Clinical Guideline

GASTROSTOMY BLENDED DIET - MANAGEMENT OF PATIENTS WHO RECEIVE BLENDED DIET VIA AN ENTERAL FEEDING TUBE IN THE COMMUNITY FOLLOWING ADMISSION TO HOSPITAL

SETTING	Bristol Royal Hospital for Children (BRHC)
FOR STAFF	All Clinical Staff
PATIENTS	Paediatric Inpatients

Introduction & Background

The aim of this guideline is to provide best-practice consensus on the management of children admitted to BRHC who normally receive Blended Diet (BD) via a gastrostomy enteral feeding tube in the community.

Background

In recent years, the blending of everyday foods with liquid to administer via a gastrostomy enteral feeding tube has become an increasingly popular practice. A 2021 survey of Home Enteral Feeding (HEF) Dietitians in the South West region found that at least 202 children were following a BD in the community (1). All of these children were under the support of local HEF dietitian and nursing team.

Historically this practice has not had the support of medical and dietetic communities due to a lack of evidence for nutritional adequacy, long-term growth data, foodborne illness safety, and complications with feeding tube integrity risking hospital admission. More recently, the British Dietetic Association (BDA) have released a Policy Statement (2) advising that gastrostomy BD can be offered to patients by their dietitians as part of patient-centred care.

While clinical research to support this practice is growing, families of children with intolerance to commercial formulas (CF) who have changed to a BD reported significant improvements in overall feed tolerance and specific symptoms including a reduction in reflux, diarrhoea, vomiting, constipation bloating and improvements in weight gain (4, 5, 6). Gastrostomy blended diets can also have psychosocial benefits and parents/carers may wish to use BD to give their child ‘real food’ again and being able to get their child involved in family mealtimes.

With respect to the UHBW trust quality improvement initiatives, the benefits of improved tolerance and reported symptoms can avert the need for more invasive surgical procedures (e.g. Nissen fundoplication, formal jejunostomy placement, Roux-En-Y jejunostomy), significantly improving the child's quality of life (QOL) scores and unnecessary costs to the Trust.

Contra-indications to blended diet via an EFT at BRHC

There are a number of clinical situations where a blended diet **cannot be used** in the acute or early setting at BRHC:

- Exclusive jejunal tube feeding
- Nasogastric tube (NGT) feeding
- Gastrostomy size <12Fr
- Infants <6 months of age
- Need for exclusive continuous/pump feeds
- Bowel obstruction
- Enteral feeding not recommended by the medical team for any reason (eg. child has been made "Nil By Mouth")

There are further clinical situations where a blended diet **is not advised** in the acute setting at BRHC:

- Children who are immunocompromised
- Special diet needed (eg. low protein diet, ketogenic diet, renal diet, chylothorax)
- Parents/carers unavailable or unable to administer blended diet on the ward

There may be exceptional circumstances whereby a blended diet is considered an essential part of treatment by the managing team, despite the presence of one or more contraindications as outlined above. In this scenario, a risk assessment must be completed by the child's lead medical team, with input from the managing dietitian. Please refer to the standard operating procedure (SOP) 'Provision of Gastrostomy Blended Diet in the Inpatient Setting' for more detail (My Staff App: [redacted]

Deciding whether or not to continue BD during an inpatient admission to BRHC

In the event of an admission to BRHC, a discussion should be held between the child's parents/carers and the medical team to decide whether it is appropriate for the child to continue with a gastrostomy BD, or whether they will need to be switched to a feeding regimen using commercial formula initially or for the duration of their admission. The Trust's shared decision-making tool (see Appendix 2) should be used to guide this conversation, and a signed copy of this should be documented in the patient's medical notes as a record of the conversation and outcome.

For subsequent admissions occurring within one year of a medically-led completed shared decision-making tool, and provided there are no new contra-indications to blended diet or significant changes to the child's clinical condition, the ward Dietitian can complete a 'Gastrostomy Blended Diet: Aid for Decision-Making for Dietitians' (see Appendix 3). This sticker must be completed and added to the patient's yellow medical notes.

