



Carbon monoxide breath testing for pregnant women

An improved care pathway with advice for healthcare professionals



About this leaflet

This leaflet explains the rationale for a new breath test for carbon monoxide (CO) levels in pregnant women and how to do this test in four easy steps. These improvements in care are supported by the National Maternity Strategy – Creating a Better Future Together 2016-2026 and the Tobacco Free Ireland Strategy 2013-2025.

What we are asking midwives to do and why

At the first antenatal visit, we ask midwives to:

- invite women to complete a breath test for carbon monoxide
- discuss the results
- deliver a brief intervention by explaining the dangers of smoking and make a referral to stop smoking services.

Carbon monoxide is a colourless, odourless and tasteless poisonous gas which can kill people. Cigarette smoke is the most common source of this gas, but it can also come from exhaust fumes, faulty gas appliances, coal or wood fires and oil burning appliances.

It is important to offer and encourage all pregnant women to have a CO breath test as exposure to CO is especially dangerous during pregnancy.

It deprives the baby of oxygen, slows its growth and development and increases the risk of miscarriage, stillbirth and sudden infant death.

The benefits of CO testing

CO testing during the first antenatal visit raises awareness of CO exposure and allows the midwife to introduce key information to discuss smoking and how to quit if appropriate. This supports a healthier pregnancy. The test takes just a couple of minutes to do and results are available immediately.

Studies from other countries show that CO testing with opt-out referral to stop smoking services has:

- Improved how care needs are identified
- Increased the use of supports to stop smoking
- Increased quit rates and improved outcomes for women and babies
- Been well received by pregnant women and healthcare professionals

4 Steps



Step 1: Prepare

- Prepare equipment like the breath monitor.
- Introduce the test and explain the test to the woman.

Step 2: Test

- Complete the test.

Step 3: Discuss

- Discuss the test results in a sensitive and non-judgemental manner.
- Enquire about smoking status.

Step 4: Record and take action

- Record CO test result and smoking status.
- Take action depending on CO test result. See below.
- Encourage partners and other household members to contact stop smoking services.

Limits of carbon monoxide breath testing

CO breath testing can help you see if the woman has recently been exposed to unsafe levels of CO, but it can't tell you if the results are only because of smoking. You can explore the reasons for this together. The most common reason for high CO levels (4 parts per million (ppm) or above) is usually smoking, but there are other reasons that need to be explored like a faulty heating or kitchen appliance.

Reading is less than 4ppm: What to say or do

- If the woman does not currently smoke, provide reassurance and no further action is required. This is the most common outcome from the test.
- If the woman has recently quit, congratulate her on her success, positively re-enforce the importance of remaining smoke-free and discuss whether she would like support now to remain stopped.
- If the woman currently smokes, deliver a brief intervention and schedule an appointment for her with stop smoking services.

If her partner or others in the household smoke, encourage them to contact the local stop smoking service, visit the Quit website at www.quit.ie or contact the HSE Quitline **1800 201 203**

Reading is 4ppm or above: What to say or do

Explain that the reading is at a level consistent with someone who smokes or who has been exposed to CO. Ask her if she, or anyone else in her household smokes.

- If the woman does not currently smoke, recommend that they install a CO monitor at home and that they get expert advice from the Carbon Monoxide helpline 1800 89 89 89. Repeat the test at the next visit.
- If the woman has recently quit, encourage her on her success, positively re-enforce the importance of staying smoke-free, and discuss whether she would like support now to stay a non-smoker.
- If the woman currently smokes, explain the dangers and deliver a brief intervention. Schedule an appointment for her with stop smoking services. See tips below.

If her partner or others in the household smoke, encourage them to contact the local stop smoking service, visit the Quit website at www.quit.ie or contact the HSE Quitline **1800 201 203**

Tips about testing and intervention

- Remain positive, supportive and non-judgemental in your approach and give evidence-based information about the test and its benefits.
- All discussion must be phrased and delivered sensitively to encourage conversation.
- Assess her interest in giving up smoking and encourage her to take up the support offered by the onsite and or local stop smoking service.
- Make a referral to stop smoking services.
- As with any test, the midwife's role is to facilitate women's informed choice and their consent or refusal of the CO test.

While it may not be practical to repeat CO breath testing, remember to ask women about their smoking status at every opportunity in their antenatal care to record any advice given. (Ask at least once in each trimester.) This ensures that stopping smoking is seen as important throughout the pregnancy, and not just at the first visit.



Sláintecare.