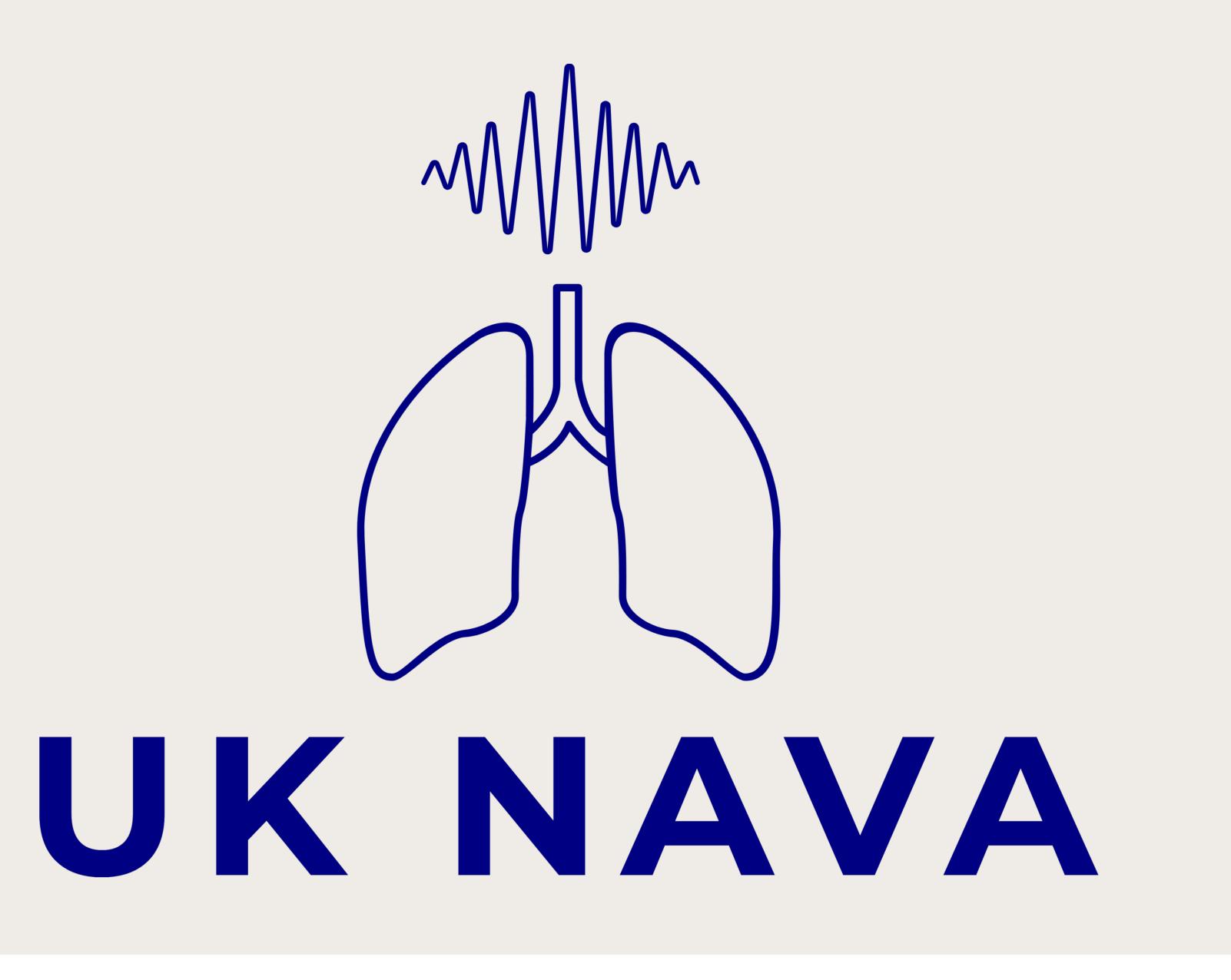
UK NAVA intervention guide

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Using NAVA clinically

QR Code

1. NAVA catheter insertion

Equipment: Servo-u ventilator; EDi module (non-disposable); EDi cable (non-disposable); NAVA catheter (single use); water

Adult NAVA catheter sizes (guidance on box):

12 Fr: For patient height 75 to 160 cm (2' 6" to 5' 3")
16 Fr: For patient height >140 cm (4' 7")

Who? Anyone trained to insert naso-gastric tubes in ICU.

