
Kranenburg, H.A.\textsuperscript{a,b,c}, Schmitt, M.A.\textsuperscript{a}, Luijckx G.J.\textsuperscript{b}, Van der Schans, C.P.\textsuperscript{a,c}

\textsuperscript{a} Research Group Healthy Ageing, Allied Health Care and Nursing, Hanze University of Applied Sciences, Groningen, the Netherlands
\textsuperscript{b} University of Groningen, University Medical Center Groningen, Department of Neurology, P.O. Box 196, 9700 AD Groningen, the Netherlands
\textsuperscript{c} University of Groningen, University Medical Center Groningen, Department of Rehabilitation Medicine, P.O. Box 196, 9700 AD Groningen, the Netherlands

**Introduction:**
Major Adverse Events (MAE) following Cervical Spinal Manipulations (CSM) have been described anecdotally and are frequently discussed. Until now, exact incidence rates are unknown. Furthermore, there are doubts concerning the factors which may play a role in the occurrence of MAE.

**Objectives:**
- Determine incidence rates of CSM following CSM.
- Inventory of patient and clinician characteristics.
- Introduce an incidence reporting system that fulfills all proposed criteria.

**Methods:**
A twofold prospective cohort study will be performed in The Netherlands. Underreporting is particularly likely to be present in primary care, but also likely to be present in secondary care.

**Participants:**
- Manual therapists, chiropractors, osteopaths, manual practitioners
- Advanced nurse practitioners neurology

**Outcome measures:**
- Frequency of MAE
- Patient characteristics
- Professional characteristics
- Frequency of all Cervical Arterial Dissection
- Patient characteristics (only after CSM)
- Professional characteristics (only after CSM)

**Sample Size:**
- > 1000 professionals
- > 10 hospitals

**Discussion:**
This study may be helpful in collecting incidence rates of MAE following CSM, collecting relevant factors that play a role in the occurrence of these MAE, collecting epidemiological data and gain insight in the behavior of health professionals.

**Contact details:**
h.a.kranenburg@pl.hanze.nl

**MCM-1 Protocol**

- Registration
- Additional information
- Accreditation
- Congress online available
- Start data collection
- Congress
- NO

**Registration Quarter 1-4**

- Frequency MAE
- Patient characteristics
- Clinician characteristics

**September 2016**

- MAE
- NO

**23-05-2016**

- Yes

**September 2016**

- Yes

**www.cervicalemanipulaties.nl**

---

For this reason measurements will be done in both primary care (MCM -1 group) and secondary care (MCM – 2 group). Data will be collected from September 2016 to September 2017. Considering the sensitivity of the subject and to gain the participants trust, an independent privacy monitoring board is to be founded.