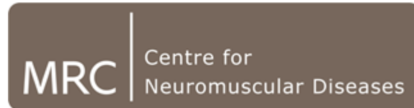

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An Interdisciplinary Model for Cough and Secretion Assessment in MND

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Disclosures

- No disclosures
- With thanks to the Allied Health Professionals Forum 2019

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Cough and Secretion Management

It's complex…

Cognitive and/or behavioural changes

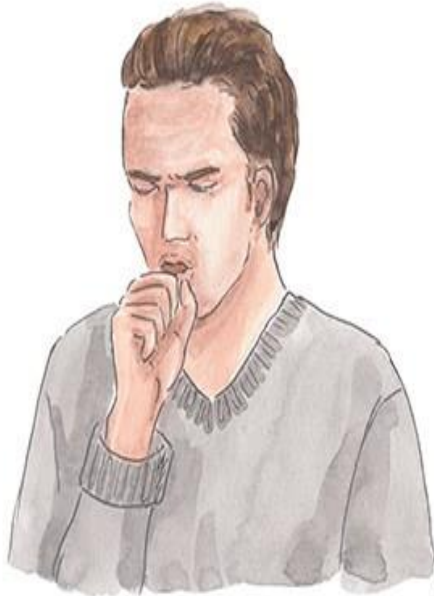
Pseudobulbar affect

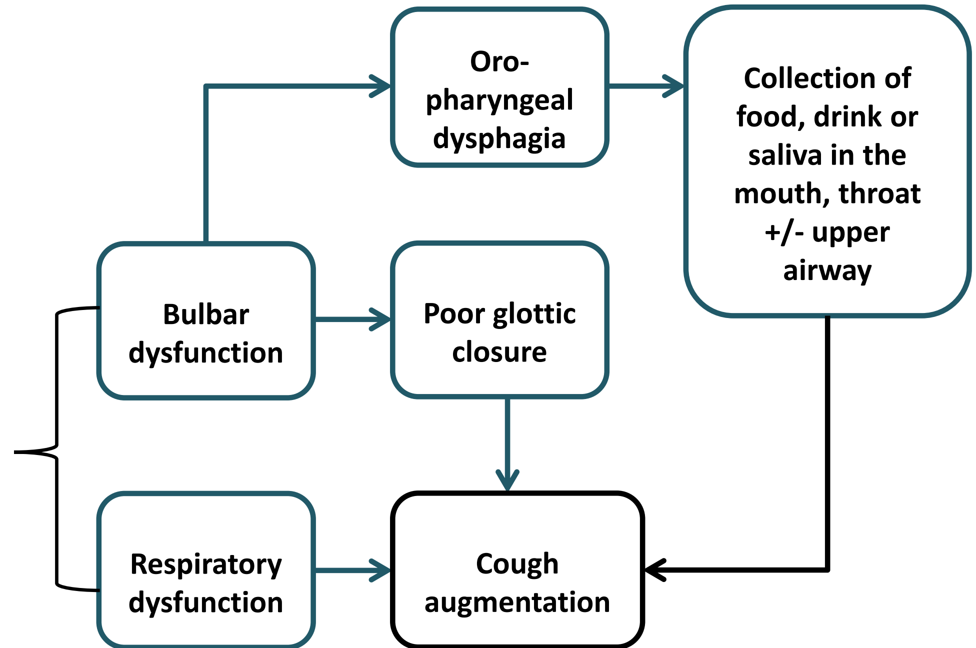
Neck weakness & altered posturing

Upper limb dysfunction

Loss of mobility

NIV





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Presentation Aims

1) Introduce our interdisciplinary model for cough and secretion assessment & management

2) Outline the use and benefits of this model for patients living with MND

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Traditional Models of Working

	Role		Focus
Community based	Speech & Language Therapist	→	Speech & Swallow (+/- secretion management)
Community based	Physiotherapist & Occupational Therapist	→	Mobility & Adaptations
Hospital based	Neuromuscular Ventilation Team +/- General Respiratory Physiotherapist	→	Ventilation Treatment +/- Cough Augmentation (+/- secretion management
Hospital based	MND Neurologist & Clinical Nurse Specialist	→	Secretion Management & EOL care plan

