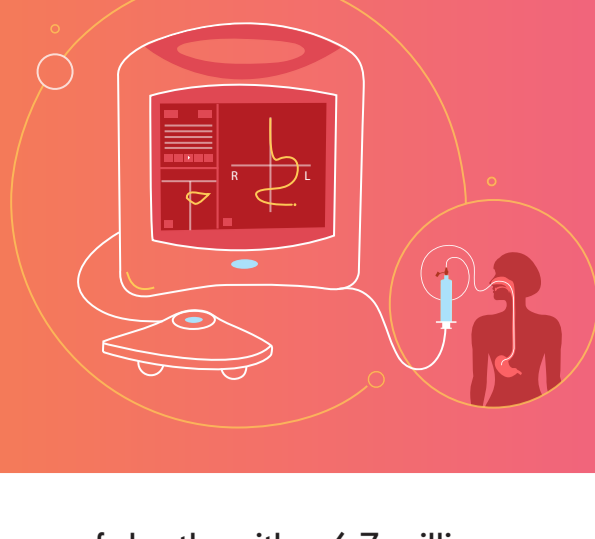
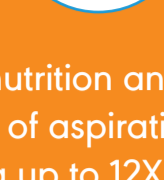


# FEEDING TUBE PLACEMENT IN PATIENTS WITH STROKE



Globally, stroke is the second single most common cause of death, with ~6.7 million deaths each year.<sup>1</sup>

- May result in impaired mobility, communication, dysphagia, and depression.<sup>1</sup>
- As the most common cause of acute dysphagia resulting in malnutrition, it poses an impact on quality of life, as it impacts the patient's ability to independently maintain their nutrition and hydration needs.<sup>1</sup>
  - Prevalence of malnutrition following an acute stroke range from 8%–34%.<sup>1</sup>
  - Malnutrition after a stroke can reduce the chances of survival and functional ability.<sup>1</sup>



## Did you know ?

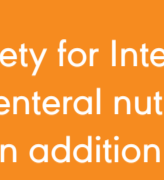
In addition to malnutrition and poor outcomes after stroke, post-stroke dysphagia poses a higher risk of aspiration pneumonia. Studies have shown the risk for this complication being up to 12X higher in dysphagic stroke patients and occurring in up to 30% of patients.<sup>2,3</sup>

*While most acute stroke patients may recover from dysphagia within the first four weeks, around 15% may develop long-term swallowing difficulties.<sup>1</sup>*



## Nasogastric tube feeding in patients with stroke

Enteral tube feeding enables nutrition, hydration and medication delivery in stroke patients.<sup>4</sup>



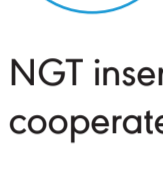
## Did you know ?

The European Society for Intensive Care Medicine (ESICM) guidelines 2017 recommend early enteral nutrition in patients with traumatic brain injury, stroke, spinal cord injury, in addition to severe acute pancreatitis, diarrhea after GI injury, abdominal aortic surgery.<sup>5</sup>

Dysphagic stroke patients must be placed on enteral feeding through an NGT in the first 24 hours of hospital admission.<sup>6</sup>

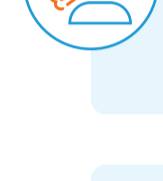
- Guidelines recommend nasogastric tube (NGT) feeding in case of impaired swallowing persistent for 7 days or longer and PEG placement if dysphagia does not recover within 30 days.<sup>7</sup>

NICE guidelines 2019 recommend that in people with acute stroke who are unable to take adequate nutrition, fluids and medication orally must receive tube feeding with a nasogastric tube within 24 hours of admission (unless in case of thrombolysis).<sup>8</sup>



## Challenges of NGT insertion in stroke

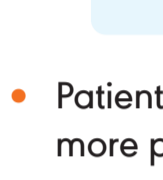
NGT insertion can pose difficulties in patients with severe stroke who are unable to cooperate or understand the procedure.<sup>6</sup>



