AA 3. How many hours should pass before starting parenteral nutrition in extremely preterm infants?

Source recommendation			Back to question list
Source guideline title and developer	Neonatal parenteral nutrition NICE Guideline, 2020, No. 154 https://www.nice.org.uk/guidance/ng154/chapter/Recommendations#indications-for-and-timing-of-neonatal-parenteral-nutrition		
Existing guidelines recommendation	When a preterm baby meets the indications for parenteral nutrition, start it as soon as possible, and within 8 hours at the latest.		
Year published	2020		
Search updated/assessment of new evidence	August 2025. No new evidence was identified.		
Strength	Conditional		
GRADE certainty of evidence	Very low		
Were EtD and SoF available?	https://www.nice.org.uk/guidance/ng154/evidence/a2-optimal-timeframe-to-start-parenteral-nutrition-pdf-7083230942		
Is the recommendation recent and credible	Yes - AGREE II score 88%		
Assessment of suitability for adolopment			
Is the recommendation relevant to local setting (population/ intervention/comparator)?	Yes		
Are the judgements in the source EtD acceptable without modification?	Yes		
Are any local contextual factors different (e.g. cost, equity, feasibility)?	Some Aotearoa New Zealand units already aim to provide parenteral nutrition within 6 hours of birth.		

EtD Criterion	Summary of Local Evidence or Context	Judgement	Notes
Problem	Timely nutritional support is critical in extremely preterm infants who are unable to tolerate enteral feeding.	Priority	Associated with metabolic instability and catabolism in early life.
Desirable effects	Provides early energy and protein to prevent catabolic state and support organ development.	Large	Supports survival, growth and long-term neurodevelopment potential.
Undesirable effects	Potential line-related infections and metabolic disturbances with early use.	Small	Manageable with proper aseptic technique and monitoring.
Certainty of evidence	Very low certainty of evidence and consensus-based guidance from NICE	Very low	No strong RCTs on current clinical practice, but consistent expert support. Very low quality, indicating high uncertainty in the reliability of the data, with the exception of energy intake which was considered moderate quality.
Values and preferences	Clinicians value early stabilisation: families often accept early intervention to support fragile infants.	Possibly some variability	Likely acceptable given perceived benefit and low risk.
Balance of effects	Net benefit from early initiation likely outweighs small risks when managed well.	Favours intervention	Consistent with international standards.

Resources required	Early preparation and administration may require extra nursing time.	Moderate	Requires coordination across disciplines.
Certainty of resource evidence	Aotearoa New Zealand cost data and staffing estimates available; comparable to ASPEN context.	High	Routine practice in neonatal units.
Cost-effectiveness	Avoiding complications from catabolic state or delayed nutrition likely to save long-term costs.	Favours intervention	Supported by modelling and neonatal outcome data.
Equity	Clear guidance helps ensure timely and consistent care for all babies, including Māori and Pacific infants.	Probably increased	Reduces care variation by ethnicity or location.
Acceptability	Neonatal teams familiar with early parenteral nutrition protocols; families reassured by proactive care.	Yes	Likely high uptake if recommendation is clear.
Feasibility	Widespread use already exists; protocols and training can support consistent delivery.	Yes	Feasible in both tertiary and regional settings.

Judgement criteria for EtD	
Decision Type	☑ Adopted as is ☐ Adapted ☐ De novo recommendation required
Explanation of adoption	NICE recommendations and our current practice align on starting parenteral nutrition early.
Final Recommendation	
Recommendation statement (adopted)	When a preterm baby meets the indications for parenteral nutrition, start it as soon as possible, and within 8 hours at the latest.
Strength	Conditional
Certainty of evidence	Very low
Basis for decision	Adopted from NICE 2020 guidelines. Supports early initiation of parenteral nutrition while allowing for realistic clinical application in all neonatal units.
Subgroup Considerations	Particularly relevant to infants born <28 weeks or <1,000 g who may have a prolonged transition to full enteral feeding.
Implementation Considerations	Ensure availability of early vascular access protocols, standard parenteral nutrition solutions, education for staff on timing targets and coordination between clinical teams.
Monitoring and Evaluation	Audit timing of parenteral nutrition initiation and correlate with short-term metabolic outcomes and infection rates.
Research Priorities	Research comparing parenteral nutrition initiation at <8 hours vs. 8–12 hours in extremely preterm infants