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Respiratory Muscle Weakness

Hypoventilation

Symptoms

Breathlessness
Orthopnoea
Morning headaches
Night waking
Nightmares
Daytime fatigue

Assessment

FVC
SNIP/MIP
Blood gas
Sleep study

Treatment

NIV

Weak cough

Symptoms

Unable to clear secretions
Chest infections
Persistent coughing
Phelgm

Assessment

FVC
SNIP/MIP
PCF

Treatment

Cough augmentation
MI:E
Breathstack
LVR

Weak cough & dysphagia

Symptoms

Chest infections
Persistent coughing
Phelgm
Sticking in throat
Inability to clear

Bulbar Weakness

Dysphagia

Symptoms

Chest infections
Persistent Coughing
Sticking in the throat
Weight loss
Dehydration
Saliva management issues

Assessment

VFS
FEES
BFS
Clinical Ax

Treatment

Diet modification
Postural adjustments
Gastrostomy
Anticholinergics

Dysarthria

Symptoms

Altered speech

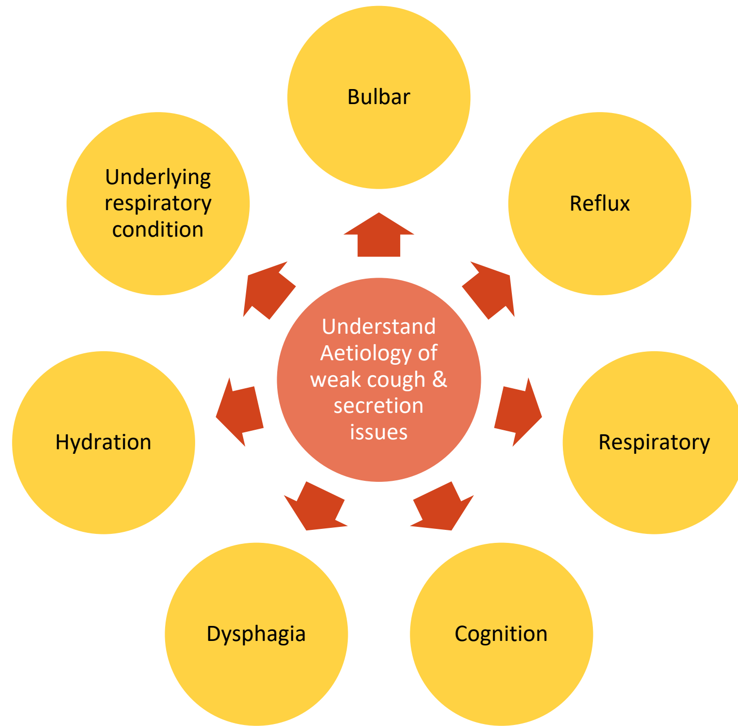
Assessment

BFS
Clinical Ax

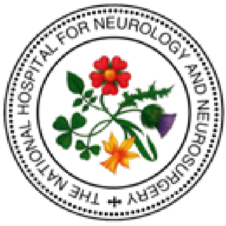
Treatment

Voice banking
AAC

Cough & Secretion Challenges



Anticholingerics
Posture Management
Hydration
Carbocystine
Cough Augmentation
Appropriate Treatment & Management
Botox
Oral gels
Gastrostomy
Reflux management
Suction



A Model of Working

Bulbar assessment

Patient report
Clinical assessment

Is there a bulbar impairment?

Yes | No

Cough Peak Flow
Symptoms of Respiratory Failure?

Respiratory assessment

Patient report
FVC/SNIP/PCF +/- blood gas

Is there a respiratory impairment?

Yes | No

Evidence of speech impairment?

