Complete list of scientific articles

- Copyright articles that are not marked ‘open access’ may not be transmitted to a third-party. Most people working in healthcare will have access to the articles via hospital libraries.

- To read an article, search in one of the following databases, using the article title.
  Cochrane: [http://www.thecochranelibrary.com](http://www.thecochranelibrary.com)
  Google Scholar: [http://scholar.google.se](http://scholar.google.se)

- Some articles are published with ‘open access’. For example articles #6 and #7 have been published openly and maybe spread freely.

- Articles submitted (submitted but not published) may be found in the list above the scientific articles, but the abstract may not be made public before the article is published.

Scientific articles

Thesis:
Hägg M. Sensory motor brain plasticity in stroke patients with dysphagia. A methodological study on investigation and treatment. Faculty of Medicine, Uppsala University, 2007. Thesis.


Open access: http://content.iospress.com/download/neurorehabilitation/nre1197?id=neurorehabilitation%2Fnre1197


Open access: http://www.wjgnet.com/1007-9327/full/v21/i24/7558.htm


14. Hägg M., Levring-Jäghagen E., Hägglund P., Larsson B., Wester P. Effects of oral Muppy training and conventional treatment in stroke patients with oropharyngeal dysphagia: A randomized, blind, and prospective 2-centre trial with controls. This study is conducted together with the X-ray and Medicine Clinic at Hudiksvalls hospital, Sweden and with the Stroke Center, Clinic for X-ray Diagnostics, Orthodontics and Speech Therapy at Umeå University, Sweden. Finished.

15. Franzén T., Tibbling L., Hägg M. Overweight is an overrated risk in symptomatic hiatal hernia patients. IQoro® is used in training. Finished.

16. SOFIA (Swallowing function, Oral health and Food Intake in old Age) – a national study of training with IQoro® short-term residents in care homes for the elderly in five counties in Sweden. The Swedish universities in Umeå, Örebro and Karlstad are involved with three Ph.D. students - a speech therapist, nurse and dental hygienist.

17. DESIRE IQoro® study – multi-centre Study of stroke survivors together with the Medical Clinic and Speech Therapy Unit at Danderyds hospital in Stockholm. Start autumn 2016.

18. Snoring/ Apnoea study

Description of the articles
Art. # 1 – intervention study of orofacial regulation therapy combined with palate plate.
Art. # 2 – validation of the lip force meter, including the lowest normal value for lip strength, or more correctly the strength in the buccinators mechanism, calculated using the Muppy oral screen.

Art. # 3-12 (published) + Art. # 15, 16, 17, 18 (in progress) – intervention study with IQoro®.
Several studies were made confidential before the patents, and registered mark of IQoro® were approved. For this reason the product name or pictures of the device could not be published, instead the generic description ‘oral screen’ was used.

**Art. # 1, 3-5, 11, 12, 14, 16, 17** – Studies of oropharyngeal dysphagia.

**Art. # 3** – after 5 to 8 weeks’ training with IQoro® 97% of patients were improved, of which 63% recovered a normal swallowing function, this being independent of whether treatment was started soon after the stroke, or later.

**Art. # 4** – discovered a significant correlation between lip force (LF) and swallowing capacity (SC) amongst patients with stroke ($p = 0.012$), but not amongst healthy subjects. LF was independent of age amongst healthy subjects, but SC reduced with increased age ($p < 0.0001$), although not to a pathological level. A regression analysis shows that the variation in SC was affected by LF and age to an extent of 73%.

**Art. # 5** – after 13 weeks of training with IQoro® (30 sec x 3 times per day) 71% of stroke patients regained a normal swallowing function compared with patients that trained with a palate plate (30 min x 3 times per day). This positive effect remained, as seen at the long term check-up, 18 months after training ceased.

**Art. # 6, 7, 8** – Studies of facial dysfunction and treatment show three* significant improvements after 12 weeks training with IQoro®; and that the effect remained 18 months later in articles 7 and 8. This positive effect with IQoro® was seen to be irrespective of whether the treatment started soon after stroke, or several years later.

