

SHORTNESS OF BREATH

SESLHDPR/376

Aim:

- Early identification and treatment of life threatening causes of shortness of breath and escalation of care for patients at risk.
- Early initiation of treatment / clinical care and symptom management within benchmark time.

Assessment Criteria: On assessment the patient should have increased shortness of breath plus one or more of the following signs / symptoms:

- | | | |
|--|---|---|
| <input type="checkbox"/> Patent airway | <input type="checkbox"/> Mild dyspnoea | <input type="checkbox"/> SpO ₂ > 95% |
| <input type="checkbox"/> Mild use of accessory muscles | <input type="checkbox"/> Talking in short sentences | <input type="checkbox"/> Wheeze / coughing |

Escalation Criteria: Immediate life-threatening presentations that require escalation and referral to a Senior Medical Officer (SMO):

- | | | |
|--|--|--|
| <input type="checkbox"/> Severe asthma / COPD | <input type="checkbox"/> Foreign body / aspiration | <input type="checkbox"/> Massive pulmonary emboli |
| <input type="checkbox"/> Tension Pneumothorax | <input type="checkbox"/> Acute pulmonary oedema | <input type="checkbox"/> Anaphylaxis |
| <input type="checkbox"/> Trauma Criteria* | <input type="checkbox"/> Acute respiratory failure | <input type="checkbox"/> Sepsis Pathway Criteria* |

Primary Survey:

- | | |
|---|---|
| • Airway: patency | • Breathing: resp rate, accessory muscle use, air entry, SpO ₂ . |
| • Circulation: perfusion, BP, heart rate, temperature | • Disability: GCS, pupils, limb strength |

Notify CNUM and SMO if any of the following red flags is identified from Primary Survey and Between the Flags criteria 1

- | | | |
|---|---|--|
| <input type="checkbox"/> Airway – at risk | <input type="checkbox"/> Breathing – respiratory distress | <input type="checkbox"/> Circulation – shock / altered perfusion |
| • <i>Partial / full obstruction</i> | • <i>RR < 5 or >30 /min</i> | • <i>HR < 40bpm or > 140bpm</i> |
| | • <i>SpO₂ < 90%</i> | • <i>BP < 90mmHg or > 200 mmHg</i> |
| <input type="checkbox"/> Disability – decreased LOC | <input type="checkbox"/> Exposure | • <i>Postural drop > 20mmHg</i> |
| • <i>GCS ≤ 14 or a fall in GCS by 2 points</i> | • <i>Temperature <35.5°C or >38.5°C</i> | • <i>Capillary return > 2 sec</i> |
| | • <i>BGL < 3mmol/L or > 20mmol/L</i> | |

History:

- Presenting complaint
- **Allergies**
- **Medications:** and any recent change to medications
- **Past medical and past surgical history** relevant
- **Last ate / drank and last menstrual period (LMP)**
- **Events and environment** leading to presentation
- Pain Assessment / Score: **PQRST** (Palliating / provoking factors, Quality, Region / radiation, Severity, Time onset)
- Associated signs / symptoms: e.g. dizziness, chest pain, syncope, fevers, cough
- History: family, trauma and travel

Systems Assessment:

Focused Respiratory Assessment:

- **Inspection:** rate and rhythm of breathing, quality and work of breathing, level of consciousness, chest wall abnormalities, face / neck swelling
- **Palpation:** assess degree and location of tenderness, note any restriction to chest expansion, is the trachea midline?
- **Auscultation:** listen for bilateral air entry, wheezes (expiratory), crackles (inspiratory).
- **Percussion:** observe for dullness or hyper-resonance on percussion.

Notify CNUM and Senior Medical Officer (SMO) if any of following red flags is identified from History or Systems Assessment.

- | | | |
|---|--|--|
| <input type="checkbox"/> Sudden acute onset | <input type="checkbox"/> Previous intubation/ ICU admissions | <input type="checkbox"/> Syncope |
| <input type="checkbox"/> Cyanosis | <input type="checkbox"/> Confusion / disorientated | <input type="checkbox"/> Oedema – central / peripheral |
| <input type="checkbox"/> Decreased breath sounds | <input type="checkbox"/> Inspiratory / expiratory stridor | <input type="checkbox"/> Tachycardia |
| <input type="checkbox"/> Elderly > 60 years | <input type="checkbox"/> Co-morbidities – COPD, CCF | <input type="checkbox"/> Pregnancy/postpartum (3/12) |
| <input type="checkbox"/> Recent travel / infectious | <input type="checkbox"/> Trauma to chest | <input type="checkbox"/> Allergies |