Bulbar impairment AND Respiratory Impairment

INTERDISCIPLINARY COUGH & SECRETION CLINIC

Bulbar impairment BUT No Respiratory Impairment

Management
Provide dysphagia management plan
Provide secretion management plan
Respiratory monitoring

Respiratory Impairment BUT no Bulbar impairment

Management
Provide respiratory management plan
Bulbar monitoring

No Bulbar impairment AND No Respiratory Impairment

Management
Respiratory monitoring
Bulbar Monitoring
Voice banking

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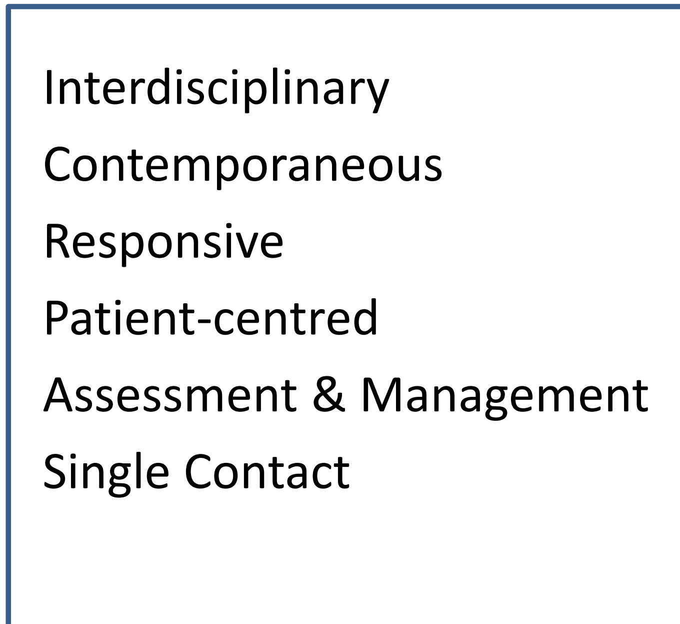
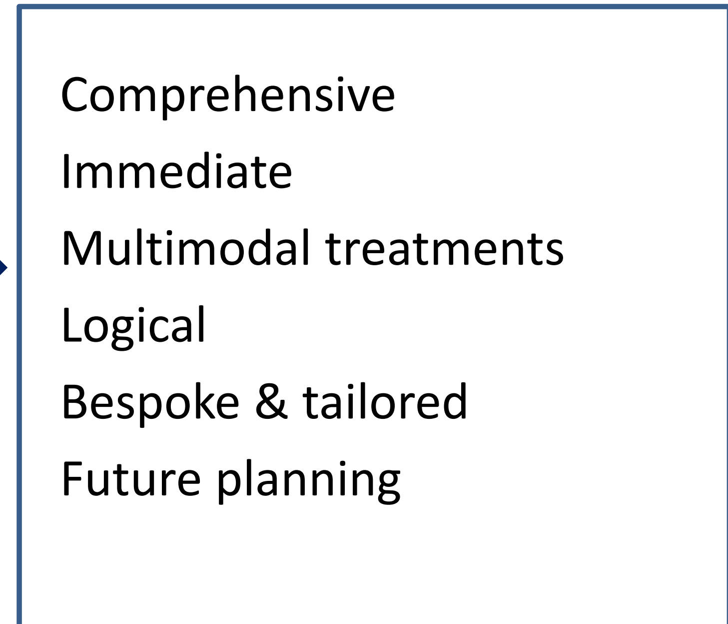
The Model





What is the patient experience?
What's the priority to treat?
What is the least intrusive approach?
How do we manage decline?

OPTIMISE QUALITY & COMFORT
MINIMISE BURDEN

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The Patient with Bulbar & Respiratory Failure

An Example

- 47 year old lady
- Diagnosis of ALS end 2018
- Referred to interdisciplinary clinic with recent chest infection and difficulty clearing sticky phlegm.
- Prescribed Carbocysteine

ALS FRS-R	17/48
Mobility	Wheelchair for longer distances
Brooke Upper Limb	6
Weight (kg)	58.5kg
Functional Oral Intake Scale	5
Bulbar Function Scale	53 (Saliva 7, Speech 21, Swallowing 25)
Non-invasive Ventilation (NIV)	None
Peak Cough Flow (PCF)	160l/min

Patient Aim: 1) A strategy to clear phlegm 2) A plan for chest infections over the winter (requesting a cough assist)

Clinical Assessment:

Very mild mixed dysarthria

No drooling or saliva management issues

Eating & drinking with some adaptation

Difficulty generating volitional cough

c/o dry mouth

Plan:

Treatment:

- Prescription of PPI
- Thrush treatment
- Referral for gastrostomy (hydration management)
- Cease Carbocysteine
- Cough assist trial & traffic light alert system

gases)

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Asking the Right Questions

What are the priorities for treatment?

