Cheshire and Wirral Partnership
NHS Foundation Trust

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Insertion and management of nasogastric tubes in persons aged over 16 years for Oaktrees inpatient eating disorder service only

Lead executive	Lead Clinical Director
Authors details	Oaktrees Ward Manager - 01513435513

Type of document	Policy
Target audience	All clinical staff - Specific to eating disorder - Inpatient – **Oaktrees only**
Document purpose	At all times care must be taken to ensure the safety of the patient and staff. This document will ensure safe and monitored practice

Approving meeting	Patient Safety and Effectiveness Sub Committee	18-Jun-15
Implementation date	September 2017	

CWP documents to be read in conjunction with	
HR6	Trust-wide learning and development requirements including the training needs analysis (TNA)
IPC	Infection Prevention and Control Policies

Document change history	
What is different?	Updated information about training requirements Confirmation that NG procedures should only be carried out by registered nurses
Appendices / electronic forms	N/A
What is the impact of change?	Low

Training requirements	Yes - Training requirements for this policy are in accordance with the CWP Training Needs Analysis (TNA) with CWP Education.

Financial resource implications	None

External references

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3. Lord, L.M. (2003) Restoring and Maintaining Patency of Enteral Feeding Tubes. Nutrition in Clinical Practice. 18:422-426
4. Metheny, N.A. & Meert, K.L. (2004) Monitoring Feeding Tube Placement. Nutrition in Clinical Practice. 487-495
5. National Patient Safety Agency (2005) Patient Safety Alert. Reducing the harm caused by misplaced nasogastric feeding tubes.
6. Stroud, M., Duncan, H. & Nightingale, J. (2003) (Developed on behalf of the British Society of

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8. Vanek, V.W. (2002) Ins and Outs of Enteral Access. Part 1: Short –Term Enteral Access. Nutrition in Clinical Practice 17:275-283
9. Mental Health Act 1983
10. Mental Health Act 1983 Code of Practice (2008 ed)
11. Mental Capacity Act2005
12. Mental Capacity Act Code of Practice
13. Deprivation of Liberty Safeguards Code of Practice
14. NPSA Alert (March 2011) supersedes and strengthens Patient Safety Alert 05 (Reducing the harm caused by misplaced nasogastric feeding tubes).
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Equality Impact Assessment (EIA) - Initial assessment	**Yes/No**	**Comments**
Does this document affect one group less or more favourably than another on the basis of:		
- Race	No	
- Ethnic origins (including gypsies and travellers)	No	
- Nationality	No	
- Gender	No	
- Culture	No	
- Religion or belief	No	
- Sexual orientation including lesbian, gay and bisexual people	No	
- Age	No	
- Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
Is there any evidence that some groups are affected differently?	No	
If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable? N/A		
Is the impact of the document likely to be negative? - If so can the impact be avoided? - What alternatives are there to achieving the document without the impact? - Can we reduce the impact by taking different action?	No N/A N/A N/A	
Where an adverse or negative impact on equality group(s) has been identified during the initial screening process a full EIA assessment should be conducted. If you have identified a potential discriminatory impact of this procedural document, please refer it to the human resource department together with any suggestions as to the action required to avoid / reduce this impact. For advice in respect of answering the above questions, please contact the human resource department.		
Was a full impact assessment required?	No	
What is the level of impact?	Low	

Content

1. Introduction

When considering Nasogastric tube feeding please ensure that consent to Nasogastric tube feeding has been obtained.

Feeding against the will of the patient should be an intervention of the last resort in the care and management of those with severe eating disorders or other mental illness. It should be considered in the context of the Mental Health Act 1983, the Mental Capacity Act 2005 or the Children Act 1989 (and their respective Codes of Practice).

Refer to appendices for further guidance regarding patient consent to treatment.

At all times care must be taken to ensure the safety of the patient and staff.

It MUST be documented in the patient's medical record whether the consent given was 'inferred', 'verbal' or 'formal via a Consent form. This will ALWAYS be discussed within ward round.

2. Indications for insertion of nasogastric (NG) tube for purpose of nutritional need within CWP

Whenever possible, oral food intake is always preferred. The insertion of a Nasogastric tube for purpose of nutritional need is only necessary / desirable when a patient's nutritional needs cannot be met orally, for example in:

- Food / fluids refusal or hunger strike;
- Where a tube is required to give urgent medication/hydration, and / or nutrition;
- Psychiatric disease e.g. anorexia nervosa, severe depression;
- Patient detained under the Mental Health Act 1983 whose refusal to refuse food / fluids is linked to her / his mental disorder;
- Swallowing disorders (dysphagia).

Factors to be considered are:

- Patient's current and past nutritional status;
- Feeding environment;
- Reason for NG insertion;
- Assurance that all other non-invasive methods to give urgent nutrition has been considered.
- Has the patient had a known perforation in the past or difficulties in passing an NG tube. If so this should be risk assessed and consideration for insertion in the general hospital made.

Screening for malnutrition and the risk of malnutrition should be carried out when there is clinical concern. It should be carried out by healthcare professionals with appropriate skills and training. Screening should assess Body Mass Index (BMI)

The decision to insert a nasogastric tube is made by the multidisciplinary team in consultation with the patient and his / her family, if possible.

When the decision has been made to proceed with nasogastric tube insertion refer to the dietician for assessment and feeding regimen.

A DATIX MUST BE COMPLETED FOR EVERY PATIENT WHO HAS A NASOGASTRIC TUBE PASSED FOR THE FIRST TIME.

3. Authority for providing nasogastric tube feeding

3.1 Capable patients who are consenting to the treatment

The treatment may be given on an informal basis, under common law, if the patient has capacity and is consenting to the treatment.

Treatment that is unrelated to a mental disorder cannot be given to a capable patient who is refusing the same.

3.2 Use of the Mental Health Act (1983) (MHA)

The definition of "medical treatment" under the MHA 1983 includes "nursing, psychological intervention, special mental health habilitation, rehabilitation and care" the purpose of which is to alleviate or prevent a worsening of the disorder or one or more of its symptoms or manifestation.

Where **capable** patients are refusing food and the refusal **is related to their mental disorder**, detention under the MHA 1983 may be considered. Section 63 may then be used to provide nasogastric tube feeding**,** under the direction of the approved clinician in charge of the patient's treatment. The approved clinician must fully document the reasons for directing nasogastric tube feeding.

Where **incapacitated** patients **refuse** food, and the refusal **is related to their mental disorder**, the **MHA 1983** should be invoked if the level of restraint was over and above that permitted under the MCA 2005.

3.3 Use of Mental Capacity Act 2005 (MCA)

Where **incapacitated** patients **do not object** to the treatment and this is being provided for the mental disorder or the physical condition, the provisions of the **MCA 2005** can be used if this is in the patient's best interests, applying the MCA section 4 checklist.

Where **incapacitated** patients **refuse** food, and the refusal **is related to their mental disorder**, consideration should be given to the least restrictive option. The approved clinician in charge of the patient's treatment may decide that the treatment can be given, in the patient's best interests, under the **provisions of the MCA 2005**, as long as only a low level of restraint was required.

Where **incapacitated** patients **refuse food** and the food refusal **is unrelated to a mental disorder**, and is treatment for a physical condition only, then treatment may be provided under the **MCA 2005** as long as the treatment is in their best interests, and any restraint required is necessary to prevent the patient from coming to harm, and is proportionate to that harm. If this also constitutes a deprivation of liberty, then a Deprivation of Liberty Safeguards (DOLS' authorisation would be required). If very significant restraint is required, and it is considered that it may not be enough to rely on the MCA and DOLS, then it would be prudent to seek authorisation from the **Court of Protection**.

3.4 Applying to the Court

In rare circumstances, if treatment is **unrelated to the mental disorder**, and where the patient **has mental capacity but is a vulnerable adult,** it may be necessary to apply to court for authorisation to provide nasogastric feeding using the High Court's inherent jurisdiction.

3.5 Eligibility for DOLS (Reference GJ v The Foundation Trust (2009) EWHC 2972(Fam))

Applying the GJ case and the 'But For' Test in relation to how a person should be detained.

