NHS
South Tees Hospitals
NHS Foundation Trust

MDT assessment and referral for PEG tube in patients with MND

Step 1: Patient details

Patient name	Name	**Date of birth**	DOB.	**Contact number**	Contact number
NHS number	NHS no.	**Consultant**	Consultant	**Current location**	Inpatient ward no.: Location Outpatient location: Location

Clinical diagnosis	Diagnosis	**Past medical & surgical history:**	PMH/PSH
Current medication:	Medication	**Is the patient on anticoagulant or antiplatelet therapy?**	**No** ☐ **Yes** ☐ **(please list):** List therapy

STEP 2: Referral Criteria

Does the patient have any of the following Indicators?	Does the patient have assumed mental capacity to make the decision to be referred for gastrostomy insertion?	Have the patient, family and carer been involved in a discussion and given relevant supporting information in a format that is appropriate to them in order to make an informed decision?	Has the patient given informed consent to be referred for consideration of gastrostomy insertion?	Is the patient under the care of the regional specialist respiratory service and had a baseline respiratory assessment or had a respiratory assessment within the last 3 months
• 5 %weight loss from diagnosis • Respiratory impairment • Recurrent chest infections • Physical feeding difficulties or prolonged meal times • Cognitive changes • BMI ≤20 • Reduced oral intake • Bulbar symptoms				
YES ☐ **NO** ☐**Continue to monitor & reassess if any changes**	**YES** ☐ **NO** ☐ **Complete Mental Capacity Assessment**	**YES** ☐ **NO** ☐**Ensure discussion & information provided**	**YES** ☐ **NO** ☐**Reassess if patient decision changes in future**	**YES** ☐ **NO** ☐**Baseline assessment required. Complete prior to referral**

If 'yes' to all of the above
Continue to step 3 and assess patient's level of risk

If 'no' to any of the above
Do not refer to PEG MDT until all criteria met or discussion with MND MDT has taken place

STEP 3: Risk identification level

1. Identify patient's level of risk. Start by assessing the patient against the 'Red' criteria. If any indicators are ticked, this is the risk category for this patient.
2. If no indicators are selected from the 'Red' criteria, assess the patient against the 'Amber' criteria. If any indicators are ticked, this is the risk category for this patient.
3. If they do not meet the 'Red' or 'Amber' criteria, the patients risk category is 'Green'.

	Red (High risk)	**Amber (moderate risk)**	**Green (low risk)**
Respiratory	☐Recurrent chest infections ☐Abdominal paradox ☐Reduced chest expansion ☐SNIP <40cmH20 or has a poor sniff ☐FVC <50% of predicted or has a poor, ineffective cough ☐FVC fall > 15% on lying flat ☐Sp02 < 94% without known lung disease or <92% with known lung disease	☐Morning headache or orthopnoea ☐Breathlessness or increased respiratory rate ☐Non-refreshing sleep or daytime sleepiness ☐Shallow breathing ☐Use of accessory muscles of respiration ☐SNIP >40cmH20 or has an adequate sniff ☐FVC >50% of predicted or has effective cough ☐FVC fall <15% on lying flat ☐Sp02 ≥ 94% without known lung disease or ≥ 92% with known lung disease	☐No respiratory symptoms or fatigue ☐Poor speech volume ☐Poor appetite
Ventilation	☐Unable to tolerate or has new non-invasive ventilation or tracheostomy	☐Established on non-invasive ventilation (NIV) without issue	☐Not on ventilation
Weight	☐>10% weight loss with associated respiratory symptoms	☐>5% weight loss with no associated respiratory symptoms	☐<5% weight loss
Positioning	☐Unable to lay flat for ≥ 20 minutes	☐Can lay flat for ≥20 minutes or more	☐Can lay flat for ≥20
Mental state	☐Poor concentration/memory ☐Has confusion or hallucinations	☐Disturbed sleep	☐No concerns