### Risk of patient intolerance

NGTs are not always well tolerated by stroke patients, who may be unable to cooperate or understand the procedure<sup>6</sup>

Stroke patients may frequently pull out the tube, that may lead to an interruption of nutrition, hydration and/or medication.<sup>6</sup>



### Risks of NGT misplacement and dislodgement

Could result in life-threatening complications, such as aspiration pneumonia, pulmonary hemorrhage, pneumothorax and death<sup>6</sup>

- Patients suffering from dysphagia, vocal cord dysfunction or loss of consciousness are more prone to NGT misplacement.<sup>9</sup>

*It is crucial to reliably confirm NGT tip position in the stomach and ensure no misplacement in the esophagus, nasopharynx or lungs.<sup>6</sup>*



## Methods to confirm NGT tip location

### pH

- pH of gastric aspirate <5.5 is the first-line confirmation test.<sup>4</sup>
- Only helpful if gastric aspirate can be obtained; false negatives (pH>5.5) may occur in patients on acid suppressing medications, causing feeding delays.<sup>4</sup>
- Risk of false positive readings if the tube is misplaced in the esophagus, increasing the risk of aspiration.<sup>4</sup>

### X-ray

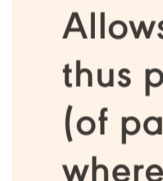
- Second-line confirmation test.<sup>4</sup>
- Misinterpretation is common, with risk of excessive radiation if repeated and costly in terms of radiography department resources; can result in long delays in feeding while waiting for X-ray.<sup>4</sup>

### Auscultation

- Reported incidents where the normal bowel sounds have been mistaken for correct NGT placement while actually misplaced in the lungs.<sup>4</sup>

### Endoscopy/fluoroscopy

- Invasive and costly techniques unsuitable for many stroke patients who are unable to maintain a sitting position or understand the procedure.<sup>4</sup>



## Benefits of using electromagnetic (EM)-guided placement technique for nasogastric feeding tube placement

### Patient comfort and safety

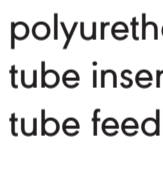
Allows for bedside placement, thus prevent blind placement (of particular value in patients where dysphagia and consciousness impact tube insertion).<sup>9</sup>

### Time-saving

Decreased time to tube placement due to reduced need for X-ray placement confirmation.<sup>9</sup>

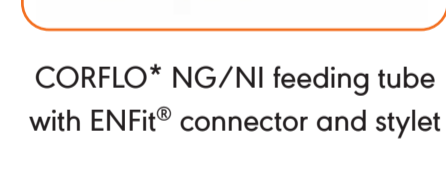
### Cost-saving

Evidence suggests cost savings made by the use of EM-guided placement device.<sup>9</sup>

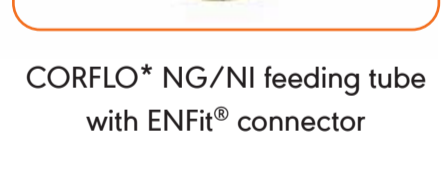


## Our Solution

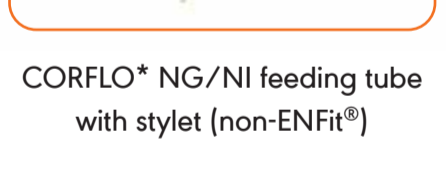
The AVANOS\* CORFLO\* nasogastric/nasointestinal feeding tube is a medical-grade polyurethane feeding tube specifically designed for patient comfort and safety during tube insertion and use. It is intended for use in patients requiring intermittent or continuous tube feedings through nasogastric or nasointestinal route.<sup>10</sup>



CORFLO\* NG/NI feeding tube with ENFit® connector and stylet



CORFLO\* NG/NI feeding tube with ENFit® connector



CORFLO\* NG/NI feeding tube with stylet (non-ENFit®)