Where the patient has a mental disorder AND a physical disorder, who also lacks capacity to make an informed decision regarding hospital admission, the following should be considered:

a) **But for** the physical disorder, the patient would not need to be detained under the MHA The patient does not meet the criteria for detention under the MHA 198;

b) **But for** the physical disorder, the patient meets the criteria for detention under the MHA 1983.

The patient should be detained under the MHA 1983 for the purpose of in-patient care and treatment of the mental disorder

3.6 Advance Decisions (MCA 2005) (see MCA Code of Practice Chapter 9 for further information)

Valid and binding advance decisions can only be made by capable individuals over 18 years of age to **refuse specific medical treatment** for a time in the future when they may not have the capacity to consent or refuse that particular treatment.

Where the advance decision is to refuse life-sustaining treatment, it must:

- Be made in writing (someone else can record this in the healthcare notes);
- Be signed and witnessed and clearly state that the advance decision applies even if life is at risk.

An advance decision refusing specific treatment can be overridden by Part IV of the MHA (except ECT treatment). Therefore the use of the MHA 1983 should be considered to enable nasogastric feeding in this situation.

3.7 Lasting Power of Attorney (LPA) and Court Appointed Deputy (CAD) (MCA 2005)

A valid personal welfare LPA or CAD who has been authorised to make specific welfare decisions on behalf of the patient, can be overridden by Part IV of the MHA 1983 (except ECT treatment). Therefore, the use of the MHA 1983 should be considered to enable nasogastric feeding in this situation (see MCA Code of Practice and MHA Code of Practice 2015 for detailed information regarding valid LPAs or CADs). For further guidance police contact on the role of Attorney or Court Appointed Deputy contact the Mental Health Act Team.

3.8 Planned Restrictive Physical Intervention [RPI]

As a last resort under the Mental Health Act enteral feeding is recognised as treatment for Anorexia Nervosa and can be done against the will of the service user as a life-saving measure. All enteral feeding using Restrictive Physical Intervention [RPI] must only be undertaken;

- as a clinically required treatment /intervention for patients under Section 3 of the Mental Health Act of 1983 or in the case of voluntary patients, with the service user or in the case of children, parent's, informed capacitated consent.
- as a last resort where in the opinion of the Responsible Clinician and the multi-disciplinary team the patient's life is felt to be at risk secondary to malnutrition and due to their compromised medical condition, for example, a dangerously low BMI, recent rapid weight loss, abnormal blood results or dehydration.

Unless a service user is detained under the Act or is subject to a deprivation of liberty authorisation or deprivation of liberty order under the MCA, staff must be careful to ensure that the use of restrictive interventions does not impose restrictions which amount to amount to a deprivation of liberty.
Any planned use of restrictive physical interventions must only be done so in accordance with CWP policy. If it is decided to use RPI it is must be understood that that this alone will not prevent physical movement by the service user or address all risk factors. RPI must only be used as part of a compliment of clinical and pharmacological interventions which promote best interests and are embedded into the values of safe practice at all times. All planned RPI must be detailed into a collaborative management plan approved by the Care Team and appropriate others.

<u>The RPI Team and resources</u>
Where possible clinical staff known to the service user and who have attended the required mandated training must be involved. The RPI team must involve a minimum of three staff members, include gender specific staff and have a professional rapport with the service user.

- The Responsible Clinician or nominated deputy [duty doctor or senior nurse] must be present and will act as lead during any planned RPI procedure in insert a NG feeding tube.
- A member of the RPI team must be identified to lead and promote verbal engagement and reassurance with the service user throughout any RPI incident.
- A room must be agreed, preferably with the service user, which will promote privacy and dignity throughout and post procedure.
- A comfortable chair which affords all around space/access must be used. The chair must have a rigid build with arm rests and be supportive for the service user. This must not include a 'bean bag' as this would not afford any head or neck support and increase risk of movement.
- At no time during the procedure must a service user be restrained using any mechanical interventions.
- emergency resuscitation devices should be readily available in the area where restraint is taking place.

The RPI procedure

All RPI planned must use the least restrictive techniques, only where necessary, for the shortest time possible and be in the service user's best interest. The safety of the service user must be a priority throughout any attempted procedure.

- The decision to stop or postpone the planned procedure can be taken at any time. This decision will be based on risk of harm and injury against any intended positive outcome for the service user. The overall responsibility for decision making will be with the lead clinician or their nominated deputy and must be discussed with the team members present.
- The service user must be fully engaged prior to any procedure and made aware of planned interventions. All non-physical interventions must be attempted prior to any RPI being used.
- One member of staff identified who will be responsible for the management of the service users head, to minimise head and neck movement from behind. Lead hand, palm over on service user fore head, fingers to the side, forearm tucked in. Other hand placing 'a cap' on the service users chin.
- Two other members of staff each to manage the service users arm using level two or three holds. Level four holds [flexed wrists] must never be used.
- A fourth member of staff may be needed if it is assessed that there is a risk of kicking out to any team member.
- If at any time during the planned RPI procedure any staff member feels that the service user is becoming resistive, tension is felt through the holds this must be immediately verbalised to the responsible senior clinician. This will include any verbalised or visual signs of distress and discomfort displayed by the service user.
- The aim of sedation is to calm the patient. Care should be taken to ensure that the patient remains awake for the procedure. If required, oral lorazepam 500micrograms to 1mg as a single dose depending on patients' presentation and weight can be administered to calm the patient. The decision whether to administer the sedation should be made by the eating disorders consultant in conjunction with the clinical team. Only consider the administration of IM lorazepam 500micrograms in extremis, this decision should also be made by the eating disorders consultant in consultation with the clinical team. Ensure the patient is adequately monitored due to their low weight and possible sensitivity to the sedative effects of lorazepam.
- A member of staff must monitor the service user's airway and physical condition throughout the restraint in order to minimise the potential of individual harm or injury.
- Observations that include vital clinical indicators such as pulse, respiration and complexion (with special attention for pallor/discolouration) must be conducted and recorded, and staff should be trained so that they are competent to interpret these vital signs

Post incident

- A staff member must be identified to monitor and record the service user physical observations for a minimum of one hour post procedure. Where sedation has been used as part of the planned intervention physical observations must be monitored and recorded in accordance with policy.

- A medical doctor must also be informed and complete a physical assessment of the service user within 1 hour post procedure.
- A staff member must be identified to support the service user post incident and be available to discuss any thoughts and feelings arising.
- The service user must not be 'isolated or segregated' or have their movements restricted for any longer than necessary.
- A post incident review with all team members must be held, which can be used to discuss any thoughts or comments regarding the RPI procedure.
- If RPI are used a Datix must be completed, risk tool/management plans must be reviewed and incident detailed into Carenotes.

3.9 Patients under the age of 18 years

The law relating to minors under the age of 16 years and those aged 16 and 17 years is different. Parental responsibility may or may not apply, depending upon the patient's circumstances**.**

The MHA Code of Practice advises that, for those professionals providing treatment for children and young people under 18 years of age, It is important that relevant legislation is considered, including the MHA 1983, the Children Acts 1989 and 2004, the MCA 2005, the Family Law Reform Act 1969, Human Rights Act 1998 and the United Nations Convention on the Rights of the Child. Other supporting Codes of Practice, case law and common law should also be considered.

When in doubt, legal advice must always be taken.

4. What type of nasogastric tube should be used?

Use fine bore tubes designed for enteral feeding rather than large bore Nasogastric tubes, the tube should be fully compliant with NPSA (National Patient Safety Agency) guidance -

NG tubes we stock on the ward are Enteraluk Nutricare long term NG tubes sizes 8fr 120cm (order code FWM2408) and 10fr 92cm (order code FWM2409).

Feed is delivered through the pink end and medication/flushes through the purple end. This is a reusable tube. Female enteral syringes will connect to the ends, and should be single use on the Hospital wards.

5. Who should insert nasogastric tubes?

All grades of doctors who have been appropriately trained may insert fine bore Nasogastric feeding tubes. Where appropriate and they exist for your grade of clinician the best practice form appendix 1 MUST be completed and signed before you carry out this procedure.

Registered Nursing staff may insert fine bore Nasogastric feeding tubes if they have completed and successfully signed off the best practice form appendix 1.