**Art. # 9, 10** – Studies of patient with esophageal dysphagia incl. misdirected swallowing, reflux, etc. for averagely 4 years (range 1-28 years) shows three* significant improvements after 6 to 8 months training with IQoro® 30 sec x 3 times per day. Training was required for several months where patients have had their difficulties for many years. Continued maintenance training two times a day, preferably before mealtimes, is probably required for best effect.

**Art. # 11** – Studies of postural control, separate orofacial muscle groups, PEG-fed shows three* significant improvements in postural control, orofacial muscles, oro-pharyngeal dysphagia, and that the 5 PEG-fed patients could eat and drink and have their PEGs removed after 13 weeks’ training with IQoro®. This applied to 4 of 5 patients, the remaining patient having the PEG removed later. The effect remained as shown at the long-term check-up 18 months later.

**Art. # 5, 7, 8, 11, 12, 14, 16, 17** – Studies which include long-term check-up’s.

**Art. # 12-18** – not yet published.

**Art. # 14** – a multi-centre intervention study with the oral screen Muppy (which is only CE-marked for the stimulation of lip closure, and to inhibit thumb sucking. After 20 months this shows a somewhat better effect with Muppy on oro-pharyngeal dysphagia compared with stimulation with electric toothbrush.

Patent (# 1350314-9) + CE mark on neuromuscular exerciser IQoro®.
Bibliography


- Carlsson E, Hägg M. *Foods and Dietary supplements in the prevention and treatment of disease in older adults*. Chapter: *Care for stroke patients with eating difficulties*. Co-author Dr. Phil. Eva Carlsson, Manager of development and research tutor, nurse, Örebro County health Authority and the Institute for health science and medicine, Örebro university. Published 2015.

Other published articles

(Articles are in Swedish, the following is a translation of the articles' titles into English)


  Hägg M. *En ny kostnadseffektiv och enkel behandling av sväljsvårigheter*. Svensk ÖNH-Tidskrift Volym 16, Nr 1-2, 2009

- Hägg M. *Swallowing difficulties amongst patients with whiplash injuries - an area of ignorance*. Dysfaginytt, Årg 18, Nr 3, 2009

  Hägg M. *Sväljsvårigheter hos Whiplashskadade – stor okunskap råder*. Dysfaginytt, Årg 18, Nr 3, 2009

- Hägg M. *Dentists can be an important resource against swallowing problems*, NFH Bulletinen Nr 2, 2008

  Hägg M. *Tandläkare kan vara en resurs vid sväljningsproblem*, NFH Bulletinen Nr 2, 2008

- Hägg M. *Dentists can help patients with swallowing handicaps*. Tandläkartidningen Årg 100, Nr 11, 2008

  Hägg M. *Tandläkare kan hjälpa sväljningshandikappade*. Tandläkartidningen Årg 100, Nr 11, 2008

- Hägg M. *The brain reorganised via the mouth, to help swallowing handicapped patients*. Sjuhus-tandläkartidningen, Årg 33, Nr 2, 2008

  Hägg M. *Via munnen reorganiseras hjärnan och hjälper sväljningshandikappade*. Sjuhus-tandläkartidningen, Årg 33, Nr 2, 2008

- Hägg M, Tibbling Grahn L. *Down syndrome. Treatment with emphasis on drooling, swallowing, speech and bite function*. Dysfaginytt, 2003
Hägg M, Tibbling Grahn L. *Downs syndrom. Behandling med tonvikt på dregling, sväljning, tal och bettfunktion.* Dysfaginytt, 2003

- Hägg M. *Case Studies – Stroke and LKG defects.* Tandläkartidningen, 2000

  Hägg M. *Case Studies – Stroke och LKG-defekter.* Tandläkartidningen, 2000


  Hägg M. *Stroke-Dysphagia. European Study Group for Dysphagia and Globus,* October Page 89, 1998

- Hägg M. *Dysphagia.* Sjukhustandläkartidningen, 1998

  Hägg M. *Dysfagi.* Sjukhustandläkartidningen, 1998