

e-table 4

Indicators for, modes of delivery, limitations and monitoring of nutrition support for surgical patients ^{2,9}

Patients needing nutritional support

- Undernourished preoperatively – weight loss > 10%, underweight (BMI < 18)
- Anticipated/actual intake minimal/limited > 7 days
- Complications, infection
- ↑operative risk – inflammatory bowel disease, heart disease, diabetes, cirrhosis, alcoholism, renal disease, morbid obesity, cancer, AIDS, elderly, neurosurgical
- major injury, sepsis

	Oral Can/will eat and swallow Functional gut	Enteral Functional gut Can supplement poor oral intake	Parenteral Non-functional/inaccessible gut Obstruction, ↓ absorptive surface, extended feed intolerance, intractable diarrhoea
DELIVERY	<p>Food fortification</p> <ul style="list-style-type: none"> • ↑ energy density • commercial or homemade <p>Oral supplements</p> <ul style="list-style-type: none"> • commercial or homemade 	<p>Nasogastric</p> <ul style="list-style-type: none"> • low risk aspiration • short term feeding, < 14 days <p>Nasoenteral</p> <ul style="list-style-type: none"> • high risk aspiration • short term feeding, < 14 days • ↓ gastric motility • bolus, continuous, overnight; gravity-fed, pump <p>Gastrostomy/ (jejunostomy)</p> <ul style="list-style-type: none"> • high risk aspiration • long term feeding anticipated 	<p>Peripheral</p> <ul style="list-style-type: none"> • short term feeding <p>Total parenteral nutrition</p> <ul style="list-style-type: none"> • 100% nutrient requirements
LIMITATIONS	<ul style="list-style-type: none"> • appetite often poor • hospital food unacceptable • food system inflexible • actual intake very difficult to monitor • costly <ul style="list-style-type: none"> • limited palatability • high volumes may be needed • compliance notoriously poor • actual intake very difficult to monitor • costly <ul style="list-style-type: none"> • fine-bore tube • tube blockage • tube dislodgement • local irritation • feeding may be interrupted • nausea, gastric discomfort • gastric residues <ul style="list-style-type: none"> • tube placement more difficult • local irritation • feeding may be interrupted • nausea, gastric discomfort • continuous feeding required <ul style="list-style-type: none"> • care of gastrostomy site • local irritation • feeding may be interrupted • nausea, gastric discomfort 	<ul style="list-style-type: none"> • dilute nutrients • large fluid volumes • fat main source energy • protein intake limited • cannot supply total nutrient needs • risk of infection • costly <ul style="list-style-type: none"> • central venous catheter required • hypertonic solutions • care of catheter • ↓ gut function • risk of infection • costly 	
MONITOR	<ul style="list-style-type: none"> • compliance • tolerance • actual intake versus estimated requirements • weight status/triceps & mid-arm circumference (MAC) 	<ul style="list-style-type: none"> • residues • gastric discomfort – distension • constipation • diarrhoea (check antibiotics) • nausea, vomiting • actual intake versus estimated requirements • weight status, MAC • electrolytes • fluid balance • dumping • stoma site 	<ul style="list-style-type: none"> • standard clinical observations • biochemistry • hyperglycaemia • electrolytes, acid base status • fluid balance • cannula/catheter site for infection or thrombophlebitis