EtD 12. What is the enteral nutrition criterion (volume) to stop parenteral nutrition? What is the criterion for stopping lipids?

POPULATION:	Preterm infants receiving parenteral nutrition
INTERVENTION:	A lower volume of enteral feed (mL/kg/day)
COMPARISON:	A higher volume of enteral feed (mL/kg/day)
MAIN OUTCOMES:	**Critical for making a decision** Mortality Neurodevelopmental impairment Sepsis: proven or suspected Faltering growth / body composition **Important but not critical** Adverse effects (other than mortality, bronchopulmonary dysplasia, NEC, sepsis, anaemia of prematurity or retinopathy of prematurity) Fully breastmilk feeding at hospital discharge Fully breastfeeding at hospital discharge Duration of initial hospital stay Time to full enteral feeds Bronchopulmonary dysplasia Necrotizing enterocolitis Retinopathy of prematurity Anaemia of prematurity Cost: cost of intervention, cost of neonatal care and life-long cost **Of limited importance** Time to full sucking feeds
SETTING:	Neonatal care
PERSPECTIVE:	Clinical practice recommendation
BACKGROUND:	In preterm infants, the transition from parenteral nutrition to full enteral feeding is a crucial stage in supporting gut development, growth and overall clinical progress. Parenteral nutrition, which includes the provision of glucose, amino acids and lipids directly into the bloodstream, is essential for some preterm infants during the early days after birth when they are unable to tolerate sufficient volumes of milk to meet their fluid and nutritional requirements. However, there is risk of malnutrition and associated complications if parenteral feeding is stopped too early. In contrast, the longer parenteral nutrition is continued, the greater the risk of line sepsis. Each additional day of parenteral nutrition is linked to a higher risk of sepsis, which must be carefully weighed against the risk of inadequate nutrient intake, especially if the enteral feed is unfortified breastmilk. Identifying a clear enteral feed volume at which parenteral nutrition and lipid infusions can safely cease is important for standardising care. Clinical practice varies between Aotearoa New Zealand neonatal units, but parenteral nutrition is commonly weaned when enteral feeds reach approximately 120 to 140 mL/kg/day, with lipid infusions stopped around the same time. Clear, evidence-based guidance would support safe

	and consistent practice across neonatal care settings.
CONFLICT OF INTERESTS:	None

