PARENTERAL NUTRITION AUDIT

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)
Data Collection Tool

Hospital number

A. PATIENT AND ADMISSION DETAILS

1. Age at time of admission ☐☐☐ years

If less than 2 years old ☐☐ months ☐☐ weeks ☐☐ days

If premature baby Gestation ☐☐ weeks ☐☐ days

2. Gender: ☐ Male ☐ Female

3. a. Weight: ☐☐☐☐ g or ☐☐☐.☐ Kg ☐ Not recorded

b. Height: ☐☐☐ cm ☐ Not recorded

4. a. Date of admission: ☐☐ / ☐☐ / ☐☐☐☐
d d m m y y y y

Day of week ☐☐☐ (MON, TUE, etc)

b. Was the admission: ☐ A planned admission ☐ Inter-hospital transfer
☐ An emergency admission ☐ Unknown

c. Time of first medical assessment (24hr clock) ☐☐ : ☐☐ Date ☐☐ / ☐☐ / ☐☐☐☐
h h m m d d m m y y y y

☐ Not recorded Day of week ☐☐☐ (MON, TUE, etc)

5. a. Grade of above doctor:
☐ FY1 ☐ Staff grade
☐ FY2 ☐ Consultant
☐ SHO/ST1-2 ☐ Other ☐
☐ FTSTA ☐ Not documented
☐ SpR/ST3 or higher

b. Specialty of admitting doctor: ☐☐☐

B. INDICATION FOR PN

6. a. Under what specialty was the patient when the decision was made to commence PN? ☐☐☐ ☐ Not documented

b. Under what specialty was the patient when the PN administered? ☐☐☐ ☐ Not documented

7. Had the patient previously been given PN? ☐ Yes ☐ No ☐ Unknown

8. a. On what type of ward was the PN initially administered?

- ☐ Adult Medical
- ☐ Adult Surgical
- ☐ Adult Critical Care
- ☐ Paediatric Medical
- ☐ Paediatric Surgical
- ☐ Paediatric Critical care
- ☐ Neonatal unit (SCBU)
- ☐ Dedicated Nutrition ward/area
- ☐ Other
- ☐ Unknown

b. What level of care was this ward?

☐ Level 1 ☐ Level 2 (e.g. HDU) ☐ Level 3 (e.g. ICU) ☐ Unknown

9. a. Was an indication for PN documented in the case notes?

☐ Yes ☐ No

b. If yes what was documented (answers may be multiple)?

- ☐ Immaturity of GI function
- ☐ Congenital anomalies; gut
- ☐ Congenital anomalies; non gut
- ☐ Necrotizing enterocolitis
- ☐ Non functioning gut
- ☐ Perforated/leaking gut
- ☐ Short bowel
- ☐ Dysphagia
- ☐ Obstruction
- ☐ Dysmotility
- ☐ Fistulae
- ☐ Malabsorption
- ☐ Pre-operative nutrition
- ☐ No access for enteral nutrition
- ☐ Failure of enteral nutrition
- ☐ Radiation enteritis
- ☐ GVHD
- ☐ Infection (e.g. C. difficile)
- ☐ Chemotherapy
- ☐ Post-surgical complications
- ☐ Volvulus
- ☐ Crohn's disease
- ☐ Cancer
- ☐ Radiation damage
- ☐ Post-op ileus

☐ Other (please specify

c. In your opinion was the PN administered for an appropriate indication?

☐ Yes ☐ No ☐ Unknown

d. If No please expand on your answer

10. a. Was there an unreasonable delay in recognising that the patient required PN?

☐ Yes ☐ No ☐ Unknown

b. If Yes please expand on your answer

11. a. Was there an unreasonable delay between making the decision that the patient required PN and the commencment of PN?

☐ Yes ☐ No ☐ Unknown

b. If Yes please expand on your answer

12. a. Time PN first administered (24hr clock) ☐☐ : ☐☐ (h h : m m) Date ☐☐ / ☐☐ / ☐☐☐☐ (d d / m m / y y y y)

☐ Not recorded Day of week ☐☐☐ (MON, TUE, etc)

b. Was the PN started at a reasonable time of day? ☐ Yes ☐ No ☐ Unknown

13 a. Was a treatment goal documented? ☐ Yes ☐ No

b. If yes what was this? e.g. optimisation of nutrition pre-surgery

14. a. Had the patient received any kind of enteral feeding in the week prior to the decision to commence PN? ☐ Yes ☐ No ☐ Unknown

b. If Yes, what:

- ☐ Oral supplements
- ☐ Nasogastric feeding
- ☐ Naso-jejunal feeding
- ☐ PEG
- ☐ RIG
- ☐ PEG-J
- ☐ Surgical jejunostomy
- ☐ Distal feeding

c. Why was it not possible to continue to feed the patient enterally?

d. Was adequate consideration given to using enteral nutrition as an alternative to PN? ☐ Yes ☐ No

e. If no please expand on your answer?

C. PATIENT ASSESSMENT

15 a. Did the patient have an assessment made for the need for PN? ☐ Yes ☐ No

b. If Yes what did the assessment involve?

