

Anaesthetic machine check list

- Easy steps for your clinic

Why routinely check for leaks in your anaesthetic machine?

- patient safety
- personal safety
- ensuring patient receives correct concentrations and volumes of gases
- preventing environmental pollution
- economy - chronic oxygen leakage can cost a fortune over time!

Follow these simple checks to ensure your anaesthetic machine is functioning at its optimum standard and to ensure your patient's safety is not compromised:

A. High Pressure check - at the beginning of each surgical day

1. turn on the oxygen cylinder at the pressure regulator
2. note the reading on the pressure gauge
3. check that the flow meter is turned off
4. leave the machine for approx. 20 minutes, then re-check reading
5. if the needle on the gauge has dropped, this indicates a leak in the high pressure system
6. check the pressure regulator yoke on the neck of the oxygen cylinder. If this is secure, there may be a problem with the valves on the cylinder or at the various connections within the regulator. Request assistance from your oxygen supplier to assess the problem

B. Flow meter check - at the beginning of each surgical day

1. is the bobbin rotating freely within the chamber? Gently turn off
2. turn vapouriser(s) on and off. They should dial freely and securely lock
3. check the agent in the vapouriser. As a general rule, never let the agent drop below 1/3 full.
4. check soda lime - change if looking dusty or has changed colour
5. check the level of oxygen
6. check that the vapouriser filling parts are closed
7. connect appropriate breathing circuit

C. Medium pressure check - prior to each case

1. disconnect the breathing circuit from the fresh gas outlets
2. occlude the outlet with your thumb or the palm of your hand
3. turn the oxygen flowmeter on to 1 litre
4. the bobbin will gradually drop to 500mls over 10 - 20 seconds. If this fails to happen, you may have a leak across one or more components of the machine - flowmeter, vapouriser, fresh gas outlet
5. check fittings that you can easily access
6. if the problem persists, resist the temptation to pull out the spanners and dismantle the machine! this is a job for a professional medical service person



D. Low pressure check - prior to each case

1. reconnect the breathing circuit to fresh gas outlet.
2. close pop-off valve and occlude patient end of circuit with your thumb or a cork.
3. turn the oxygen flowmeter on to approximately 2 litres to fill the circuit with oxygen
4. turn off when the rebreathing bag becomes full (no wrinkles)
5. gently squeeze the bag
6. there should be no pressure loss for 10 - 20 seconds. A collapse in the bag indicates a leak in the low pressure system which is usually easily identified (holes or cracks in bags or tubing, pop-off valve closed, connections firmly in place)

TIP: Soapy water is a useful aid to identifying sites of leaks. Brush a small amount on to fittings, tubing, rebreathing bags, etc and watch for any bubbling of the detergent

Once you have completed your checking procedure, you can go ahead with your surgery knowing your equipment is sound and safe. The whole routine takes only a few minutes each day - but ensures peace of mind which is priceless!