Assessment

Desirable Effects

How substantial are the desirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
● Trivial ○ Small ○ Moderate ○ Large ○ Varies ○ Don't know	Evidence is based on the National Institute of Health and Care Excellence (NICE) [1] guideline that contained one RCT and 2 cohort studies; an update of trial data from the RCT in NICE guideline [2] and another RCT [3]. 100 mL/kg/day vs. 140 mL/kg/day **Mortality**: RCT: No significant difference in risk of death between earlier and later stopping of parenteral feeds (6 more per 1,000; 23 fewer to 84 more) [Critical]. **Sepsis:** RCT: There was no difference between groups for **central venous catheter-associated sepsis** (28 fewer per 1,000; 41 fewer to 97 more) or for "**late onset sepsis–other than for central line-associated bloodstream infection (CLABSI)**" (90 more per 1,000; 34 fewer to 232 more) between groups. There was no significant difference between groups for **sepsis (culture proven + suspected)** (100mL/kg/day 15/67 (22%) versus 140 mL/kg/day 8/70 (11%). There were no significant differences between groups for **CLABSI** in 100 mL/kg/day (n=106) 10.35 CLABSI rate-events/1000 catheter days versus 140 mL/kg/day (n=104) 10.20 CLABSI rate-events/1000 catheter days [Critical]. **No faltering growth / body composition**: RCT: No significant difference in weight at 36 weeks' post-menstrual age/discharge (MD 28.35 g higher; 61.11 lower to 117.81 higher); Z-score for weight at 36 weeks' post menstrual age (MD 0.08 points higher; 0.16 lower to 0.32 higher); weight <10th percentile at 36 weeks' post menstrual age/discharge (24 more per 1,000; 71 fewer to 146 more); growth velocity from birth to 36 weeks' postmenstrual age (MD 0.2 g/kg/day lower; 0.86 lower to 0.46 higher); length at 36 weeks' postmenstrual age/discharge (MD 0.11 cm lower; 0.68 lower to 0.45 higher); Z-score for length at 36 weeks' postmenstrual age (MD 0.16 points lower; 0.4 lower to 0.08 higher); length <10th percentile at 36 weeks' postmenstrual age/discharge (58 more per 1,000; 45 fewer to 188 more); Head circumference at 36 weeks' postmenstrual age/discharge (MD 0.1cm lower; 0.47 lower to 0.27 higher); Z-score for head circumference at 36 weeks' postmenstrual age (MD 0.1 points lower; 0.38 lower to 0.18 higher) head circumference <10th percentile at 36 weeks' post menstrual age/discharge (10 more per 1,000; 64 fewer to 125 more) [Critical]. **Fully breastfeeding at hospital discharge**: RCT: No significant difference in fully breastfeeding at hospital discharge (88 more per 1,000; 71 fewer to 349 more) [Important].	Full parenteral nutrition provides approximately 100 kcal/kg/day and 3.5 to 4 g/kg/day protein. 120 mL/kg/day expressed breastmilk provides 80 kcal/kg/day and 1.5 g/kg/day 140 mL/kg/day expressed breastmilk provides 92 kcal/kg/day and 1.8 g/kg/day If feeds are increased by at least 20 mL/kg/day each day, there will only be 2 days when nutrition is inadequate. Ireland [2]: RCT follow-up data: Very low birthweight infants. Poland: RCT [3]: Very low birthweight infants. We identified some additional evidence to indicate that a longer duration of parenteral nutrition is associated with increased risk of sepsis: USA [4]: Retrospective case-control study: Infants persistently infected with Coagulase-negative staphylococci were significantly

	Duration of hospital stay: RCT: No significant difference in median duration of hospital stay (days) [Important]. **Bronchopulmonary dysplasia (BPD) / chronic lung disease:** RCT: No significant difference in bronchopulmonary dysplasia (13 more per 1,000; 49 fewer to 117 more) [Important]. **Necrotizing enterocolitis (NEC)**: RCT: No significant difference in NEC (0 fewer per 1,000; 26 fewer to 72 more). [Important] **Retinopathy of prematurity**: RCT: No significant difference in retinopathy of prematurity (75 more per 1,000; 3 fewer to 284 more). [Important] 100 mL/kg/day vs. 120 mL/kg/day **Sepsis:** Cohort study: No significant difference for sepsis between earlier and later stopping of parenteral feeds (91 fewer per 1,000; 234 fewer to 147 more). [Critical] **No faltering growth/body composition:** Cohort study: Earlier stopping reduced the number of infants with weight <10th centile at 36 weeks' post conception (257 fewer per 1,000; 386 fewer to 92 fewer); length <10th centile at 36 weeks' post conception (195 fewer per 1,000; 332 fewer to 0 fewer) and head circumference <10th centile at 36 weeks' post conception (361 fewer per 1,000; 494 fewer to 180 fewer). [Critical] **Duration of hospital stay**: Cohort study: No significant difference in median duration of hospital stay (MD 7.9 days lower; 19.1 lower to 3.3 higher). [Important] **Necrotizing enterocolitis (NEC)**: Cohort study: No significant difference in NEC. Unable to calculate effect estimate due to low or no event rates. [Important] **Desirable effects for Māori** No additional evidence available	more likely to have a greater duration of exposure to parenteral nutrition (OR 1.45 parenteral nutrition days; 95%CI 1.26 to 1.66 P<0.001). Netherlands [5]: Case-control study: Duration of parenteral feeding was identified as an independent risk factor for late onset sepsis development irrespective of the causative pathogen (OR 1.13; 95% 1.04 to 1.22; P = 0.003). South Korea [6]: Implementation study reducing number of days of central line for 195 very low birthweight infants. There was a significant reduction in blood culture-proven sepsis (25.6% vs. 10.5%, P=0.008).