If the team and family are happy to continue with a gastrostomy BD during the child's inpatient admission, then the Trust SOP (Provision of Gastrostomy Blended Diet in the Inpatient Setting) should be implemented.

Families must be made aware that if they wish for their child to continue on a gastrostomy BD during their admission, all feeds must be administered by a parent/carer. Trust staff must not be

expected to administer gastrostomy BD feeds due to the significant burden and unreasonable pressure on staffing and resources. Only under **exceptional** circumstances, where parents/carers are unavailable and BD is considered an essential element of the child's treatment following a multi-disciplinary meeting, will staff be trained to provide support. The above mentioned SOP has guidance on what is required to implement this.

Any child who is on a BD in the community should have routine dietetic assessment of the nutritional adequacy of their BD feeds completed by their local HEF team, and a discussion about expectations and limitations to providing the child's usual BD feeds in the inpatient setting. Where possible, the community HEF dietitian will provide the family with an alternative feeding plan with commercial formula for use during hospital admissions or in other settings where BD may not be feasible / may be clinically inappropriate.

All children must be referred to the BRHC Dietitians for review if admitted with a gastrostomy. In the case of longer-term admissions, a dietetic review of the nutritional adequacy of the child's gastrostomy blended diet including monitoring of growth and review of the micronutrient content of the diet should be undertaken. In some instances, a child may require extra dietetic support for meal-planning or have their nutrition support supplemented with commercial formula until they are well enough to restart their BD / exclusive BD.

*See flow chart in Appendix 1 to support.

Catering policy and management whilst an inpatient

Current Trust policy states that visitors are not permitted to bring any perishable foods which require refrigeration into hospital for patients, which extends to parents who wish to bring in pre-made gastrostomy blended diet feeds.

Gastrostomy blended diets will be supported by the BRHC catering service through the provision of IDDSI Level 4 / puréed meals to these patients. A special menu for gastrostomy blended diets has been developed by BRHC dietitians and catering, and should be available within the Green Nutrition Folder on each ward. Meals should be ordered through the ward Housekeeper each morning. Level 4 meals can be diluted to the required consistency (as below) so that the food is compatible with a gastrostomy tube.

Achieving correct consistency for gastrostomy blended diet

It is recommended that parents/carers follow the guidance provided in the patient information leaflet 'Gastrostomy Blended Diet for Children and Young People in Hospital' when preparing the blended diet. This guidance should be provided to all parents/carers of a child following gastrostomy blended diet in the hospital:

- The ordered Level 4 meal will arrive on the ward frozen and should be regenerated according to current Trust Policy by ward staff
- Wash hands thoroughly before handling food items and equipment
- Blended meals are not to be made up at the bedside. There is dedicated counter-space in the parent's kitchen where blended meals can be prepared
- Clean cutlery and utensils should be provided to parents/carers to prepare each blended diet feed. The ward should provide a stainless-steel jug, a sieve and a ladle for preparing

each meal. This equipment will be available in the ward kitchen and should be sanitized and bagged after each use
- The pureed meal should be passed through the sieve using a ladle. This step will help to remove lumps that may risk blocking the gastrostomy tube
- Liquid should be added to dilute the meal to the correct consistency. The amount of fluid that needs to be added to each meal to achieve the correct consistency will vary depending on the dish. The hospital's gastrostomy blended diet menu offers suggested dilutions for each individual meal, however, extra fluid may be required to achieve the correct consistency
- The blend should be single cream consistency, which should pass through the tube easily, without having to use too much force
- Equipment used to prepare a blended diet feed must be returned to catering for cleaning/sanitizing after each use

Administering gastrostomy blended diet

There should be no expectation that ward staff can help with preparing blended diet meals on the ward, therefore it is the responsibility of the parent or carer to prepare and dilute the provided meal to the required consistency. Please note that in the absence of a parent or carer at the time of a due feed, the ward will be required to give a commercial formula feed, unless a special agreement has been put in place.

