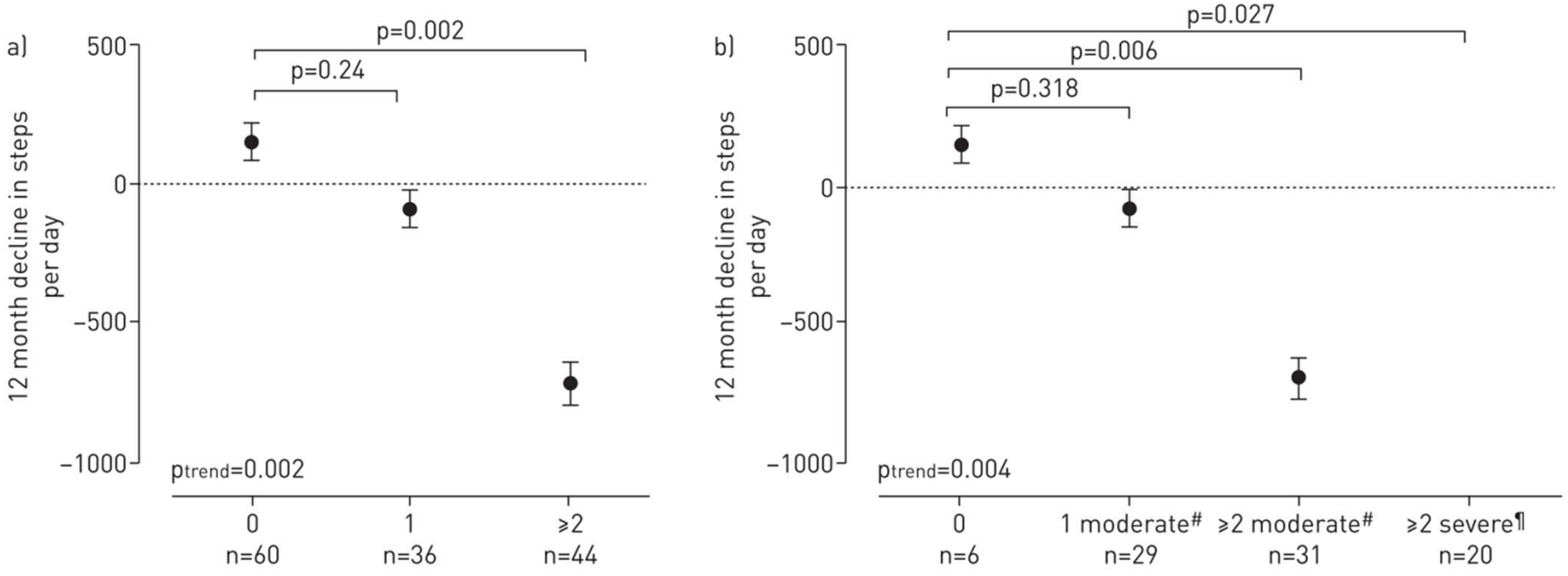
What about in AECOPD?