STEP 4: PEG MDT further information

Confirm risk category:	Red☐ Amber ☐ Green ☐	
Does the patient have any of the following contraindications:	No contraindications ☐ EOL/limited life expectancy ☐ Advance decision against gastrostomy ☐ End stage dementia ☐ Current chest infection/pneumonia ☐ Oesophageal constriction or obstruction ☐ Morbid obesity or thick abdominal wall☐ Coagulation abnormalities ☐ Recent myocardial infarction ☐ Total or partial gastrectomy/gastric surgery ☐ Gastro-oesophageal reflux with aspiration ☐	Active gastric ulceration/malignancy ☐ Gastric outlet obstruction ☐ Large hiatus hernia ☐ Crohns disease☐ Disseminated metastatic disease☐ Liver disease ☐ Anorexia nervosa ☐ Pregnancy ☐ Peritonitis ☐ Peritoneal dialysis ☐
Has the patient been assessed by a dietitian?	Yes☐ date: Date No ☐- All patients to be seen by dietitian prior to PEG. Refer to local dietitian dept. for assessment.	
Has the patient been assessed by a Speech & language therapist (SLT)?	Yes☐ date: Date. No ☐ - All patients to be seen by SLT prior to PEG. Refer to local SLT dept. for assessment	
What is the patients current:	**Date taken:** Date **Weight (kg):** Weight. **Height (m):** Height **BMI:**BMI	
Weight history (E.G. usual weight, weight loss	Weight history	
Blood results	**HB:** result **PLT:** result **PT:** result	
Relevant further comments or information	Further comments or information	

Referrer details (complete in block capitals)

Name:	Name	**Designation:**	Designation		
Signature:	Signature	**Professional registration no.**	Registration number	**Date:**	Date

If this patient meets the above criteria send this completed document to the PEG MDT and MND MDT:	
Email:	**stees.pegreferrals@nhs.net and stees.mnd@nhs.net**
Phone:	**07741616365 or ext 53574**
All patients will be discussed in the weekly PEG MDT, held each Friday morning. Referral needs to be sent to the PEG MDT by Thursday at 12 noon to be discussed at the PEG MDT that week.	

STEP 5: PEG MDT (for completion by PEG MDT only)

Is this patient deemed appropriate to proceed with PEG? Yes ☐ No ☐ If no please specify reason: Reason	**Confirm risk category based on all available information:** Red ☐ Amber ☐ Green ☐

Step 6: PEG MDT to identify the route of PEG insertion appropriate for this patient

Red (High risk) ☐	Amber (moderate risk) ☐	Green (Low risk) ☐
• Push gastrostomy to be inserted via trans-nasal endoscopy (TNE) in a seated position with no sedation, on a dedicated consultant list experienced in the care of patients with potential respiratory compromise. • MND Specialist Nurse to be present during the procedure. • If appropriate non-invasive ventilation must be available during & post procedure. • If there is a delay in procedure of more than 2-3 weeks, re-evaluate in MND MDT	• Gastrostomy to go ahead on a dedicated consultant list experienced in the care of patients with potential respiratory compromise. • Pull PEG technique to be used, however consider TNE push PEG technique if use of sedation is contraindicated. • If appropriate, non-invasive ventilation must be available during & post procedure. • If there is a delay of more than 3-4 weeks, re-evaluate in MND MDT	• Gastrostomy may go ahead on a routine list using a pull PEG technique. • Continue to monitor and if there is a delay of more than 6 weeks, re-evaluate in MND MDT

	PEG MDT Further comments or information	Further comments or information

All high and moderate risk patients:

- To have a guaranteed bed prior to procedure going ahead on ward areas trained in the use of NIV, PEGs and caring for those with a diagnosis of MND. This would usually be neurosciences, gastroenterology or respiratory services
- Any patient who has had a change in respiratory function or is at risk of refeeding syndrome is to be admitted the night before the procedure.

