

Appendix 1. The Search Strategy Used in the Systematic Review

Embase.com (Embase incl. Medline):

('enteric feeding'/mj/de OR 'parenteral nutrition'/mj/exp OR 'nutritional support'/mj/de OR (((enteric* OR enteral* OR tube* OR gastric* OR parenteral* OR support*) NEAR/3 (nutrition* OR feeding*))) :ab,ti) **AND** ('child'/exp OR 'adolescent'/exp OR 'pediatrics'/exp OR 'pediatric hospital'/de OR 'pediatric intensive care unit'/de OR 'newborn intensive care'/de OR (child* OR infant* OR newborn* OR pediater* OR paediatr* OR PICU*) :ab,ti) **AND** ('pediatric intensive care unit'/de OR 'newborn intensive care'/de OR 'intensive care'/de OR 'intensive care unit'/de OR 'high risk population'/de OR 'critically ill patient'/de OR 'intensive care nursing'/exp OR (((intensive OR critical*) NEAR/3 (care OR ill*)) OR ICU OR PICU* OR 'high risk') :ab,ti) **AND** ('nutritional assessment'/de OR 'nutritional status'/exp OR (((nutrition* OR diet* OR malnutrition*) NEAR/3 (assess* OR state OR status OR evaluat* OR normal OR good OR index OR indices)) OR eutrophia*) :ab,ti) **NOT** ([animals]/lim NOT [humans]/lim) **NOT** ('Conference Abstract' OR 'Editorial')/

Medline Epub (Ovid):

(exp "Nutritional Support"/ OR (((enteric* OR enteral* OR tube* OR gastric* OR parenteral* OR support*) ADJ3 (nutrition* OR feeding*))) .ab,ti.) **AND** (exp "Child"/ OR "Infant"/ OR "Infant, Newborn"/ OR "Adolescent"/ OR exp "Pediatrics"/ OR "Hospitals, Pediatric"/ OR exp "Intensive Care Units, Pediatric"/ OR "Intensive Care, Neonatal"/ OR (child* OR infant* OR newborn* OR pediater* OR paediatr* OR PICU*) .ab,ti.) **AND** (exp "Intensive Care Units"/ OR exp "Critical Care"/ OR "Critical Illness"/ OR "Critical Care Nursing"/ OR (((intensive OR critical*) ADJ3 (care OR ill*)) OR ICU OR PICU* OR "high risk") .ab,ti.) **AND** ("Nutrition Assessment"/ OR "Nutritional Status"/ OR (((nutrition* OR diet* OR malnutrition*) ADJ3 (assess* OR state OR status OR evaluat* OR normal OR good OR index OR indices)) OR eutrophia*) .ab,ti.) **NOT** (exp animals/ NOT humans/) **NOT** ("congresses" OR "editorial").pt.

Cochrane Central (trials):

(((((enteric* OR enteral* OR tube* OR gastric* OR parenteral* OR support*) NEAR/3 (nutrition* OR feeding*))) :ab,ti) **AND** ((child* OR infant* OR newborn* OR pediater* OR paediatr* OR PICU*) :ab,ti) **AND** (((intensive OR critical*) NEAR/3 (care OR ill*)) OR ICU OR PICU* OR 'high risk') :ab,ti) **AND** (((nutrition* OR diet* OR malnutrition*) NEAR/3 (assess* OR state OR status OR evaluat* OR normal OR good OR index OR indices)) OR eutrophia*) :ab,ti)

Web of Science:

TS=((((enteric* OR enteral* OR tube* OR gastric* OR parenteral* OR support*) NEAR/2 (nutrition* OR feeding*))) **AND** ((child* OR infant* OR newborn* OR pediater* OR paediatr* OR PICU*)) **AND** (((intensive OR critical*) NEAR/2 (care OR ill*)) OR ICU OR PICU* OR "high risk")) **AND** (((nutrition* OR diet* OR malnutrition*) NEAR/2 (assess* OR state OR status OR evaluat* OR normal OR good OR index OR indices)) OR eutrophia*)) **NOT** ((animal* OR rat OR rats OR pig* OR swine*) NOT (human* OR patient*)) **AND** DT=Article

