Auditing the use of a fan or oxygen to relieve breathlessness at rest in patients at Hayward House

Breathlessness is a common and distressing symptom. The use of a fan or oxygen can be effective. The need for oxygen should be thoroughly assessed, based upon oxygen saturation and titrated if necessary to allow appropriate use. Please follow the steps below.

Patient name_____Age_____Hospital number_____

Diagnosis_____

Smoked cigarettes in the last 24h? Yes No (circle) If Yes, time since last cigarette____h

Initial assessment

Date_____Name of nurse completing assessment_____

1. Start here, ask the patient:

a. How severe is your breathlessness? (please circle)	none	slight	moderate	severe
b. How much trouble or bother is your breathlessness causing you right now?	none	slight	moderate	severe

c. Check SaO_2 after patient has been resting for 30min (60min if received a bronchodilator) and record here: ☐

d. If $SaO_2 \geq 90\%$ go to step 2. If $SaO_2 < 90\%$ go to step 3.

2. Offer use of a fan.

Record patient preference (please circle): hand held fan table top fan

After 15 minutes, ask the patient:

a. How severe is your breathlessness?	none	slight	moderate	severe
b. How much trouble or bother is your breathlessness causing you right now?	none	slight	moderate	severe
c. To what extent has the fan relieved your breathlessness?	not eased at all	eased only a little	eased moderately	completely relieved

d. If the severity is 'none' or 'slight' *and* degree of relief is 'complete' or 'moderate' (and this is acceptable to the patient) then continue with the fan and stop the audit here.

f. Otherwise offer a trial of oxygen: go to step 3.

3. Commence oxygen at 2L/min using oxygen concentrator and nasal cannula. Ensure this is prescribed.

After 15 minutes, ask the patient:

a. How severe is your breathlessness?	none	slight	moderate	severe
b. How much trouble or bother is your breathlessness causing you right now?	none	slight	moderate	severe
c. To what extent has the oxygen relieved your breathlessness?	not eased at all	eased only a little	eased moderately	completely relieved

d. Please check SaO_2 and record here: ☐

e. If the severity is 'none' or 'slight' *and* degree of relief is 'complete' or 'moderate' (and this is acceptable to the patient) and $SaO_2 \geq 90\%$ then continue oxygen at same rate and stop the audit here.

f. Otherwise:

If SaO_2 remained <90% continue to step 4

If $SaO_2 \geq 90\%$ discuss with medical team (an alternative approach may be required)

4. Increase oxygen to 4L/min using oxygen concentrator and nasal cannula. Ensure prescription is amended.

After 15 minutes, ask the patient:

a. How severe is your breathlessness?	none	slight	moderate	severe
b. How much trouble or bother is your breathlessness causing you right now?	none	slight	moderate	severe
c. To what extent has the fan relieved your breathlessness?	not eased at all	eased only a little	eased moderately	completely relieved

d. Please check SaO_2 and record here: ☐

e. If the severity is 'none' or 'slight' *and* degree of relief is 'complete' or 'moderate' (and this is acceptable to the patient) *and* $SaO_2 \geq 90\%$ then continue oxygen at same rate and stop the audit here.

f. Otherwise:

If SaO_2 remained <90% continue to step 5

If $SaO_2 \geq 90\%$ discuss with medical team (an alternative approach may be required)

5. Increase oxygen to 6L/min using two oxygen concentrators, each at 3L/min, joined using a 'Y' connector and a medium concentration (Lifecare 2000) facemask. Ensure prescription is amended.

After 15 minutes, ask the patient:

a. How severe is your breathlessness?	none	slight	moderate	severe
b. How much trouble or bother is your breathlessness causing you right now?	none	slight	moderate	severe
c. To what extent has the fan relieved your breathlessness?	not eased at all	eased only a little	eased moderately	completely relieved

d. Please check SaO_2 and record here: ☐

e. If the severity is 'none' or 'slight' *and* degree of relief is 'complete' or 'moderate' (and this is acceptable to the patient) *and* $SaO_2 \geq 90\%$ then continue oxygen at same rate and stop the audit here.

f. Otherwise:

If SaO_2 remained <90% continue to step 6

If $SaO_2 \geq 90\%$ discuss with medical team (an alternative approach may be required)

6. Increase oxygen to 8L/min using two oxygen concentrators, each at 4L/min, joined using a 'Y' connector and a medium concentration (Lifecare 2000) facemask. Ensure prescription is amended.

After 15 minutes, ask the patient:

a. How severe is your breathlessness?	none	slight	moderate	severe
b. How much trouble or bother is your breathlessness causing you right now?	none	slight	moderate	severe
c. To what extent has the fan relieved your breathlessness?	not eased at all	eased only a little	eased moderately	completely relieved

d. Please check SaO_2 and record here: ☐

e. If the severity is 'none' or 'slight' *and* degree of relief is 'complete' or 'moderate' (and this is acceptable to the patient) *and* $SaO_2 \geq 90\%$ then continue oxygen at same rate and stop the audit here.

f. Otherwise discuss with medical team (an alternative approach may be required)

Notes

Pulse oximetry

- There is considerable variation between machines. For consistency only use the handheld yellow ('TuffSat') oximeter
- apply the probe to the index finger as indicated by the picture of the finger on the probe. Ensure the light of the probe is at the base of the fingernail and that there is a good signal. Nail varnish affects the reading and should be removed
- allow sufficient time for the reading to stabilise. This may take up to 15 minutes
- carbon monoxide (CO) levels are also 'read' by pulse oximeters. Smokers have elevated levels of CO (typically 5–10%) and hence could be hypoxic despite normal SaO_2 readings. This may only be important if the patient has smoked that day. The levels of CO return to normal (<2%) approximately 24h after cessation of smoking.

CO_2 retention ('narcosis')

- In patients with carbon dioxide (CO_2) retention who depend upon hypoxia for their respiratory drive, oxygen therapy can result in ventilatory depression
- this is associated with increasing drowsiness (CO_2 'narcosis') and other symptoms/signs, e.g. headache, peripheral vasodilatation (warm extremities, bounding pulse), sweating, muscle twitching and flapping tremor
- *if suspected clinically, discontinue the oxygen and discuss with a doctor*.

Thank you for helping with this audit