

Changes in brain and muscles: do self-estimation and physical condition in chronic pain patients change due to multimodal pain therapy?



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The Question

- We know, that our one week group treatment for persons with low back pain is successful!
- As medical education and physical training are both important pillars of the program we wanted to know





Begreifen



Bewegen



Bewältigen



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Understand

Move

Cope



Begreifen



whether we change the way people think about their condition,

whether we can get them back into movement



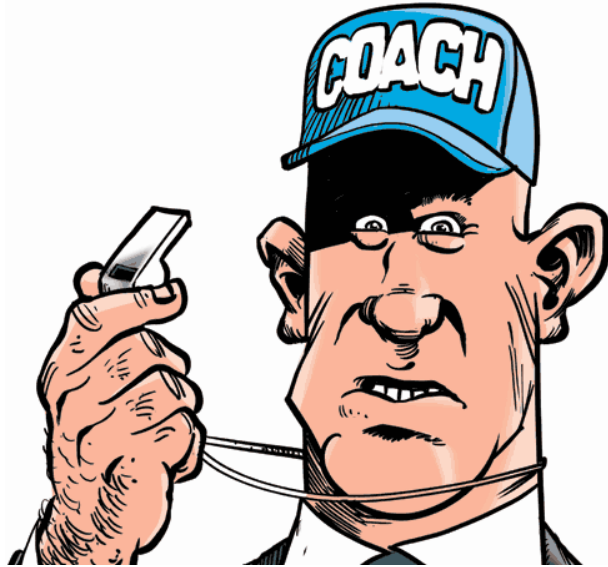
Bewegen



or even both



What we achieved?



Their self concept did change positively!
And they improved in the “2 Minute Step in Place” test!



But we saw no improvement in the other categories of physical functioning in the tests after 3 months.

Let's look on the details

- For 10 years we perform multimodal interdisciplinary pain treatment in focus groups as low back pain
- Since 2015 we monitor self concept of physical capacity with the FFB-Questionnaire and perform a fitness test
- In 2017 we published* the general outcome of group treatment covering 71 patients in 10 groups



* Schmerz. 2017 Oct;31(5):508-515. Outpatient multimodal pain therapy : Results of a 1-week intensive outpatient multimodal group program for patients with chronic unspecific back pain - retrospective evaluation after 3 and 12 months, Reck, et al.

One week of hard work on pain



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Zeit	Montag	Dienstag	Mittwoch	Donnerstag	Freitag
8:00-8:30	Begrüssung Einführung Vorstellung	1. Morgenrunde			
8:30-9:00		2. Physiotherapie Training an Geräten Ausdauertraining	Physiotherapie Training an Geräten Ausdauertraining	Physiotherapie Training an Geräten Ausdauertraining	Physiotherapie Training an Geräten Ausdauertraining
9:00-9:30					
9:30-10:00	Pause				
10:00-10:30	2. Physiotherapie Training an Geräten Ausdauertraining	Psychologie: Schmerzakzeptanz Entspannungstraining	Psychologie: Schmerz und Stress Entspannungstraining	Psychologie: Über- und Unterforderung Entspannungstraining	Psychologie: Problemlösetraining Entspannungstraining
10:30-11:00					
11:00-11:30					
11:30-12:00	Vortrag Arzt: Biomechanik der Wirbelsäule				
12:00-12:30					
12:30-13:00	Mittagspause				
13:00-13:30					
13:30-14:00	Psychologie: Grundlagen des chronischen Schmerzes, Entspannungstraining	4. Physiotherapie Turnhalle	6. Physiotherapie Aqua jogging	7. Ergotherapie Ergonomie am Arbeitsplatz	Feedback Runde
14:00-14:30		Pause	Pause	Pause	Pause
14:30-15:00					
15:00-15:30					
15:30-16:00		Vortrag Arzt: Das vegetative Nervensystem	Vortrag Arzt: Wie werden Rücken-schmerzen chronisch?	Vortrag Arzt: Lebensgestaltung und Schmerz	9. Physiotherapie Wahlstunde
16:00-16:30	3. Physiotherapie Turnhalle Testung	5. Physiotherapie Frauen Vegetativ stabilisierende Massnahmen Männer	5. Physiotherapie Männer Vegetativ stabilisierende Massnahmen	8. Physiotherapie Funktionelles Training	Ende
16:30-17:00					