Appendix 2. Mid Upper Arm Circumferences in Children (Boys and Girls)

Simplified field tables

Arm Circumference-for-age BOYS 3 Months to 5 Years (z-scores)								
Year: Month	Months	-3 SD	-2 SD	-1 SD	Median	1 SD	2 SD	3 SD
0: 3	3	10.7	11.6	12.5	13.5	14.5	15.6	16.7
0: 4	4	10.9	11.8	12.8	13.8	14.9	16.0	17.2
0: 5	5	11.1	12.0	13.0	14.1	15.2	16.3	17.5
0: 6	6	11.3	12.2	13.2	14.2	15.4	16.5	17.8
0: 7	7	11.4	12.3	13.3	14.4	15.5	16.7	18.0
0: 8	8	11.4	12.4	13.4	14.5	15.6	16.8	18.1
0: 9	9	11.5	12.4	13.4	14.5	15.7	16.9	18.2
0:10	10	11.5	12.5	13.5	14.6	15.7	17.0	18.3
0:11	11	11.6	12.5	13.5	14.6	15.8	17.0	18.3
1: 0	12	11.6	12.5	13.6	14.6	15.8	17.1	18.4
1: 1	13	11.6	12.6	13.6	14.7	15.8	17.1	18.4
1: 2	14	11.6	12.6	13.6	14.7	15.9	17.1	18.5
1: 3	15	11.7	12.6	13.6	14.7	15.9	17.2	18.5
1: 4	16	11.7	12.7	13.7	14.8	16.0	17.2	18.6
1: 5	17	11.7	12.7	13.7	14.8	16.0	17.3	18.6
1: 6	18	11.8	12.7	13.7	14.8	16.0	17.3	18.7
1: 7	19	11.8	12.8	13.8	14.9	16.1	17.4	18.8
1: 8	20	11.9	12.8	13.8	14.9	16.1	17.4	18.8
1: 9	21	11.9	12.8	13.9	15.0	16.2	17.5	18.9
1:10	22	11.9	12.9	13.9	15.0	16.3	17.6	19.0
1:11	23	12.0	12.9	14.0	15.1	16.3	17.6	19.1
2: 0	24	12.0	13.0	14.0	15.2	16.4	17.7	19.2
2: 1	25	12.1	13.0	14.1	15.2	16.4	17.8	19.2
2: 2	26	12.1	13.1	14.1	15.3	16.5	17.9	19.3
2: 3	27	12.2	13.1	14.2	15.3	16.6	17.9	19.4
2: 4	28	12.2	13.2	14.2	15.4	16.6	18.0	19.5
2: 5	29	12.3	13.2	14.3	15.4	16.7	18.1	19.6
2: 6	30	12.3	13.3	14.3	15.5	16.8	18.1	19.7
2: 7	31	12.3	13.3	14.4	15.5	16.8	18.2	19.7
2: 8	32	12.4	13.3	14.4	15.6	16.9	18.3	19.8