- ☐ Clinical assessment
- ☐ Micro biochemical review
- ☐ Macro biochemical review
- ☐ Weight
- ☐ Mid-arm circumference
- ☐ Tricep circumference/skin fold thickness
- ☐ Grip strength
- ☐ Trial of enteral nutrition
- ☐ Other

c. In your opinion was this adequate for the patient ☐ Yes ☐ No

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d. If No what was missing?

- ☐ Clinical assessment
- ☐ Micro biochemical review
- ☐ Macro biochemical review
- ☐ Weight
- ☐ Mid-arm circumference
- ☐ Tricep circumference/skin fold thickness
- ☐ Grip strength
- ☐ Trial of enteral nutrition
- ☐ Other

16. a. Who made the decision that PN should be commenced (answers may be multiple)?

- ☐ Nurse
- ☐ Dietitian
- ☐ Pharmacist
- ☐ Unknown
- ☐ Doctor
  - specialty (see page 8) ☐☐☐
  - grade (see page 8) ☐☐☐☐
- ☐ Other

b. Were they members of the nutrition team? ☐ Yes ☐ No ☐ Unknown

17. a. What type of PN was first given?

- ☐ Multi-chamber bag ('Off the shelf')
- ☐ Multi-chamber bag ('Off the shelf') with additives e.g. vitamins or electrolytes
- ☐ Bespoke bag
- ☐ Single chamber bag
- ☐ Other
- ☐ Not documented ☐ Insufficient data

b. Was this appropriate for the patient's needs? ☐ Yes ☐ No ☐ Unknown

c. If No please expand on your answer

18. a. Were the patient's PN requirements documented in the casenotes? ☐ Yes ☐ No

b. If yes were these of adequate detail? ☐ Yes ☐ No

19. a. Who reviewed the patient with respect to their PN (answers may be multiple)?

- ☐ Nurse
- ☐ Dietitian
- ☐ Pharmacist
- ☐ Unknown
- ☐ Doctor
  - specialty (see page 8) ☐☐☐
  - grade (see page 8) ☐☐☐☐
- ☐ Other

b. ☐ Yes ☐ No ☐ Unknown

20. a. How often was the patient reviewed with respect to PN?

- ☐ Daily (7 days)
- ☐ Daily (working week)
- ☐ 3-5 days/week
- ☐ 1-2 days/week
- ☐ <1 day/week
- ☐ Unknown

b. What was reviewed (answers may be multiple)?

- ☐ Constitution of PN
- ☐ Biochemical review
- ☐ Clinical status
- ☐ Ongoing need for PN
- ☐ Weight
- ☐ Mid-arm circumference
- ☐ Tricep circumference/skin fold thickness
- ☐ Grip strength
- ☐ Vascular access
- ☐ Other ☐

c. In your opinion was there adequate monitoring of the patient during their PN?

☐ Yes ☐ No ☐ Unknown

d. If no what were the deficiencies (answers may be multiple)?

- ☐ Constitution of PN
- ☐ Biochemical review
- ☐ Clinical status
- ☐ Ongoing need for PN
- ☐ Weight
- ☐ Mid-arm circumference
- ☐ Tricep circumference/skin fold thickness
- ☐ Grip strength
- ☐ Vascular access
- ☐ Other ☐

D. VENOUS ACCESS/LINE CARE

21. a. Was the type of central venous catheter (CVC) or peripheral line documented in the casenotes? ☐ Yes ☐ No

b. If Yes, was this appropriate? ☐ Yes ☐ No

22. a. Was the insertion of the CVC documented in the casenotes? ☐ Yes ☐ No

b. If yes did this include a description of the insertion technique? ☐ Yes ☐ No

c. If Yes what was the designation of the operator? ☐ ☐ Not documented

d. Was the position of the tip documented? ☐ Yes ☐ No

e. If documented, was the tip in an appropriate position? ☐ Yes ☐ No

f. How was the position of the catheter verified?

- ☐ Image intensifier at time of insertion
- ☐ Post insertion CXR
- ☐ ECG
- ☐ Ultrasound
- ☐ Unknown

23. a. Is there evidence of inappropriate CVC care? ☐ Yes ☐ No

b. If Yes please expand on your answer ☐

24. a. Is there evidence of the lumen being used for purposes other than PN? ☐ Yes ☐ No

b. If Yes what other purposes was the line used for

25. a. Did the patient develop any CVC-related complications? ☐ Yes ☐ No

b. If Yes which complications?

- ☐ Line misplacement
- ☐ Accidental removal
- ☐ Pneumothorax
- ☐ Suspected line infection
- ☐ Line occlusion
- ☐ Haemothorax
- ☐ Confirmed line infection
- ☐ Line fracture/rupture
- ☐ TPN-oma/extravasation
- ☐ Phlebitis
- ☐ Venous thrombosis
- ☐ Neuropraxia
- ☐ Other

c. Were any of the complications avoidable? ☐ Yes ☐ No

d. If Yes please expand on your answer

e. Were the complications managed appropriately ☐ Yes ☐ No

f. If No please expand on your answer

E. METABOLIC COMPLICATIONS

26. a. Did the patient develop any metabolic complications? ☐ Yes ☐ No

b. If Yes which complications?