Outcomes	№ of participants (studies) Follow-up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI)	
				Risk with a higher volume of enteral feed (mL/kg/day)	Risk difference with a lower volume of enteral feed (mL/kg/day)
Mortality: RCT: 100 mL/kg/day vs. 140 mL/kg/day	347 (2 RCTs)	⨁⨁⨁◯ Moderate[a]	**RR 1.15** (0.43 to 3.10)	Study population	
				40 per 1,000	**6 more per 1,000** (23 fewer to 84 more)
Neurodevelopmental impairment - not measured	-	-	-	-	-
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Central line-associated bloodstream infection rate-events/1000 catheter days	210 (1 RCT)	⨁⨁◯◯ Low[b]	-	100mL/kg/day (n=106) 10.35 Central line-associated bloodstream infection rate-events/1000 catheter days 140 mL/kg/day (n=104) 10.20 Central line-associated bloodstream infection rate-events/1000 catheter days	
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Central venous catheter- associated	137 (1 RCT)	⨁⨁⨁◯ Moderate[a]	**RR 0.35** (0.04 to 3.27)	Study population	
				43 per 1,000	**28 fewer per 1,000**

					(41 fewer to 97 more)
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Late onset sepsis – other than Central line-associated bloodstream infection	210 (1 RCT)	⨁⨁◯◯ Low[b]	**OR 1.51** (0.84 to 2.70)	Study population	
				279 per 1,000	**90 more per 1,000** (34 fewer to 232 more)
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Culture proven and suspected sepsis	347 (1 RCT)	⨁⨁⨁⨁ High	-	100mL/kg/day 15/67 (22%) 140 mL/kg/day 8/70 (11%) Not significant	
Sepsis: proven or suspected: Observational study: 100 mL/kg/day vs. 120 mL/kg/day	87 (1 non-randomised study)	⨁◯◯◯ Very low[b,c]	**RR 0.79** (0.46 to 1.34)	Study population	
				432 per 1,000	**91 fewer per 1,000** (234 fewer to 147 more)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Weight (g) at 36 weeks' post menstrual age/discharge	338 (2 RCTs)	⨁⨁◯◯ Low[b]	-	The mean faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **2,289 g**	MD **28.35 higher** (61.11 lower to 117.81 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Z-score for weight at 36 weeks' post menstrual age	201 (1 RCT)	⨁⨁◯◯ Low[a,d]	-	The mean faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **-1.13 points**	MD **0.08 higher** (0.16 lower to 0.32 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Weight < 10th percentile at 36 weeks' post menstrual age/discharge	338 (2 RCTs)	⨁⨁⨁◯ Moderate[a]	**RR 1.06** (0.82 to 1.37)	Study population	
				394 per 1,000	**24 more per 1,000** (71 fewer to 146 more)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Growth velocity from birth to 36 weeks' postmenstrual age (g/kg/day)	201 (1 RCT)	⨁⨁◯◯ Low[a,d]	-	The mean faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **13.8 g/kg/day**	MD **0.2 lower** (0.86 lower to 0.46 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Length (cm) at 36 weeks' postmenstrual age/discharge	323 (2 RCTs)	⨁⨁◯◯ Low[a,e]	-	The mean faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **43.9 cm**	MD **0.11 lower** (0.68 lower to 0.45 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Z-score for length at 36 weeks' postmenstrual age	186 (1 RCT)	⨁⨁◯◯ Low[a,d]	-	The mean faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **-1.11** points	MD **0.16 points lower** (0.4 lower to 0.08 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Length < 10th percentile at 36 weeks' postmenstrual age/discharge	323 (2 RCTs)	⨁⨁⨁◯ Moderate[a]	**RR 1.13** (0.90 to 1.42)	Study population	
				448 per 1,000	**58 more per 1,000** (45 fewer to 188 more)
Faltering growth / body composition: RCT: 100	320	⨁⨁⨁◯	-	The mean faltering growth / body	MD **0.1 lower**