Results of our data analysis

71 Persons, who participated in one of our 10
«low back pain week» groups between jan. 2011
& oct. 2013

63 completed after 3 months

41 completed after 12 months

Age ranged from **20 to 70** years

Ratio men/women almost **50/50**

52,4 % had **incapacity** for work

69 % pain for **more than 2 years**

49,2 % had **3 or more pain locations**

46 % showed a **high pain chronicity (MPSS III)**

Results of our data analysis*

<u>Questionnaire</u>	<u>before</u>	<u>3 months</u>	<u>12 months</u>
WHOQOL-BREF	37,5	50,0	50,0
ODI	30	24	24
ADS	21	16	12,5
CPAQ-D			
Activity engagement	33	41	43
Pain willingness	21	26	31
Total CPAQ	54	68	72
Pain NRS	4,7	3,7	4,1

* Schmerz. 2017 Oct;31(5):508-515. Outpatient multimodal pain therapy : Results of a 1-week intensive outpatient multimodal group program for patients with chronic unspecific back pain - retrospective evaluation after 3 and 12 months, Reck, et al.

Results of our data analysis*

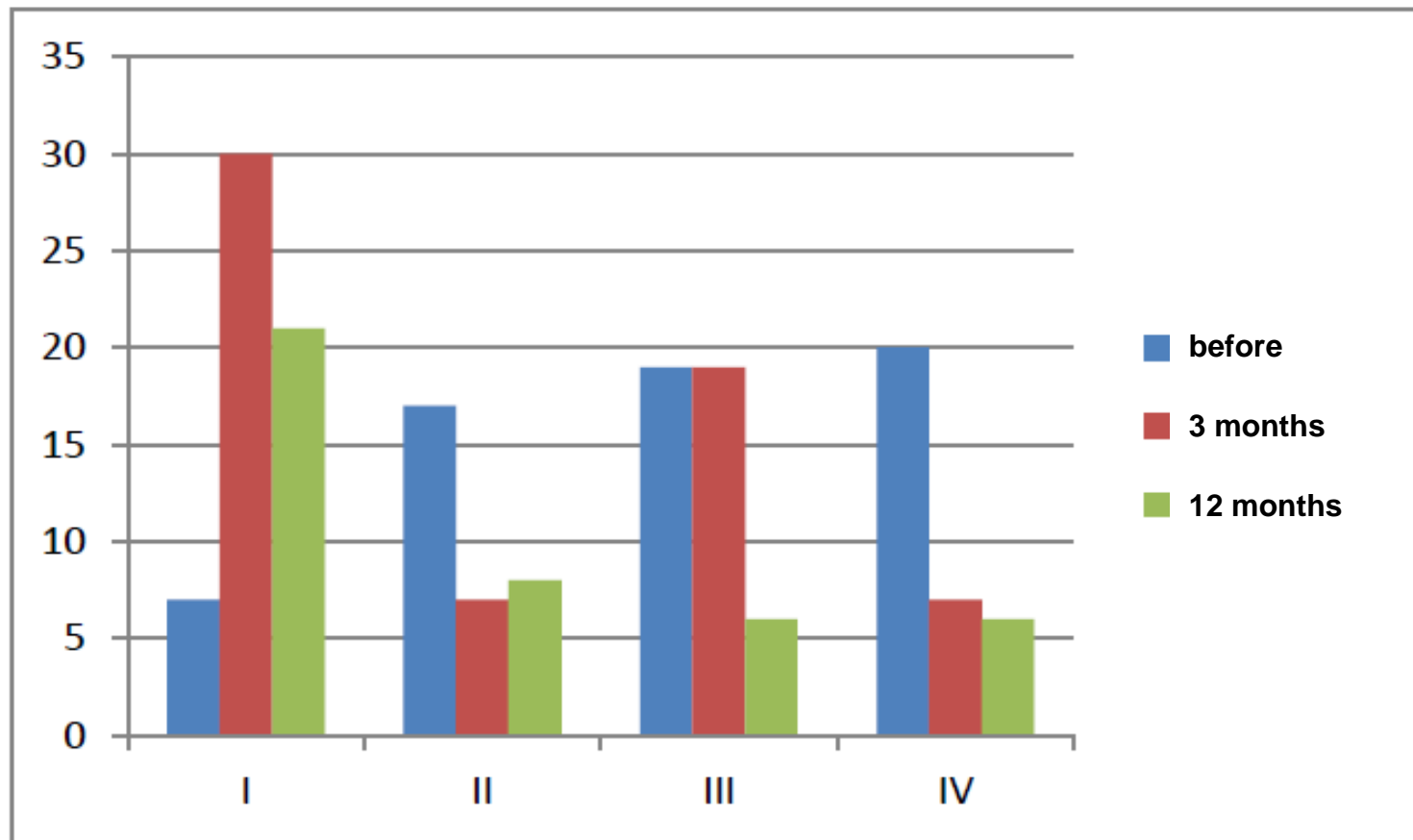


Abbildung 2: Graphische Darstellung der Schweregrade nach von Korff

Distribution of Chronic Pain Grading Scale CPGS

Physical condition - Assessment before and after the treatment week

- **FFB-MOT** (graded questionnaire about the self concept of physical capacity in the dimensions power, endurance, coordination and flexibility with results compared to age and gender related groups)

Bös, K., Abel, T., Woll, A., Niemann, S., Tittlbach, S. & Schott, N. (2002). Der Fragebogen zur Erfassung des motorischen Funktionsstatus (FFB-Mot). Diagnostica, 48 (2), 101-111.