The below guidance should be followed by parents when administering a blended diet feed, in order to ensure food safety and minimise the risk of tube blockage:

- A new 60mL single-use enteral syringe (other syringe sizes will not be appropriate) should be provided to the family for use at each meal time.
- Hot meals must be used within 30 minutes of being delivered and after this will need to be discarded.
- The gastrostomy tube should be flushed with at least 20mL warm water after each blended diet feed. If there is still visible food debris after flushing, this step may need to be repeated. Flushing with warm water will ensure that the tube is cleared of any food debris that might otherwise harbour bacterial growth.

Food safety and infection control

Trust Food Safety Policy ([redacted]) must be followed at all times in the preparation and administration of blended diet meals, however extra precaution must be taken to reduce the risk of contamination when preparing a blended diet in the hospital setting. The below guidance should be followed to minimise the risk of foodborne infection:

- Food safety guidance and good hand hygiene must be adhered to when handling food and equipment.
- Families must not bring in their own blenders from home. The use of personal blenders in the hospital is not permitted.
- Home-cooked food or any perishable food that needs to be stored in a fridge or freezer are not allowed to be brought onsite. Ward fridges are not available for storage of personal food.

- National food hygiene guidance should be adhered to at all times when preparing blended meals. Particular care needs to be taken to avoid contamination with potentially harmful bacteria and to ensure that any bacteria present in the food is destroyed.

Further information regarding food safety and hygiene can be found on the Food Standards Agency website (https://www.food.gov.uk/food-safety).

Summary

Administering a BD via gastrostomy enteral feeding tube is an increasingly prevalent practice in community enterally-fed paediatric patients. This guideline provides the necessary links to the BD SOP to ensure that safe administration of a BD can be undertaken at the BRHC.

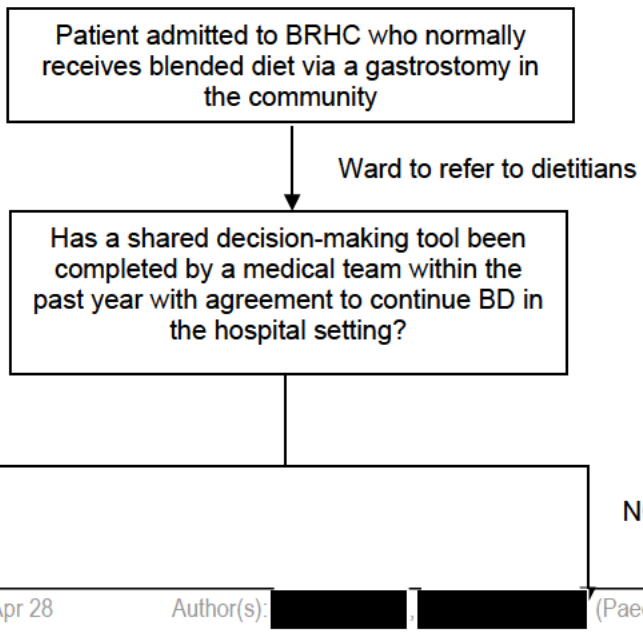
Table A

REFERENCES	1. PDIET/SE/2022-23/04: A survey of Home Enteral Feeding dietitians - [redacted] 2. British Dietetic Association (2019) 'Policy Statement: The Use of Blended Diet with Enteral Feeding Tubes' [Online]. Available from:- https://www.bda.uk.com/resource/the-use-of-blended-diet-with-enteral-feeding-tubes.html 3. British Dietetic Association (2021) 'Practice Toolkit: The Use of Blended Diet with Enteral Feeding Tubes' [Online]. Available from:- https://www.bda.uk.com/uploads/assets/33331d33-21d4-47a5-bbb79142980766a7/FINAL-Practice-Toolkit-The-Use-of-Blended-Diet-with-Enteral-Feeding-Tubes-NOV-2021.pdf 4. HMS (2018) 'Re-Audit results showing changes to patient outcome following introduction of Liquidised Food (LF) in Home Enterally Tube fed patients - 2018' 5. Hron, B., Fishman, E., Lurie, M. et al. (2019) 'Health Outcomes and Quality of Life Indices of Children Receiving Blenderized Feeds via Enteral Tube', *J Pediatr*, 211, pp. 139-145. 6. Poole, R., Brooks, M., Hay, J., et al. (2021) 'Positive benefits of blended diet: weighing in on gastrointestinal dystonia', *Frontline Gastroenterology*,12(1).
RELATED DOCUMENTS AND PAGES	Enteral feeding guideline (Paediatric) - MyStaffApp document 16907 [redacted] Enteral feeding infection control clinical guidelines – MyStaffApp document 16902 [redacted] Out of Hours Emergency Nasogastric and Gastrostomy Feeding Regimen – MyStaffApp document 17872 [redacted]