mL/kg/day vs. 140 mL/kg/day assessed with: Head circumference at 36 weeks' postmenstrual age/discharge (cm)	(2 RCTs)	Moderate[a]		composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **31.95 cm**	(0.47 lower to 0.27 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Z-score for HC at 36 weeks' postmenstrual age	183 (1 RCT)	⨁⨁◯◯ Low[a,d]	-	The mean faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day was **-0.44** Points	MD **0.1 Points lower** (0.38 lower to 0.18 higher)
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Head circumference < 10th percentile at 36 weeks' postmenstrual age/discharge	320 (2 RCTs)	⨁⨁⨁◯ Moderate[a]	**RR 1.05** (0.68 to 1.62)	Study population	
				201 per 1,000	**10 more per 1,000** (64 fewer to 125 more)
Faltering growth / body composition: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Weight gain - weight <10th centile - At 36 weeks' post conception	87 (1 non-randomised study)	⨁◯◯◯ Very low[b,c]	**RR 0.72** (0.58 to 0.90)	Study population	
				919 per 1,000	**257 fewer per 1,000** (386 fewer to 92 fewer)
Faltering growth / body composition: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Linear growth - length <10th centile - At 36 weeks' post conception	87 (1 non-randomised study)	⨁◯◯◯ Very low[b,c]	**RR 0.76** (0.59 to 1.00)	Study population	
				811 per 1,000	**195 fewer per 1,000** (332 fewer to 0 fewer)
Faltering growth / body composition: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Head circumference <10th centile - At 36 weeks' post conception	87 (1 non-randomised study)	⨁◯◯◯ Very low[b,c]	**RR 0.54** (0.37 to 0.77)	Study population	
				784 per 1,000	**361 fewer per 1,000** (494 fewer to 180 fewer)
Adverse effects - not measured	-	-	-	-	-
Fully breastmilk feeding at hospital discharge - not measured	-	-	-	-	-
Fully breastfeeding at hospital discharge: RCT: 100 mL/kg/day vs. 140 mL/kg/day	112 (1 RCT)	⨁⨁◯◯ Low[a,d]	**RR 1.26** (0.79 to 2.03)	Study population	
				339 per 1,000	**88 more per 1,000** (71 fewer to 349 more)
Duration of initial hospital stay: RCT: 100 mL/kg/day vs. 140 mL/kg/day	137 (1 RCT)	⨁⨁⨁⨁ High	-	A RCT reported length of stay as Median 49.6 days (IQR 38.2, 69.2) n=67 for 100 mL/kg/day vs. 53.32 days (IQR 35.3) n=70 for 140 mL/kg/day (not significant).	
Duration of initial hospital stay: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Days	87 (1 non-randomised study)	⨁◯◯◯ Very low[b,c]	-	The mean duration of initial hospital stay: Observational study: 100 mL/kg/day vs. 120 mL/kg/day was **76.8 days**	MD **7.9 lower** (19.1 lower to 3.3 higher)
Time to full enteral feeds - not measured	-	-	-	-	-
Bronchopulmonary dysplasia (BPD) / chronic lung disease: RCT: 100 mL/kg/day vs. 140 mL/kg/day	347 (2 RCTs)	⨁⨁⨁◯ Moderate[a]	**RR 1.09** (0.67 to 1.78)	Study population	
				149 per 1,000	**13 more per 1,000** (49 fewer to 117 more)

Necrotizing enterocolitis (NEC): RCT: 100 mL/kg/day vs. 140 mL/kg/day	347 (2 RCTs)	⨁⨁⨁◯ Moderate[a]	**RR 1.00** (0.36 to 2.80)	Study population	
				40 per 1,000	**0 fewer per 1,000** (26 fewer to 72 more)
Necrotizing enterocolitis (NEC): Observational study: 100 mL/kg/day vs. 120 mL/kg/day	87 (1 non-randomised study)	⨁◯◯◯ Very low[c,f]	**OR 5.82** (0.35 to 97.53)	Study population	
				0 per 1,000	**0 fewer per 1,000** (0 fewer to 0 fewer)
Retinopathy of prematurity (ROP): RCT: 100 mL/kg/day vs. 140 mL/kg/day	210 (1 RCT)	⨁⨁◯◯ Low[a,d]	**RR 2.55** (0.94 to 6.90)	Study population	
				48 per 1,000	**75 more per 1,000** (3 fewer to 284 more)
Anaemia of prematurity - not measured	-	-	-	-	-
Cost: cost of intervention, cost of neonatal care and life-long cost - not measured	-	-	-	-	-
Time to full sucking feeds - not measured	-	-	-	-	-