Burtin et al 2011

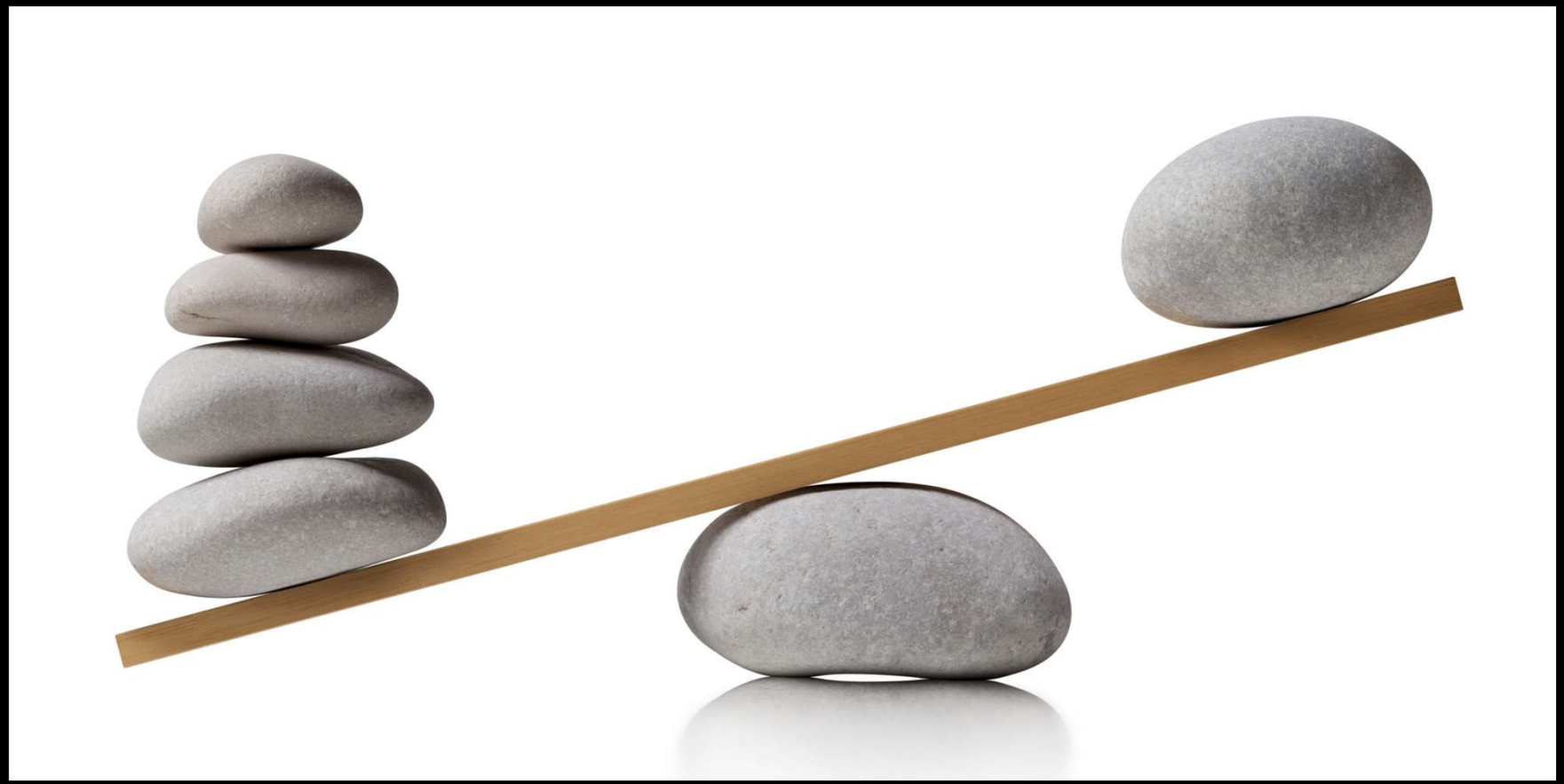


Pitta et al 2006



Exacerbations during 12 month follow up

Demeyer et al 2017



Resistance Training Prevents Deterioration in Quadriceps Muscle Function During Acute Exacerbations of Chronic Obstructive Pulmonary Disease

Thierry Troosters[1,2]*, Vanessa Suziane Probst[3]*, Tim Crul[1], Fabio Pitta[4], Ghislaine Gayan-Ramirez[1], Marc Decramer[1,2], and Rik Gosselink[1,2]