6. Recommendations for practice – staff training and competence

- A patient requiring NG tube insertion should be managed and supported by appropriately trained staff.
- Registered Nurses and Registered Medical Staff should ensure that if they are involved in insertion and / or position checks that they have been assessed as competent through theoretical and practical training.
- All nurses have a responsibility to ensure that they have sufficient
- knowledge, skills and competence to perform any procedure as outlined by
- the Nursing and Midwifery Council (NMC 2015).
- Only 2 attempts should be made by 1 person to insert a NG tube. If the attempts are unsuccessful another experienced practitioner should retry.

7. Insertion of a nasogastric tube

Necessary equipment:

- Clinically clean receiver;
- Fine bore nasogastric tube;
- 50ml enteral syringe and 20ml enteral syringe;
- Hypoallergenic tape;
- Glass of water (if the patient is able to swallow) and is allowed fluids;
- pH indicator strips (0.5 graduations);
- Personal Protective Equipment (PPE) - disposable gloves and apron.

8. Placing a NG tube

This procedure will always be pre-planned. **Any planned procedure which may result in resistance from the service user must involve the practitioner seeking advice from the CWP MVA co-ordinator.**

No	Action	Rationale
1	Give a detailed explanation and obtain verbal consent.	To obtain the persons consent and Cooperation
2	Ensure that the patient knows a signal (e.g. to raise hand) to communicate that he/she wants the practitioner to stop.	The person is often less frightened if he / she feels able to have some control over the procedure.
3	Help the patient to sit in a supported comfortable upright position (55 –65° angle) in the bed or chair supported by pillows. **NB**. The head should not be tilted backwards. If unconscious, place in a safe position by laying the patient in their side, do not extend the neck.	To allow for easy passage of the tube. This position enables easy swallowing and ensures the epiglottis is not obstructing the oesophagus. To ensure correct passage and position of the tube.
4	Ensure strict hand hygiene is adhered to and PPE put on prior to commencing procedure.	To maintain hand hygiene to reduce the risk of contamination.
5	Standard Infection Control precautions should be used when performing this procedure.	
6	Determine the length of tube required by measuring from the nose to the ear lobe and then to the xiphisternum and record this length on the NG tube position confirmation record document. This is how far you will want to insert the tube into the patient **WARNING:** Pre-measurement of tube length is advisable. If excess is inserted occlusion may result from kinking of the tube. Where a guidewire is present, straighten the tube by stretching, this makes it easier to remove the guidewire afterwards. If present, ensure guidewire is fully locked on to the end of the NG tube. Lubricate the end of the tube with water	To ensure that the appropriate length of the tube is passed into the stomach.

No	Action	Rationale
7	If patient has intact swallow reflex- ensure a glass of water or bottle is available to sip in preparation for tube placement. *If patient is 'Nil by mouth'- they should be asked to repeatedly carry out a swallow action. But not take a drink.*	
8	Ask the patient to blow their nose if they are able to clear the nasal passages. Check nostrils are patent by asking the patient to sniff with one nostril closed. Repeat with other nostril. Insert the rounded end of the tube into the nostril; slide it backwards and inwards along the floor of the nose to the nasopharynx. Withdraw if any obstruction is felt, try again at a slightly different angle or use the other nostril.	To facilitate the passage of the tube following the natural anatomy of the nose. To avoid trauma to the nasal passage.
9	As the tube passes into the nasopharynx ask the patient to start swallowing (or sip if able).	A swallowing action closes the glottis enabling the tube to pass into the oesophagus.
10	Advance the tube until you reach the point where the tube was measured. As the tube insertion proceeds observe the patient and remove the tube if coughing, distress or cyanosis occurs. Withdraw tube as this may indicate tracheal placement. **NB. Maximum of 2 attempts.** Check inside the mouth for a coil of tube if the patient is unable to communicate.	**Some patients do not have a cough reflex and unrecognised entry to the trachea may occur e.g. in Stroke. Neuro sedated and trauma patients.**
11	Confirm correct placement of tube before removing guidewire by aspirating tube using 60ml enteral syringe. (refer to section 9)	
12	Care should be taken to ensure that the end of the tube is firmly closed with a spigot when not in use and that this is checked regularly.	To ensure that acidic gastric contents do not leak or siphon from the tube, resulting in caustic burns to the patients skin.
13	Measure the length of tubing remaining from the nostril to the tip (i.e. visible tubing).	Give baseline against which to assess possible tube displacement.
14	Once the position has been confirmed, remove the guidewire. To remove the guidewire attach a 20ml enteral syringe containing 10ml of water to the end of the tube and slowly inject the water down the tube. This activates the internal lubricant in the tube and aids removal.	

No	Action	Rationale
	The tube should be held firmly at the tip of the nose to ensure that the tube stays in position as the guidewire is removed. **The guidewire may now be removed carefully.** **The guidewire must never be reinserted while the tube is still in the patient**	
15	Following successful insertion use an adhesive patch to anchor the tube securely to the cheek and hook it over the ear, keeping it out of the patient visual fields and avoiding friction to the nose. Where the adhesive patch proves unsuitable, use a barrier product such as a hydrocolloid dressing to protect the skin and a transparent dressing placed over this to hold the tube in place.	To maintain the tube in place. To ensure comfort.
16	Remove PPE and decontaminate hands following NG tube insertion.	
17	At all times during the procedure talk to and reassure the patient.	
18	Document the procedure, size and type of tube and method used to confirm the position of the tube in the patient's medical and / or nursing notes. Document on NG tube placement bedside checklist (appendix 3)	
19	Flush the tube with water or flushes as per feeding regimen before commencing feeding.	

9. Medication Administration via the Enteral route

Medicines are not specifically formulated for enteral administration therefore use via this route requires careful consideration and caution to ensure safety and effectiveness. A pharmacist must always be consulted for advice when medicines are due to be administered via the enteral route. The medication administration advice should always be documented in the patients' notes by the reviewing pharmacist. If there are any changes to the patients' medication, further administration advice should be requested from the locality pharmacist before administration is undertaken. This information should form part of the individual careplan and the administration advice should be documented within the patient's electronic record.
The NPSA has made specific recommendations concerning the prevention of 'wrong-route' errors with oral and enteral medicines, feeds and flushes

The key points are:

- Only **oral / enteral**, catheter-tip or reverse Luer lock 50 ml syringes that are not compatible with IV devices must be used to administer oral/enteral medicines, feeds and flushes.
- Only syringes that are marked as suitable for **oral/enteral use** or coloured purple to indicate their usage for oral/enteral use can be used for administering medication since there is a risk that the use of any other type of syringe has potential to cause a 'wrong route' error
- Ports on nasogastric and enteral feeding tubes through which medicines, feeds or flushes are administered or which may be used for aspiration, must be male Luer, catheter or other non-female Luer in design.
- Three-way taps and adaptors that connect with IV devices must **not** be used.

Maintaining patency of tubes

- Flush the tube with at least 30mls of sterile water using a 60ml oral syringe.
- Before and after drug administration;
- At the end of feed and before recommencing feed;
- Flush with 30mls of water between each medication to avoid interactions;
- If the tube appears blocked try flushing it with sterile water. If this doesn't work, attach an empty 60ml syringe to the tube and use a push/pull technique to try and unblock the tube. You may try warm sterile water or soda water; **do not use acidic solutions e.g. lemonade, coke;**
- Giving sets, if using a pump, must be changed every 24 hours.

NB: If patient is fluid restricted, contact your locality pharmacist for advice.

10. Confirming position of nasogastric tube

The NPSA Alert (March 2011) updates and strengthens Patient Safety Alert 05 (Reducing the harm caused by misplaced nasogastric feeding tubes). Further, it incorporates the NPSA/2012/RRR001 alert update (Harm from flushing of nasogastric tubes before confirmation of placement).

Nasogastric tubes used for the purpose of feeding must be radio-opaque throughout their length and have externally visible length markings.

NOTHING should be introduced down the tube before gastric placement has been confirmed.

DO NOT flush the tube before gastric placement has been confirmed.

The length of the tube should be estimated before insertion using the NEX measurement. Place exit part of tube at the NEX of nose. Extend tube to earlobe and then to xiphisternum- known as the NEX measurement. Once inserted the external tube length should be recorded and confirmed before each feed.