a. Downgraded one level due to imprecision
b. Downgraded two levels for serious imprecision
c. Downgraded one level due concerns for risk of bias
d. Downgraded one level as evidence is based on a single study
e. Downgraded one level as I2=>50 but <80%
f. Downgraded two level for imprecision due to low/no event rate

Undesirable Effects

How substantial are the undesirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
● Trivial ○ Small ○ Moderate ○ Large ○ Varies ○ Don't know	No evidence **Undesirable effects for Māori** No additional evidence available	

Certainty of evidence

What is the overall certainty of the evidence of effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Very low ○ Low ● Moderate ○ High ○ No included studies	High to very low certainty of evidence overall. **Certainty of evidence for Māori** No additional evidence available	

Outcomes	Importance	Certainty of the evidence (GRADE)
Mortality: RCT: 100 mL/kg/day vs. 140 mL/kg/day	CRITICAL	⨁⨁⨁◯ Moderate[a]
Neurodevelopmental impairment - not measured	CRITICAL	-
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Central line-associated bloodstream infection rate-events/1000 catheter days	CRITICAL	⨁⨁◯◯ Low
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Central venous catheter- associated	CRITICAL	⨁⨁⨁◯ Moderate[a]
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Late onset sepsis – other than Central line-associated bloodstream infection	CRITICAL	⨁⨁◯◯ Low[b]
Sepsis: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Culture proven and suspected sepsis	CRITICAL	⨁⨁◯◯ Low
Sepsis: proven or suspected: Observational study: 100 mL/kg/day vs. 120 mL/kg/day	CRITICAL	⨁◯◯◯ Very low[b,c]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Weight (g) at 36 weeks' post menstrual age/discharge	CRITICAL	⨁⨁◯◯ Low[b]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Z-score for weight at 36 weeks' post menstrual age	CRITICAL	⨁⨁◯◯ Low[a,d]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Weight < 10th percentile at 36 weeks' post menstrual age/discharge	CRITICAL	⨁⨁⨁◯ Moderate[a]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Growth velocity from birth to 36 weeks' postmenstrual age (g/kg/day)	CRITICAL	⨁⨁◯◯ Low[a,d]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Length (cm) at 36 weeks' postmenstrual age/discharge	CRITICAL	⨁⨁◯◯ Low[a,e]

Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Z-score for length at 36 weeks' postmenstrual age	CRITICAL	⨁⨁◯◯ Low[a,d]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Length < 10th percentile at 36 weeks' postmenstrual age/discharge	CRITICAL	⨁⨁⨁◯ Moderate[a]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Head circumference at 36 weeks' postmenstrual age/discharge (cm)	CRITICAL	⨁⨁⨁◯ Moderate[a]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Z-score for HC at 36 weeks' postmenstrual age	CRITICAL	⨁⨁◯◯ Low[a,d]
Faltering growth / body composition: RCT: 100 mL/kg/day vs. 140 mL/kg/day assessed with: Head circumference < 10th percentile at 36 weeks' postmenstrual age/discharge	CRITICAL	⨁⨁⨁◯ Moderate[a]
Faltering growth / body composition: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Weight gain - weight <10th centile - At 36 weeks' post conception	CRITICAL	⨁◯◯◯ Very low[b,c]
Faltering growth / body composition: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Linear growth - length <10th centile - At 36 weeks' post conception	CRITICAL	⨁◯◯◯ Very low[b,c]
Faltering growth / body composition: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Head circumference <10th centile - At 36 weeks' post conception	CRITICAL	⨁◯◯◯ Very low[b,c]
Adverse effects - not measured	IMPORTANT	-
Fully breastmilk feeding at hospital discharge - not measured	IMPORTANT	-
Fully breastfeeding at hospital discharge: RCT: 100 mL/kg/day vs. 140 mL/kg/day	IMPORTANT	⨁⨁◯◯ Low[a,d]
Duration of initial hospital stay: RCT: 100 mL/kg/day vs. 140 mL/kg/day	IMPORTANT	⨁⨁⨁⨁ High
Duration of initial hospital stay: Observational study: 100 mL/kg/day vs. 120 mL/kg/day assessed with: Days	IMPORTANT	⨁◯◯◯ Very low[b,c]
Time to full enteral feeds - not measured	IMPORTANT	-
Bronchopulmonary dysplasia (BPD) / chronic lung disease: RCT: 100 mL/kg/day vs. 140 mL/kg/day	IMPORTANT	⨁⨁⨁◯ Moderate[a]
Necrotizing enterocolitis (NEC): RCT: 100 mL/kg/day vs. 140 mL/kg/day	IMPORTANT	⨁⨁⨁◯ Moderate[a]
Necrotizing enterocolitis (NEC): Observational study: 100 mL/kg/day vs. 120 mL/kg/day	IMPORTANT	⨁◯◯◯ Very low[c,f]

