

# Survey: What is the current practice around Gastric Residual Volume (GRV) measurement in UK PICUs & NICUs?

We would like just one survey returned per unit – this survey should be completed collaboratively between a senior doctor, a nurse who still does clinical practice (and takes patients) and a dietitian. If done collaboratively it should take about 10-15 minutes to complete.

Best Wishes,

The GASTRIC study team

Please confirm if you are completing the survey on behalf of a Paediatric Intensive Care Unit (PICU) or Neonatal Intensive Care Unit (NICU).

- ☐ PICU  
☐ NICU

## Introduction

We would like to find out what standard or usual practice is around the measurement of Gastric Residual Volume (GRV) in your PICU.

GRV measurement is defined as aspirating all of the stomach contents to measure a 'volume'. We are not talking about aspirating a small amount of the tube to test the pH to confirm tube position, nor that obtained from surgical children who have continuous suction applied.

We recommend that a senior clinical nurse (who still does clinical practice) along with a senior doctor and a dietitian complete this survey together as we would like just one survey returned per PICU.

Which PICU do you work at?

---

Role of individuals who are completing this survey:

- ☐ Senior Doctor (Consultant)  
☐ Middle Grade Doctor (SpR)  
☐ Junior Grade Doctor (SHO)  
☐ Nurse  
☐ Dietitian

What band of nurse are you?

---

What band of dietitian are you?

---

---

**Section 1: Questions about general nutrition practices in your unit.**

---

Does your unit have written feeding guidelines/protocol?

- ☐ Yes  
☐ No

We would greatly appreciate it if you would upload the feeding guidelines/protocol using the 'upload document' link below. Alternatively, they can be emailed to the GASTRIC study team at [gastric.study@liverpool.ac.uk](mailto:gastric.study@liverpool.ac.uk).

Which method is used to measure or estimate energy requirements in your PICU?

If the child's condition or therapy changes do you use an alternative formula to predict energy requirements?

- ☐ Yes  
☐ No  
☐ Sometimes

Please use this space to describe the alternative formulae:

When does your unit aim to meet full energy targets?

- ☐ 24 hours  
☐ 48 hours  
☐ 72 hours  
☐ Other

Please use this space to describe 'other':

As part of your unit guidance for initiating and commencing enteral feeding, is there a target start time after the child's PICU admission?

- ☐ Yes  
☐ No, there is no target time  
☐ Other

What is your target start time to start feed?

Please use this space to describe 'other':

What standard Naso-gastric tube is used to feed in your unit?

- ☐ Standard rigid NG tubes
- ☐ Soft long-term silicone tubes
- ☐ Other

Please use this space to describe 'other':

Are your standard gastric enteral feeds given as intermittent or continuous?

- ☐ Intermittent bolus feeds
- ☐ Continuous

What is the standard duration of feeding hours?

- ☐ 2-hourly
- ☐ 20 hours/day
- ☐ 24 hours/day
- ☐ Other

Please specify standard duration of feeding hours:

Do you allow for either of the following:

- ☐ A continuous 4 hours off feeding
- ☐ 2 x 2 hours breaks
- ☐ Other

Please specify 'other':

What is the standard regimen?

- ☐ 2-hourly
- ☐ 3-hourly
- ☐ 4-hourly
- ☐ 8 feeds per day
- ☐ 6 feeds per day
- ☐ Other

Please specify standard regimen:

Do you use NJ (or post pyloric) feeding?

- ☐ Yes
- ☐ No

When do you use NJ (or post pyloric) feeding?

Is this your standard practice?

- ☐ Yes  
☐ No

What baseline nutritional assessment is done at admission - please tick all that apply:

- ☐ Actual weight  
☐ Estimated weight  
☐ Height or length  
☐ Z score  
☐ Weight for age  
☐ Nutritional assessment score  
☐ Centile chart

Which nutritional assessment score do you use?

Is there an agreed definition of feed tolerance in your unit?

- ☐ Yes  
☐ No

Does this include (please tick all that apply):

- ☐ GRV  
☐ Abdominal appearance  
☐ Vomiting  
☐ Diarrhoea  
☐ Other

Please specify other definitions of feed tolerance that you use:

---

**Section 2: Gastric Residual Volume technique in your unit**

---

How often is Gastric Residual Volume measured in your unit? (not ph testing to confirm NG position).