Simplified Field Tables

Arm Circumference-for-age GIRLS 3 Months to 5 Years (z-scores)								
Year: Month	Months	-3 SD	-2 SD	-1 SD	Median	1 SD	2 SD	3 SD
0: 3	3	10.2	11.1	12.0	13.0	14.2	15.4	16.8
0: 4	4	10.5	11.3	12.3	13.4	14.5	15.8	17.2
0: 5	5	10.7	11.5	12.5	13.6	14.8	16.1	17.6
0: 6	6	10.8	11.7	12.7	13.8	15.0	16.3	17.8
0: 7	7	10.9	11.8	12.8	13.9	15.1	16.5	18.0
0: 8	8	11.0	11.9	12.9	14.0	15.2	16.6	18.1
0: 9	9	11.0	11.9	12.9	14.1	15.3	16.7	18.2
0:10	10	11.1	12.0	13.0	14.1	15.4	16.7	18.2
0:11	11	11.1	12.0	13.0	14.2	15.4	16.8	18.3
1: 0	12	11.1	12.1	13.1	14.2	15.4	16.8	18.3
1: 1	13	11.2	12.1	13.1	14.2	15.5	16.8	18.3
1: 2	14	11.2	12.1	13.2	14.3	15.5	16.9	18.4
1: 3	15	11.3	12.2	13.2	14.3	15.6	16.9	18.4
1: 4	16	11.3	12.2	13.3	14.4	15.6	17.0	18.5
1: 5	17	11.4	12.3	13.3	14.4	15.7	17.0	18.5
1: 6	18	11.4	12.3	13.4	14.5	15.7	17.1	18.6
1: 7	19	11.4	12.4	13.4	14.5	15.8	17.1	18.7
1: 8	20	11.5	12.4	13.5	14.6	15.8	17.2	18.7
1: 9	21	11.6	12.5	13.5	14.7	15.9	17.3	18.8
1:10	22	11.6	12.6	13.6	14.7	16.0	17.4	18.9
1:11	23	11.7	12.6	13.7	14.8	16.1	17.5	19.0
2: 0	24	11.7	12.7	13.7	14.9	16.1	17.5	19.1
2: 1	25	11.8	12.7	13.8	15.0	16.2	17.6	19.2
2: 2	26	11.8	12.8	13.9	15.0	16.3	17.7	19.3
2: 3	27	11.9	12.9	13.9	15.1	16.4	17.8	19.4
2: 4	28	11.9	12.9	14.0	15.2	16.5	17.9	19.5
2: 5	29	12.0	13.0	14.1	15.3	16.6	18.0	19.6
2: 6	30	12.0	13.0	14.1	15.3	16.6	18.1	19.7
2: 7	31	12.1	13.1	14.2	15.4	16.7	18.2	19.8
2: 8	32	12.1	13.1	14.2	15.4	16.8	18.3	19.9

Appendix 3. Enteral Feeding Protocol (Bolus and Continuous) in Children Admitted to Intensive Care Unit

	Bolus Feeding			Continuous Feeding		
	0 - 12 mo	1 - 6 y	> 7 y	0 - 12 mo	1 - 6 y	> 7 y
Initiation	10 - 15 mL/kg every 2 - 3 hours	5 - 10 mL/kg every 2 - 3 hours	90 - 120 mL/kg every 3 - 4 hours	1 - 2 mL/kg every hour	1 mL/kg every hour	25 mL/kg every hour
Advance	10 - 30 mL per feeding	30 - 45 mL per feeding	60 - 90 mL per feeding	1 - 2 mL/kg every 2 - 8 hours	1 mL/kg every 2 - 8 hours	25 mL every 2 - 8 hours
Suggested tolerance volumes	20 - 30 mL/kg every 4 - 5 hours	15 - 20 mL/kg every 4 - 5 hours	330 - 480 mL every 4 - 5 hours	6 mL/kg every hour	1 - 5 mL/kg every hour	100 - 150 mL every hour

Appendix 4. A. Protein requirement, B. Glucose infusion rate, C. Guideline for Intralipid dosing and Guideline for SMOF dosing (mg/kg/day) in children admitted to intensive care unit

A.

Age Groups (y)	Daily Needs (g/kg)
0 - 2	2 - 3
2 - 13	1.5 - 2
13 - 18	1.5

B.

Age Groups	GIR	Administration
Infants	5 - 12 mg/kg/min	Begin with 5mg/kg/min and increase 2-5mg/kg/min per day
Older children	2 - 5 mg/kg/min	Begin with 2mg/kg/min and increase 2-3mg/kg/min per day

C.

Dose	Infant (0 - 5 kg)	Children (5 - 20 kg)	Children (21 - 40 kg)	Children (> 40 kg)
Initial dose	0.5-1	1-2	1-1.5	0.5-1
Increase	0.5-1	1	0.5-1	0.5
Standard dose	3	3	1.5-2	0.5-1

D.

Dose	Infant (< 1 year)	1 - 10 years	11 - 17 years
Initial dose	0.5-1	1-2	1
Increase	0.5-1	0.5-1	1
Standard dose	2.5-3	2-2.5	2