Retinopathy of prematurity (ROP): RCT: 100 mL/kg/day vs. 140 mL/kg/day	IMPORTANT	⨁⨁◯◯ Low[a,d]
Anaemia of prematurity - not measured	IMPORTANT	-
Cost: cost of intervention, cost of neonatal care and life-long cost - not measured	IMPORTANT	-
Time to full sucking feeds - not measured	NOT IMPORTANT	-

a. Downgraded one level due to imprecision
b. Downgraded two levels for serious imprecision
c. Downgraded one level due concerns for risk of bias
d. Downgraded one level as evidence is based on a single study
e. Downgraded one level as I2=>50 but <80%
f. Downgraded two level for imprecision due to low/no event rate

Values

Is there important uncertainty about or variability in how much people value the main outcomes?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Important uncertainty or variability ● Possibly important uncertainty or variability ○ Probably no important uncertainty or variability ○ No important uncertainty or variability	Possibly important uncertainty or variability **Values for Māori** No additional evidence available	

Balance of effects

Does the balance between desirable and undesirable effects favour the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Favours the comparison ○ Probably favours the comparison ● Does not favour either the intervention or the comparison ○ Probably favours the intervention ○ Favours the intervention	**100 mL/kg/day vs. 140 mL/kg/day - high certainty evidence** Uncertain effect on duration of hospital stay, central line associated blood infection/culture proven and suspected sepsis **100 mL/kg/day vs. 140 mL/kg/day - moderate certainty evidence** Uncertain effect on mortality, weight, length and head circumference <10th percentile, head circumference, bronchopulmonary dysplasia/chronic lung disease, NEC, central venous catheter-associated sepsis **100 mL/kg/day vs. 140 mL/kg/day - low certainty evidence** Uncertain effect on weight, weight z score, growth velocity, length, length z score, head circumference z score, fully breastfeeding at hospital discharge, retinopathy of prematurity, late onset sepsis other	The NICE guideline notes that the central venous catheter associated sepsis is clinically significant although it does not reach statistical significance

○ Varies ○ Don't know	than central line-associated blood infection **100 mL/kg/day vs. 120 mL/kg/day - very low certainty evidence** Reduced the number of infants with weight, length and head circumference <10th centile. Uncertain effect on sepsis, duration of hospital stay, NEC **Balance of effects for Māori -** No additional evidence available	

Resources required

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Large costs ○ Moderate costs ● Negligible costs and savings ○ Moderate savings ○ Large savings ○ Varies ○ Don't know	Assuming clinician time to prescribe standardised PN and EN and nursing time to administer and may be similar for PN and EN. **Costs for parenteral nutrition:** Glucose, amino acid and electrolyte standard solution (aqueous phase) Aqueous solution: Company A approx. $140 (used for 48 hours) Company B $118 (used for 96 hours) = $29.50 to $70 per day SMOFLipid, including vitamins per syringe: approx. $51 to $71 (used for 48 hours) = $25.50 to $35.50 **Total $55 to $105 per day plus** Catheter Giving sets IV Pump Parenteral nutrition is substantially more expensive than enteral nutrition, so fewer days of parenteral nutrition will save money. **Resources required for Māori** No additional evidence available	