Investigations / Diagnostics:

Bedside:

- BGL: If < 3mmol/L or > 20mmol/L notify SMO
- ECG: [as indicated] look for Arrhythmia, AMI
- Urinalysis / MSU: if urinary symptoms present

Laboratory / Radiology:

- **Pathology:** Refer to local nurse initiated **STOP**
FBC, UEC, LFTs (*suspected Pneumonia*)
FBC, UEC, LFTs & Troponin (*suspected Pul Oedema*)

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- Sputum Culture (MCS)
- Nasopharyngeal swab (consider for respiratory virus)
- Spirometry / Peak flow (as tolerated)

Urine β HCG and Quantitative β HCG if positive
Blood Cultures (if Temp <35 or >38.5°C)

- **Radiology:** Discuss with SMO need for CXR

Nursing Interventions / Management Plan:

Resuscitation / Stabilisation:

- Sit patient upright and maintain airway patency
- Oxygen therapy and cardiac monitor [as indicated]
- Apply 15L oxygen via non-rebreather mask (aim for SpO₂ >95%)
- Consider the use of CPAP / BiPAP
- IV Cannulation (16-18gauge if unstable)

Symptomatic Treatment:

- **Antiemetic:** as per district standing order
- **Analgesia:** as per district standing order
- **IV Fluids:** as per district standing order

Supportive Treatment:

- Nil By Mouth (NBM)
- Monitor vital signs as clinically indicated (BP, HR, T, RR, SpO₂)
- Monitor neurological status GCS as clinically indicated
- Monitor pain assessment / score
- Fluid Balance Chart
- NIV observation chart if required
- Consider [devices – IDC / Nasogastric tube]
- Suction oropharynx / mouthcare
- PPE droplet / airborne precautions

Practice Tips / Hints:

- **In life threatening presentations, call for help, consider early intubation.**
- Maintain close observation and provide reassurance - breathless patients are usually anxious which further increases myocardium force and contraction and oxygen demand.
- Isolate patients screened as infectious preferably in negative pressure rooms, the use of PPE including full droplet / airborne precautions is necessary when attending to potentially infectious patients.
- Consider application of BiPAP / CPAP to decreased the work of breathing and improve gas exchange in the management of acute respiratory failure.
- Oxygen therapy for most patients with COPD will not produce significant CO₂ retention, oxygen delivery should provide minimal saturations in most cases of 90% corresponding with a PaO₂ of 60-70mmHg.
- The use of a spacer and inhaler provides equivalent bronchodilator effect to that achieved by nebulization.
- Inhalers with spacers should be used over nebulisers in the infectious patient because of their ability to distribute infectious particles.
- Nebulisers via a mouth T piece is preferred over a mask to prevent adverse effects around corneal deposition.
- Patients should be advised to rinse their mouth out after inhaling corticosteroid to prevent oral thrush.
- Consider oral opiates to relieve the sensation of breathlessness without causing respiratory depression.
- Consider anxiolytics for acutely anxious patients.

Further Reading / References:

- BMJ <http://bestpractice.bmj.com.acs.hcn.com.au/best-practice/monograph/862/emergencies/urgent-considerations.html>
- Rural Adult Emergency Clinical Guidelines 3rd Edition Version 3.1 10th April 2012
- Emergency Triage Education Kit (ETEK), page 48, 4.1 summary of adult physiological predictors for the ATS. <http://www.health.gov.au/internet/main/publishing.nsf/Content/casemix-ED-triage+Review+Fact+Sheet+Documents>
- Moore T (2007) Respiratory Assessment in Adults, Nursing Standard, 21, 49, 48-56
- Cameron P, Jelinek G, Kelly A-M, Murray L, Brown A FT (2009) Textbook of Adult Emergency Medicine, Churchill Livingstone
- National asthma council Australia (2015) <https://www.astmahandbook.org.au/uploads/575a4ebad2bb8.pdf>

Acknowledgements: SESLHD Adult Emergency Nurse Protocols were developed & adapted with permission from:

- Murphy, M (2007) Emergency Department Toolkits. Westmead Hospital, SWAHS
- Hodge, A (2011) Emergency Department, Clinical Pathways. Prince of Wales Hospital SESLHD.

Revision and Approval History

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