	Nutrition and Hydration Policy – MyStaffApp document 22402 [redacted] Standard Operating Procedure (SOP): Provision of Gastrostomy Blended Diet in the Inpatient Setting – MyStaffApp document 26981 [redacted]
AUTHORISING BODY	CQC Regulation 14 Governance Group
SAFETY	Risk of inappropriate management of enterally fed children who are admitted to BRHC on liquidised food. This could result in harm to the patient, other patients and risk litigation against the health care professional unless appropriate controls are put in place.
QUERIES AND CONTACT	Paediatric Dietitians, extension [redacted]

Appendix 1

FLOWCHART FOR PATIENTS ADMITTED TO BRISTOL ROYAL HOSPITAL FOR CHILDREN (BRHC) RECEIVING GASTROSTOMY BLENDED DIET VIA AN ENTERAL FEEDING TUBE IN THE COMMUNITY



YES

Ward dietitian to complete 'Gastrostomy Blended Diet: Aid for Decision-Making for Dietitians' (Appendix 3). This sticker must be completed and added to the patient's yellow medical notes.

The managing medical team must complete the Trust Shared Decision-Making Tool (Appendix 2) with family. Outcome to be recorded in patient notes. Parents/carers should be advised that they will be required to adhere to the BRHC Gastrostomy Blended Diet policy during their child's admission.

If decision is made not to continue blended diet during this inpatient admission, ward to contact dietitians (via Careflow or ext. [redacted]) to make a referral to devise appropriate feeding plan.

For out of hours, please refer to the emergency feeding guidelines.

If decision is made to continue blended diet during this inpatient admission, ward to contact dietitian (via Careflow or at ext. [redacted]) who will complete the following:

- Contact Community Dietitians
- Arrange for level 4 meals from catering
- Provide Patient Information Leaflet to parents/carers
- Provide feeding plan to ward

Note: out of hours, the managing medical team is resp

Appendix 2

SHARED DECISION-MAKING TOOL FOR CONTINUATION OF GASTROSTOMY BLENDED DIET FOLLOWING ADMISSION TO HOSPITAL

Trust no: _____

NHS no: _____

Surname _____

Forename (s) _____

Gender _____ D.o.B. ___/___/_____

To be completed by managing medical team with patient/carer, dietitian and any other relevant MDT members (eg. palliative care, gastrostomy CNS):

Child's name……

Date of birth……

Tube type and size……

Date of discussion……

Present for discussion (names and roles):

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……

Reasons why your family would like to continue to give a blended diet during hospital admission:

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Things to consider:	Details:	Comments:
Dietetic care:	- Has the blended diet been commenced under the guidance of a registered dietitian? - Is the child's blended diet under regular dietetic review for nutritional adequacy?	
Infection:	- Parents/carers must wash hands thoroughly before and after preparing, handling and administering feeds - Food ingredients and blends stored and transported appropriately - Blended diet feeds cannot be prepared at the bedside - parents/carers must use the parents' kitchen to prepare feeds - New equipment to be used for each feed. All equipment to be cleaned after use by catering	
Tube blockage:	- Use of feeding device/tube (potentially outside of the manufacturers guidance) - Potential for blockage of device by inappropriately blended food, therefore need to strictly follow guidance on achieving correct consistency for gastrostomy blended diet - Gastrostomy ≥12 Fr - May require operation to replace blocked gastrostomy device	
Equipment:	- Families cannot bring in own blenders onto the ward. We do not have facilities for these to be	