Low risk patients:

- To have a guaranteed bed prior to procedure going ahead on ward areas trained in the use of PEG and caring for those with a diagnosis of MND. This would usually be neurosciences, gastroenterology or respiratory services

All patients:

- To be screened prior to admission following Trust infection prevention and control guidance.
- To remain an inpatient for at least 24 hours post procedure. This may be longer if the patient is at risk of refeeding syndrome and/or social concerns.
- To have the appropriate gastrostomy care pathway followed.
- To be reviewed by dietitian prior to discharge. For SLT review if appropriate.
- To receive PEG nurse review/senior medical review within first 24 hours following procedure. Patient will not be discharged prior to this review.
- To receive PEG training via Nutricia Nurse prior to discharge and receive Nutricia nurse review within 1-2 weeks of discharge from hospital.

Follow up:

- If sutures are in-situ, an appointment will be made prior to discharge for removal of these 7 days post procedure.
- All patients to receive dietetic follow up via MND clinic, if able to attend or local dietetic service at home.
- All patients to receive a PEG review appointment in Endoscopy Department, if able to attend, within 3-6 months of discharge from hospital.

Consider the following if sedating an individual with MND undergoing endoscopic pull gastrostomy:

- If established on NIV this should be available and ready to use whilst in endoscopy and a nasal mask is recommended. Oxygen should not be used as standard procedure, but should be available throughout.
- Throat spray should not be used as this can potentially increase the risk of aspiration and minimal sedation is normally required with midazolam. Fentanyl should not be required.
- Desaturation may occur in this patient group when lying flat, therefore a trial of lying flat unsedated for 5 minutes whilst monitoring using a saturation probe is recommended.
- If oxygen saturations fall then it may be necessary to sit the patient up slightly and repeat the above step. You may want to consider using patients own NIV if available.
- If saturations are stable you can proceed with sedation. A suggested dose of midazolam is 0.5 - 1mg initially and observing for a further 5 minutes.
- Midazolam's peak onset of action is at 3-6 minutes; therefore it is necessary to wait an appropriate time before assessing whether more is required.
- An acceptable oxygen saturation range for those with MND and known respiratory involvement (or those with NIV) is 88-92%. For those without known respiratory involvement an acceptable oxygen saturation range is 92-94%.
- Depending on level of sedation & O2 saturations you can either proceed with procedure or give further sedation. It is suggested that no more than 0.5mg increments of midazolam is given at a time.
- If a minimally sedated patient is not tolerant of intubation you can try rotating them onto their side for intubation then rotating back onto their back for the gastrostomy insertion.

Consider the following in an individual with MND undergoing trans-nasal endoscopic push gastrostomy:

- If established on NIV this should be available and ready to use whilst in endoscopy and a full face mask is recommended. Oxygen should not be used as standard procedure, but should be available throughout.
- Sedation should not be required as this can cause further respiratory compromise.
- Nasal spray should be used to numb the nasopharyngeal tract only.
- The patient should remain upright throughout the procedure and only reclined if tolerable and no desaturation noted.
- If oxygen saturations fall, sit the patient upright and ensure O2 saturations are within range prior to recommencing procedure. You may want to consider using patients own NIV if available.
- An acceptable oxygen saturation range for those with MND and known respiratory involvement (or those with NIV) is 88-92%. For those without known respiratory involvement an acceptable oxygen saturation range is 92-94%.

References

1. National Institute for Health and Care Excellence. (2016). Motor Neurone Disease: assessment and management. (NICE Guideline No. 143). https://www.nice.org.uk/guidance/ng42
2. British Thoracic Society, (2017). BTS guideline for oxygen use in adults in healthcare and emergency settings. https://www.brit-thoracic.org.uk/quality-improvement/guidelines/emergency-oxygen/
3. ProGas Study G (2015) Gastrostomy in patients with amyotrophic lateral sclerosis (ProGas): a prospective cohort study. Lancet Neurol. 14: 702-709.
4. McCulloch A et al. Nasal unsedated seated percutaneous endoscopic gastrostomy (nuPEG): a safe and effective technique for percutaneous endoscopic gastrostomy placement in high- risk candidates. Frontline Gastroenterology 2017; (0)1-5