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GENCA

A Clinician's Guide: Caring for people with gastrostomy tubes and devices

Key Principles and Practice Points

This document is a companion document to *"A Clinician's Guide: Caring for people with gastrostomy tubes and devices – from pre-insertion to ongoing care and removal"* (Version 1: 2014) available on the Agency for Clinical Innovation (ACI) website **www.aci.health.nsw.gov.au** and the Gastroenterological Nurses College of Australia (GENCA) website **www.genca.org.au. org**

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INTRODUCTION

A gastrostomy feeding tube or device is one which has been inserted directly through the abdominal wall into the stomach to allow administration of nutrition, fluids and medications for people who are unable to maintain adequate nutrition and hydration through oral diet alone.[1]

The insertion of a gastrostomy tube or device is considered a relatively safe procedure for adults and children, depending on the underlying medical condition of the patient.[2] However, care for people needing gastrostomy tubes and devices and their families requires specific skills and knowledge and multidisciplinary collaboration.

The NSW Agency for Clinical Innovation Gastroenterology and Nutrition Networks, together with the Gastroenterological Nurses College of Australia (GENCA), developed the document *"A Clinician's Guide: Caring for people with gastrostomy tubes and devices – from pre-insertion to ongoing care and removal"*.

This Guide provides all health care professionals with detailed recommendations and practical advice related to the care of adults and children with gastrostomy tubes and devices. It covers the different stages of the patient journey from deciding to initiate gastrostomy feeding to ongoing care, permanent tube removal and transition or transfer of care. Additional resources such as checklists, tools and useful links are also included.

This document provides a summary of the key principles and practice points that underpin *"A Clinician's Guide: Caring for people with gastrostomy tubes and devices – from pre-insertion to ongoing care and removal"*.

Please refer to the full version of the guidelines for more information. They are available on the ACI **website www.aci.health.nsw.gov.au** and the GENCA website **www.genca.org.au**.

KEY PRINCIPLES

1. Coordinated multidisciplinary care [3-10]

- All people who need a gastrostomy tube or device should receive coordinated care from a multidisciplinary nutrition support team with clearly defined roles and a clinical lead.
- The team provides a system for health professionals with unique perspectives and skill sets to deliver timely, safe, appropriate, and cost-effective nutrition support therapy.
- A nutrition support team* should include the following health professionals:
  - Registered Nurse (includes CNS, CNC, NP and CNE involved in gastrostomy care within any clinical speciality)
  - Dietitian
  - Speech Pathologist
  - Pharmacist
  - Medical Specialist
  - General Practitioner
  - Other health professionals as required.
- In the absence of a dedicated nutrition support team, an interdisciplinary or multidisciplinary collaborative approach should be provided to ensure the best care for people with gastrostomy tubes and devices and their families.
- The establishment of cross-network or "virtual" teams and the use of telehealth could be considered.

2. Patient centred care [1, 4, 7, 8, 10, 11]

- Patients/carers should be involved in, informed about, and given the opportunity to discuss all stages of their care and any treatment proposed. The stages of care include:
  - Planning and preparation for initial and replacement tubes/devices
  - Post insertion
  - Ongoing care
  - Transfer of care and transition
- People with a gastrostomy tube or device (and/or their carer) should have the opportunity to make informed decisions about their care and treatment, in partnership with members of their nutrition support team.
- Treatment and care should always take into account the needs and wishes of patients/carers and support independence wherever possible.
- It is essential there is good communication between healthcare professionals and patients/carers.
  - Communication should be supported by individualised written information based on evidence and the needs of the patient/carer.
- Treatment, care and information provided to patients/carers, should be:
  - age, developmentally and culturally appropriate.
  - accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.
- Education, training and support for patients/carers should occur at all stages of the patient journey.
- Patients and carers should be involved in the evaluation of services that provide gastrostomy care and management.

3. Communication & documentation between staff and services [1, 4, 5, 12]

- There should be local systems and processes in place to support appropriate and timely communication between staff and services. This is critical to:
  - Ensure patient safety; and
  - Support seamless transfer of care and transition between paediatric to adult services.
- Key communication points occur throughout the patient journey and include:
  - Results of initial and ongoing assessments
  - Referral pathways
  - Pre- and post-insertion of initial and replacement tubes/devices
  - Transfer between services.

