



Influence of intrapulmonary percussive ventilation in upright position on gastro-oesophageal reflux in infants.

[Van Ginderdeuren F^{1,2}](#), [Kerckhofs E¹](#), [Deneyer M³](#), [Vanlaethem S²](#), [Buyl R⁴](#), [Vandenplas Y³](#).

¹Faculty of Physical Education and Physiotherapy, Vrije Universiteit Brussel, **Brussels, BELGIUM**, ²Department of Physiotherapy, UZ Brussel, **Brussels, BELGIUM**, ³Department of Pediatrics, UZ Brussel, Vrije Universiteit Brussel, **Brussels, BELGIUM**, ⁴Department of Public Health, Biostatistics and Medical Informatics, Information Research Group, Vrije Universiteit Brussel, **Brussels, BELGIUM**.

OBJECTIVES:

To determine the influence of physiotherapy using intrapulmonary percussive ventilation on gastro-oesophageal reflux (GOR) in infants <1 year.

METHODS:

In this controlled trial with intra-subject design, children were studied using multichannel intraluminal impedance pH (pH-MII) monitoring over 24 hr, during which they received one 20-min session of intrapulmonary percussive ventilation in upright position (IPV_R), 2 hr after their latest feeding. Two hours after each feeding, the number of reflux episodes (RE) over a 20-min period was registered for each infant and a mean per 20 min was calculated in order to obtain a baseline value. The number of RE during IPV_R intervention was compared to baseline.

RESULTS:

Fifty infants with a median age of 133 days were recruited of whom 21 were diagnosed with pathological GOR. During IPV_R, the incidence of RE in the entire group was significantly lower compared to baseline; median (inter-quartile range [IQR]) 0 (0-1) versus 0.71 (0-1.33) RE, respectively, P = 0.003. The subgroup with abnormal GOR showed also a significant decrease of RE during IPV_R; median (IQR) 0 (0-1) versus 1.17 (0.55-2.16) RE, respectively, P = 0.03. No difference was detected in the group with normal reflux; median (IQR) 0.6 (0-1) compared to 0 (0-1) RE, respectively, P = 0.34.

CONCLUSION:

IPV_R does not induce, nor aggravate GOR in infants without and with pathological GOR, respectively, but on the contrary decreases the number of RE in patients with pathological reflux.

KEYWORDS: airway clearance techniques; children; physical therapy; respiratory physiotherapy

[Pediatr Pulmonol](#). 2016 Feb 24. doi: [10.1002/ppul.23400](#)



PERCUSSIONAIRE[®]
CORPORATION

130 McGhee Road, Suite 109, Sandpoint ID 83864

[percussionaire.com](#)

208.263.2549