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## Novel advancements in objective assessment and treatment of patients with neck pain and its related disorders

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**Introduction:** The Bone & Joint Decade (2000-2010) Task Force on Neck Pain and its Associated Disorders highlights the lack of objective reliable and valid methods to assess and treat impaired neuro-muscular-skeletal function in people with neck pain and its related disorders. The Task Force emphasizes that recurrence of symptoms is one of the main characteristics of neck pain. The Task Force recommends that the World Health Organization (WHO) advocate to empower people with neck pain to treat their own neck must be a priority to furthering advancements for people with neck pain.

**Objectives:** To implement a suit of known and new methods into every-day clinical practices to make it possible for practitioners to objectively assess patients with neck pain, and for the patients to treat their own neck outside the clinic.

**Methods:** The medium of the Internet was used enabling to test and to treat patients with neck pain and its related disorders in real-time, documenting results at baseline and at follow-up visits. Fifteen practitioners in 5 European countries and in the US participated in the project. A new 3D wireless orientation sensor with accuracy ranging from 0.15° - 0.2° in pitch, jaw and roll was used and connected to the software via bluetooth. The software contained the methods used. All results were gathered on a cloud-based server. Questionnaires were used to gather the experience of the practitioners.

**Results:** All practitioners were able to operate the hardware and software and connect to the Internet. Overall, all practitioners and their patients were satisfied with the usability of the methods and the readability of the reports, containing the outcome measures for each test. Potential new features and additions were identified.

**Discussion:** The results were promising enabling the practitioners to use research methods, which hitherto have only been used at University-based research clinics. The methods are fast and easy to use, which is of utmost importance in busy clinical practices.

**Conclusions:** This innovative approach and methods will furthering the advancements in the management of patients with neck pain and its related disorders.

## Biography

Eythor Kristjansson, graduated in Physical Therapy (BSc) in 1981, and finalized his 3 years post-graduate education in Manual Therapy in Oslo, Norway in 1987. He was acknowledged as specialist in Manual Therapy in 1992. He received his PhD in Health Science from University of Iceland in cooperation with University of Queensland, Brisbane, Australia in 2004. Thesis: Investigations into the stability system of the cervical spine. He is his former assistant professor in physical therapy and has been a supervisor for MSc and Ph.D. students at the University of Iceland, the last 15 years, while simultaneously working with patients for 37 years.

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