4. Safe and appropriate clinical management [1, 2, 4, 5]

- Treatment and care provided to people with a gastrostomy tube or device and their family should involve all relevant staff and be supported by local policies and protocols.
- Local policies and protocols should be evidence based (where this exists) and include:
  - Patient selection
  - Informed consent
  - Referral pathways
  - Patient/carer education and training
  - Clinician education, supervision and training

Insertion, removal and replacement of gastrostomy tubes and devices, including post-procedural care and escalation processes

  - Ongoing care and monitoring
  - Transfer of care.

- Health care professionals caring for patients with a gastrostomy tube or device should have adequate training and experience in order to undertake the tasks required of their role.
- A formal extended scope of practice training program should be in place for clinicians where gastrostomy device changes are not considered an entry level competency (e.g. allied health).
- Health services providing gastrostomy care should have systems and processes in place to evaluate and improve quality of care including patient and staff satisfaction and incident reporting and review.

KEY PRACTICE POINTS

- Where the key practice point was sourced from those included in the Evidence Check Review[2] the grade of evidence is identified as per the NHMRC guidelines.[13]
- Where the key practice point was determined by the Guideline Development Group (GDG) or the Researchers as part of the Evidence Check Review this is identified as GDG or Expert Opinion respectively.

Section 1: Health professionals involved in the care of people with gastrostomy devices

Heading/section	Key practice point	Grade of evidence	Page No.
Nutrition Support Health Professionals	There is consensus supporting the role of a multidisciplinary nutrition support team for best management and care of people with gastrostomy devices. Nutrition support teams with clearly defined roles and a lead co-ordinator can improve patient outcomes and decrease complications.	GDG	11
	It is essential patients, their carers and/or patient advocates are involved in all stages of gastrostomy care.	GDG	11
	A formal extended scope of practice training program should be in place for clinicians where gastrostomy tube/device changes are not considered a basic core competency (e.g. allied health). This should include: a. Gastrostomy tube/device identification including recommended removal methods; b. identification and management of complications post initial insertion and as part of ongoing care; c. risks and complications associated with removing and replacing gastrostomy tubes/devices and their management; and d. the ability to identify when escalation of care is required.	EXPERT OPINION	13
	Health care professionals caring for patients with a gastrostomy tube or device should have adequate training and experience in order to undertake the tasks required of their role.	EXPERT OPINION	13

Section 2: Deciding to initiate gastrostomy feeding

Heading/section	Key practice point	Grade of evidence	Page No.
When gastrostomy tube or device should be considered	Insertion of a gastrostomy feeding tube or device should be considered early when: a. the underlying condition of a patient with a functional gastrointestinal tract indicates they require long term enteral nutrition (i.e. for more than 4-6 weeks) b. other causes of failure to thrive (apart from inadequate intake) have been excluded by appropriate investigations.	EXPERT OPINION And GDG	14
And Ethical considerations	The decision to recommend the insertion of a gastrostomy tube or device should be based on a multidisciplinary team assessment, evidence based practice, clear communication regarding the goals of treatment and should ensure adequate resources are available for ongoing support and optimal management.	GDG	15
	The decision to initiate the use of a gastrostomy tube or device should always maintain the patients best interest as the focus of care and support independence as much as possible.	GDG	15
	Informed consent for a gastrostomy tube or device insertion should include information about ongoing care requirements and should not be limited to the insertion procedure alone.	EXPERT OPINION	16
Planning for tube/device insertion	Selecting the most appropriate gastrostomy tube or device to insert should involve consideration of several individual patient characteristics and what is anatomically possible.	GDG	16
	In many cases the procedure can be performed as a "day only" procedure. However, due consideration should be given for the time taken to learn how to manage the tube/ device, use the tube/device, determine the tube feeding regimen and tolerance, and arrange access to appropriate equipment and supplies.	GDG	18
Referral process/ pathway	The referral for a gastrostomy should follow a defined pathway as detailed by local arrangements of the organisation.	GDG	20
Patient education and preparation	The patient and/or carer should be aware of and/or meet with all nutrition support team members in the process of gastrostomy insertion and ongoing care.	GDG	21
	Information and education should always be age and developmentally appropriate for patients/carers, taking into account any augmentative or alternative communication systems in place. Written information should be presented in the person's native language and/or a simple easy English format for people who require additional literacy support.	GDG	21
Documentation	All information regarding the pre-insertion stage should be clearly documented in the patient's health care record.	GDG	21