### Long-term

Can remain in situ for as long as functional.<sup>11</sup>  
The medical grade polyurethane remains soft and flexible throughout use.<sup>11</sup>  
CORFLO\* feeding tubes should be monitored, regularly assessed, and replaced when clinically indicated and patient condition.<sup>10</sup>

### Identifiable

Clear cm markings for easy identification of tube dislodgements.<sup>11</sup>  
Radiopaque along full length of tube and tip.<sup>11</sup>

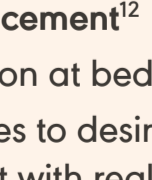
### Increased patient comfort

Simple, water-activated C-19™ external and internal lubricant to ease insertion.<sup>11</sup>

### Anti-clog

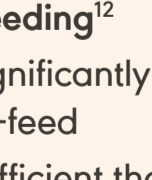
Helps prevent clogging with an anti-clog port that is 3X larger than the inner diameter of the tube.<sup>11</sup>

CORTRAK\* 2 enteral access system allows clinicians to confidently place tubes in an optimal feeding position, quickly confirm location, and reduce the time to nutrition delivery.<sup>12</sup>



### Efficient placement<sup>12</sup>

- Visualization at bedside
- Direct tubes to desired feeding placement with real-time feedback
- Immediately identify misplaced tubes
- Minimize complications, such as lung placements



### Timely feeding<sup>12</sup>

- Can significantly reduce time-to-feed
- More efficient than blind placements with X-ray confirmation

### Reduced burden<sup>12</sup>

- Address feeding needs more quickly
- Can improve patient outcomes
- Save time and resources

Feed patients faster, so that they recover faster.<sup>12</sup>

\*ESICM: European Society of Intensive Care Medicine; NICE: National Institute for Health and Care Excellence  
Institution protocols must always supersede the use of the CORTRAK\* 2. Clinical judgment must always take precedence.<sup>13</sup>

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1. Ojo O, Brooke J. The Use of Enteral Nutrition in the Management of Stroke. *Nutrients*. 2016; 8(12):827. 2. Mahoney C, Rowat A, Macmillan M, Dennis M. Nasogastric feeding for stroke patients: practice and education. *Br J Nurs*. 2015; 24(6):319-20, 322-5. 3. Wirth R, Smoliner C, Jäger M, Wörnecke T, Leischker AH, Döwies R, DCEM Steering Committee\*. Guideline clinical nutrition in patients with stroke. *Exp Transl Stroke Med*. 2013; 5(1):14. 4. Rowat A. Enteral tube feeding for dysphagic stroke patients. *Br J Nurs*. 2015; 24(3):138-45. 5. Reintom Blaser A, Steklauf J, Alhazzani W, et al. Early enteral nutrition in critically ill patients: ESICM clinical practice guidelines. *Intensive Care Med*. 2017; 43(3):380-398. 6. Rowat A. Dysphagia, nutrition and hydration post stroke. *Br J Nurs*. 2014; 23(12):634. 7. Galovic M, Stauber AJ, Leisi N, et al. Development and Validation of a Prognostic Model of Swallowing Recovery and Enteral Tube Feeding After Ischemic Stroke. *JAMA Neurol*. 2019; 76(5):561-570. 8. NICE guidelines. Stroke and transient ischaemic attack in over 16s: diagnosis and initial management [Internet]. [published 2019 May 01; cited 2022 Jul 28]. Available from: <https://www.nice.org.uk/guidance/ng128/resources/stroke-and-transient-ischaemic-attack-in-over-16s-diagnosis-and-initial-management-pdf-66146165603269>. 9. Woon C. On track to the stomach! CORTRAK® for the insertion of nasogastric tubes amongst neuroscience patients-how effective is it? *AJON*. 2020; 30(2):13-8. 10. CORFLO\* NASOGASTRIC / NASOINTESTINAL FEEDING TUBES IFU-Jan 2020. 11. CORFLO ANZ Flyer-2020. 12. Avanos CORTRAK\* 2 ANZ brochure. 13. CORTRAK 2 Quick Start Guide\_15M1360.