CLiP

15 minute Worksheet

Helping patients with symptoms other than pain

3: Breathlessness

Introductory level

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Aim of this worksheet
To learn to assess and manage breathlessness

How to use this worksheet

- You can work through this worksheet by yourself, or with a tutor.
- Read the case study below, and then turn to the Work page overleaf.
- Work any way you want. You can start with the exercises on the Work page using your own knowledge. The answers are on the Information page - this is not cheating since you learn as you find the information. Alternatively you may prefer to start by reading the Information page before moving to the exercises on the Work page.
- This CLiP worksheet should take about 15 minutes to complete, but will take longer if you are working with colleagues or in a group. If anything is unclear, discuss it with a colleague.
- If you think any information is wrong or out of date let us know.
- Take this learning into your workplace using the activity on the back page.

Case study

John is a 54 year old man who had surgery for a carcinoma of the colon. Despite liver metastases he has been managing well until he was found to have a pleural effusion. He has become increasingly breathless over the past few weeks. He has remained at home and you are asked to see him because his breathing has become worse.

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INFORMATION PAGE: Breathlessness

Getting started

- You need to know when his breathing started to get worse because breathlessness of sudden onset (seconds or minutes) has different causes (eg. pulmonary embolus, heart failure) to those that have built up over days or longer (eg. chest infection, pleural effusion, respiratory muscle weakness as in motor neurone disease).
- You need to check if he is pale (anaemia will cause or worsen breathlessness), and observe if he is confused, agitated or frightened. You also need to observe if he is peripherally cyanosed (bluish tinge to fingers and toes) or centrally cyanosed (an additional blue tinge to the lips). Both suggest that the oxygen level in his blood is low (ie. he is hypoxic). Remember, however, that some patients can be hypoxic and yet look pink. A pulse oximeter can be used to asses whether these patients are hypoxic (= a S_pO_2 of less than 90%).
- Listening to the chest would give information on the presence of a chest infection, pleural effusion or a pleural rub due to inflammation of the pleura (eg. infection, pulmonary embolus, tumour).
- You also need to check the emotional impact of his breathlessness. For most people, struggling for breath is frightening, depressing and frustrating.

Simple measures

Some simple measures are worth trying:

Moving air: increasing the movement of air over the patient's face using a fan or opening a window.

Sitting upright: this allows gravity to flatten the diaphragm and reduces the effort to breathe.

Explanation: don't forget to explain what you are doing and, if you know, explain why he is more breathless.

Relaxing the shoulders: fear and anxiety tenses up the shoulders and reduces the space to breathe. Stand to the side or behind the patient. Ask the patient to drop their arms to the side and, if necessary, help them by massaging the shoulders. Explain that this will give them more space to breathe (telling them to relax and feel less breathless will not work when they are already breathless and feeling anxious or frightened).

Oxygen: you can check if this will help by measuring the S_pO_2 before and after oxygen- a rise suggests oxygen will help. Initially the source will be an oxygen cylinder, but an oxygen concentrator can be prescribed if oxygen is going to be used for 15 hours or more each day. Initially a patient should have no more than 28% oxygen until a doctor who knows the patient's history can confirm that it is safe to use higher levels for more than a few days. Nasal cannulae are better tolerated than a face mask and are as effective at low oxygen rates.

Company and distraction: Make sure John has company, and also has distraction like a television, because loneliness and boredom make it harder to cope with breathlessness.

Tackling persistent breathlessness

Antibiotics are important in treating breathlessness caused by a chest infection.

Steroids may reduce enough swelling (oedema) around lung metastases to free up more normal lung tissue for gas exchange.

Strong opioids are also used, initially orally in low doses and then adjusted in the same way as for pain relief. Contact your local palliative care specialists for advice.

Benzodiazepines have been used, eg, lorazepam (diazepam is too sedating and long acting).

Breathing retraining: patients have been shown to benefit from breathing retraining and breathlessness clinics are beginning to be established- these are run by specialist nurses or physiotherapists.

Acupuncture can be useful using points in the upper sternum and the L14 points in the hands.

Managing severe breathlessness

The key here is to manage his agitation which is probably being caused by hypoxia.

Immediately:

Call a colleague to help you or provide additional expertise. Ensure that the simple measures above are in use (moving air, sitting up, explanation, relaxing the shoulders).

Within the next 30 minutes: If trained to do so, examine John. If the situation is very urgent, consider whether

a) any reversible cause needs treating in hospital eg. he may need his pleural effusion draining, or intravenous antibiotics for a chest infection. If he does need admission, and he agrees, arrange for an ambulance.

b) He may need some medications now to ease his breathlessness (eg. furosemide for heart failure, lorazepam for anxiety).

Within one hour:

a) It may be clear that John's breathlessness is due to irreversible causes as a result of his cancer. The team may decide to put him on the Liverpool Care Pathway. This would recommend giving John 2.5mg midazolam under the skin (subcutaneously) initially. If this is ineffective, options are a repeat dose of midazolam and/or 2.5mg diamorphine. If repeated doses are needed, a syringe driver may be set up to give continuous low doses of midazolam and diamorphine to keep John settled and comfortable in his last hours and days.

b) If John is experiencing severe terror, specialist advice may be needed. Low dose antipsychotics (eg. haloperidol 1-2.5mg) can be helpful and does not affect respiration.

c) You could also give him something for his secretions: Hyoscine butylbromide is effective in 50% of cases in a dose of 20mg SC repeated as necessary, but is short acting (2-3 hours). Hyoscine hydrobromide is as effective and longer acting than hyoscine butylbromide, but more sedating in a dose of 200-400microg. SC. Diuretics can help clear secretions in some cardiac patients with ventricular failure (they can be given subcutaneously if John remains at home).