Section 3: Acute hospital care: Day of procedure to 24-48 hours post procedure

Heading/section	Key practice point	Grade of evidence	Page No.
Considerations on day of procedure	Patients should be re-assessed on the day of the procedure to ensure that there have been no changes in their condition or social situation or worsening of any pre-existing conditions which may either preclude proceeding with gastrostomy insertion or alter the insertion method or device.	GDG	22
	Patients undergoing insertion of an initial gastrostomy tube or device should undergo a standard pre-procedure checklist according to local guidelines.	GDG	22
	A single dose of prophylactic antibiotics is effective for decreasing peristomal infection post gastrostomy device insertion.	C	22
	All patients should be asked if they are of Aboriginal or Torres Strait Islander origin and referred to the Aboriginal Hospital Liaison Officer/ Aboriginal Health Education officer as appropriate.	GDG	22
	The formation of a gastrostomy and the initial insertion of a gastrostomy tube or device should be performed by, or under the supervision of, a suitably credentialed and qualified medical specialist following local guidelines.	GDG	22
Immediate post-insertion management	There should be routine post-operative care and protocols in place. However, patient-specific instructions may also be provided and these should be followed in cases of exceptions or non-standard insertions.	GDG	23
	Adequate post-operative pain relief is essential to optimise patient outcomes.	GDG	25
	Even when a patient is "nil by mouth" and receiving all of their nutrition and hydration via a feeding tube or device it is important that oral care continues.	GDG	25
	All contact with the patient and the device/equipment should follow hand hygiene principles.	GDG	25
	A distance of 2-5mm is recommended from the external flange to skin level.	C	27
	Unless sutured, anchored or specifically contraindicated, standard gastrostomy tubes and devices (ballooned or non-ballooned) should be moved in and out and rotated 360 degrees 24 hours post initial insertion in order to avoid adhesion.	D	27
	Excessive tension between the skin and the external retention device should be avoided as this can increase the risk of stoma site complications.	B	27

Heading/section	Key practice point	Grade of evidence	Page No.
Nutrition Assessment	A comprehensive formal nutrition assessment should be performed by a dietitian prior to the commencement of feeding through a long term enteral feeding tube or device.	GDG	28
	It should be confirmed at the time of decision of tube or device placement whether the individual has been linked with the appropriate health professional (dietitian) or nutrition support service. If not, appropriate referral should be made.	GDG	28
	Identification of people at risk of refeeding syndrome and the subsequent management of that risk are essential components of a comprehensive nutrition assessment.	GDG	28
Using the tube or device for feeding	Prior to the administration of anything via the gastrostomy tube or device the external length of the tubing (markings at skin level) is checked to ensure it has not changed since initial insertion (for non-skin level devices). Significant changes must be confirmed by consulting with a medical officer.	C	29
	The minimum period of time from initial insertion of a gastrostomy tube or device to commence enteral nutrition is 2-4 hours in adults and 4-6 hours in paediatrics.	B	29
	There is no evidence to support the practice of water trials prior to commencing enteral nutrition via the gastrostomy tube or device.	EXPERT OPINION	29
	Commercially prepared formulas are recommended for enteral tube feeding.	B	30
	Commercially prepared liquid enteral nutrition formulas should be used in preference to reconstituted powdered formulas whenever possible as it reduces the risk of contamination.	C	30
	Liquid enteral formulas should not be diluted and other substances should not be added as this increases the risk of bacterial contamination.	B	30
	Home-made formula is not recommended. It has been shown to have a higher viscosity, higher osmolality and inconsistent and uncertain nutrient composition when compared with commercially prepared formula.	B	30
	Patients/carers wishing to prepare their own formula should receive education and information from a dietitian to help them make a safe and informed choice.	GDG	30
	Flushing a gastrostomy tube or device with substances other than those prescribed is not recommended.	D	30
	Where possible, patients should be positioned at greater than 30-45 degrees from horizontal during enteral feeding and for 30-60min after feeding has ceased.	B	30