- ☐ Before every bolus feed
- ☐ 2-hourly
- ☐ 3-hourly
- ☐ 4-hourly
- ☐ 5-hourly
- ☐ 6-hourly
- ☐ 8-hourly
- ☐ Once in a shift
- ☐ Only if the child is vomiting
- ☐ Never

Do you have a different Gastric Residual Volume policy for ventilated and non-ventilated children?

- ☐ Yes
- ☐ No

Do you have a different guidelines/policy for general surgical children (post gut/abdominal surgery)?

- ☐ Yes
- ☐ No

Is there any guidance in your unit about the technique of measuring Gastric Residual Volume?

- ☐ Yes
- ☐ No

If you have written guidance on this that is not part of the feeding guideline we would greatly appreciate it if you would upload them using the 'upload document' link below. Alternatively, they can be emailed to the GASTRIC study team at [gastric.study@liverpool.ac.uk](mailto:gastric.study@liverpool.ac.uk).

In your unit, do nurses measure Gastric Residual Volume as per protocol?

- ☐ Always
- ☐ Usually
- ☐ Often
- ☐ Rarely
- ☐ Never

What are the reasons for Gastric Residual Volume being measured outside the protocol guidance?

Is there a specific syringe size specified to measure Gastric Residual Volume?

- ☐ Yes
- ☐ No

Please describe what your guidance is:

Is there a specific method to aspirate Gastric Residual Volume?

- ☐ Yes  
☐ No

Please describe what your method is:

Is there any other guidance around Gastric Residual Volume?

- ☐ Pressing on abdomen while suctioning GRV  
☐ Positioning of patient when aspirating the tube  
☐ Other  
☐ No other guidance

Please specify other guidance:

Does the method of feeding (continuous vs intermittent) affect how often you measure Gastric Residual Volume?

- ☐ Yes  
☐ No

Please describe how method of feeding affects how often you measure Gastric Residual Volume:

Does patient age/weight or any other factors impact on Gastric Residual Volume measurement?

- ☐ Yes  
☐ No

Please describe how patient age/weight or any other factors impact on Gastric Residual Volume measurement:

---

**Section 3: Gastric Residual Volume management in your unit**

---

What is your practice/ unit guidance on stopping or withholding feeds?

Is the decision to stop or withhold feeds defined in your protocol or left to the nurse or doctor to make the decision?

- ☐ Defined in attached protocol
- ☐ Left up to nurses to decide
- ☐ A decision made between nurses and medical staff and/or dietician
- ☐ Other

Please specify 'other':

If you use Gastric Residual Volume as an indicator to stop feeding - do you have a maximum threshold, (volume) or formulae used to inform the decision to stop feeds?

- ☐ Yes
- ☐ No

Please select the most appropriate option:

- ☐ Maximum volume in mL or
- ☐ Maximum volume in mL/kg, or
- ☐ Maximum volume percentage of administered feed
- ☐ Other

Please specify 'other':

Please describe the maximum amount you would consider acceptable before stopping feeds?

Does this vary between infants (under 10Kg) and older bigger children e.g. 50Kg?

- ☐ Yes
- ☐ No

Please specify how this varies:

How much does the volume of Gastric Residual Volume affect your decision to stop feeds?

- ☐ 1 (Not at all)
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 (Very much)

Please specific specify how:

How much does Gastric Residual Volume colour/consistency affect your decision to stop feeds?

- ☐ 1 (Not at all)   ☐ 2   ☐ 3  
☐ 4   ☐ 5 (Very much)

Please specific specify how:

What do you do with obtained Gastric Residual Volume: return or discard?

- ☐ Return  
☐ Discard  
☐ Other

Please explain the factors that influence the decision to return or discard the Gastric Residual Volume. If 'other' selected, please also explain below:

If the feed is stopped, when is it started/re-assessed to be started?



**What does your unit do in response to 'high Gastric Residual Volumes'? Please rank these in the general order in which they would be applied in your unit from most likely intervention first to least likely intervention in your unit.**

	1 (least likely intervention)	2	3	4	5	6 (most likely intervention)
Change feeding method (e.g. from bolus to continuous feeding)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change to post-pyloric (small bowel) feeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Add prokinetics and persist with gastric feeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change the type (formula) of the feed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stop feeds and change to parental nutrition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please describe any 'other' responses to high Gastric Residual Volume:

---

---

Thank you for participating in the survey, your responses are greatly appreciated! If you have any further comments you wish to make, please provide below:

If you wish to be contacted about the study, please add your email address below (optional):

---

---

---

## Introduction

We want to find out how Gastric Residual Volumes (GRV) are measured and used in your NICU. GRV measurement is aspirating ALL of the stomach contents to measure a 'volume' or 'aspirate' and often to look at the colour. This is NOT the small amount that is aspirated to test pH to confirm tube position.