- **functional fitness test**
- **5 min walking test**
- **1 min stair climbing**

All tests are routinely performed before, 3 and 12 months after attending the group.

Functional Fitness Test

is based on the Senior Fitness Test Protocol
from Jones and Rickli The Journal on Active Aging • March April 2002

Normative data are based on healthy subjects
between 60 and 70 years old

It consists of

- 1) 2 min step in place test
- 2) Chair sit and reach test
- 3) Chair stand test
- 4) 8 Foot up and go test
- 5) Arm curl test
- 6) Balance test

Obstacles

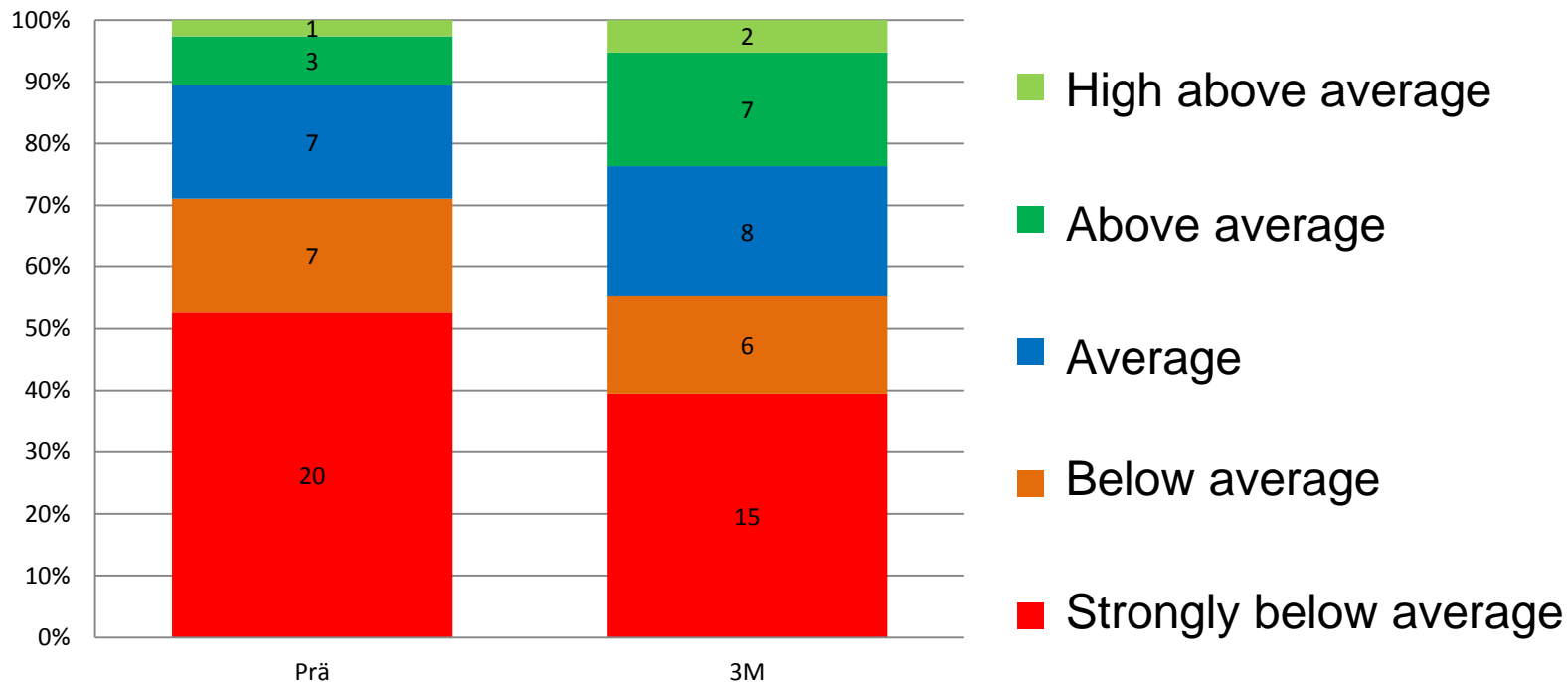
The following results are based upon 38 data sets (58 %) out of 65 patients, which performed all test before and after three months. This is a routine data collection and not a scientific study. Some people don't show up at three months because

- They are worse or pain free
- They don't have time
- They don't feel the need
- Of unknown reasons.