Heading/section	Key practice point	Grade of evidence	Page No.
Using the tube or device for feeding	The gastrostomy tube or device should be flushed regularly to: a) test and maintain the patency of the tube or device b) assist the patient to meet fluid needs.	GDG	30
	Tap water is acceptable for flushing a gastrostomy device in most patient groups.	C	31
Monitoring of feed tolerance	There is no evidence to recommend checking Gastric Residual Volume (GRV) in patients with a gastrostomy tube or device outside of the critical care setting.	D	31
Medication administration	If the patient is unable to tolerate medications orally, a review should be conducted at the time of insertion of the tube or device with a pharmacist.	GDG	32
	Crushing of tablets or opening of capsules should only be considered as a last resort and when a pharmacist has confirmed the medicine is safe to be crushed or opened.	GDG	32
	To reduce the risks associated with route of administration, any medications administered via enteral feeding tubes or devices must be given using an enteral dispenser (non-luer compatible syringe) with non luer-connections.	GDG	32
	When more than one medication is required to be given at the same time, each individual medication should be crushed separately (if applicable) and administered separately with a water flush before, after and in between each medication.	GDG	33
Transfer of care/discharge planning	The treating team should develop a plan with the patient/carer for the transfer of care to a destination and accepting care team that best suits the ongoing care needs of the patient.	GDG	35
	If any concerns are raised in relation to patient safety, transfer of care should not occur until these are resolved.	GDG	35
	If the patient is to be transferred home, the patient/carer should receive education about the care of gastrostomy feeding tubes and devices from the nutrition support team according to their individual capacity for learning, physical ability and social circumstances.	GDG	35
	Age, developmentally and culturally appropriate information and resources should be provided for patients and families.	GDG	37
	The patient/carer should be provided with, or have access to, an adequate supply of products and/or equipment at all times (i.e. enteral formula, enteral tube feeding equipment).	GDG	37
	A detailed written transfer of care summary should be provided to the patient's accepting or ongoing care team, ideally prior to transfer, and a copy provided the GP.	GDG	38

Section 4: Ongoing care and tube or device removal

Heading/section	Key practice point	Grade of evidence	Page No.
Standard care and follow up	A person with a gastrostomy tube or device should receive coordinated care and be monitored regularly by a nutrition support team. The initial period at home can be overwhelming for patients and carers and a high level of care within the first few months may be needed.	GDG	39
	Once stable, monitoring should occur every 3-6 months or more frequently if there is a change in clinical condition or transitioning to oral intake. Infants and children may need to be monitored more frequently than adults.	GDG	39
	A holistic approach to the care of people with gastrostomy tubes or devices is recommended, as gastrostomy device care and nutrition are not independent of each other.	EXPERT OPINION	39
	A system for routine and regular gastrostomy tube or device review should be in place in all settings where a service is provided to people with gastrostomy tubes or devices.	EXPERT OPINION	39
	Each time the patient is seen the following should be reviewed and discussed - tube/device patency, external flange, stoma site and surrounding skin, medication, flushing routines.	GDG	39
	The nutrition monitoring parameters selected should relate to the goals/ objectives of nutrition support for that individual and can include – nutritional, anthropometry/physical, biochemical, gastrointestinal function, and psychosocial.	GDG	40
	Patients with oral and/or pharyngeal dysphagia whose swallow is likely to improve (e.g. post-stroke, premature or unwell infants or children with poor oral-motor skills) or deteriorate (e.g. degenerative conditions) should be reviewed by a Speech Pathologist at intervals deemed appropriate by the Speech Pathologist and according to the individual condition.	GDG	42
Troubleshooting	Complications should be identified and addressed early and managed appropriately with referral to relevant health professionals where required.	GDG	42-53
Inadvertent removal of the tube or device	If the gastrostomy tube or device is accidentally pulled and/or partial displacement of the internal bumper is suspected in an immature stoma tract the patient should present to the emergency department. A radiological contrast study or endoscopy should be performed. If displacement is confirmed the device will need to be removed and replaced with the appropriate gastrostomy tube or device.	D	54
	If the gastrostomy tube or device has been accidently removed (mature stoma tract) the priority is to preserve the tract by replacing the tube or device as soon as possible and securing with tape. If the gastrostomy tube or device is not available a Foley catheter can be used for this purpose as a temporary measure.	D	54