First line test method: pH paper

- pH testings used as the first line test method with pH between 1 and 5.5 as the safe range, and that each test and test result is documented on a chart and kept at the patient's bedside (appendix 3);
- pH readings should be between 1 and 5.5 for feeding to commence safely;
- It is recommended by the NPSA that readings falling between pH 5 and 6 should be checked by a second competent person;
- All areas where NG feeding tube placement is likely to occur must have access to pH indicator paper that is CE marked and manufactured to test human gastric aspirate.

Documentation following pH testing needs to include:

- Whether aspirate was obtained;
- What the aspirate pH was;
- Who checked the aspirate pH;
- When it was confirmed to be safe to administer feed and/or medication (e.g. gastric pH between 1 and 5.5).

Second line testing method: X- Ray confirmation

11. If unable to obtain an aspirate

Undertake the following actions in the order listed:

- Draw slowly back with the plunger – it can take a long time, be prepared to spend 15-30 minutes to obtain aspirate from a fine bore feeding tube;
- Flush the tube with 10-20mls of air - moves the tube away from the stomach wall to aid aspiration. Retry aspirate;

- If able – turn the patient onto their left side - improves position of stomach contents. Retry aspirate after 20 minutes;
- Ask the patient to take a drink (***only*** if patient has a safe swallow and has **not** been placed Nil by Mouth) - adds fluid to the stomach. Wait 20 minutes and retry aspirate;
- If patient is Nil by Mouth, for whatever reason, perform oral hygiene – this stimulates gastric secretions. Wait 20 minutes and retry aspirate;
- If tube measurement is less than 60cm advance tube 1 to 2 cm at a time up to a maximum of 5cm - Tube may be in oesophagus – advancing tube may allow it to pass into the stomach. Retry aspirate, if this then fails retry all of the above again;
- If tube measurement is more than 70cm withdraw tube 1 to 2 cm at a time up to a maximum of 5cm - Tube may be inserted past the stomach into small bowel. Withdrawing tube may bring tube back into the stomach. Retry aspirate, if this then fails retry all of the above again.

12. If pH of aspirate is 6.0 or above

Patients receiving:

- Antacids e.g. Gaviscon, Rennie;
- H2 Antagonists e.g. Ranitidine;
- Proton pump inhibitors (PPI's) e.g. Lansoprazole, Omeprazole.

All may have unusually high gastric pH.

- Retry aspirate later (consider doing so just prior to next antacid/H2 antagonist / proton pump inhibitor dose) – more likely to get an acidic pH (5.5 or less) at this time;
- In patients who are established on feeding regimens (initial tube placement in stomach previously confirmed) – the best time to check pH of aspirate from the nasogastric tube is at the end of the rest period from feeding just prior to restarting the feed. The presence of feed in the stomach is likely to increase pH above 5.5;
- If patient has a safe swallow and is not nil by mouth - ask patient to drink 200mls of blackcurrant juice. If this is aspirated back via the nasogastric tube the tip is in the gastric fluid pool;
- If tube measurement is more than 70cm withdraw tube 1 to 2 cm at a time up to a maximum of 5cm. The tip of nasogastric tube may have migrated into the small bowel. Withdrawing the tube will bring it back into the stomach. Retry aspirate.

NB: If after trying everything suggested above you are still unable to obtain an aspirate or pH of aspirate is 6.0 or above then proceed to Radiography (X-Ray).

13. Radiography to confirm tube position

X-ray should only be considered when all other measures have been tried and clearly documented.

If this is the initial placement of this tube and an X-ray is required.

- Please order X-ray stating whether the NG tube is for medication only, feeding only or medications and feeding. All x-rays ordered for NG tube position confirmation will be treated as urgent by radiology staff. If your request is out of hours then ring the radiographer as per the normal out of hours procedure. You must check Meditech for your x-ray report;
- Please document in the medical notes rationale for ordering X-ray (unable to obtain an aspirate or pH of aspirate 6.0 or above, and what attempts have been made to achieve an aspirate);
- Once the X-ray has been viewed and reported please document result of X-ray in the medical notes along with instructions re use of the feeding tube. Only then should the nasogastric tube be used (if position has been confirmed in the stomach).

For existing nasogastric tubes (position of NG tube has been previously confirmed in the stomach either by X-ray or pH of gastric aspirate 5.5 or less **and** feeding has already begun/is established) please refer to the **risk assessment –** appendix 4 for further guidance.

There have been multiple reports of x-rays being misinterpreted by physicians who are not trained in radiology. When an x-ray is required to confirm tube position, it is therefore ESSENTIAL that the x-ray is interpreted by a doctor who is competent to do so. National Patient Safety Agency (Feb 2005).

14. Subsequent checking of nasogastric tube position

- The tube position should be checked *at least* once every shift. This should be done by testing the pH of gastric aspirate and checking the tube position at the end of the nostril. Always document pH and centimetre marking on Enteral Feeding Prescription Chart;
- The best time to check the pH of gastric aspirate is before feeding is recommenced at the end of the rest period and before any medications are given. The dieticians will prescribe feeding regimens to fit with this best practice and as such most gastric aspirate pHs should be checked daily at approximately 6am.

Always check position:

- Before commencing / recommencing feed and any other use of the tube including giving water and medications;
- After any violent coughing bout;
- After any episodes of vomiting or retching;
- After observing decreased oxygen saturation;
- If the tube is accidentally dislodged or the patient complains of discomfort;
- Following evidence of tube displacement (for example, loose tape or visible tube appears longer, tube coiled at back of mouth);
- At least once daily during continuous feeding;
- After endotracheal or tracheostomy tube suctioning;
- If tube has obviously displaced on centimetre marking at nostril;
- On receipt of patient being transferred from another area prior to using tube;
- If there is *any* doubt regarding the position of the nasogastric feeding tube?

Methods that MUST NOT be used

- The 'whoosh' test which involves the use of a syringe to push a small volume of air down the nasogastric tube whilst the sounds produced are monitored with a stethoscope;
- Testing the acidity /alkalinity of aspirate using blue litmus strip;
- Observing for signs of respiratory distress - often ineffective in detecting a misplaced tube;
- Monitoring bubbling at the proximal end of the tube - unreliable because the stomach also contains air and could falsely indicate respiratory placement;
- Observing the appearance of feeding tube aspirate - unreliable because gastric contents can look similar to respiratory secretions.

Always use a **pH indicator strip** – pH should be 5.5 or below

If you are unable to obtain a gastric aspirate or the pH is above 6.0 and you have tried **all actions** under the section aspiration and pH testing please refer to the **risk assessment** (appendix 4).

15. Documentation

Initial insertion of the Nasogastric tube should be documented in the medical notes. Documentation should include:

- Patient's consent to the procedure;
- Date and time of procedure;
- Tube type, make and batch number;
- Centimetre marking on the tube at the point it exits the nostril;
- Any attempts at getting an aspirate via the tube, including how many attempts and what you needed to do to obtain one;
- pH of any aspirate obtained:
  - If pH is 5.5 or less tube position is confirmed in the stomach;

- If pH is 6.0 or above tube will need an x-ray to confirm position.

- Need/justification for X-ray to confirm tube position (i.e. unable to obtain aspirate or pH of aspirate is 6.0 or above);
- Following X-ray (if required to confirm position), document result of X-ray and date and time of this documentation. Give advice regarding use of tube. **Please note that only appropriately trained consultants (& registrars in radiology) can interpret an X-ray to confirm position of tube in stomach. If there is any doubt a second opinion should be sought from a consultant in radiology.** If X-ray has confirmed position in stomach please document and advise to start feeding. If tube isn't confirmed as being in the stomach please document as such and advise NOT to use nasogastric feeding tube. Remove tube and re-insert;
- **NOTE to nursing staff** – do not proceed to use a nasogastric tube until there is documentation in the medical notes that the tube is in the correct position – either for medications / hydration or feeding;
- Ongoing tube confirmation via gastric pH and centimetre marking at the end of the nostril should be documented.

