Intensive Care Unit Nutrition Guideline

This guideline is a quick reference guide to feeding patients on ICU at North Bristol NHS Trust.

Version 1.1	Valid from 01/03/2022	Review due 01/03/2024	Authors: Stephen Taylor, Rowan Clemente

Introduction

This guideline applies to all patients admitted to Southmead ICU. Follow the enteral feeding process diagram on page 2 for all patients.

Aims and rationale

Days 1-2

Support physiological adaptation to critical illness by:

- Correcting micronutrient deficit to optimise metabolic and anti-oxidant systems.
- Provide minimal EN macronutrients to maintain GI function and immunity.

Days 3-6

Hypocaloric, high nitrogen feeding:

- Energy expenditure: Provide <60% if obese, <80% if other to avoid substrate intolerance
- Nitrogen: 0.2-0.32g/kg/day to optimise wound healing and acute-phase protein response.

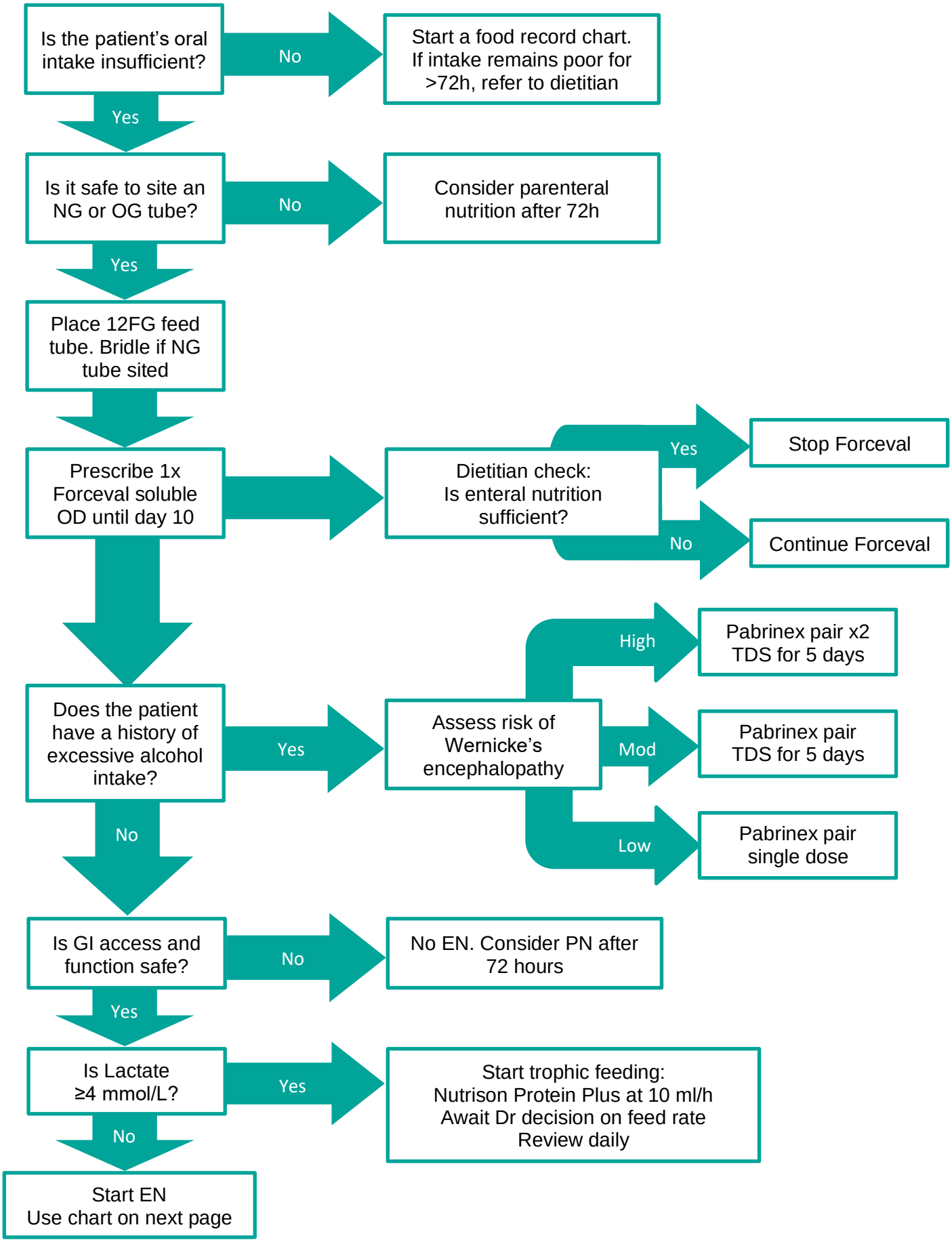
Day 7 onwards

Meet full requirement.

- Energy: Dietitian judges when to meet energy expenditure as substrate tolerance permits.
- Nitrogen and bolus feed/ food: Time to optimise activity-induced anabolism.

Enteral feeding decision tree

Following admission to ICU, the flow chart on the next page should be followed for all patients (excluding PACE admissions).


Is the patient's oral intake insufficient?
No
Start a food record chart. If intake remains poor for >72h, refer to dietitian
Yes
Is it safe to site an NG or OG tube?
No
Consider parenteral nutrition after 72h
Yes
Place 12FG feed tube. Bridle if NG tube sited
Prescribe 1x Forceval soluble OD until day 10
Dietitian check: Is enteral nutrition sufficient?
Yes
Stop Forceval
No
Continue Forceval
Does the patient have a history of excessive alcohol intake?
Yes
Assess risk of Wernicke's encephalopathy
High
Pabrinex pair x2 TDS for 5 days
Mod
Pabrinex pair TDS for 5 days
Low
Pabrinex pair single dose
No
Is GI access and function safe?
No
No EN. Consider PN after 72 hours
Yes
Is Lactate ≥4 mmol/L?
Yes
Start trophic feeding: Nutrison Protein Plus at 10 ml/h Await Dr decision on feed rate Review daily
No
Start EN
Use chart on next page

