

Smoking in Pregnancy Challenge Group: Communication with Women Working Group

Shared key messages

October 2015

Smoking Cessation in Pregnancy: Challenge Group

In March 2012 the then Public Health Minister set a challenge to civil society to identify how progress could be made to further reduce the number of women who smoke during pregnancy. A major Government ambition in the Tobacco Control Plan for England (2011) was to reduce smoking in pregnancy from 14 per cent to 11 per cent by 2015. However, in 2012 it was clear that progress was slow.

The Challenge Group was therefore established. A collaboration of civil society, academia and Royal Colleges who pooled their expertise to publish a report in 2013: *Smoking Cessation in Pregnancy: A call to action*. A key theme within the recommendations set out in this document was communication – both with pregnant women and between health professionals. A sub-group was therefore established to lead on the development resources and securing consistency of messaging across all organisations involved in this agenda.

Purpose of this document

This document has been produced to facilitate the alignment of evidence-based messaging on smoking in pregnancy across the Smoking in Pregnancy Challenge Group member organisations.

The key messages are all evidence based. They have been split into themes and customised for two audiences: health professionals and the lay audience (pregnant women and their families, wider public). The messages are designed to be used both in media work and in direct communications with women (via information leaflets, posters etc.). While not intended as a training resource, the document may be useful to health professionals as a quick reference for the key issues and facts in relation to smoking in pregnancy.

When using the key messages, the overall tone of the communication is important. It should be clear enough to highlight the risks, but also non-judgemental, with the emphasis on giving pregnant women the information they need to manage their smoking and encouraging them to make use of the free quitting support available.

The document will be reviewed regularly and the messages updated as necessary to ensure that they meet communications requirements and reflect the up-to-date evidence base.

Key facts and figures

Rates of smoking before pregnancy: Around a quarter of mothers (26%) in the UK smoked in the 12 months before or during their pregnancy¹.

Numbers quitting during pregnancy: Of mothers who smoked before or during their pregnancy, over half (54%) gave up at some point before the birth².

Rates of smoking throughout pregnancy: Smoking rates recorded at delivery have fallen to their lowest recorded level nationally at 12%³.

Health Inequalities: Smoking rates among pregnant women in poor and disadvantaged groups and teenage mothers-to-be remain considerably higher than the general population. Teenagers are almost six times as likely to smoke throughout pregnancy as women who are over 35; they are also less likely to quit⁴. Mothers in routine and manual occupations and those who had never worked were five times more likely to have smoked throughout pregnancy compared to women in managerial and professional occupations⁵. This is a major concern as it causes higher rates of stillbirth, premature birth, low birth weight and sudden infant death in babies born to mothers from disadvantaged groups compared to the general population⁶.

Numbers restarting smoking after delivery: Less than a year after the birth of their baby, a third of mothers who had stopped during pregnancy start smoking again⁷.

This document has been developed by the following member organisations of the Smoking in Pregnancy Communication with Women Working Group:

ASH
Bliss
Department of Health
Lullaby Trust
Public Health England
Royal College of Midwives
Royal College of Obstetrics and Gynaecology
Royal College of Paediatrics and Child Health
Tobacco Control Collaborating Centre
Sands
Tommy's
UK Centre for Tobacco and Alcohol Studies



Department
of Health



Public Health
England



Royal College of
Obstetricians &
Gynaecologists



UK Centre for
Tobacco Control Studies
A UKCRC Public Health Research Centre of Excellence

Summary of key messages contained in this document

Technical audience	Lay audience
<p>Stop smoking: Quitting smoking is one of the best things a woman and her partner can do to protect their baby’s health through pregnancy and beyond. There is lots of help and support available: to find out more, visit the Start4Life and NHS Smokefree websites or contact your local stop smoking service.</p>	<p>Stop smoking: Stopping smoking is one of the best things a woman and her partner can do to protect the health of their baby through pregnancy and beyond. There is lots of help and support available: to find out more, visit the Start4Life and NHS Smokefree websites or contact your local stop smoking service.</p>
<p>Harm from day one: Smoking during pregnancy can harm the baby in the womb from day one⁸.</p>	<p>Harm from day one: Smoking during pregnancy can harm the baby in the womb from day one. Every cigarette causes damage to both the mother-to-be and her baby.</p>
<p>Death toll: Every day a baby dies in the UK because their mother smoked in pregnancy⁹.</p>	<p>Every day a baby dies in the UK because their mother smoked in pregnancy. Cigarette chemicals can poison the baby in the womb, causing disability and death.</p>
<p>Miscarriage – fetal loss before 24 weeks gestation: Women who smoke while pregnant are more likely to miscarry.</p>	<p>Miscarriage – loss of the baby before 24 weeks gestation: Women who smoke while pregnant are more likely to miscarry.</p>
<p>Stillbirth – birth of a dead baby after 24 weeks gestation: Smoking while pregnant is the number one modifiable risk factor for stillbirth¹⁰.</p>	<p>Stillbirth – when the baby is born dead after 24 weeks gestation: smoking while pregnant is the number one risk factor for stillbirth.</p>
<p>Sudden infant death: Smoking while pregnant is the number one risk factor for babies to die unexpectedly after birth (sudden infant death). The number of sudden infant deaths could be reduced by over 30% if parents did not smoke¹¹.</p>	<p>Sudden infant death: Smoking while pregnant is the number one risk factor for babies to die unexpectedly after birth. Around one in three babies’ lives could be saved from sudden infant death if parents didn’t smoke.</p>