16. Points to remember

- **NEVER** reinsert a guidewire while the tube is *in situ* in a patient as there is a risk of perforation (tube and vital structures);
- X-ray can be performed with **OR** without the guide wire being in place (tube is fully radio opaque);
- Nurse patients at 45 degree head up angle during feeding and for about one hour afterwards to avoid regurgitation of feed;
- Syringes should be discarded after **each** use and **not** kept for re-use.
- Always use a sterile 60 ml female Luer or catheter tip syringe where possible. A smaller syringe may burst or collapse a fine-bore tube due to the high pressures created, and should therefore only be used for drug administration if necessary;
- pH strips must be used and stored according to manufacturers' instructions. The reagent section **should not be contaminated** before use through handling or inappropriate storage;
- It is **NOT** accepted practice to put gastric aspirate onto the syringe wrapping / cover and then to run reagent strips through the aspirate. This may alter the pH reading. Gastric aspirate should be placed directly onto the strip.

Securing tube

- **Do not apply tape to nose** – this will make it difficult to visualise the centimetre marking on the tube at the nostril. It is preferable that all tubes are secured using a Feeding Tube Attachment Device (order via normal supplies) which secures tube to nose but allows tube to be visualised at point of exit from nostril;
- Clean skin with soap and water before replacing old tape / fixation device;
- Fix tube in a smooth curve from nose to cheek to avoid kinking and prevent the patient accidentally hooking the tube with their fingers;
- Ensure that the tube is out of the line of vision to avoid irritation..

Tube removal

- Explain the procedure and provide the patient with a tissue to blow their nose with after removal of tube;
- Disconnect tube from feeding set;
- Plug the tube to prevent feed leaking into the nasopharynx on removal;
- Remove tape;
- Tilt patient's head upward slightly (providing no contraindications);
- Remove tube slowly. If resistance is met consult medical staff. A knotted tube may be pulled out of the mouth, the knot cut off and the tube then withdrawn from the nose.

17. Inserting a Nasal Bridle

One of the most frequent complications of NG feeding is the removal of NG tube (Williams, 2008), methods such as adhesive tape should always be used in the first instance to secure the tube. However if the tube is persistently being removed the patient should be considered for a nasal bridle, clear documentation and rational should be documented in patients notes. A nasal bridle is a retaining device which uses two probes with magnets at the end to pass an umbilical tape around the vomer bone to create a loop, the attached clip is then used to secure the bridle and the NG tube.

A bridle should only be considered if less restrictive methods are not deemed appropriate and should be decided by the RC or their deputy along with the MDT. Other contraindications include patients who have capacity and refuse, confused/agitated patients who may continue to pull and damage septum, basal skull fracture, deviated septum, structural deformity to the nose and clotting disorders.

Process

- The decision to fit a nasal bridle should be clearly documented in patient's notes as part of the MDT over seen by RC.
- A nasal bridle should be fitted by competent and fully trained staff
- Staff should fit the bridle following the manufacturers guidelines (see appendix 8 or pocket guide that comes with bridle)
- Staff should make no more than two attempts to fit the nasal bridle
- Once the nasal bridle is in place it should be included in the patients care plan / Electronic patients records.
- Pocket guide book detailing insertion and removal procedures as well as clip opening tool should be stored in the patients medication draw

For consideration

- Ensure the bridle is the correct size for the NG tube being used (e.g. 8fr bridle for an 8fr tube)

Bridles in stock on the ward enteral UK AMT Bridle, we use size 8fr (**order code FWM993**) and 10fr (**order code FM1120**)

18. Refeeding Syndrome

Refeeding syndrome may occur when severely malnourished patients are fed enterally. There is a rapid fall in serum levels of phosphate, magnesium and potassium, along with altered glucose tolerance and an increased extracellular fluid volume. The resulting complications can include: respiratory failure, cardiac failure, cardiac arrhythmias, muscle wasting, seizures and coma.

Severely malnourished patients require vitamin/mineral supplements prior to feeding and cardiac monitoring. They must be cared for by health professionals trained to deal with such cases.

19. Diabetic monitoring

Illness increases blood glucose levels and enteral feeds are quickly absorbed. In diabetic patients, blood glucose should initially be monitored every 4 to 6 hours in case an increase in diabetic medication is required. Check medications with Pharmacy before giving via the feeding tube. The monitoring of bloods will increase as instructed by medical officer.

20. Mouth care

Good oral hygiene is essential for patients receiving nutritional support or nil by mouth. Saliva is normally produced when eating and this helps keep the mouth clean. Since saliva production is often reduced when receiving nutritional support the oral mucosa can develop sores. Artificial saliva can help if the mouth is dry. Moisten the lips.

Acknowledgements

Acknowledgement to the Countess of Chester hospital and use of their policies in the formatting of this document – November 2010

Acknowledgement to Mersey care NHS Trust and use of their policy in the formatting of this document

Appendix 1 - Nasogastric feeding checklist

Complete prior to undertaking procedure	Yes / No*	Signature
Have you completed competency training with a recommended person and been signed off as competent?		
Have you got access to the correct equipment to care for the service user as trained to do so?		
Have you access to sufficient equipment if a replacement is required?		
Is there a care plan identified and agreed with the team dietetics and you have a contact number for the patients lead dietician?		
Do you have access to appropriate Personal Protective Equipment (PPE) to perform a 'clean technique' and are aware of IPC policies?		
Is the patient cared for in an environment where staff have access to direct hand washing facilities?		
Is all single use or equipment cleaned after every use and this is recorded?		
Is there evidence the equipment is used as per the manufacturer's instructions / policy?		
Is the administration equipment, if not a bolus, labelled with date and time?		
Have you ensured that all containers are changed every 24 hours if not reprocessed?		
Is this policy / procedure readily available?		

*** If the answer to any of these questions is no – DO NOT proceed with the procedure**

Appendix 2 - Nasogastric tube position confirmation record

Patient name		NHS No / Hospital No	
Ward		DOB	

The position of the nasogastric tube should be checked:

- Following initial insertion (please use placement checklist to record this);
- Before administering each feed;
- Before giving medications;
- Any new or unexplained respiratory symptoms or if oxygen saturations decrease;
- At least once daily episodes of vomiting, retching or coughing spasms;
- When there is suggestion of tube displacement.

If you are not able to confirm that the tube is in the stomach it should be removed and reinserted. This should be documented on the nasogastric tube placement bedside checklist.

Date							
Time							
pH							
External tube length							
Checked by:							
Date							
Time							
pH							
External tube length							
Checked by:							

If any new or unexplained respiratory symptoms, contact medical team immediately and stop feed.

Appendix 3 - Nasogastric feeding bedside chart

Nasogastric tube placement bedside checklist

This bedside checklist should be completed for all patients requiring nasogastric tube placement, on insertion and on all subsequent insertions, before administration of artificial nutrition or medication via the nasogastric tube.

Patient name		NHS No / Hospital No	
Ward		DOB	

Nasogastric tube insertion/ re insertion.

Date and time of insertion/ re insertion					
NEX measurement					
External length once secured					
Nostril used on insertion/ re insertion L/R					
Aspirate obtain- Y/N					
PH of aspirate (if obtained)					
X- ray required Y/N					
Inserted by:					

X-ray interpretation (if applicable)

Date and time of X-ray interpretation					
Is this the most current X-ray Y/N					
Is the X-ray for the correct patient Y/N					
X-ray results e.g. NG has past level of diaphragm and deviates to left. It is safe to feed via NGT					
X-ray interpretation by:					

Appendix 4 - Risk assessment

It is recognised that obtaining aspirate for subsequent checking may at times be difficult.

In the absence of aspirate pH 5.5 or below it is the responsibility of the most senior nurse on the ward to use their clinical judgement to determine if the tube is safe to use.

The following is provided to assist in your decision making:

- Centimetre marking at nostril. Is this the same as the last time tube position was confirmed as being in the stomach (either by x-ray or pH of gastric aspirate 5.5 or less)?
- Is the patient tolerating the feed? I.e. no vomiting, regurgitation, coughing;
- Is the patient taking acid inhibiting medication e.g. Proton Pump Inhibitors (PPI's), Histamine H2 Antagonists (H2 antagonists), antacids?
- History of aspirates – has the pH routinely been above 6 since commencing nasogastric tube feeding?
- Have you checked the back of the mouth for coiled tubing and found none?
- **Low Risk** of tube displacement if answered ***YES*** to all questions;
- **High Risk** of tube displacement if answered ***NO*** to any question.

You should clearly document the risk assessment and your decision in the patient's medical notes.