Heading/section	Key practice point	Grade of evidence	Page No.
Inadvertent removal of the tube or device continued	Foley catheters are not recommended as a replacement feeding device long term. They do not have an external flange and are longer than gastrostomy tubes, increasing the risk of migration and obstruction	D	54
	Low profile replacement gastrostomy devices should be considered in patients who are at high risk of inadvertent tube or device dislodgement or who have an active lifestyle.	D	55
	If inadvertant removal of a gastrostomy tube or device occurs frequently, the patient should be assessed to determine if the device is the most suitable type and/or if ongoing gastrostomy feeding is appropriate.	GDG	55
Planned replacement of a gastrostomy tube or device	Gastrostomy tubes and devices (initial and replacement) should be monitored and changed at a time deemed necessary by the treating health care professional (not at a fixed period of time).	C	57
	A gastrostomy tube or device should not be replaced or removed until the tract is mature (at least >30 days post insertion). **Whilst there is Grade C evidence that tract maturity occurs >30 days post insertion, the GDG recommends tubes and devices should not be removed or replaced before 6 week post insertion.*	C	57
	There should be a system in place to ensure people needing a replacement gastrostomy tube or device can access one when required. The patient/ carer should be provided with information about how and where to access replacement tubes and devices.	GDG	57
	Where the tract is mature the procedure to replace a gastrostomy tube or device can be performed in an appropriate setting (including the bedside, clinic or home) by an adequately trained health care professional.	C	59
	An experienced clinician may teach a patient/carer to change their own gastrostomy tube or device.	GDG	59
	The method of removing a gastrostomy tube or device depends on it's type. Always confirm the method of removal with the manufacturer (access product information or contact the company directly).	D	58
	There is a risk of small bowel obstruction with the "cut and pass method" therefore it should not be used to remove a gastrostomy tube or device.	C	58
	The gold standard to confirm the position of a replacement gastrostomy tube or device is a radiological contrast study or endoscopy.	A	59
Planned permanent removal	Permanent removal of a gastrostomy feeding tube or device should be considered when the patient is clinically stable and able to consume adequate oral intake in order to maintain their goal weight and other nutrition parameters.	EXPERT OPINION	60

Heading/section	Key practice point	Grade of evidence	Page No.
Planned permanent removal	The time frame for removing the gastrostomy tube or device is variable and needs to be decided on an individual basis by the Nutrition Support Team in collaboration with the patient and/or carer. The patient's underlying condition, their nutritional status, possible future needs for nutrition support and personal wishes should be considered.	EXPERT OPINION	60
	The gastrostomy is likely to close within 2-4 days once the tube or device is removed. If the tract does not heal within 1 week or if there is an output from the gastrostomy, the patient should be referred for a medical review.	GDG	60
	If a gastrostomy tube or device is required again in the future, the initial insertion procedure and reestablishment of a gastrostomy should be followed.	GDG	60

Section 5: Transfer and Transition

Heading/section	Key practice point	Grade of evidence	Page No.
Transfer of care between services, states/ territories and countries	Planning for transfer of care should commence as soon as possible.	GDG	62
	Every attempt should be made to ensure a relevant and thorough clinical handover to treating and local health care teams, as well as ensuring consumer involvement in transitioning care.	GDG	62
	It is vital that patients are set up and linked in with all necessary resources, key health providers and programmes in their new environment prior to transfer.	GDG	62
Transition from paediatric to adult services	The transition process should commence at the earliest opportunity.	GDG	62
	The young person should be empowered, to the best of their ability, to participate in clinical decision making regarding their gastrostomy tube or device and their medical care according to their level of maturity and capacity.	GDG	63
	Transfer of care from the paediatric to adult service can occur when a mutual agreement between the consultant/specialist/treating team and the patient/parent has been agreed. It should occur at a time of medical stability and not coincide with important life events (e.g. final year of school exams).	GDG	63

Section 6: Service evaluation

Heading/section	Key practice point	Grade of evidence	Page No.
Evaluation	Facilities and services providing care to people with gastrostomy tubes and devices should undertake ongoing evaluation activities to improve quality of care including patient safety.	GDG	64
	Data collected as part of audits or surveys could include, but not be limited to mortality, hospital readmission, complications, patient and staff satisfaction, and incident reporting and resolution.	GDG	64

ABBREVIATIONS

CNC	Clinical Nurse Consultant
CNE	Clinical Nurse Educator
CNS	Clinical Nurse Specialist
GDG	Guideline Development Group
GP	General Practitioner
GRV	Gastric Residual Volume
NHMRC	National Health and Medical Research Council
NP	Nurse Practitioner

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