<p>Premature and small for gestational age: Babies born to smoking mothers are more likely to be born premature or too small¹². These babies have longer hospital stays after being born¹³.</p>	<p>Premature and small babies: If a woman smokes while pregnant her baby is more likely to be born too early or too small, meaning her baby will be too sick to go straight home after birth.</p>
<p>Stopping smoking early in pregnancy can almost entirely prevent damage to baby. Babies born to smoking mothers who quit in early pregnancy have rates of stillbirth, prematurity, low birth weight and small for gestational age the same as or close those of non-smokers.¹⁴ ¹⁵</p>	<p>Stopping smoking in pregnancy: Stopping smoking early in pregnancy can almost completely prevent damage to the baby and stopping at any time during pregnancy reduces the risk of damage.</p>
<p>Fertility: Smoking decreases a woman's fertility by over 25%. Smoking causes decreased fertility and impotence in men^{16 17}.</p>	<p>Fertility: Smoking damages fertility in women and men. Women who smoke find it harder to get pregnant and men, as well as having reduced quality sperm, can have erection difficulties.</p>

Smoking while pregnant harms the baby

Technical audience	Lay audience
<p>Harm from day one: Smoking during pregnancy can harm the baby in the womb from day one¹⁸.</p>	<p>Harm from day one: Smoking during pregnancy can harm the baby in the womb from day one.</p>
<p>Death toll: One baby dies each day in the UK because their mother smoked in pregnancy¹⁹.</p>	<p>Every day a baby dies in the UK because their mother smoked in pregnancy. Cigarette chemicals can poison the baby in the womb, causing disability and death.</p>
<p>Cigarette smoke is toxic: Cigarettes contain over 4,000 chemicals, including tar and carbon monoxide and 69 known chemicals that cause cancer²⁰.</p>	<p>Every cigarette causes damage both to the mother-to-be and her baby. The only way to prevent this damage is to stop smoking completely.</p>

<p>Toxins in cigarette smoke pass from mother to baby: When a pregnant woman smokes tobacco, the tar and toxins travel directly into the unborn baby's blood stream, creating very serious damage. This can have a major impact on the baby in the womb and after birth²¹.</p>	<p>When a pregnant woman smokes, so does her baby. The nicotine, poisons and carbon monoxide in a cigarette can cross the placenta and affect the baby's heart and also the blood flow to the baby. This in turn can prevent adequate oxygen getting to the baby which can cause poor growth and even death.</p>
<p>Stillbirth (birth of a dead baby after 24 weeks gestation): Nicotine narrows blood vessels. During pregnancy, this means less oxygen and nutrients can get to the baby through the placenta, which affects growth. A small baby who doesn't grow healthily has an increased chance of being stillborn.</p>	<p>Stillbirth: If a mother-to-be smokes, less oxygen and nutrients get to the baby through the placenta, affecting the baby's growth. A baby who doesn't grow healthily is at increased risk of dying before birth.</p>
<p>Sudden infant death: Smoking while pregnant is the number one risk factor for babies to die unexpectedly after birth (sudden infant death). In these situations, death may suddenly and unexpectedly occur when a baby is a few months old even if the baby appears healthy²². The number of sudden infant deaths could be reduced by almost a third if parents did not smoke²³.</p> <p><i>'Sudden Infant Death'</i> is the term used to describe the sudden and unexpected death of a baby or toddler that is initially unexplained. Some sudden and unexpected infant deaths can be explained by the post-mortem examination revealing, for example, an unforeseen infection or metabolic disorder. Deaths that remain unexplained after the post mortem are usually registered as <i>'Sudden Infant Death Syndrome'</i> (SIDS)²⁴.</p>	<p>Sudden infant death: Smoking while pregnant is the number one risk factor for babies to die unexpectedly after birth. Around one in three babies' lives could be saved from sudden infant death if parents didn't smoke.</p>
<p>Premature and small for gestational age: Babies born to mothers who smoke are more likely to be born premature or too small²⁵. These babies have longer hospital stays after being born²⁶</p> <p>When a pregnant woman smokes, carbon monoxide from smoke gets into the mother's blood and reduces oxygen reaching the baby, which</p>	<p>Small sick babies: Babies born to mothers who smoked while pregnant are more likely to be too small or too sick to go straight home after birth.</p> <p>These babies are more likely to need extra care from the special care baby unit, and are at greater risk of breathing problems, disabilities and in some cases, even death.</p>

