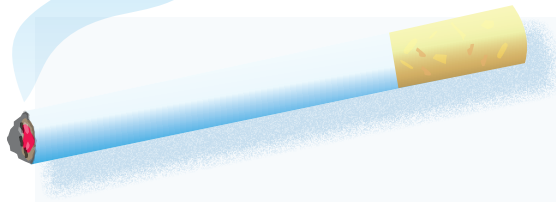


Carbon Monoxide Smoking and Your Baby



NHS GGC offers Carbon Monoxide
testing to all pregnant women.

**QUIT
YOUR
WAY**
with our
support

What is Carbon Monoxide?

Carbon Monoxide (CO) is a colourless, odourless, tasteless poisonous gas. This is not the same as Carbon Dioxide (CO₂) which is part of the air we breathe.

Where is CO found?

When materials containing carbon are burned they give off CO. Eg. Cigarettes, faulty boilers, poorly ventilated coal fires.

The more cigarette smoke or second hand smoke you breathe in, the higher your CO reading will be.

CO in your blood stream

- When you breathe in smoke the CO is absorbed in your lungs and picked up by your red blood cells.
- It is then carried around your body and produces a thick fatty plaque that can cause heart disease, stroke and bad circulation. It also means the blood stream carries less oxygen.

The Placenta

- The Placenta is the life giving organ for your baby providing essential oxygen and nutrients.
- It is a dense smooth blob of tiny blood vessels that sticks to the inside of the womb. It gives the baby all it needs to grow, such as food and oxygen from the mother's blood.
- CO damages the placenta when the fatty plaque blocks the tiny vessels. This means it does not grow as healthy and does not carry as much oxygen and nutrition.

Unhealthy Placenta

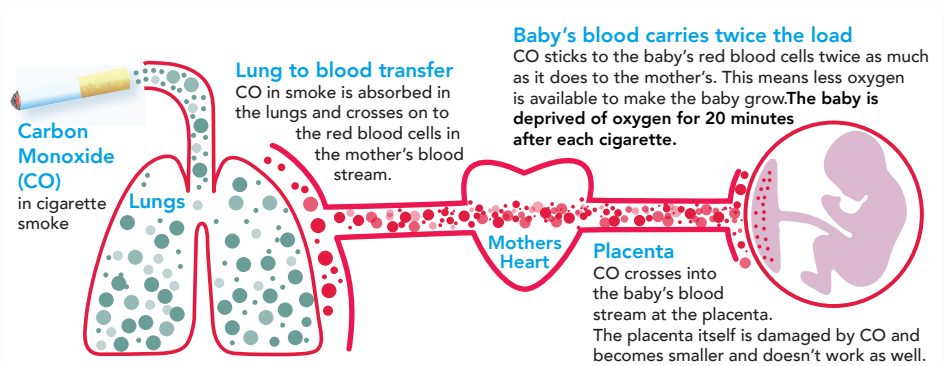
Means

Weaker Baby

Means

Complicated Delivery

How Carbon Monoxide gets into your baby



Baby's blood

- Baby's blood is different to mum's.
- More oxygen sticks to it. Unfortunately this means that CO sticks to it even more so.

Electronic Cigarettes

Electronic cigarettes do not contain CO, they are not completely risk free, but if using an e-cigarette helps you stay smoke free it is much safer for you and your baby than continuing to smoke.



Effects of smoking on your baby

Pregnancy

- **Miscarriage:** More chance of miscarriage as your placenta is weakened and does not stick to the inside of the womb as well as it should.
- **Stillborn:** 1 in 225 babies are stillborn in Scotland every year. Your risk of stillbirth increases by 47% if you smoke.
- **Growth Restrictions:** You are 300% more likely to have a growth restricted (smaller) baby which results in a more complicated delivery. This does not mean the baby is easier to push out
- **Premature:** You have a 200% increased chance of premature delivery if you smoke resulting in delivering in a specialist unit and extended hospital stay.
- **Birth defects:** There is a 30% increased chance of birth defects such as cleft lip and palate if you smoke.

Childhood

- **SUDI:** Cot death 4x higher even in 'light' smokers.
- **Poorer Health:** Higher rates of heart disease and asthma, and your child is more at risk of getting infections.

Non-Smoker with a high CO.

A high reading in someone who isn't exposed to cigarette smoke can indicate environmental exposure from various sources, our service can help you investigate the cause or call:




Gas safety line: ☎ **0800 300 363**

Your CO reading

The CO monitor measures parts per million (ppm) of CO in your breath. From this number it works out the amount of CO in you and your baby's blood.

If you smoke or have a reading of 4ppm or more, your midwife will refer you for specialist support.

Making your car and home smoke-free is just as important before the baby is born as when you take it home.

 Breath ppm	 Blood COHb (%)	 Baby FCOHb (%)
20	3.83	5.66
19	3.67	5.38
18	3.51	5.09
17	3.35	4.81
16	3.19	4.53
15	3.03	4.25
14	2.87	3.96
13	2.71	3.68
12	2.55	3.4
11	2.39	3.11
10	2.23	2.83
9	2.07	2.55
8	1.91	2.26
7	1.75	1.98
6	1.59	1.7
5	1.43	1.42
4	1.27	1.13
3	1.11	0.85
2	0.95	0.57
1	0.79	0.28
0	0.00	0.00

Breath (ppm)

You breathe out only a tiny amount of CO because CO sticks to red blood cells so well.

Blood COHb (%)

This is how much CO is in your blood. The CO binds with haemoglobin (hb) in the red blood cells to form carboxyhaemoglobin (COHb), preventing red blood cells from carrying oxygen. CO binds with haemoglobin 200 times more readily than oxygen.

Baby FCOHb (%)

This is how much CO is taken up by your baby if you smoked.

A reading in this zone indicates you may well be a regular smoker with higher levels of CO in your blood.

A reading in this zone would indicate a light smoker or a non-smoker breathing in poor air quality or passive smoke.

This is where you really need to be

The good news about stopping

When you stop smoking your CO levels drop very quickly. In 24 hours, your CO levels go back to the level of a non-smoker.

- Stopping does not harm the baby.
- The baby will feel the effects straight away.
- Placental function improves
- You reduce your risk of Stillbirth, growth restriction, premature delivery and fetal malformation to that of a non-smoker.

How to stop

- Your chance of quitting is 3 times higher with the help of a stop smoking advisor. The advisors are friendly and approachable helping you understand nicotine addiction and work with you to develop a quit plan providing free nicotine medicines if required.
- Stopping smoking and not allowing smoking around you or in your car or home is the only way to protect your baby from the 7000 harmful chemicals found in tobacco smoke.

Notes

QYW Pregnancy Service

Phone: 📞 0141 201 2335 /07796 937 679

email: ✉️ quityourway.pregnancy@ggc.scot.nhs.uk

Website: 🌐 www.nhsggc.scot/your-health/quit-your-way/
or:



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