Insertion process:

- Module test: Connect the EDi cable to the EDi module.
 Connect the free end to the test port on the cable. The test should start. Proceed if 'EDi Module Test passed' displayed.
- Estimate insertion depth using the Servo-u:
 Navigate to 'EDi Catheter Insertion' press '>' [left of screen];
 → 'EDi & NAVA' → 'EDi Catheter Insertion'. Measure Nose,
 Ear Lobe, Xiphisternum (NEX). Enter NEX and other information to obtain an estimated insertion depth.
- Catheter insertion:
 Use water to activate lubrication (no other lubricant).
 Insert to the 'estimated depth' (nasal or oral).
 Connect to the ventilator via the EDi cable.

IMPORTANT: Gastric position MUST be confirmed using your hospital's enteral feeding tube policy.

3. NAVA monitoring – what to do clinically

Document the EDipeak value hourly

There will be some variation of EDipeak. If manually entering this value, observe and estimate a representative value or look at the EDipeak average in the right-hand menu on the ventilator.

Overlay the pEDi waveform on the ventilator

Hold your finger on the yellow pressure curve > press Overlay 'None' > select 'pEDi'. This will overlay the pEDi waveform (white) over the current pressure-waveform (yellow).

4. NAVA mode - what to do clinically

NAVA mode should be used in preference to pressure or volume support if in spontaneous ventilation mode.

Continue hourly EDipeak documentation. pEDi cannot be overlayed in NAVA mode.

Switching to NAVA mode

- Select; 'EDi catheter Positioning' to verify catheter position, insertion distance and confirm stable EDi waveform.
- Select 'Set NAVA mode' to set NAVAlevel (see below), trigger, PEEP and backup settings.
- The EDi trigger setting default is 0.5µV. Keep it at this. There may be occasional circumstances where this needs to be changed, see troubleshooting guidance if required.

 Tip: Press and hold items for more information.

Setting the NAVAlevel

The NAVAlevel is measured in cmH₂O/µV. It is the number by which the FDi is multiplied to give the level of pressure support

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Summary, definitions and troubleshooting

NAVA catheter summary

- Performs all functions of a regular enteral feeding catheter.
- The NAVA catheter positioning window cannot be used to confirm gastric placement (follow hospital policy).
- NAVA catheters contain metal and are not MRI compatible.
- They are radiopaque therefore visible on X-ray and CT.
- NAVA catheters should be replaced or removed after 7 days (manufacturer's recommendation).
- Reasons for retention beyond 7 days must be documented.
- Remove on ICU transfer or discharge. Consider regular NG.
- The additional enteral lumen (blue port) is not routinely used. Please follow your local policy.

NAVA monitoring summary

Observing and recording the EDi. Once the catheter is connected, the EDi waveform and values will automatically appear.

What can NAVA monitoring do?

Help to achieve optimal levels of ventilation, oxygenation and sedation support: Too little or too much support may be harmful. The impact of interventions may be clearly seen in the EDi signal; e.g., low/absent diaphragm activity due to excessive sedation or ventilation, even in spontaneous pressure support.

Improve patient / ventilator synchrony: Poor synchrony of patient and ventilator breaths is common and harmful. Using the pEDi monitoring tool to compare waveforms, settings (such as flow cycling %) and support levels (ventilation and sedation) can be adjusted to improve synchrony.

Definitions

EDi. The electrical activity generated by the contraction of the diaphragm muscle, detected by the NAVA catheter.

EDipeak (μ V). Reflects the magnitude of diaphragm contraction for each breath and as a trend over time. Values are commonly between 5–20 μ V, but may be higher in some conditions e.g., COPD where breathing effort is higher.

EDimin (µV). Reflects the diaphragm activity at rest.

EDi waveform. Real-time EDi reflecting breathing activity.

pEDi waveform. When turned on, the EDi waveform appears alongside the airway pressure (Paw) waveform. This monitoring tool makes it easier to compare ventilator and patient activity.

NAVA mode summary

NAVA mode delivers pressure support that is proportional and synchronous to patient spontaneous breathing effort.

Proportional assistance: The level of pressure is proportional to the electrical activity of the diaphragm (EDi). This preserves natural variability of breathing pattern and ensures better adaptation to the patient's needs.

Trigger and cycle mechanism: The NAVA mode uses the EDi as the primary trigger for breaths. The EDi also determines the speed of inspiratory flow and the point of exhalation.

Ventilator trigger sequence:

- 1. EDi (primary trigger) > 2. Flow or Pressure (backup triggers) >
 - 3. Pressure Control mandatory mode (ultimate backup)

Troubleshooting NAVA technology		
Question or issue	Potential cause	Guidance to consider
Absent or low EDi signal	High sedation?	Decrease oxygen and/or ventilation support Optimise sedation Remeasure NEX, optimise in EDi positioning window