FBB Mot

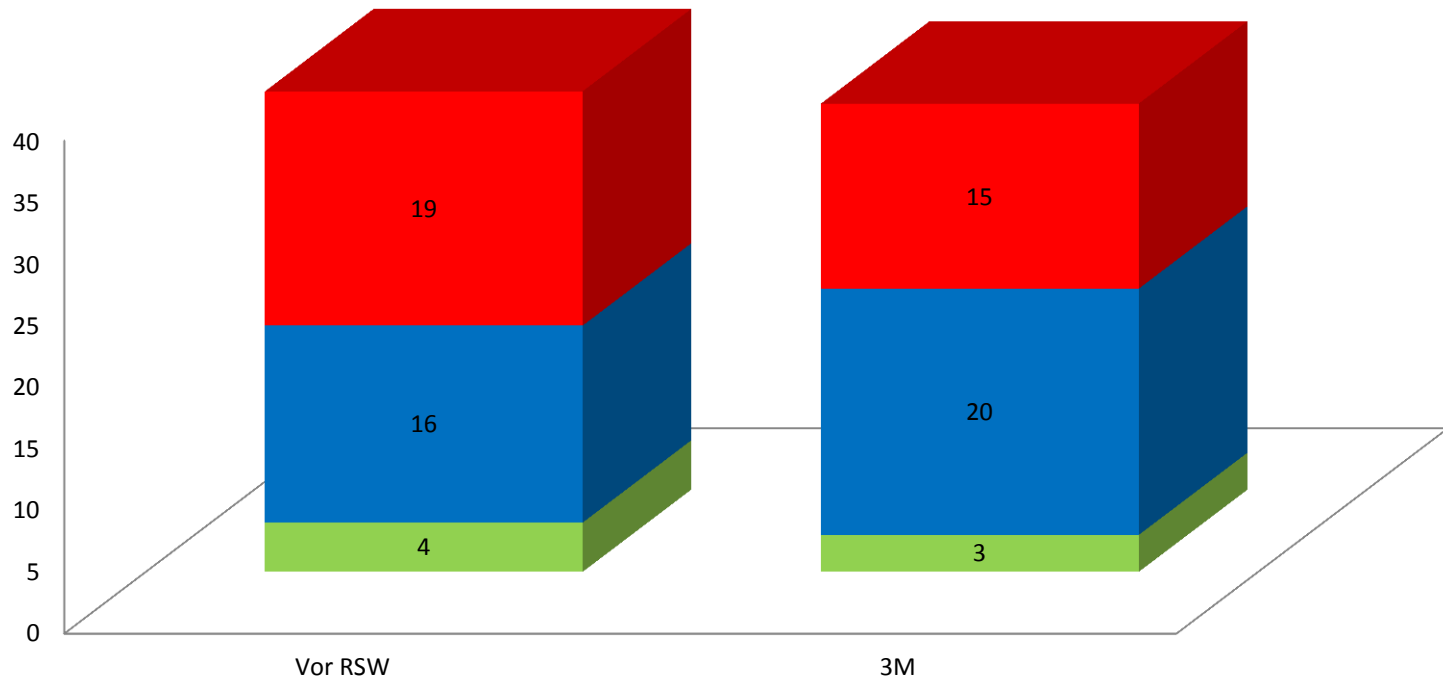
self concept of physical fitness

It is remarkable, that within 3 months the percentage of «below average» and «severely below average» decreased from 70 % to 54 %.



2 Minute Step in Place Test

The only functional fitness test that improved! The ratio between „**below average**“ versus „**average**“ and „**above average**“ shifted from 50 % : 50 % to 40 % : 60 %.