Appendix 5a - Enteral feeding regime

Pump feeding

Patient name		NHS No / Hospital No	
Ward		DOB	
Consultant		Date	

Time	Feed type	Rate (ml/hr)	Duration of feeding at this rate (hr)

Remember:

- Ensure patients upper body is elevated at least 30 degrees while feeding and for 1 hour after feed has finished;
- Change the giving set every 24 hours;
- Feed must not hang for more than 24 hours.

Special Instructions
This Regime provides:

Calories: (kcal)	Sodium: (mmol)
Protein: (g)	Potassium: (mmol)
Carbohydrate: (g)	Fluid: (ml)
Fat: (g)	Volume: (ml)
Fibre: (g)	

Dietician		Signature	

Appendix 5b - Enteral feeding regime

Bolus feeding

Patient name		NHS No / Hospital No	
Ward		DOB	
Consultant		Date	

Time	Feed type	Amount	Flush

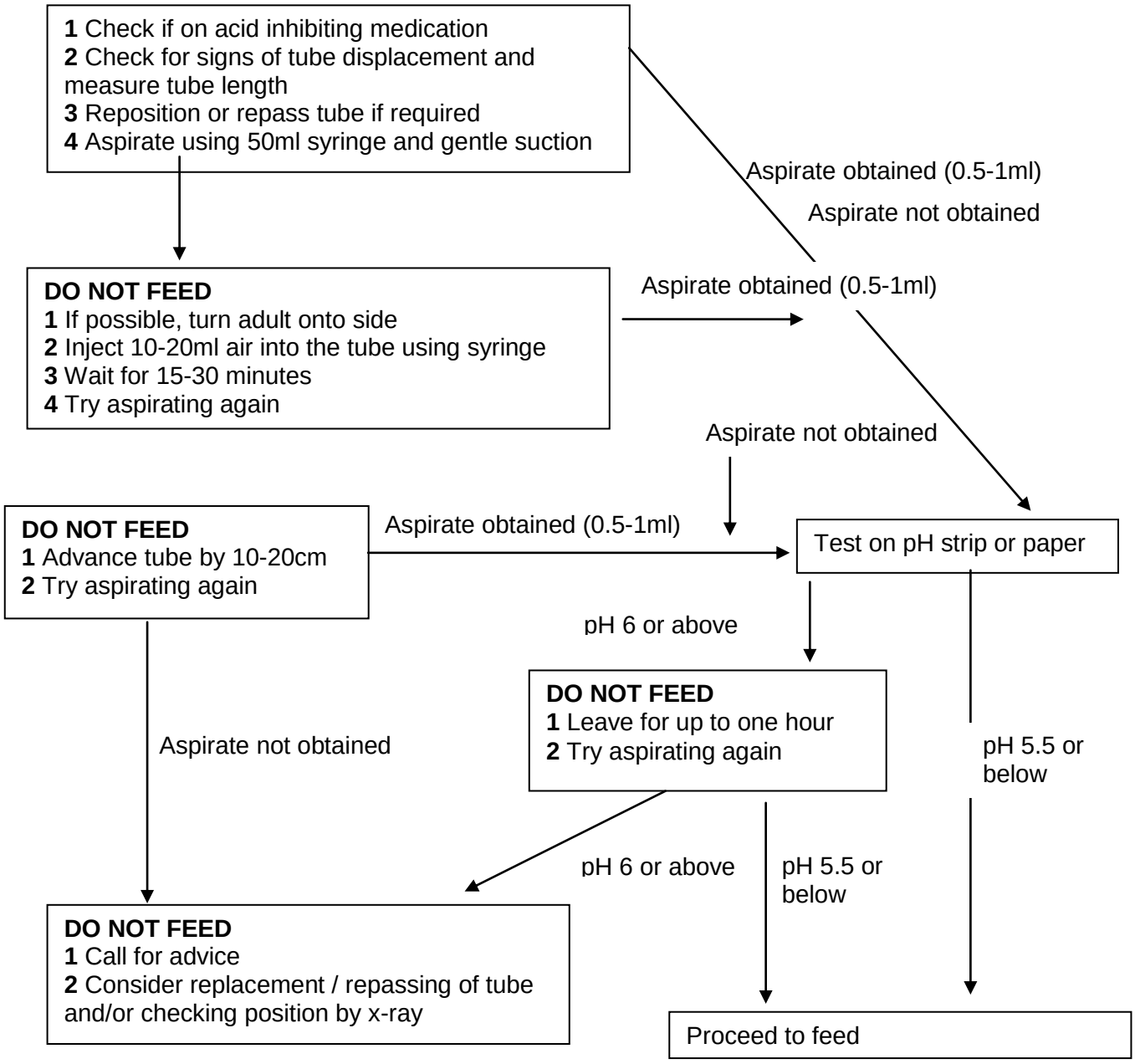
- Ensure patients upper body is elevated at least 30 degrees while feeding and for 1 hour after feed has finished;
- Change the giving set every 24 hours;
- Feed must not be kept open FOR more than 24 hours.

Special Instructions
This Regime provides:

Calories: (kcal)	Sodium: (mmol)
Protein: (g)	Potassium: (mmol)
Carbohydrate: (g)	Fluid: (ml)
Fat: (g)	Volume: (ml)
Fibre: (g)	

Dietician		Signature	

Appendix 6 - Confirming the correct position of nasogastric feeding tubes in adults



CAUTION: If there is ANY query about position and / or the clarity of the colour change on the pH strip, particularly between ranges 5 and 6, then feeding should not commence.

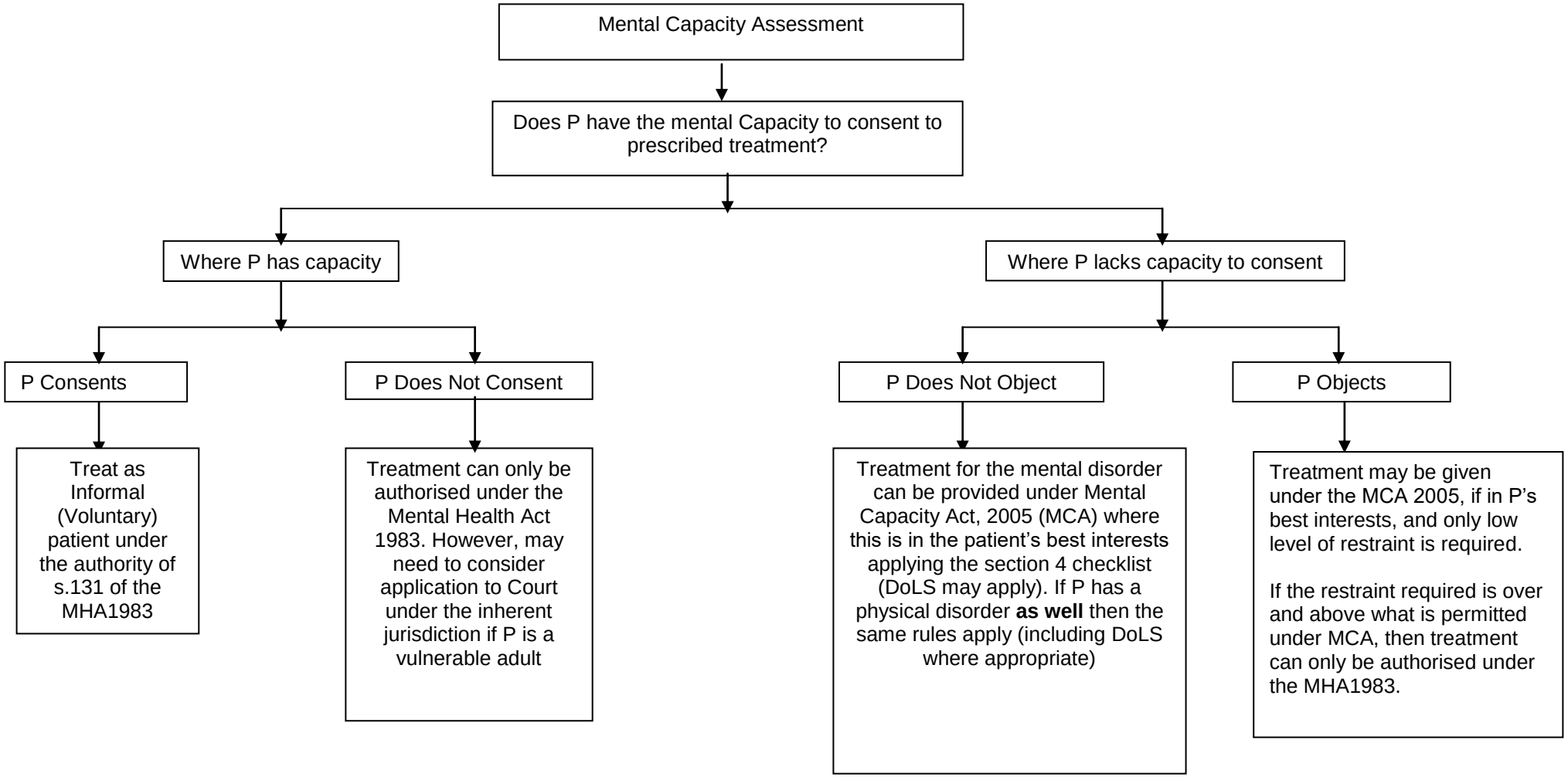
Appendix 7 - Mental capacity, consent & hospital in-patient admission for the assessment, care and treatment of enteral feeding