<p>can damage its growth. Smoking in pregnancy increases the risk that babies are born premature and undersized²⁷.</p> <p>The fetus of a pregnant women who smokes is twice as likely to be small for gestational age. Babies born to mothers who have smoked through pregnancy weigh an average of 250g less than those born to non-smoking mothers²⁸.</p> <p>Longer hospital stays: Babies born to mothers who smoke are 19% more likely to need extra care and support in a special care baby unit (neonatal intensive care), delaying return home²⁹. This is partly because smoking in pregnancy increases the risk that babies are born premature and undersized. These babies have greater difficulty keeping warm and are prone to breathing problems (respiratory distress syndrome), increased risk of infection during and after labour, low blood sugar and problems with feeding³⁰.</p> <p>Risk of death to baby: Babies that are born premature or undersized are also at greater risk of death and illness in infancy, and are more likely to have a learning or physical disability³¹.</p>	<p>This is because the toxins in smoke damage the baby's growth by restricting the oxygen supply from mother to baby.</p>
<p>Smoking during pregnancy damages a baby's airways even before birth. Many people think that smoking damages lungs only when the smoke is breathed in. In fact, smoking in pregnancy damages the lungs of the unborn baby because toxins from smoke get into the mother's blood stream and cross into the baby's blood, damaging lung development³². The damage caused by mothers smoking in pregnancy puts babies at higher risk of breathing problems after birth and increases the risk of asthma in childhood³³.</p>	<p>Baby's lungs damaged before birth: Poisons and chemicals in cigarette smoke pass through into the baby's blood and damage the development of the baby's lungs while in the womb.</p> <p>This can cause serious breathing problems in babies and asthma in childhood.</p>
<p>Birth defects: Smoking during pregnancy can increase the risk of major congenital abnormalities by 10-30%, compared with non-smokers³⁴. Abnormalities include heart defects, having shortened or missing arms and legs, cleft lips and cleft palates, and abnormally shaped heads or faces³⁵.</p>	<p>Birth defects: smoking while pregnant increases the risk that the baby is born with abnormalities, such as a heart defects, cleft palate, and shortened or missing arms.</p>

<p>Comparison with illegal drugs in pregnancy: Smoking in pregnancy has up to twice the impact on birth weight as illegal drug use. Stopping smoking in pregnancy is at least as important to improving pregnancy outcomes as abstaining from illegal drugs such as heroin or cocaine during pregnancy³⁶.</p>	<p>Smoking vs illegal drugs in pregnancy: Smoking in pregnancy has greater negative impact on the baby's birth weight than taking illegal drugs such as cocaine or heroin.</p>
<p>Behavioural problems: Children born to mothers who smoked while pregnant are at greater risk of psychological problems in childhood such as attention and hyperactivity problems, and disruptive and negative behaviour³⁷</p>	<p>Behavioural problems in childhood: children born to a mother who smoked while pregnant are more likely to have problems such as hyperactivity and disruptive behaviour.</p> <p>This is because of damage caused by the toxins in cigarette smoke to the baby's brain while in the womb.</p>

Smoking while pregnant harms the mother

Technical audience	Lay audience
<p>Miscarriage and stillbirth: Women who smoke are 27% more likely to have a miscarriage and their risk of having a stillbirth is a third higher compared to non-smokers³⁸.</p>	<p>Miscarriage and stillbirth: Smoking while pregnant significantly increases the risk of miscarriage and stillbirth.</p>
<p>Life-threatening complications in pregnancy and labour: On average, smokers have more complications during pregnancy and labour. This can include bleeding during pregnancy, placental abruption (detachment) and premature rupture of membranes³⁹.</p> <p>Smokers are five times more likely to develop eclampsia (a life-threatening complication of pregnancy, where pregnant women develop seizures and a coma)⁴⁰. This is a major cause of maternal mortality in the UK⁴¹.</p>	<p>Life-threatening complications in pregnancy and labour: Women who smoke are more likely to have life-threatening complications during pregnancy and labour than non-smokers.</p>
<p>Smoking-related illness: Smoking harms nearly every organ of the body and causes respiratory disease, coronary heart disease and</p>	<p>Smoking-related illness: Smoking harms nearly every organ of the body and causes lung disease, heart disease and numerous cancers.</p>