- Uncontrolled saliva
- Weak cough
- Dysphagia
- Chest infections
- Sticky phlegm
- Stridor

Cause of cough symptoms
Respiratory vs bulbar
Voluntary vs reflexive
Chronic respiratory condition
Mobility & activity

Dysphagia management
Reflux management
Breath stacking
Cough assist
Suction
Neuro vs resp chest mgmt plan

Hydration
Reflux
Pharyngeal weakness
Weak cough

Gastrostomy support
PPI/Gaviscon
Nebulisers/Steaming
Carbocysteine
Cough assist

Tailored management programme

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Clinical Outcomes

n = ~~59~~ 28 in 12 months

n =10 ALS

n = 9 bulbar onset

n = 7 PLS

n = 1 FTD

PCF range 60 – 410l/min (5 unable)

Gastrostomy n = 10

NIV n = 7

Saliva
Weak Cough
Swallowing
Chest infections
Phelgm
Stridor
Combination

Primary symptom

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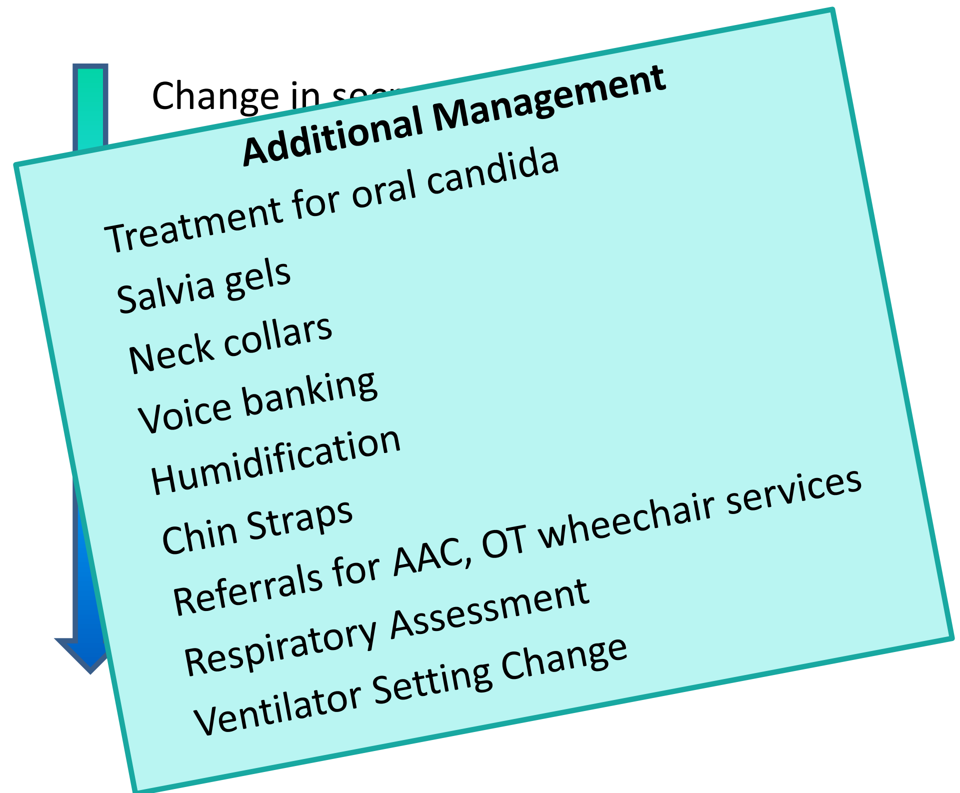
Interdisciplinary Management