- FLOWCHART 1.1 Where P is to receive enteral feeding for mental disorder alone
- FLOWCHART 1.2 Where P is to receive enteral feeding for a physical disorder unrelated to her/his mental disorder
- FLOWCHART 1.3 Applying the GJ Case and the *'But For...'* Test
- FLOWCHART 1.4 Advance Decisions, Lasting Power of Attorney, Court Appointed Deputy and Court of Protection Decisions
- FLOWCHART 1.5 Where P is under 18 years of age and is being considered for hospital in-patient admission, assessment, care & treatment.

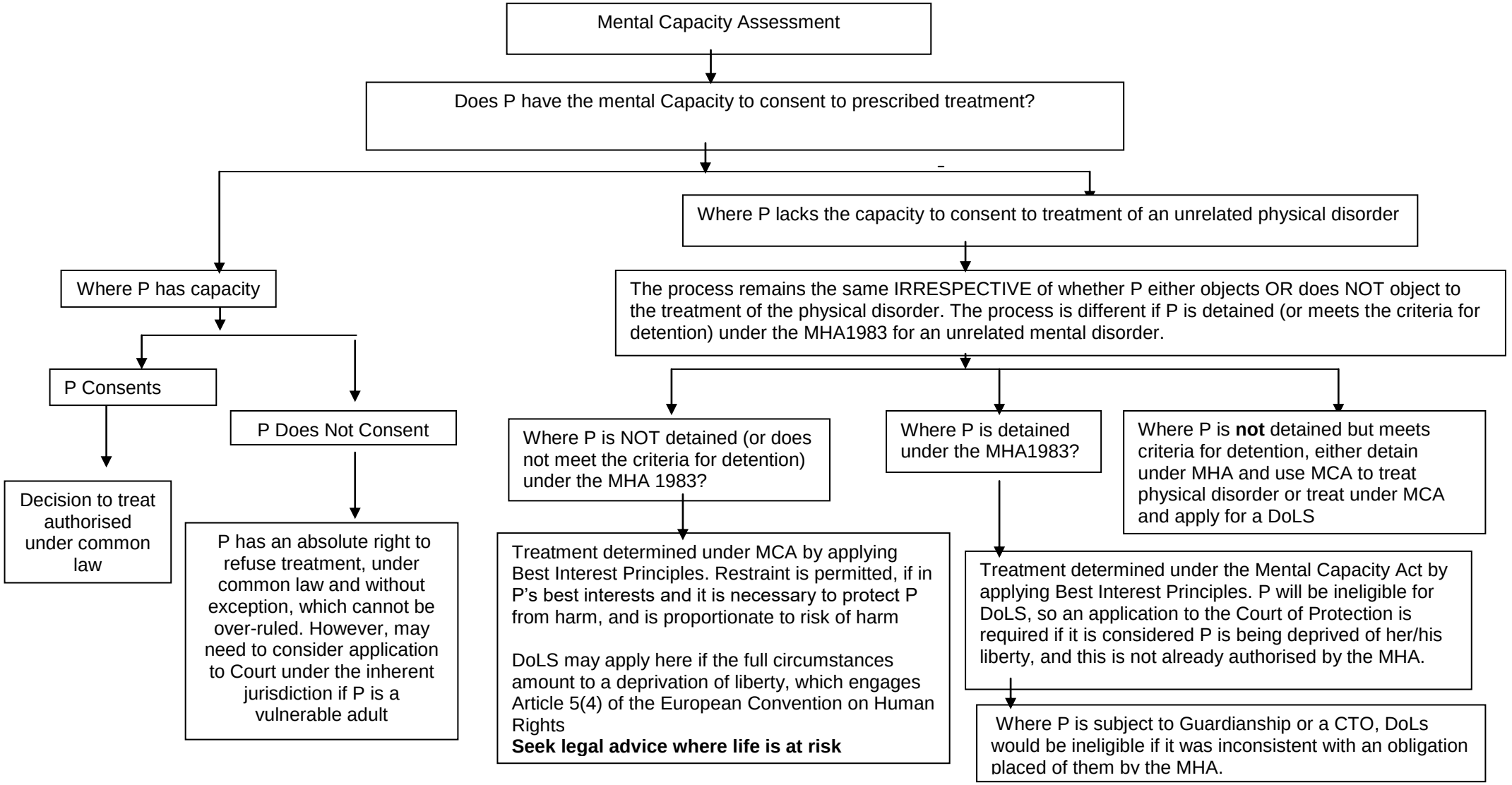
The processes are different in circumstances where P is being managed in an establishment that is not a hospital.

IF IN DOUBT AND WHEREVER PRACTICABLE, PRACTITIONERS SHOULD SEEK LEGAL ADVICE PRIOR TO ADMITTING/TREATING P (Normal office hours: The Trust's legal team; Out of Hours: One of the Trust's Firms of Solicitors authorised through Bronze On-Call)

Flowchart 1.1 - Where P is to receive enteral feeding to alleviate, or prevent a worsening of, the mental disorder or one or more of its symptoms or manifestations

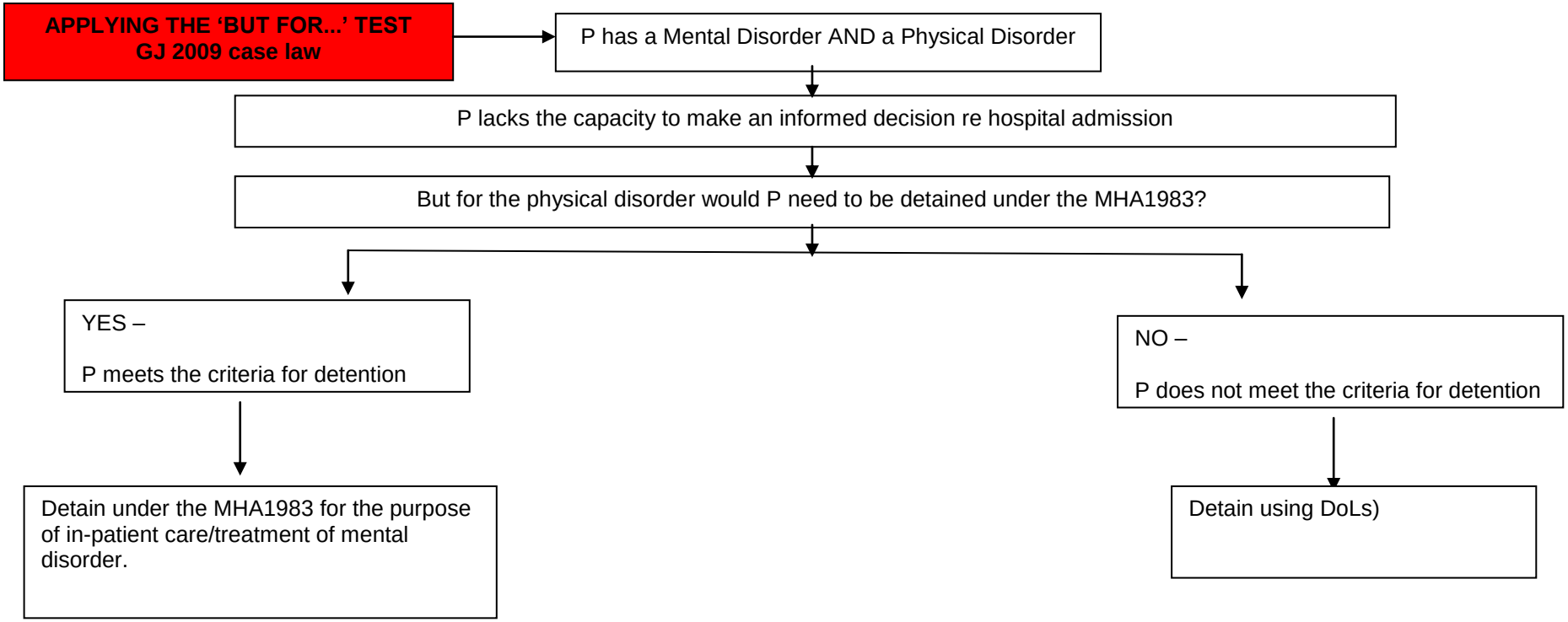


Flowchart 1.2 - Where P is to receive enteral feeding for a physical disorder unrelated to her/his mental disorder

