

# DUTCH NATIONAL GUIDELINE UNDERESTIMATES LENGTH OF NASOGASTRIC TUBE

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## Introduction

In the Dutch national guideline on insertion of nasogastric tubes (NGT), tube length is measured from nose to ear to xiphisternum (NEX) whereafter the Hanson formula should be applied. Recently, Taylor (2014) and Chen (2014) stated that tube length calculated with this method is too short to guarantee gastric placement.

The NGT should reach the gastric fundus or body to be able to aspirate fluid. When aspirated fluid has a pH  $\leq 5.5$  gastric position of the NGT is confirmed. In this study we investigated whether the tube length according to the guideline was long enough to be able to aspirate gastric content.

## Methods

From November 2013 until December 2014, we documented NGTs (10 FG) that were inserted in adult patients.

We registered: NEX, length advised by the Dutch guideline and actual inserted length.

Nurses were asked to insert NGTs according to the hospital guideline and to advance the tube only when no aspirate was obtained, until aspirate was obtained.

## Results

108 NGTs in 92 patients were registered (54% female, age  $72 \pm 13$  years). 84 NGTs (78%) were inserted deeper than the guideline prescribed, all other NGTs were inserted until the length according to the guideline.

### Length: actual vs NEX vs Guideline (n = 108)

Mean actual inserted length	56.85 cm
Mean NEX	54.21 cm
Mean length according to guideline	51.33 cm
Mean difference actual vs. NEX	2.64 cm (4.9% deeper)
Mean difference actual vs. Dutch guideline	5.52 cm (10.7% deeper)

## Conclusions

On average NGTs had to be inserted 5.52 cm deeper (10.7%) than prescribed in the Dutch guideline in order to be able to obtain aspirate. This indicates that the Dutch guideline seems to underestimate the actual length of NGTs that is needed to aspirate gastric content.

