

# Saving Trevor: Emergency Physiotherapy.

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## Background

All Trusts providing acute medical and surgical services should ensure patient access to physiotherapy 24 hours a day, seven days a week. The service should be staffed by physiotherapists who have competency ensured through a combination of theoretical and practical application of clinical reasoning and clinical skills.<sup>1</sup> In 2017, Northumbria Healthcare NHS Foundation Trust introduced simulation training to the physiotherapists who work emergency on-call.

## Summary of education programme

We designed small group simulation training based on real-life cases that challenge clinical reasoning skills and combine theory with practical application. With a shielded Sim-Man controller and facilitator in the room, staff are provided with medical histories and asked to assess patients. Patient diagnoses include Chronic Obstructive Pulmonary Disease, Pneumonia, Lung Cancer, Pulmonary oedema, Bronchiectasis, Obesity Hypoventilation Syndrome, post-operative hemicolecotomy and fractured ribs. Cases include ventilated and non-ventilated patients.

Assessment skills include interpretation of vital signs, auscultation, assessing Glasgow Coma Scale (GCS) score, assessing cough strength and arterial blood gas interpretation. Staff are facilitated to formulate problem lists and treatment plans.

Treatment skills include manual and mechanical methods to decrease work of breathing, aid sputum retention, increase lung volume and improve type I and type II respiratory failure. Medical device competencies are assessed using positive pressure devices, suction, insertion of oro-pharyngeal and naso-pharyngeal airways, taking arterial blood gases, administering oxygen therapy and tracheostomy management. Physiotherapists respond to deteriorating patients including changes to vital signs, auscultation, cough, and GCS.

Communication with the Sim-Man is encouraged to practice important communication skills with acutely unwell patients.

After each case, Faculty staff meet to discuss additional themes that have emerged during Simulation that need adding to the prepared debrief session. This opportunity is also used for trainee reflection on their own performance, to provide positive feedback to staff and to improve confidence in their competence.

## Case Study 1

- **78 year old male**
- **Intubated and ventilated via Tracheostomy due to Guillain-Barre syndrome**
- **Weaning from ventilation**
- **Deteriorated within the last hour and on-call Physiotherapist called**
- **PMH - Lung cancer with left lower lobectomy, PPM, AAA, T2 DM, Ex heavy smoker**

### Problem List and Treatments

Increased work of breathing	Increase ventilatory support
Retained secretions	Positioning for V/Q matching
Atelectasis	Manual Techniques
Hypoxia	Oxygenation
	Manual Hyperinflation
	Cough Assist

## Case Study 2

- **70 year old female**
- **Admitted following a fall with trauma to the chest**
- **Fractured ribs on CT scan with basal consolidation**
- **Increased work of breathing with decreased oxygen saturations, on-call Physiotherapist called**
- **PMH – OA, Bronchiectasis, Hypertension, Osteoporosis**

### Problem List and Treatments

Retained Secretions	Analgesia
Increased work of breathing	Positioning
Pain	Active Cycle of Breathing Technique
High oxygen requirements	Supported cough
	Incentive spirometry
	Cough Assist
	Acapella

## Results

We introduced 48 physiotherapists to simulation training for emergency on-call preparedness. All physiotherapists reported the training to be good or better, and found the combination of theory and practical application a beneficial learning environment. Further simulation training was requested.

## Conclusions

Simulation training has introduced a new, realistic and challenging learning environment for physiotherapists who treat acutely unwell patients. Practising real life cases in a safe and supportive environment prepares staff for the real life challenge of on-call working. Future Simulation training will include human factors within scenarios.

## References

1. Association of Chartered Physiotherapists in Respiratory Care. On-Call Position Statement and Recommendations for On-Call Service Provision. <http://www.acprc.org.uk/>: ACPRC; 2017.