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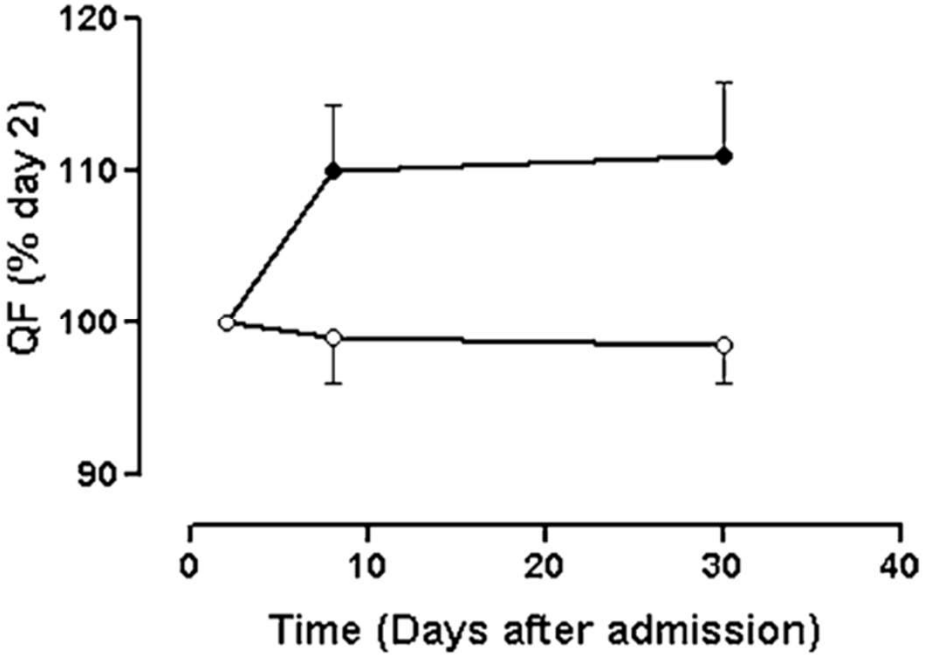
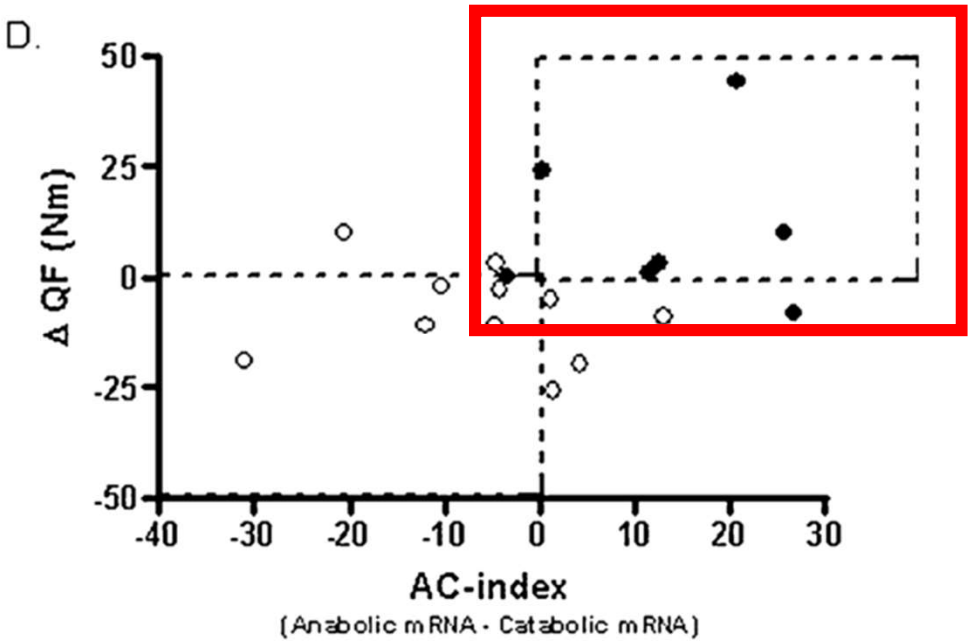


Troosters et al 2010



Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary disease (Review)

Puhan MA, Gimeno-Santos E, Scharplatz M, Troosters T, Walters EH, Steurer J

Highly effective

Safe

Reduces hospital readmissions

Reduces mortality

Improves quality of life

Pulmonary Rehabilitation

Patient

Family

GP

Specialist

Physiotherapist

Occupational therapist

Dietician

Social worker

Psychologist

Nurse

In South Africa…

Table II. Goals of management of COPD

1. Recognition of disease (early diagnosis and staging of severity)
2. Prevention of disease progression (including smoking cessation)
3. Alleviation of breathlessness and improvement in effort tolerance (treatment of airflow obstruction)
4. Pulmonary rehabilitation and education (improving quality of life)
5. Prevention and treatment of exacerbations
6. Prevention and treatment of complications
7. Reduction in mortality

SAMJ 2011

In South Africa…

Poor uptake and implementation

Resources

Awareness

Considerations

Access

Environmental factors

Culture

Education

Mr Bean

76 years old

Gold Stage 4

Frequent exacerbations

Multiple co-morbidities

Required a carer to assist with ADL’s

R2000 / month

His goal:

Walk to the corner shop to buy a paper

Lung function

	0 Weeks	12 Weeks	1 Year
FEV_1	36.7 %	26 %	25.6 %
FEV_1/FVC	40.7 %	40.7 %	32.5 %

Exercise capacity

	0 Weeks	12 Weeks	1 Year
6MWT	270m	**372m**	**383m**
Cycle Endurance	5:55	**11:00**	**8:23**

Quality of life

	0 Weeks	12 Weeks	1 Year
CAT	26	**11**	**10**
SGRQ	71.61	**23.39**	**31.19**
Impact	**92.03**	**8.52**	**7.74**
VAS	65	70	**80**

He has not needed a carer since 4 weeks into the programme

Saving R2000/month

No exacerbations

“I spent the whole day playing dominoes and not once did I have to think about breathing… it wasn’t like that before”

“I am a new person – just ask my family and they will tell you”

Wrapping it up

Think beyond the lungs

Wrapping it up

Strong evidence to support efficacy

Significant impact

- Person
- Family
- Heath care system


Rx
exercise