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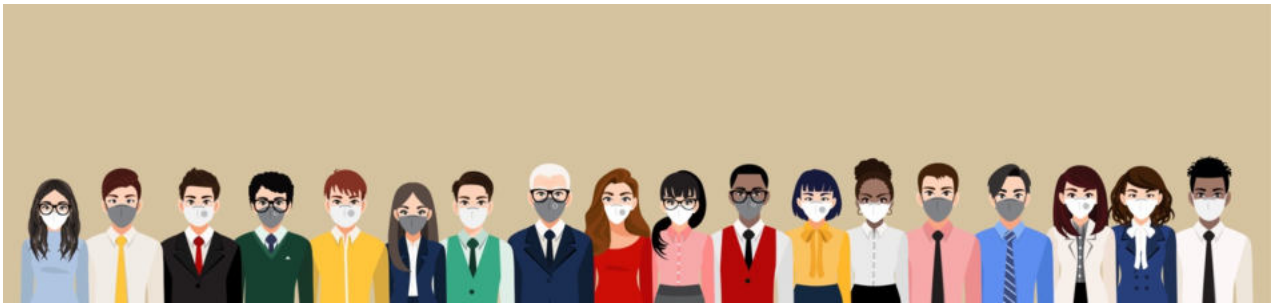
MASK WEARING & BREATHING



A client recently asked:
"I'm wondering if you could give me any advice around mask wearing and good breathing?

She asked because like many she was finding wearing a mask difficult.

My response to her was as follows: There are many **variables** which make mask wearing more or less difficult. Ease and tolerance will depend on things like:

- Whether you able to nose breathe while wearing a mask
- Whether your breathing rate increases when wearing a mask
- How long you have to wear the mask for at any one time, and how often it can be removed
- The kind of fabric the mask is made of – how thick and how breathable it is
- How well the mask is fitted and being worn
- Cleanliness of the mask
- Age of the person
- State of health of the individual

In other words there is not an easy one-size-fits-all answer.

The first two points are **the** most important ones in terms of the effect on breathing health. Our noses provide the best natural viral filters preventing direct inhalation of pathogens into the lungs. They also help to prevent viral spread to others in comparison to mouth breathing.

If you can **both** wear a mask **and** nose breathe without increasing your breathing rate, then this will likely be the best way to maintain breathing health whenever mask wearing is required.

The best way to ensure you can do this is to first become aware of how you breathe at rest (baseline breathing) and when doing your regular daytime activities (AOL) without a mask on.

Check out the **TIPS** listed at the end of this article and if you need help or would like to know how your baseline breathing is doing, book in for a **Breathing Assessment** or phone the Breathe Free Clinic for a **free 20 minute phone consult.**

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If your baseline (normal) breathing is dysfunctional, then even wearing a mask for short periods of time may prove challenging.

Usually this is because your tolerance for carbon dioxide (CO_2) is low, which means your brain and body will not be used to the higher levels of CO_2 which you will be inhaling as a result of wearing a mask.

In fact, the respiratory center in your brain may think that you are starving for air and you may feel a rise in anxiety or even panic. Usually the consequence is hyperventilation or over-breathing which makes things worse.

Unfortunately as a result of the Bohr Effect [2 & 3], the bioavailability of oxygen (O_2) is reduced when breathing faster and bigger volumes of air than is healthy. (See article on Overwhelm and Stress)

The only way to properly combat this is to **retrain your breathing** - start getting used to more CO_2 - unfortunately there **isn't** a quick fix.

IS YOUR CO_2 TOLERANCE LOW?
Find out by booking a Capnography Assessment

There is now more and more evidence coming out to indicate that mask wearing is in fact encouraging people to mouth breathe[1]. Check it out for yourself – what are you doing right now, with or without a mask as you read this?

Again in case you missed it, **nose breathing is one of the most important and useful** things people can do to protect themselves against viruses because of the natural filters and infection fighting gases in the sinuses.

On a positive front, short term use of masks can potentially improve your mental state by lifting the carbon dioxide (CO_2) levels that you're inhaling which then results in the release of more oxygen (O_2). It is not so simple however when you have to wear a mask for long and regular periods.

Wearing a mask for short periods, on and off again as recommended in the first tip below, will start to lift tolerance for CO_2 – even within a week if consistently practiced each day. This is similar to climbing to a higher elevation for short periods and has also been likened to intermittent hypoxic training (IHT) which can be beneficial to health overall for those already in good health. IHT is used by some athletes in their training regimes combined with exercise.

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Some of the health benefits of intermittent hypoxic training include:

- an improved immune system
- calming of the mind and body
- improved anaerobic and aerobic capacity (through hypercapnia and hypoxia)
- potential activation of the diaphragm
- improved respiratory muscle strength

NOTE: Unfortunately, this is not the case for those who are in poor health and Breathe Free Clinic recommends that you discuss the possibility of a mask exemption with your health professional if you are in a job that requires mask wearing for long periods and you believe your health is being put at risk.

Below is a list of some recommendations which may help your mask tolerance.

SOME TIPS TO EASE and MAKE THE MOST OF YOUR MASK?

- **Become Aware**
  How are you breathing normally: mouth or nose, fast or slow, upper chest or diaphragm?
- **Learn what Healthy Breathing is**
  This will help you to be breathing well before you even put the mask on.
- **Mask 'immunotherapy'**
  Start wearing your mask at home for short intervals - a little like' oral immunotherapy' only with a mask 😁.

  Start breathing calmly when you're at rest - say when watching TV or reading for example and without the mask. Try to breathe through the nose at a rate of between 6 to 12 breaths/minute, for 2 to 5 minutes.

  Then put the mask on and continue for 5 to 10 minutes. Once this is easy, then try wear the mask when you're a little more active around the house such as with cooking or gardening, or cleaning or when going for an easy stroll.
- **Slow** the breathing down as best you can and do your best to **nose breathe** all the way.
- **Focus** on breathing into the **diaphragm** and relax the body.
- If you **have to wear a mask for long periods** such as at work all day all day at work, do your best to **quieten** your breathing and if you start to feel anxious, breathe as slowly as you are able and focus on the exhale. Try to have **regular breaks** from wearing it even for a minute or more.

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- Make sure your mask is **not too tight around your nose** albeit covering it so that you can do your best to nose breathe rather than mouth breathe. By nose breathing you will be releasing less CO_2 into your mask with each exhale than if you are mouth breathing. As a result the respiratory center of the brain will be less likely to or will be slower to be triggered than when your CO_2 tolerance is still poor.
- If you can't have **regular breaks** from the mask, then lift the mask with clean hands at regular intervals (if possible at least once or twice every 30 minutes), to prevent hypercapnia (too much CO_2) or hypoxia (too little O_2) occurring.
- Wash your **masks regularly** - there have been cases of people contracting Legionnaires disease from wearing the same mask all day and for more than one day without renewing or washing them.

REFERENCES

1 YouTube Video of children mouth breathing under the mask: https://www.youtube.com/watch?v=cnbxMrOk5aw

2 Physiology, Bohr Effect: Andrew Benner; Aakash K. Patel; Karampal Singh; Anterpreet Dua. Last Update: August 15, 2021. https://www.ncbi.nlm.nih.gov/books/NBK526028/

3 Bohr Effect: https://en.wikipedia.org/wiki/Bohr_effect

Contact us for **a free 20 minute consult** if you concerned about wearing a mask.