Certainty of evidence of required resources

What is the certainty of the evidence of resource requirements (costs)?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Very low ● Low ○ Moderate ○ High ○ No included studies	Costs may vary **Certainty of evidence of required resources for Māori** No additional evidence available	

Cost effectiveness

Does the cost-effectiveness of the intervention favour the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Favours the comparison ○ Probably favours the comparison ○ Does not favour either the intervention or the comparison ○ Probably favours the intervention ○ Favours the intervention ○ Varies ● No included studies	No studies were identified that address cost of early versus late stopping of parenteral feeds in preterm infants.	

Equity

What would be the impact on health equity?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Reduced ○ Probably reduced ● Probably no impact ○ Probably increased ○ Increased ○ Varies ○ Don't know	**Equity for Māori** Influenced by the effects of colonisation, pēpi Māori are more likely to be born preterm, have more sepsis and neurodisability, both of which are associated with parenteral nutrition practices, and fewer survive. Thus, implementing standardised parenteral nutrition practices in Aotearoa New Zealand will contribute to achieving equitable health outcomes for preterm pēpi Māori and their whānau. **Equity for Pacific families** Implementing standardised parenteral nutrition practices in Aotearoa New Zealand will contribute directly to reducing health disparities for Pacific peoples **Equity for other underrepresented groups** Families from diverse backgrounds may not be informed about the safety and practical reasons behind minimising the number of days on parenteral nutrition. If errors occur, trust may be affected. Equity requires consistent safety protocols and proactive, inclusive communication that reassures and involves all families in understanding care procedures.	

Acceptability

Is the intervention acceptable to key stakeholders?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS

○ No ○ Probably no ● Probably yes ○ Yes ○ Varies ○ Don't know	Probably acceptable	

Feasibility

Is the intervention feasible to implement?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ No ○ Probably no ○ Probably yes ● Yes ○ Varies ○ Don't know	The intervention is feasible.	

Summary of Judgements

	JUDGEMENT						
DESIRABLE EFFECTS	**Trivial**	Small	Moderate	Large		Varies	Don't know
UNDESIRABLE EFFECTS	**Trivial**	Small	Moderate	Large		Varies	Don't know
CERTAINTY OF EVIDENCE	Very low	Low	**Moderate**	High			No included studies
VALUES	Important uncertainty or variability	**Possibly important uncertainty or variability**	Probably no important uncertainty or variability	No important uncertainty or variability			
BALANCE OF EFFECTS	Favours the comparison	Probably favours the comparison	**Does not favour either the intervention or the comparison**	Probably favours the intervention	Favours the intervention	Varies	Don't know
RESOURCES REQUIRED	Large costs	Moderate costs	**Negligible costs and savings**	Moderate savings	Large savings	Varies	Don't know

	JUDGEMENT						
CERTAINTY OF EVIDENCE OF REQUIRED RESOURCES	Very low	**Low**	Moderate	High			No included studies
COST EFFECTIVENESS	Favours the comparison	Probably favours the comparison	Does not favour either the intervention or the comparison	Probably favours the intervention	Favours the intervention	Varies	**No included studies**
EQUITY	Reduced	Probably reduced	**Probably no impact**	Probably increased	Increased	Varies	Don't know
ACCEPTABILITY	No	Probably no	**Probably yes**	Yes		Varies	Don't know
FEASIBILITY	No	Probably no	Probably yes	**Yes**		Varies	Don't know

Type of Recommendation

Strong recommendation against the intervention	Conditional recommendation against the intervention	**Conditional recommendation for either the intervention or the comparison**	Conditional recommendation for the intervention	Strong recommendation for the intervention
○	○	●	○	○

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