WORK PAGE: Breathlessness

When you arrive, John is able to tell you he is breathless at rest, and gets much more breathless as he walks from his chair to the bed.

As John slowly gets into bed think about

- **What do you want to ask him?**
- **What will you want to check?**

- **What could you do straight away that might help him?**
- **What other arrangements could you make that might help?**

Despite your initial efforts, John is still breathless. Investigations have shown multiple lung metastases and a small effusion.

- **Think about what could help John?**

Initially John improves, but one night you're called to see him urgently.
This time he's so breathless he can't speak, he looks very frightened and he's coughing up loose sputum.

- **Write down what you can do to help John**

Immediately:

Within the next 30 minutes:

Within one hour:

FURTHER ACTIVITY: Breathlessness

Try hunching up your shoulders and take a deep breath. Now relax your shoulders and take a deep breath- notice how much easier this is to breathe.
Next time you meet a breathless patient try simple measures (moving air, explanation, relax shoulders).

FURTHER READING: Breathlessness

Journal articles and book chapters

Abernethy AP, Wheeler JL. Total dyspnoea. *Current Opinion in Supportive and Palliative Care.* 2008; **2**(2): 110–13.

Abernethy, AP. Currow, DC. Frith, P. Fazekas, Belinda S, *et al.* Randomised, double-blind, placebo-controlled crossover trial of sustained release morphine for the management of refractory dyspnoea. *British Medical Journal.* 2003; **327**: 523–8.

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Bredin M. Corner J. Krishnasamy M. Plant H. Bailey C. A'Hern R. Multicentre randomised controlled trial of nursing intervention for breathlessness in patients with lung cancer. *British Medical Journal.* 1999; **318**(7188):901-4.

Clemens KE, Quednau I, Klaschik E. Is there a higher risk of respiratory depression in opioid-naive palliative care patients during symptomatic therapy of dyspnea with strong opioids? *Journal of Palliative Medicine.* 2008; **11**(2): 204–16.

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Leach RM. Palliative care in non-malignant end-stage respiratory disease. In: *Oxford Textbook of Palliative Medicine* 4th ed. Hanks G, Cherny NI, Christakis NA, Fallon M, Kaasa S, Portenoy RK. eds. Oxford : Oxford University Press, 2010, p1231-56.

Lau KS, Jones AY. A single session of Acu-TENS increases FEV1 and reduces dyspnoea in patients with chronic obstructive pulmonary disease: a randomised, placebo-controlled trial. *Australian Journal of Physiotherapy*. 2008; **54**(3): 179–84.

Navigante AH, Cerchietti LC, Castro MA, Lutteral MA, Cabalar ME. Midazolam as adjunct therapy to morphine in the alleviation of severe dyspnea perception in patients with advanced cancer. *Journal of Pain and Symptom Management.* 2006; **31**(1): 38–47.

O'Driscoll BR, Howard LS, Davison AG. British Thoracic Society guideline for emergency oxygen use in adults. *Thorax.* 2008; **63**(Suppl. 6): vi. 1–68. 43.

Philip J, Gold M, Milner A, Di Iulio J, Miller B, Spruyt O. A randomised, double-blind, crossover trial of the effect of oxygen on dyspnoea in patients with advanced cancer. *Journal of Pain and Symptom Management.* 2006; **32**(6): 541–50.

Uronis HE, Abernethy AP. Oxygen for relief of dyspnoea: what is the evidence?. *Current Opinion in Supportive and Palliative Care.* 2008; **2**(2): 89–94.

Viola R, Kiteley C, Lloyd NS, Mackay JA, *et al.* Supportive Care Guidelines Group of the Cancer Care Ontario Program in Evidence-Based Care. The management of dyspnea in cancer patients: a systematic review. *Supportive Care in Cancer*. 2008; **16**(4): 329–37.

Wee B, Hillier R. Interventions for noisy breathing in patients near to death. *Cochrane Database of Systematic Reviews.* 2008; **(1)**: CD005177.

Further resources

A Guide to Symptom Relief in Palliative Care, 6th ed. Regnard C, Dean M. Oxford: Radcliffe Medical Press, 2010

e-lfh: e-Learning for Healthcare contains a range of online self-learning programmes, including several relating to end-of-life care (e-ecla). Registration is required but is free. http://www.e-lfh.org.uk/projects/e-elca/index.html

Oxford Textbook of Palliative Medicine 4th ed. Hanks G, Cherny NI, Christakis NA, Fallon M, Kaasa S, Portenoy RK. eds. Oxford : Oxford University Press, 2010.

PCF6- Palliative Care Formulary, 6th ed. Twycross RG, Wilcock A, Howard P. www.palliativedrugs.com

Symptom Management in Advanced Cancer, 4th edition. Twycross RG, Wilcock A, Stark-Toller C. Oxford: Radcliffe Press, 2009