- ☐ Hypophosphataemia (without re-feeding syndrome)
- ☐ Hypermagnesaemia
- ☐ Hypomagnesaemia
- ☐ Hyperphosphataemia
- ☐ Hypokalaemia
- ☐ Hyperkalaemia
- ☐ Hyponatraemia
- ☐ Hyperglycaemia
- ☐ Hypernatraemia
- ☐ re-feeding syndrome

c. Were any of the complications avoidable? ☐ Yes ☐ No ☐ Unknown ☐ NA

d. If Yes please expand on your answer

e. Were the complications managed appropriately ☐ Yes ☐ No ☐ Unknown ☐ NA

f. If No please expand on your answer

27. a. Did the patient develop abnormal LFT's ☐ Yes ☐ No ☐ Unknown

b. If Yes, in your opinion was this related to overfeeding? ☐ Yes ☐ No

28. a. In your opinion was the patient at risk of re-feeding syndrome?

☐ Yes ☐ No
☐ Unknown ☐ NA

b. If Yes was this documented by the clinical team?

☐ Yes ☐ No

c. If Yes to 27b what precautions were taken to prevent re-feeding syndrome?

☐ IV vitamins
☐ IV phosphate infusion
☐ Reduced intial rate of feeding
☐ Other
☐ None
☐ Unknown

29. a. Were IV fluids given in addition to the PN?

☐ Yes ☐ No ☐ Unknown

b. If Yes was this: (answers may be multiple)

☐ To correct deficit
☐ To correct ongoing losses
☐ Routine maintenance fluid provision
☐ Other
☐ No indication for fluids documented

c. If fluid was given, was the type given appropriate?

☐ Yes ☐ No ☐ NA

d. If No to 28c please expand on your answer

e. If fluid was given, was the volume given appropriate?

☐ Yes ☐ No ☐ NA

f. If No to 28e please expand on your answer

30. What was the eventual outcome for this patient (answers may be multiple)?

☐ Weaned onto oral/enteral feeding
☐ Home parenteral nutrition
☐ Transfered to other unit
☐ Discharged home
☐ Died during hospital stay
☐ Other

NATIONAL SPECIALTY CODES

100 = General Surgery
101 = Urology
103 = Breast Surgery
104 = Colorectal Surgery
105 = Hepatobiliary & Pancreatic Surgery
106 = Upper Gastrointestinal Surgery
107 = Vascular Surgery
110 = Trauma & Orthopaedics
120 = Ear, Nose & Throat (ENT)
130 = Ophthamology
140 = Oral Surgery
145 = Maxillo-Facial Surgery
150 = Neurosurgery
160 = Plastic Surgery
161 = Burns Care
170 = Cardiothoracic Surgery
172 = Cardiac Surgery
173 = Thoracic Surgery
180 = Accident & Emergency
190 = Anaesthetics
192 = Critical/Intensive Care Medicine

300 = General Medicine
301 = Gastroenterology
302 = Endocrinology
303 = Clinical Haematology
306 = Hepatology
307 = Diabetic Medicine
314 = Rehabilitation
315 = Palliative Medicine
320 = Cardiology
340 = Respiratory Medicine
350 = Infectious Diseases
352 = Tropical Medicine
360 = Genito-Urinary Medicine
361 = Nephrology
370 = Medical Oncology
400 = Neurology
410 = Rheumatology
430 = Geriatric Medicine
500 = Obstetrics & Gynaecology
501 = Obstetrics
502 = Gynaecology
800 = Clinical Oncology
810 = Radiology
820 = General Pathology
823 = Haematology

171 = Paediatric Surgery
211 = Paediatric Urology
212 = Paediatric Transplantation Surgery
213 = Paediatric Gastrointestinal Surgery
214 = Paediatric Trauma & Orthopaedics
215 = Paediatric Ear, Nose & Throat
217 = Paediatric Maxillo-Facial Surgery
218 = Paediatric Neurosurgery
220 = Paediatric Burns Care
221 = Paediatric Cardiac Surgery
222 = Paediatric Thoracic Surgery
242 = Paediatric Intensive Care
251 = Paediatric Gastroenterology
252 = Paediatric Endocrinology
253 = Paediatric Clinical Haematology
258 = Paediatric Respiratory Medicine
260 = Paediatric Medical Oncology
321 = Paediatric Cardiology
420 = Paediatrics
421 = Paediatric Neurology
422 = Neonatology

CLINICIAN GRADES

Consultant = CONS
Non Consultant Career Grade = NCCG
Staff and Associate Specialist = SAS
Trainee with completed certifcate of training = CCT
Senior specialist trainee (SpR 3+ or ST3+) = ST3
Junior specialist trainee (SpR 1&2 or ST 1&2) = ST2
Basic grade (FY, HO's, SHO's or CT's) = FY