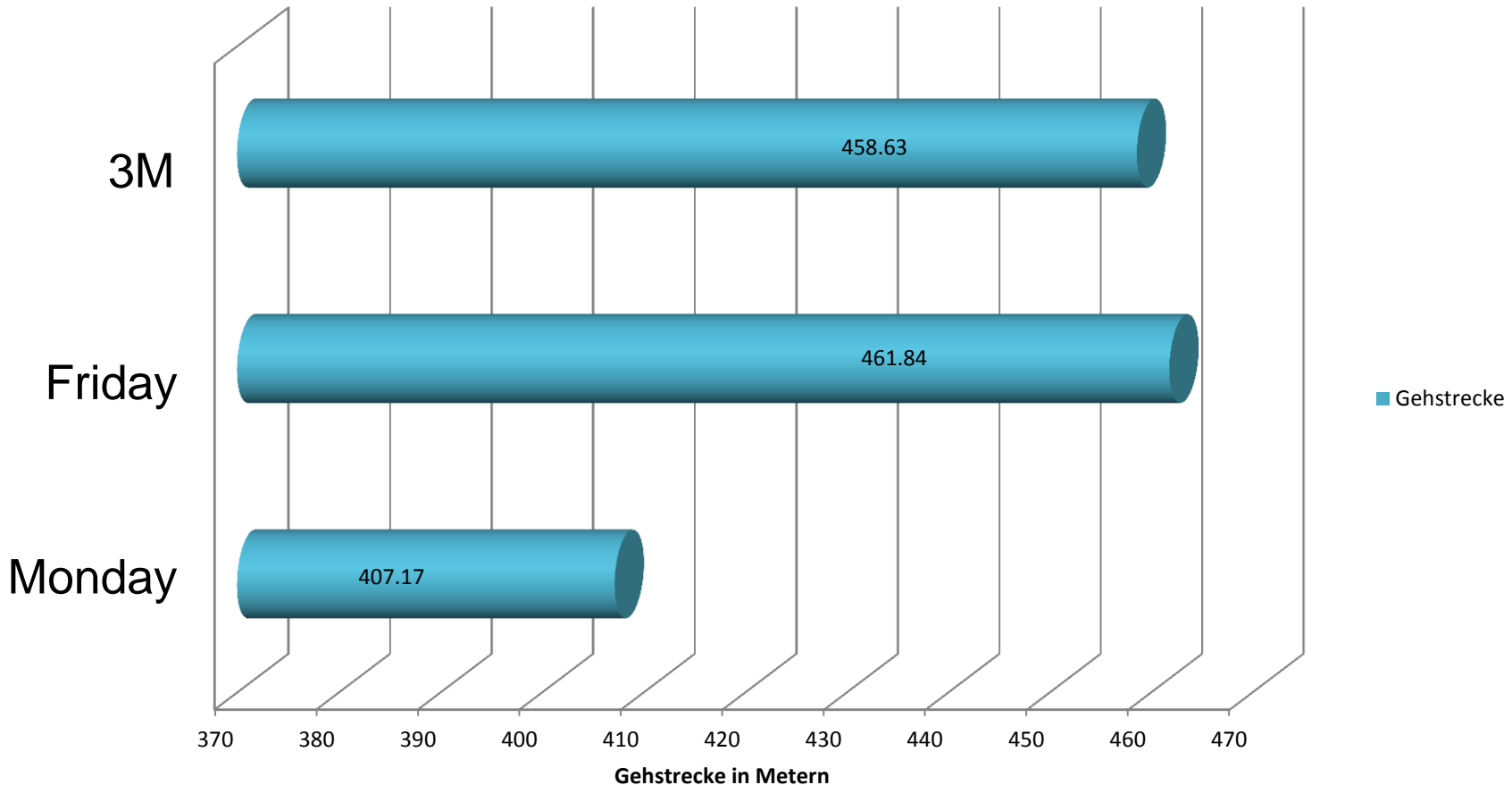




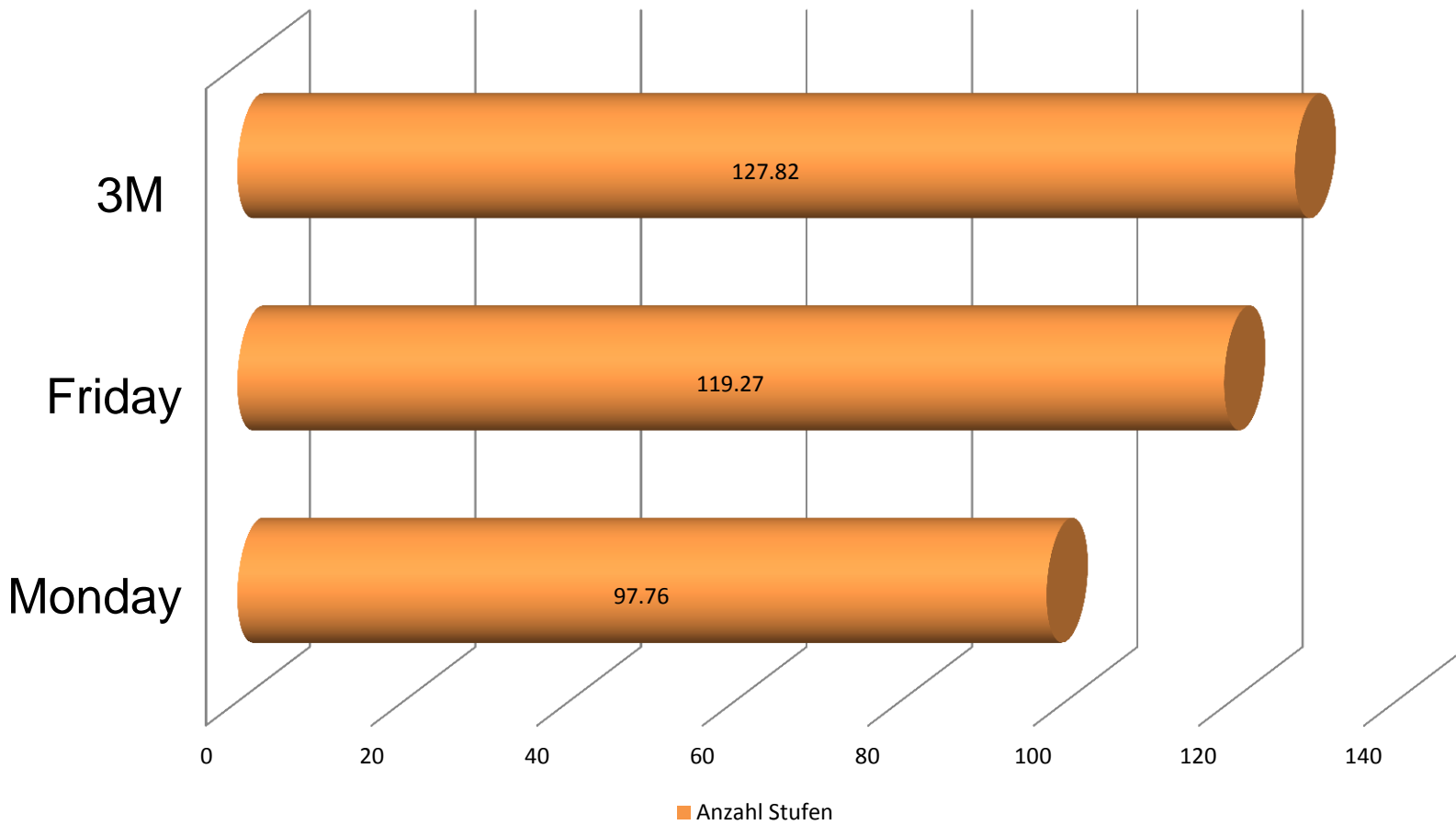
Chair Sit and Reach Test
Chair Stand Test
8 Foot Up and Go Test
Arm Curl Test
Balance Test

These test showed no changes in the 3 months interval!

Walking Test (distance within 5 min)



Stair Climbing Test (1 min)



Why do Walking and Stair Climbing Tests improve within one week?

It is NOT due to a secret potion – it's more a change of attitudes and a loss of anxiety based on medical education and the experience of movement.