We recommend a senior clinical nurse (who still does clinical practice) along with a senior doctor and/or a dietitian sit down together to complete this survey and we would like just one survey returned per NICU. If this is not possible, please respond without such a meeting.

Which neonatal unit do you work at?

Is the unit?

- ☐ NICU surgical and medical
- ☐ NICU medical only
- ☐ LNU
- ☐ SCBU

What are the job positions of the people completing this survey?

- ☐ Senior Doctor (Consultant)
- ☐ Middle Grade Doctor (SpR)
- ☐ Junior Grade Doctor (SHO)
- ☐ Nurse
- ☐ Dietitian

What band of nurse are you?

\_\_\_\_\_

What band of dietitian are you?

\_\_\_\_\_

Does your unit have written feeding guidelines/ protocol for medical and surgical babies?

- ☐ Yes
- ☐ No

We would greatly appreciate it if you would upload the feeding guidelines/protocol using the 'upload document' link below. Alternatively, they can be emailed to the GASTRIC study team at [gastric.study@liverpool.ac.uk](mailto:gastric.study@liverpool.ac.uk).

Are your standard NG feeds:

- ☐ Intermittent
- ☐ Continuous

Is there specific guidance about how Gastric Residual Volume should be measured and interpreted - for example a protocol or guideline?

- ☐ Yes
- ☐ No

We would greatly appreciate it if you would upload the guidelines/protocol using the 'upload document' link below. Alternatively, they can be emailed to the GASTRIC study team at [gastric.study@liverpool.ac.uk](mailto:gastric.study@liverpool.ac.uk).

Does Gastric Residual Volume measurement differ between the medical and surgical babies?

- ☐ Yes  
☐ No

Please describe how it differs?

---

**The rest of the survey is now ONLY asking about the management of preterm and term medical babies - not surgical babies.**

---

How often do staff in your unit measure Gastric Residual Volume? (this question is NOT about aspirating a small amount to test pH, ONLY about how often you measure Gastric Residual Volume)

- ☐ Once a day
- ☐ Before every feed
- ☐ Only when clinically indicated
- ☐ Other

Please provide further details regarding how staff measure Gastric Residual Volume below; if 'other' has been selected, please also describe below:

Are Gastric Residual Volume measured for all babies, or just below a set gestational age/birth weight or for a specific condition?

Is the specific guidance for Gastric Residual Volume measurement followed and actually undertaken as per protocol? If needed, please ask a clinical member of your nursing team.

- ☐ Always
- ☐ Usually
- ☐ Often
- ☐ Rarely
- ☐ Never

Why is the guidance not always followed?

Who usually decides what to do with concerning Gastric Residual Volume aspirates in the first instance?

- ☐ Senior Doctor (Consultant)
- ☐ Middle Grade Doctor (SpR)
- ☐ Junior Grade Doctor (SHO)
- ☐ Bedside Nurse
- ☐ Nurse in charge of shift (senior nurse)

What band of nurse?

What would make a nurse seek advice from the medical team?

If you indicated that more than one person is involved in decision-making, please explain which factors may influence who makes the decision below:

How much does volume of the aspirate affect your decision around Gastric Residual Volume?

- ☐ 1 (Not at all)   ☐ 2   ☐ 3  
☐ 4   ☐ 5 (Very much)

Please specify how:

How much does colour of the aspirate affect your decision around Gastric Residual Volume?

- ☐ 1 (Not at all)   ☐ 2   ☐ 3  
☐ 4   ☐ 5 (Very much)

Please specify how:

What do you do with Gastric Residual Volume once obtained: return it or discard it?

- ☐ Return  
☐ Discard  
☐ Other

Please explain the factors that influence the decision to return or discard the Gastric Residual Volume. If 'other' selected, please also explain below:

---

---

Thank you for participating in the survey, your responses are greatly appreciated! If you have any further comments you wish to make, please provide below:

If you wish to be contacted about the study, please add your email address below (optional):

---