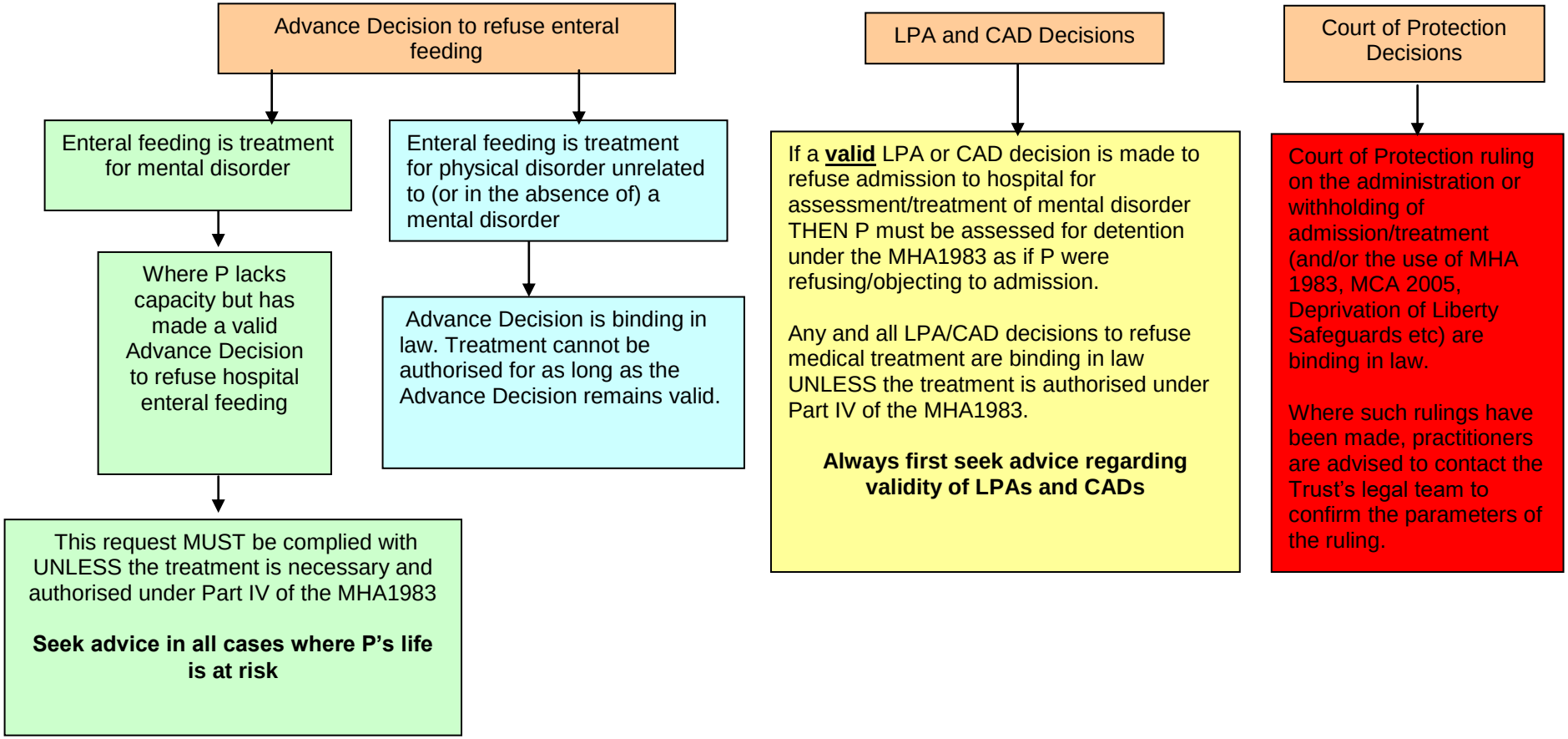


Flowchart 1.3 - GJ v The FT and The PCT and the Secretary of State for Health [2009] EWHC 2972 (Fam)

Applying the GJ Case and the '*But For...*' Test in relation to how a person should be detained



Flowchart 1.4 - Advance Decisions, Lasting Power of Attorney (LPA), Court Appointed Deputy (CAD) and Court of Protection Decisions



Flowchart 1.5 - Where P is under 18 years of age and is being considered for hospital in-patient admission, assessment, care & treatment of enteral feeding

Mental Health Act Code of Practice (2008 ed):

"36.3 The legal framework governing the admission to hospital and treatment of children is complex, and it is important to remember a number of factors. Those responsible for the care of children and young people in hospital should be familiar with other relevant legislation, including the Children Acts 1989 and 2004, Mental Capacity Act 2005 (MCA), Family Law Reform Act 1969, Human Rights Act 1998 and the United Nations Convention on the Rights of the Child, as well as relevant case law, common law principles and relevant codes of practice." (p.327)

Admission and Treatment of Physical Disorders
The above applies equally to treatment of physical disorders (as with the adult, the Mental Health Act 1983 may apply in circumstances where the physical disorder is part of the mental disorder or its treatment is a necessary precondition to the treatment of the underlying mental disorder.

↓

Different Rules apply for those persons between the age of 16-17 years and those who are under the age of 16 years.

Parental Responsibility may or may not apply dependent upon the circumstances.

Practitioners must, at the very least be fully conversant with Chapter 36 of the MHA1983 Code of Practice and Chapter 12 and the relevant sections in Chapters 8 and 15 of the MCA2005 Code of Practice (as well as the additional legislation highlighted above – see MHA1983 Code of Practice 36.3 above).

IF IN DOUBT (AND WHEREVER PRACTICABLE):
PRACTITIONERS SHOULD SEEK LEGAL ADVICE PRIOR TO ADMITTING/TREATING P (Normal office hours: the Trust's legal team; Out of Hours: One of the Trust's Firms of Solicitors authorised through Bronze On-Call)

Appendix 8 - Nasal Tube Retaining Device Competency Validation

Name _____ **Ward** _____ **Date**_____

Teaching Method / Evaluation

Insertion Indications

- To prevent accidental displacement and/or dislodgement of nasal gastric feeding tubes.
- The prevention of skin breakdown associated with facial adhesive tape for securing the tube.
- Any patient at risk of aspiration of enteral nutrition.
- Assurance of timely provision of nutrition.

Contraindications of insertion

- Mechanical obstructions in the nasal airway
- Facial fractures / Nasal fractures
- Arterial cranial fractures
- Basilar skull fractures

Pre procedure notes:

- Must be discussed and agreed with a medic and documented in the patients Electronic patient records
- The Nasal Bridle may be inserted before or after the nasogastric feeding tube; ideally it will be inserted after the placement and confirmation of the nasogastric tube.
- Use caution when handling the bridle clip near the patient's mouth, consider covering the patients mouth with a cloth or gauze to prevent accidental swallowing or aspiration of the clip
- All registered Nurses should watch the AMT training video: https://www.youtube.com/watch?v=zrDDldtGvTQ and read the Pocket insertion guide: https://www.gbukenteral.com/pdf/Bridle-insertion-pocket-guide.pdf

Procedure