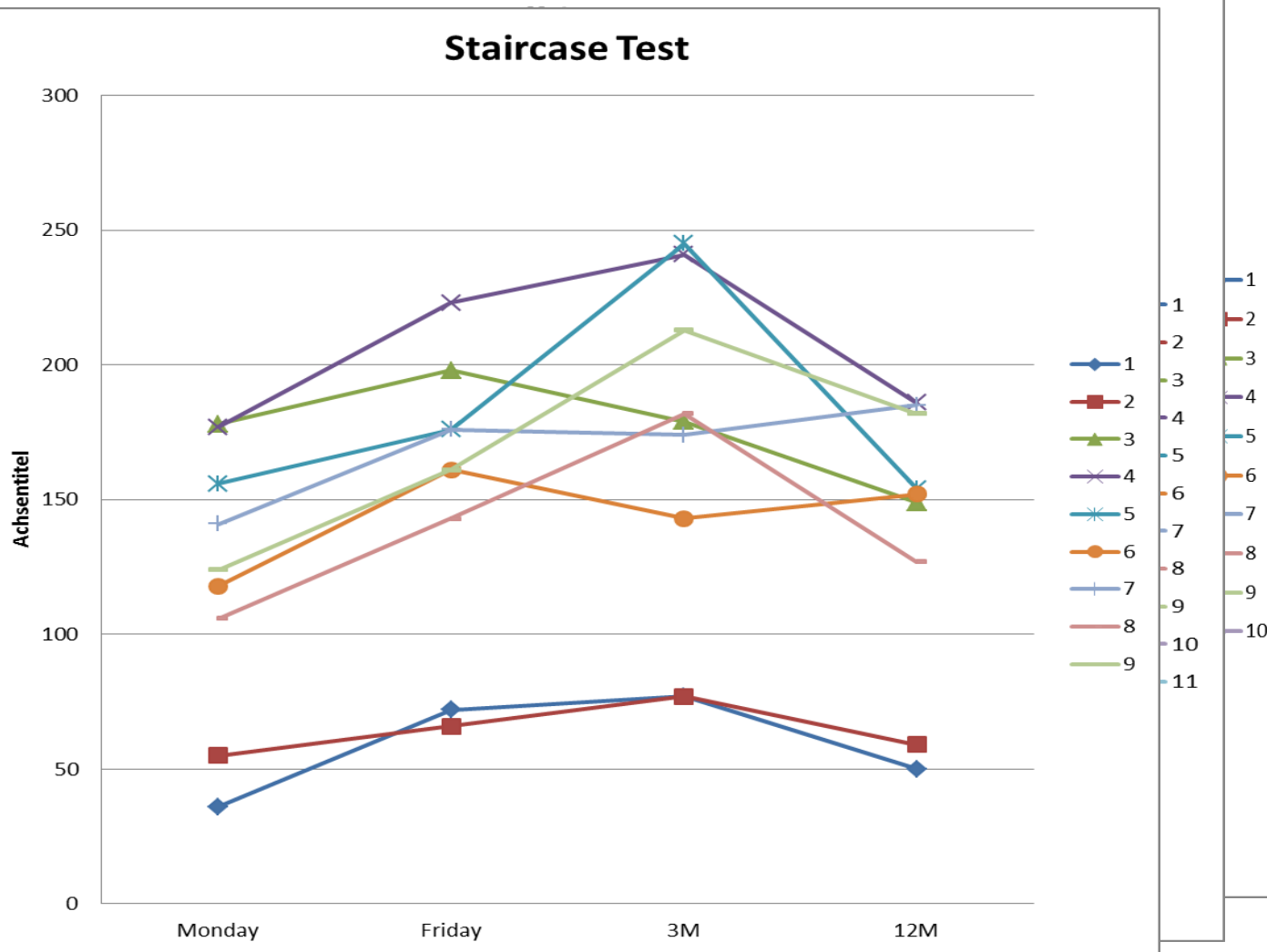
What happens on the long run?



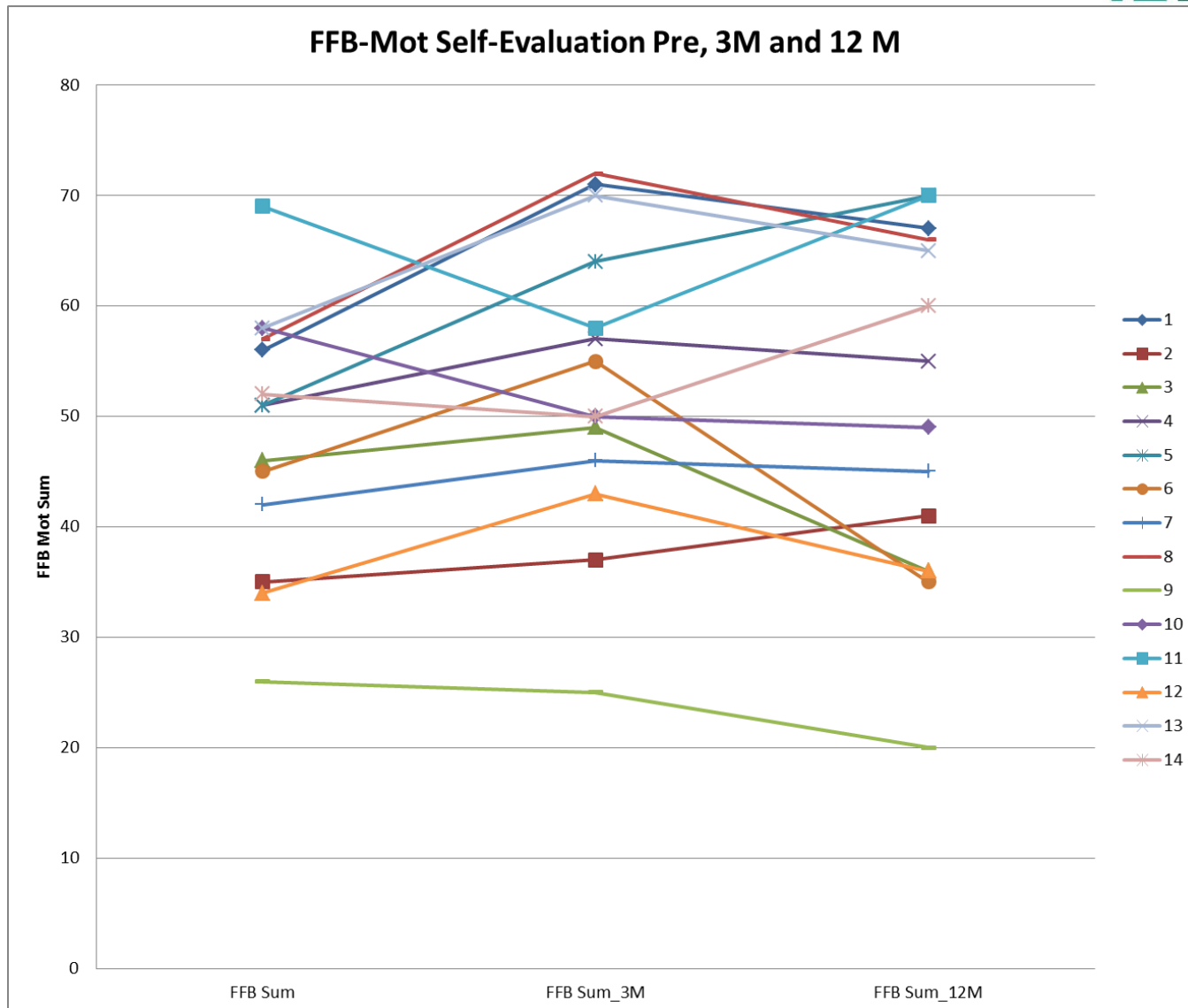
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- We have only few results of complete data at 0, 3 and 12 months
- Looking at these data is looking on a selected sample
- Persons who present at 12 months have a reason to do so, at least they seek help or advice

