Reference	Subjects/ inclusion/etiology	Treatment groups	Outcome measures Follow-up/blinding	Evaluation techniques	Results	Comment
Lim et al, 2009 (Included in Tan, et al meta-analysis)	36 stroke patients (2005-2006) -Stroke confirmed with MRI or CT -Dysphagia confirmed with videofluoroscopy - MMSE score ->20 -Medically stable	Experimental group N=16 completed follow-up Mean age 67.8yrs, NMES Chattanooga device) 1hr. 5 days/wk. low intensity 7 mA + Thermal stimulation: (5 trials/wk. for 4 wks.) Control group: n=12 completed follow-up, age 60.8 yrs. Thermal stimulation: 5 trials/wk. for 4 wks.	-Swallowing function and discomfort during treatment 4 weeks follow-up Blinded evaluation	-Swallow function -Penetration - aspiration scale. - Pharyngeal transient time. -VAS for discomfort.	-Both groups improved. -More significant benefit in experimental group for swallow function, Penetration -aspiration scale and pharyngeal transient time. -No significant improvement in discomfort score in the 2 groups.	-Small trial Quasi randomized -Baseline difference, Short follow-up period. -Follow-up 77.7% complete.
Permsirivanich et al, 2009. Included in Tan, et al meta-analysis)	23 stroke patients, -2 weeks after lesion. -With pharyngeal dysphagia and safe swallowing	Experimental group N=12. Mean age 64.5 yrs. NMES (Chattanooga device) 60 minutes for 5 days, 2 days off, then 5 days of treatment for 4 weeks or reached FOIS level 7 +oral motor exercise + diet modification Control group: n=11 Age 64.7 yrs. Rehabilitation swallowing therapy (RST) (same schedule as NMES	Functional Follow-up : 1 week post treatment	-Functional oral intake scale (FOIS). -N of therapy sessions. -Complications during therapy.	- Average change in FOIS score significantly higher with experimental group vs. control (3.17±1.27 vs 2.46 ±1.04, p<0.001. -Insignificant difference in number of sessions 17.5 in NMES, and 18.36 in RST. -No complication observed in either group.	Very small study and short follow-up duration.
Xia et al, 2011.	120 patients (007-2010) with -Stroke confirmed with MRI or CT -Swallowing disorders confirmed by water drinking test. -Clear consciousness	Experimental group 1: N=40 Mean age 66.4 yrs. received VitalStim therapy using Chattanooga device (700µs, 80 Hz, and wave 0-25mA, given 2times/day , 5 days/wk. for 4 weeks Experimental group 2: N=40 Mean age 65.8 years received VitalStim therapy plus conventional swallowing training. Control group: n=40 Mean age 65.3 yrs. received conventional swallowing training.	Swallowing function 4 weeks follow-up, Blinded assessment.	-Standardized swallowing assessment (SSA). -Surface electromyography (sEMG). - Videofluoroscopic swallowing study (VFSS). Swallowing –related QoL (SWA-QOL) questionnaire.	-Maximum amplitude of EMG significantly increased from baseline in all three treatment groups. -Significant increase in SSA, VFSS, and SWAL-QOL scores in patients receiving both VitalStim therapy and conventional swallowing training vs. VitalStim alone or conventional swallowing training alone. -No significant difference between these two therapies given alone.	-Relatively larger RCT, 3 comparison arms, and blinded, very short follow-up, -Results show no significant difference between VitalStim therapy and conventional therapy of post-stroke dysphagia. Combination of the two treatments resulted in significantly better outcomes. -Long-term effects not examined.