

# PREDICTORS OF PAIN SIX MONTHS AFTER MUSCULOSKELETAL TRAUMA

## -TOWARDS PREVENTING CHRONIC PAIN-

Pierik JGJ<sup>1</sup>, IJzerman MJ<sup>1</sup>, Van Vugt AB<sup>2</sup>, Vollenbroek-Hutten MMR<sup>3</sup>, Doggen CJM<sup>1</sup>

1. University Twente, Health Technology & Services Research, MIRA institute for Biomedical Technology and Technical Medicine, Enschede  
2. Medisch Spectrum Twente, Emergency Department and Department of Surgery, Enschede 3. University Twente, Biomedical Signals and Systems, Faculty of Electrical Engineering, MIRA institute for Biomedical Technology and Technical Medicine, Enschede, The Netherlands



### BACKGROUND AND AIM

- Acute musculoskeletal pain is one of the primary complaints of patients in the Emergency Department (ED).
- Multiple factors within this acute pain phase may be responsible for transition from acute to chronic pain.
- The aim is to find prognostic factors that will give us the ability to target high-risk patients in the emergency setting and provide them with appropriate treatment to prevent chronic musculoskeletal pain

### STUDY DESIGN AND POPULATION

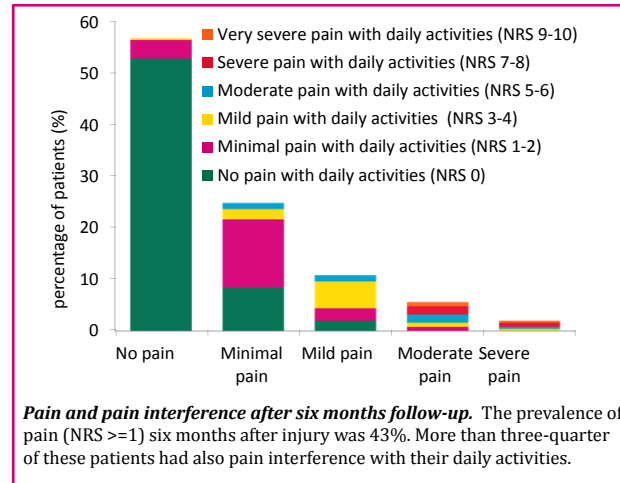
- In a prospective cohort study (PROTACT) adult patients with injury due to blunt trauma to the extremities of the musculoskeletal system who attend the ED of Medisch Spectrum Twente, the Netherlands were followed for six months.
- Characteristics of patients, including psychosocial-, biomedical and health related factors, and perception of pain were collected from hospital registration and questionnaires at ED-visit, 6 weeks- 3- and 6 months follow-up.

### RESULTS

#### Characteristics of 250 patients

Men (n (%))	107 (42.8 %)
Age (mean, SD)	45.97 (SD=14.9)
Months follow-up period, (mean (min-max), SD)	7.4 (5.0-14.0) (SD=1.8)
Pain ± 6 months after trauma (n (%))	108 (43.2 %)
Pain interference in daily activity ± 6 months after trauma (n (%))	93 (37.2 %)

Potential risk and protective factors associated with chronic pain						
		N	n	OR	(95% CI)	
<b>Age</b>		18-29	56	21	†	
		30-54	122	57	1.46	(0.77-2.79)
		55-69	72	30	1.19	(0.58-2.44)
<b>Gender</b>		Men	107	39	†	
		Women	143	69	1.62	(0.97-2.74)
<b>Kinesiophobia</b>		No	104	33	†	
		Yes	79	44	2.71*	(1.48-4.96)
<b>Anxiety</b>		No	215	87	†	
		Yes	28	19	3.11*	(1.34-7.18)
<b>Depression</b>		No	227	96	†	
		Yes	13	9	3.07	(0.92-7.26)
<b>Pain catastrophizing</b>		No	168	62	†	
		Yes	14	13	22.23*	(2.84-174.03)
<b>Education level</b>		High	105	41	†	
		Low	138	65	1.39	(0.83-2.33)
<b>Compensation status</b>		No	194	79	†	
		Yes	8	6	4.37	(0.86-22.19)
<b>Chronic pain before trauma</b>		No	162	60	†	
		Yes	42	25	2.50*	(1.25-5.00)
<b>Pain level at admission ED</b>	Tolerable (NRS<4)		29	7	†	
	Moderate		69	24	1.68	(0.63-4.49)
	Severe (NRS>6)		148	76	3.32*	(1.34-8.28)
<b>Pain level at discharge ED</b>	Tolerable (NRS<4)		50	10	†	
	Moderate		68	28	2.80*	(1.20-6.52)
	Severe (NRS>6)		112	59	4.45*	(2.03-9.78)
<b>Surgery</b>		No	210	87	†	
		Yes	40	20	1.52	(0.74-3.11)



Independent predictors of chronic (n=178)			
		ORadj	(95% CI)
<b>Age#</b>		1.01	(0.99-1.04)
<b>Gender</b>	Men	†	
	Women	1.36	(0.68-2.71)
<b>Chronic pain before trauma</b>	No	†	
	Yes	2.53*	(1.10-5.77)
<b>Kinesiophobia</b>	No	†	
	Yes	2.21*	(1.13-4.35)
<b>Anxiety</b>	No	†	
	Yes	3.04	(0.97-9.59)
<b>Pain level at discharge ED</b>	Tolerable (NRS<4)	†	
	Moderate	3.03*	(1.04-8.84)
	Severe (NRS>6)	3.05*	(1.07-8.66)

† = reference group  
\* = category is significantly (p<0.05) different with the reference group  
# = continuous in model

### DISCUSSION

- In the PROTACT-study 43% of patients still have pain six months after trauma.
- Potentially modifiable factors, such as severe pain at discharge, kinesiophobia and anxiety might be addressed through intervention in emergency setting to prevent chronic pain.

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Medisch Spectrum  $\Delta$  Twente



PROTACT

More information.

Jorien Pierik, MSc

PhD candidate

W: [www.utwente.nl/mb/htsr](http://www.utwente.nl/mb/htsr)

E: [J.G.J.Pierik@utwente.nl](mailto:J.G.J.Pierik@utwente.nl)