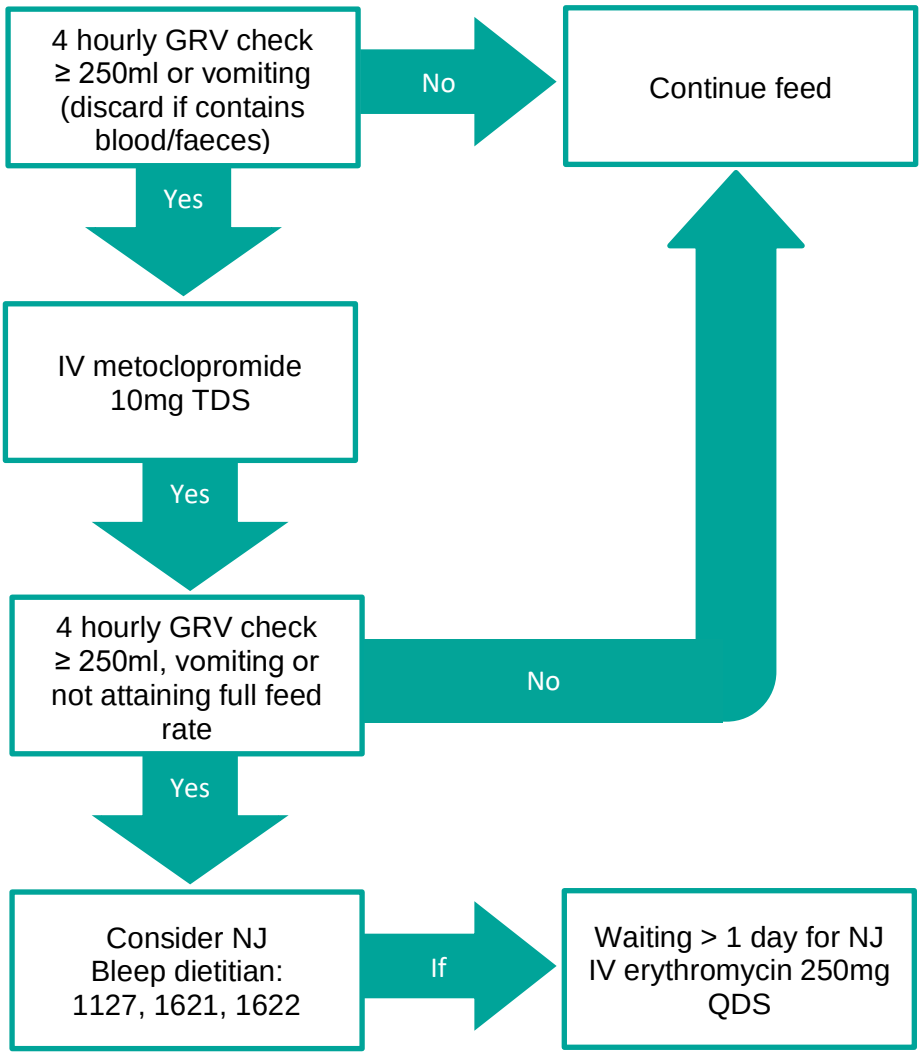
Nutrition action plan

The following decision tool is designed to summarise responsibilities of nursing and medical staff following admission along with providing an aide-memoire for enteral feeding rates and phosphate replacement.

		Screen	Action	Daily WR review
ADMISSION	Nurse	**Insufficient food** **NGT in situ**	Place 12F NGT if necessary and possible Bridle, ensure clip 0.5cm from septum	Confirm tube position
	Doctor	**All patients**	Forceval soluble — 1 tablet OD NG until day 10	Dietitian may cancel
		Wernicke's risk	**High** / **Possible** / **Low** Pabrinex 1 pair: 2 TDS / 1 TDS / 1 OD Duration: 5 days / 5 days / One off	Symptom > dose review
		Burn, CRRT	1 pair Pabrinex IV OD & 10mL Additrace IV OD	Dietitian will review
		No GI access / poor function	No enteral nutrition	**Consider** TPN after 72h
		Lactate > 4.0	10ml/h Nutrison Protein Plus until WR decision.	Feed rate decision

DAILY	Nurse	**Start NG feed (ml/hr)**		**Most patients**	**Fluid restricted or K+ >5.0 & no CRRT**	**Check gastric residual volume 4 hourly**
			Nutrison	**Protein Plus**	**Concentrated**	
			Day 1 & 2	30	20	< 250mL bile/feed:
			Then: full feed	Dietitian regime or use actual weight (kg)		➔ Return + full feed rate
			40kg	40	27	⬇
			50kg	45	30	≥ 250mL or blood / faecal / vomit
			60kg	50	32	➔ Discard + full feed rate
			70kg +	55	35	⬇
	Doctor	**Phosphate**	**IV polyfusor**	**ml**	**ml/hr**	**Hours**	If 2nd > 250mL or vomit
							➔ Metoclopramide 10mg IV TDS
		< 0.5 *		400	33	12	⬇
		< 0.65 *		300	25	12	24h: unresolved or ≤ full rate EN?
			* If <72h of feed > ⬇ feed to 30ml/h until phosphate > 1.0				⬇
		<0.8		200	17	12	Request NJ via dieticians
		0.8-1.0 or if previous day <0.8	**Phosphate sandoz**	1 tablet TDS			If > 24h delay for NJ: Erythromycin 250mg IV QDS
		CRRT	**Adjust daily supplement to maintain PO4 at 1.0-1.4**				Version 2.0, December 19
		New infusion	**Recheck phosphate level before commencing**				

Management of gastric aspirates



Total Parenteral Nutrition (TPN)

In hours

If the multidisciplinary team have made the clinical decision that TPN is required, bleep your Pod dietitian.

Out of hours

If the multidisciplinary team have made the clinical decision that TPN is required over the weekend:

- Complete the TPN calculator (intranet) to determine safest infusion rate

Responsibility	Name	Division / Specialty	Job Title
Authorised by	**ICU SDM**	Intensive Care Unit	-
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