# ESPEN 2017 Late Breaking Abstracts

*Topic: Nutritional techniques and formulations*

Abstract Submission Identifier: ESPEN17-LB2-2046

## NEX-METHOD STILL THE BEST PRACTICE? ESTIMATING INTERNAL TUBE LENGTH TO PREDICT THE IDEAL TIP POSITION OF A NASOGASTRIC TUBE: A RANDOMIZED CONTROLLED TRIAL

T. Torsy*, [1], R. Saman [1], K. Boeykens [2]

[1]Health Care, ODISEE UNIVERSITY COLLEGE, [2]Health Care, AZ Nikolaas, Sint-Niklaas, Belgium

**Please indicate your professional occupation:** Nurse

**Rationale:** A correct position of nasogastric tubes in the stomach is essential to minimize complications such as reflux and aspiration of tube feeding in the lungs. The NEX-method (nasal tip - earlobe - xiphoid process) is widely used to estimate the insertion length. Several observational or retrospective studies revealed that this method is probably unreliable[1]. Already in 1979 Hanson suggested to use a formula *(NEX x 0,38696) + 30,37 cm* to pursue correct positioning[2]. This study compares the use of that formula with the use of the NEX-method in adults.

**Methods:** A 9-month RCT was conducted in a Belgian general hospital. External measurement to define the internal tube length was performed by two specialized nutrition support nurses. During the study, two different methods were used to define the internal tube length: NEX-method and *(NEX x 0,38696) + 30,37 cm*. After (re)positioning, 183 tubes were eligible to be assessed through X-ray by 3 radiologists. The ideal tube position was defined as a tube placed with the tip 3 cm or more beyond the LES (= lower esophageal sphincter)[1].

**Results:** There is no significant difference between the NEX-method and *(NEX x 0,38696) + 30,37 cm* to become an ideal tip position into the stomach. In respectively 20,2% and 22,6% of the patients, ideal tip positioning was underestimated (too close to the LES or even not beyond the LES). In the NEX-group was an overestimation of the tube length to be inserted. In 17,2% of the patients tip position was located more than 10 cm beyond the LES.

**Conclusion:** Unlike earlier research, *(NEX x 0,38696) + 30,37 cm* does not result in a better positioning of the tube into the stomach with the tip 3 cm or more beyond the LES as a benchmark. Further research is needed to determine which theoretical concept of length determination is applicable in order to insert the tube to the appropriate length into the stomach.

**References:** [1] Ellett, M.L., Beckstrand, J., Flueckiger, J., Perkins, S.M. & Johnson C.S. (2005). Predicting the insertion distance for placing gastric tubes. *Clinical Nursing Research, 14* (1), 11-27.

[2] Hanson, R.L. (1979). Predictive criteria for length of nasogastric tube insertion for tube feeding. *Journal of Parenteral and Enteral Nutrition, 3* (3), 160-163.

**Disclosure of Interest**: None Declared

**Keywords**: Adults, Internal tube length, Nasogastric tube, NEX