	cleaned properly and they are not PAT-tested, therefore posing a fire risk - Continuous feeding using a pump isn't recommended for blended diet	
Nutritional adequacy:	- Blended feeds may have a lower energy content than commercial enteral formula, therefore larger volumes may be needed and regular assessment by your child's HEF dietitian is needed - Standard hospital menu options will be provided to the child	
Need for parent/carer on ward at all mealtimes to provide blended feeds:	- Ward staff cannot be expected to be involved in the preparation or administration of gastrostomy blended diet feeds. If a parent/carer is not present on the ward at a mealtime to administer a feed, then an alternative feed using commercial formula will need to be given	
Other contra-indications to continuing blended diet	- Please refer to BRHC Clinical Guideline for full list of contra-indications	
Outcome of discussion:	Continue blended diet ☐ Switch to commercial formula ☐	Note: most children following a gastrostomy BD should have an alternative feeding regimen using commercial enteral formula provided by their community dietitian

Please be aware that if your child's symptoms become worse, new problems or symptoms develop, weight gain deteriorates (and/or growth is adversely affected), tube blockages become a problem requiring other interventions or there is a food borne infection; the blended diet should be reviewed and alternatives reconsidered.

The patient information leaflet 'Gastrostomy Blended Diet for Children and Young People in Hospital' has been provided: **Yes / No**

Signed (on behalf of medical team):

Print name:

Date:

Signed (on behalf of child):

Print name:

Date:

***Please upload a scanned copy of the completed form to Evolve, and add a printed copy to the child's medical notes as a record of the conversation and outcome**

Appendix 3

GASTROSTOMY BLENDED DIET: AID FOR DECISION-MAKING FOR DIETITIANS	Date:

HAS A SHARED DECISION-MAKING TOOL FOR BLENDED DIET BEEN COMPLETED BY A LEADING MEDICAL TEAM WITHIN THE PAST YEAR? Y ☐ N ☐

(IF NO, PLEASE COMPLETE SHARED DECISION-MAKING TOOL WITH THE TEAM)

ARE ANY OF THE BELOW ABSOLUTE CONTRA-INDICATIONS APPLICABLE? IF SO, BLENDED DIET WILL NOT BE POSSIBLE AT THIS TIME

BOWEL OBSTRUCTION / PERFORATION / ILEUS ☐	INFANT <6MONTHS OLD ☐
ANY OTHER NEED FOR GUT REST / NIL BY MOUTH ☐	GASTROSTOMY <12FR ☐
EXCLUSIVE JEJUNAL FEEDING ☐	NEED FOR PUMP FEEDING ☐

ARE ANY OF THE BELOW CONTRA-INDICATIONS APPLICABLE? IF SO, A NEW SHARED DECISION-MAKING TOOL WILL NEED TO BE COMPLETED WITH THE MEDICAL TEAM

CHILD IS IMMUNOCOMPROMISED ☐

SPECIAL DIET NEEDED (KETOGENIC, LOW PROTEIN, RENAL ETC) ☐

PARENTS / CARERS UNAVAILABLE TO ADMINISTER BLENDED FEEDS ☐

DECISION:

CONTINUE BLENDED DIET ☐

NEED FOR SHARED DECISION-MAKING TOOL WITH MEDICAL TEAM ☐

PLAN:

CONTINUE BLENDED DIET—PIL GIVEN TO PATIENT / PARENT, SOP AND CLINICAL GUIDELINE ADDED TO FOLDER

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-
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SIGNED	PRINT NAME / ID STAMP:
……	……

Document Change Control

Date of Version	Version Number	Lead for Revisions	Type of Revision	Description of Revision
Apr 23	1.00	Paediatric Dietitians	**Major**/ Minor	New guidelines following change in Trust policy
Apr 25	1.10	Paediatric Dietitians	Major/ **Minor**	Update to guidelines to support nursing administration of blended diet in extenuating circumstances and to combine Shared Decision-Making Tool and risk assessment