

Patient information from BMJ

Last published: Oct 25, 2024

Bag-valve-mask ventilation

What is bag-valve-mask ventilation?

Bag-valve-mask (BVM) ventilation is a way of getting oxygen into your lungs if you are struggling to breathe normally.

There are a few different parts to it. It includes:

- **a face mask** that fits over your mouth and nose
- **a self-inflating bag** that can be attached to an oxygen tank (self-inflating just means it can fill up on its own)
- **an oxygen tank** which 'stores' the oxygen
- **several valves** which control how much oxygen flows in and prevents you breathing back in the air that you've breathed out.

Usually BVM ventilation is combined with other airway tubes (that go in your mouth or nose), to help the oxygen reach your lungs better. This will depend on whether you are conscious (awake) or not, and whether you have a gag reflex.

You can read more about this in our patient information titled *Nasopharyngeal airway (breathing tube in the nose)*.

Why might I need bag-valve-mask ventilation?

The main reason you might need BVM ventilation is if you have stopped breathing, or if you are not breathing as easily as you should. It ensures that the oxygen you need can still reach your lungs.

If you have stopped breathing, then BVM ventilation is usually a temporary measure until you can be intubated. Intubation is a different procedure to help you breathe. It involves putting a tube through your nose or mouth and into your 'windpipe' (also known as your airway or trachea). Oxygen is then delivered through this tube.

BVM ventilation can also be used if you are having anaesthesia for elective surgeries.

What will happen during the procedure?

The medic performing the procedure will position your head and chin so that your airway is open. They will then:

- consider inserting a breathing tube into your mouth or nose (called an oropharyngeal or nasopharyngeal airway)
- hold a face mask gently, but firmly, in place over your mouth and nose. It's important they create a good 'seal' to avoid any oxygen from escaping
- squeeze the ventilator bag so that oxygen is pushed into your lungs in a regular rhythm (ideally, this will be done by a second medic)
- check that the ventilation is working properly by seeing whether your chest rises and falls regularly.

What are the risks with bag-valve-mask ventilation?

If you're having this procedure, the medic treating you will keep a close eye on how it is working. BVM ventilation is usually very safe, but there can be issues if it's used for a long period of time.

For example, if the oxygen reaches your stomach this can cause your stomach to get bigger and cause vomiting too. If this happens, there is a chance you could breathe vomit into your lungs, and this could then block your airway. It could also lead to an infection in your lungs known as aspiration pneumonia. But this is usually very uncommon.

If the medics think you may have a spine injury, they will take special care when performing the BVM ventilation procedure. They will try and open your airway without moving your head, so that they don't disturb your spine.

What can I expect afterwards?

In emergency situations, BVM ventilation is usually a temporary measure until you can be safely intubated. Intubation is a different procedure to help you breathe.

Once you can safely start breathing again on your own, BVM ventilation will be stopped. But the medics treating you will keep a close eye on you to check you can still breathe properly on your own. Your doctor might also want to do a blood test to make sure that enough oxygen is getting into your blood.

The patient information from *BMJ Best Practice* is regularly updated. The most recent version of Best Practice can be found at bestpractice.bmj.com. This information is intended for use by health professionals. It is not a substitute for medical advice. It is strongly recommended that you independently verify any interpretation of this material and, if you have a medical problem, see your doctor.

Please see BMJ's full terms of use at: bmj.com/company/legal-information. BMJ does not make any representations, conditions, warranties or guarantees, whether express or implied, that this material is accurate, complete, up-to-date or fit for any particular purposes.

© BMJ Publishing Group Ltd 2024. All rights reserved.

Bag-valve-mask ventilation

What did you think about this patient information guide?

Complete the [online survey](#) or scan the QR code to help us to ensure our content is of the highest quality and relevant for patients. The survey is anonymous and will take around 5 minutes to complete.



BMJ Group