Nasendoscopy assessment (n = 5):

- Presence of (silent) aspiration as contributor to chest infections
- Understand throat sensitivity and impact of reflux
- Support set-up of MI-E
- Quantity and viscosity of secretions
- Explore vocal fold movement and stridor

Altered Management Programmes:



n = 1 no change in baseline management

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Patient Satisfaction

1. **In general, how would you rate your experience in clinic?**
   90% rated highest possible score.
2. **Do you feel all your swallowing, cough and secretions issues were addressed?**
   90% reported all their needs were met, two thirds felt management went 'above and beyond.'
3. **Did you feel that your views and opinions were listened to in the clinic?**
   All patients felt that all their views were listed too, with 94% giving highest possible score.
4. **Do you feel that this clinic appointment has added value to your care?**
   All felt that the clinic added value to their care, with 94% giving highest possible score.
5. **Would you recommend this clinic to other patients?**
   All patients said they would recommend the clinic to others (97% gave the highest possible score).

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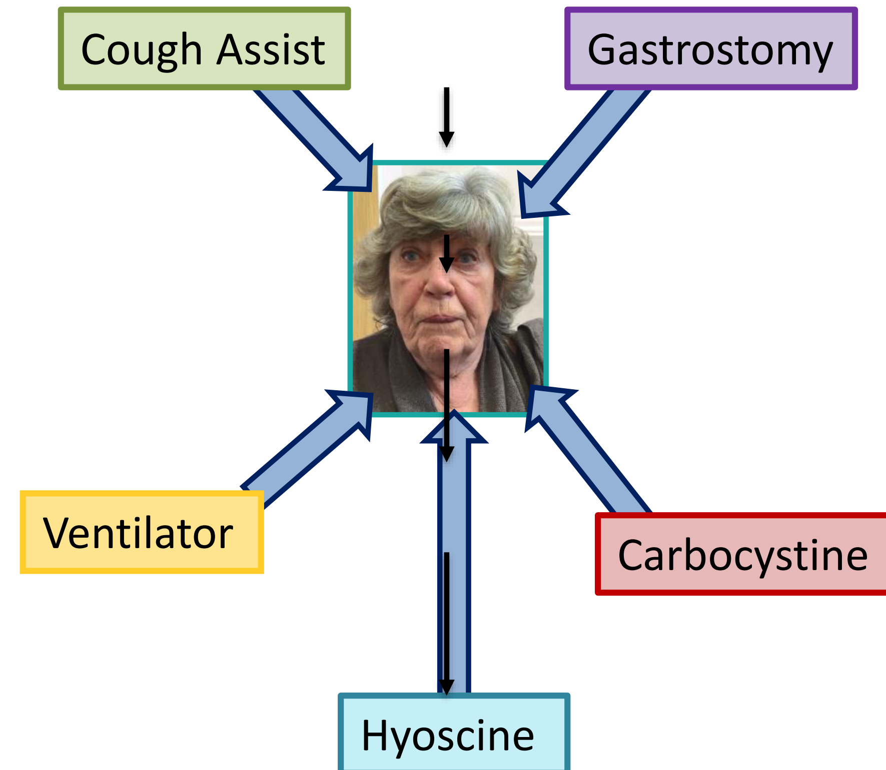
Patient Feedback

"This is probably the most professionally run, **informative and useful** NHS clinic that I have ever attended."

"Very positive appt with **plan of action** that was clear, **sensitive to my needs** with regard to treatment [**no intrusive tests** unless absolutely necessary] but clinically correct."

"Thoroughly impressed with the level of service and attention provided... [they]... **took time to identify ongoing problems** and **seek solutions** where possible. Coming here today has been very supportive, beneficial, thank-you."



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Recommendations to the Field

Take Home Messages

- The multifaceted nature of cough & secretion management requires a comprehensive interdisciplinary approach.
- Our interdisciplinary model allows for contemporaneous, responsive and bespoke patient management programmes.
- This has demonstrated patient satisfaction, efficiency and quality care.

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