



Enteral tube feeding safety in COVID-19 patients

(Updated 13/05/2020)

BAPEN would like to draw the attention of those dealing with enteral tube feeding during the COVID-19 crisis to a number of important issues. BAPEN recognises that resources will be limited and often patchy depending on availability of appropriately trained staff – doctors, nurses, dietitians and pharmacists. The demands posed by large numbers of COVID-19 patients with pneumonia, especially on non-invasive ventilation or ventilators in critical care and intensive care settings will test the capacity of all involved. It follows that special care still needs to be taken to ensure nutritional support is given where indicated whilst avoiding complications associated with tube misplacement in the lungs (or oesophagus) followed by infusion of nutrients, drugs or water – so called “Never Events”. We offer the following pragmatic advice:

1. Nutritional support should be offered as indicated in NICE 32, 2017.
2. Enteral tube feeding in COVID-19 patients in Critical Care and Intensive Care will be limited to short term nasogastric (NGT) or nasojejunal (NJT) tubes. Longer term endoscopic interventions including PEG should be delayed until recovery from the acute respiratory illness, not least because of the limitations placed on upper GI endoscopy and nasal intubations by the BSG due to the AGP status of such procedures except in emergencies. Where COVID or other acute respiratory illness is no longer an issue, and where PEG insertion is otherwise indicated, then this should go ahead in keeping with current BSG guidance on maintaining services for emergency and essential procedures.
Link: <https://www.bsg.org.uk/covid-19-advice/endoscopy-activity-and-covid-19-bsg-and-jag-guidance/>
3. NGT/NJT placement must follow present guidance on safety (NPSA/NHSE Alerts 2005 -2016).
4. In critical care/intensive care, nursing of patients in the prone or supine position prior to tube insertion exposes the patient to risk of aspiration of gastric contents to the oesophagus and lungs and misleading pH in aspirates from those positions. In view of the increasing use of proning in conscious patients prior to intubation and ventilation, this risk is increased and therefore X-ray SHOULD be used to confirm tube position under these conditions and in ALL patients severely ill with COVID-19 respiratory involvement. *See Aide memoire endorsed by FICM, Intensive Care Soc, Assoc of Anaesthetists, RCoA, NNNG & BDA in association with NHSE/I.* <https://www.bapen.org.uk/pdfs/covid-19/aide-memoire-ngt-placement.pdf>
X-rays to confirm tube position MUST be specifically ordered to ensure adequate penetration in view of the extensive dense ground glass appearances seen on chest radiographs of COVID-19 pneumonia. Interpretation of “routine” chest x-rays ordered to assess the status of the pneumonic infiltration is well recognised as a cause of Never Events. (HSIB Interim Report, 12019/006/1B. www.hsib.org.uk). Reporting of x-rays should ideally be by those already trained and competent to do so (NPSA Alerts 2011 & 2016). Radiologist

confirmation would be preferable. See *Aide memoire as above*:

<https://www.bapen.org.uk/pdfs/covid-19/aide-memoire-ngt-placement.pdf>

5. In “step down” facilities for recovering COVID-19 patients, it is acceptable to use pH to check position rather than x-ray. If routine x-ray is used, it should be possible to perform the “4 point check” tube as lung clearance should have occurred by this point*.
6. pH testing also applies for subsequent tube position checks in Critical Care/Intensive care.
7. Aspiration and testing of gastric aspirate for pH≤5.5 or agreed local threshold prior to first use of a tube and thereafter remains the mainstay for position checking on general wards irrespective of COVID-19 status.
8. If specialised staff are available to place nasal feeding tubes using Magnetic induction visualisation (Cortrak) or “IRIS” technique, they can be used but these techniques are not widely available. Where these modalities are used tube position on insertion must still be assessed using X-ray or aspirate pH in accordance with current national guidelines.
9. Nasojejunal tubes should be considered to reduce the additional risk of aspiration in those with high gastric residual volumes.
10. High residual gastric contents in severely ill COVID-19 patients predispose to aspiration and parenteral nutrition may be required in some of those with a prognosis suggestive of recovery.
11. Nasal retention devices should be considered to reduce the rate of inadvertent tube displacement in hospital and those discharged on tube feeding to the community where limited resources are available for tube replacement.
12. NGT or NJT bedside placement in prone patients requires additional skills which should be delivered by staff trained to do so.
13. Continuous pump-controlled feeding is preferable, but if no feeding pump is available, gravity or bolus feeding may be used.
14. All contacts with COVID-19 patients should follow appropriate current guidance on PPE. Since publication of Public Health England (PHE) guidance on PPE (see below), BAPEN and other groups have revised their views on the generation of aerosol during NGT placement and now consider that this procedure is an aerosol generating procedure (AGP) in most circumstances encountered during this crisis, contrary to current PHE guidance – please see: <https://www.bapen.org.uk/pdfs/covid-19/ngt-and-agp-and-ppe.pdf>
PPE appropriate to an AGP is now required. The latest PHE advice can be found at: <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe>
The evidence base for AGP advice on PPE including NGT placement as assessed by NHS Scotland can be found at: https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2893/documents/1_tbp-lr-agp-v1.pdf.
BAPEN has reviewed this evidence and has written to PHE to request that NGT is recognised as an AGP, endorsed by RCN & BDA.
<https://www.bapen.org.uk/pdfs/covid-19/bapen-letter-to-public-health-england.pdf>

Prepared by members of BAPEN’s Nasogastric tube safety Special Interest Group, 31/03/20.

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