What happens on the long run?



What happens on the long run?



What happens on the long run?

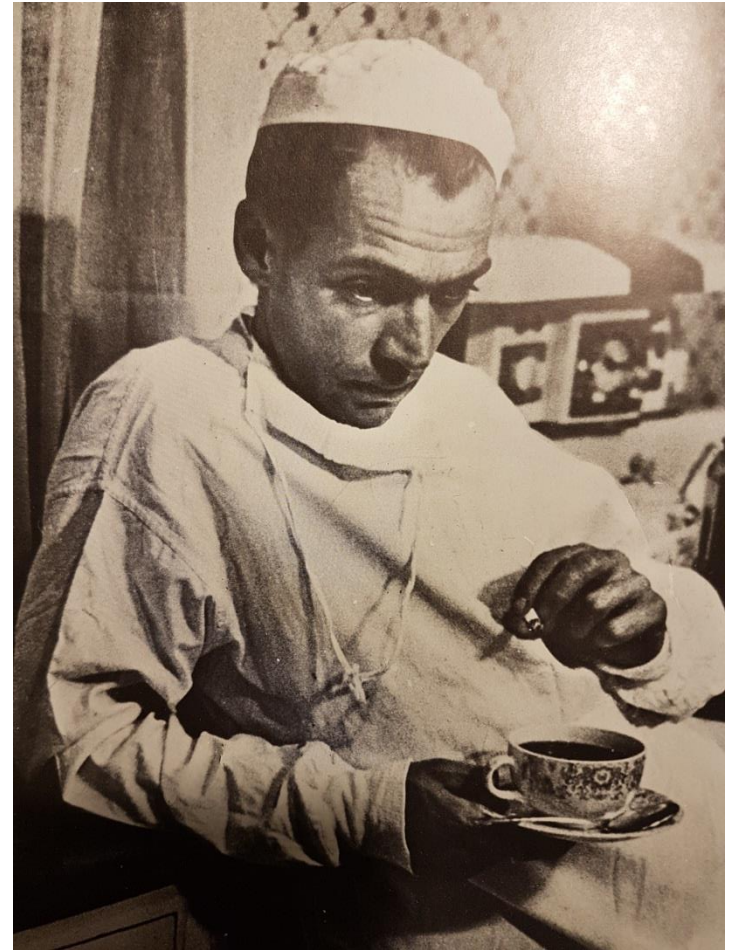


- Those who presented at 12 months had either medical, psychological or SOCIAL problems!

medical	psychological	work	family	money	housing	insurance
x		x	x			
		x		x		
	x					
	x	x	x			
	x	x				
x						
x						
			x	x		
			x			x

Discussion

- *We believe in god, for the rest we need data!*
- It is not enough to work hard, you have to check if you put your energy into successful projects.
- the VAPAIN consensus statement on core outcome-domains assessing effectiveness of interdisciplinary multimodal pain therapy, Ulrike Kaiser PAIN Publish Ahead of Print DOI: 10.1097/j.pain.0000000000001129



Discussion

- We know about the effectiveness of our one week intensive program
- We see positive changes in self concept of physical fitness and a loss of kinesiophobia – both a result of multimodal and interdisciplinary therapy
- It remains unclear if physical activity or physical capacity really changes (due to missing data)

Thank you for your attention – this marvellous team is happy to have you with us!



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