Practice questions
Respiratory care

Q
Nasal cannulas are not suitable for patients who need controlled oxygen
Patients can eat, drink and talk while using a nasal cannula
Nebulised bronchodilators are not generally recommended for asthma
However, they can be used to deliver bolus doses in asthma emergencies

A
Flow rates of up to 6L can be given but this will often cause nasal dryness and can therefore be uncomfortable for patients (British Thoracic Society, 2008).

The advantages of nasal cannulas for patients who have chronic stable respiratory problems is that it is possible to eat, drink and talk while using the cannulas. They also reduce the risk of carbon dioxide rebreathing. Dry nasal passages can be a problem initially but, with continued use, this usually resolves itself.

Q Should a nebuliser be used routinely to treat an asthma attack?

A
Nebulised bronchodilator therapy is no longer recommended for most people with asthma (BTS and Scottish Intercollegiate Guideline Network, 2009).

Evidence suggests that the metered dose inhaler and spacer is at least as good as nebulisers in adults and children and is the preferred method for administration of bronchodilator therapy (BTS and SIGN, 2009). Treatment using an inhaler results in better deposition of the drug in the lungs than with a nebuliser and patients experience fewer side effects.

The BTS/SIGN (2009) guideline, however, does recommend nebuliser use in acute life threatening asthma. This is initially to administer a bolus dose, although continuous nebulisation may be required if the response to initial therapy is poor.

If a nebuliser is used to treat an acute asthma attack in an emergency, there are risks of oxygen desaturation, so oxygen rather than air driven compressors should be used in this situation. The oxygen should be delivered using piped oxygen or a cylinder with a high flow regulator at a flow rate of greater than 6L/min (BTS and SIGN, 2009). NT

Author Carol Kelly is senior lecturer/programme lead at the Faculty of Health, Edge Hill University

Q When should a nasal cannula be used to deliver oxygen?

A
Nasal cannulas are used to deliver oxygen when a low flow with a low or medium concentration is required, and the patient is stable.

They deliver oxygen in a variable manner; this means the amount of oxygen inspired depends on the patient’s breathing rate and pattern.

For this reason, nasal cannulas are not suitable for use during the acute phase of illness in patients who need controlled oxygen therapy. This includes patients with acute exacerbations of chronic obstructive pulmonary disease; these patients retain carbon dioxide and a Venturi mask is often used.

In other acute situations, patients may need a higher concentration of oxygen, and a non-rebreath mask or simple oxygen mask is often used.

Flow rates of 1-4L/min are used with nasal cannulas, equating to a concentration of approximately 24-40% oxygen.

References

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