Incidence and predictors of chronic pain after musculoskeletal injury

Pierik J.G.J¹, IJzerman M.J.¹, Van Vugt A.B.², Vollenbroek-Hutten M.M.R.¹, Gaakeer M.I.³, Doggen C.J.M.¹

1. University of Twente, Enschede, 2. Medisch Spectrum Twente, Enschede
3. Admiraal de Ruyter Ziekenhuis, Goes, The Netherlands

EuSEM 2014
Conflicts of Interest Disclosure

Speaker: Jorien Pierik

Title: Incidence and predictors of chronic pain after musculoskeletal injury

- Member of a scientific committee
  - Yes: [ ] No: [ ]
  - If so: ...

- Speaking or writing in exchange for remuneration
  - Yes: [ ] No: [ ]
  - If so: ...

- Travel expenses and/or registration to congresses or other events covered
  - Yes: [ ] No: [ ]
  - If so: ...

- Leader of research of clinical study
  - Yes: [ ] No: [ ]
  - If so: ...
Background & aim
Methods

- Design: prospective cohort study (one year follow-up)
- Study population: 435 adult patients with isolated injury due to blunt trauma to the extremities of the musculoskeletal system
- Setting: emergency department of Medisch Spectrum Twente
- 26 potential predictors
- The primary outcome at six months follow-up: chronic pain (NRS ≥ 4)
43 out of 435 patients (9.9%) developed chronic pain (NRS≥4)
43.9% of the patients had some degree of pain
Results

six predictors independently associated with chronic pain

Probability of developing chronic pain = \frac{1}{1 + \exp(-(-4.02 + 0.75 \cdot \text{age} \geq 40 \text{ years}) + 0.64 \cdot \text{pain at discharge} \text{ severe} + 1.15 \cdot \text{pain catastrophizing present} + 1.38 \cdot \text{chronic pain before injury present} + 0.62 \cdot \text{urgency level urgent or very urgent} + 0.54 \cdot \text{physical health poor})}.

C-statistic: 0.81 (95% CI 0.74-0.88).
Conclusion

- Almost 10% of patients had chronic pain (NRS≥ 4) six months after musculoskeletal extremity injury & 43.9% of the patients had some degree of pain.

- Only 2 out of the 6 predictors, severe pain at discharge and pain catastrophizing, are potentially modifiable.

Thank you for your attention!

For any questions: j.g.j.pierik@utwente.nl