<p>numerous cancers. For every death from smoking, approximately 20 smokers are suffering from a smoking related disease⁴².</p>	
<p>Premature death from smoking: One in every two long-term smokers will die early because of smoking. On average, smokers die 10 years younger than non-smokers⁴³.</p>	<p>Smokers die early: One in every two long-term smokers will die early because of smoking. Smokers die, on average, 10 years younger than non-smokers.</p> <p>By staying smokefree after the birth, mothers can help make sure they are healthy and around as long as possible to support their child through life.</p>

Smoking decreases fertility in women and men

Technical audience	Lay audience
<p>Smoking decreases a woman’s fertility</p> <p>Smokers are three times more likely than non-smokers to have taken more than one year to conceive. Fertility of women smokers has been found to be 72% that of non-smokers⁴⁴.</p> <p>The menopause occurs up to a year and a half earlier in smokers. The likelihood of an earlier menopause is related to the number of cigarettes smoked, with those smoking more than ten cigarettes a day having an increased risk of an early menopause⁴⁵.</p> <p>Tobacco smoking is also associated with an increased risk of cervical cancer. Women who smoke are twice as likely to develop cervical cancer compared to non-smokers⁴⁶.</p>	<p>Smoking damages a woman’s fertility</p> <p>Women who smoke find it harder to get pregnant – their fertility can be reduced by over a quarter.</p> <p>Women who smoke are twice as likely to develop cervical cancer compared to non-smokers.</p>
<p>Smoking increases the risk of impotence and infertility in men</p> <p>Smoking increases the risk of impotence by around 50% for men in their 30s and 40s. Around 120,000 UK men in this age group are needlessly impotent as a result of smoking⁴⁷.</p> <p>Cigarette smoking can affect male fertility: smokers’ sperm has been found to be of decreased quality (count and motility) compared with that of non-smokers⁴⁸.</p>	<p>Smoking increases the risk of impotence and infertility in men</p> <p>Smoking increases the risk of impotence by around a half for men in their 30s and 40s.</p> <p>Men who smoke can suffer from reduced quality sperm and erection difficulties.</p>

Secondhand smoke harms pregnant women and their babies

Technical audience	Lay audience
<p>Smokefree homes save babies' lives: A smokefree home is safer for the mother's and her baby's health</p> <p>Secondhand smoke is highly toxic: Secondhand smoke actually contains a higher concentration of toxins than the mainstream smoke breathed in by the smoker (as it largely comes from the cooler sidestream smoke from the burning tip of the cigarette)⁴⁹</p>	<p>Secondhand smoke can seriously harm the baby, even if the mother-to-be doesn't smoke. Pregnant women who breathe in other people's smoke are more likely to have a sick baby, to suffer a stillbirth, or to have their baby die unexpectedly after birth.</p>
<p>Smoking near a pregnant woman can cause death to her baby: Babies can die because their mother was regularly exposed to secondhand smoke while pregnant. Studies show that maternal exposure to secondhand smoke during pregnancy is an independent risk factor for premature birth, low birth weight and sudden infant death syndrome^{50,51}</p>	<p>For partner: Smoking near a pregnant woman can seriously harm her baby: Smoking near a pregnant woman can put her baby at risk of being born too early, being sick after birth or even of dying.</p>
<p>A third of pregnant women are exposed to secondhand smoke in the home: A third of all pregnant women live with at least one other smoker during their pregnancy and are exposed to their secondhand smoke. Most commonly, it is the woman's partner who smokes⁵². Rates are even higher for pregnant women who smoke themselves⁵³, increasing the unborn baby's exposure to the toxins in tobacco smoke.</p>	
<p>Living with a smoker makes it harder to quit yourself: Living with a smoker makes a woman six times more likely to continue smoking throughout pregnancy compared to women who do not live with other smokers⁵⁴. Women are more likely to successfully stop smoking if others in the household quit too.</p> <p>But only one in five partners quit themselves: Only one in four men (24%) whose partners are pregnant make any changes to their own smoking behaviour and just one in five (20%) stop smoking⁵⁵.</p>	<p>Living with a smoker makes it harder for a pregnant woman to quit. By stopping smoking together, parents can give their baby the best chance in life.</p> <p>For partner: A pregnant woman is less likely to successfully stop smoking if her partner continues to smoke. By stopping smoking together, parents can give their baby the best chance in life.</p>

Secondhand smoke harms babies and children

Technical audience	Lay audience
<p>Remaining smokefree after birth saves lives: While stopping during pregnancy is clearly important, remaining smokefree after the baby's birth is one of the best things that a mother or father can do for their child.</p>	<p>Remaining smokefree after birth saves lives: While stopping during pregnancy is clearly important, staying smokefree after the baby's birth is one of the best things parents can do for their child.</p>
<p>Smoking near children is common: One in six smokers continues to smoke when near children⁵⁶</p> <p>Babies are more likely to be admitted to hospital: Babies of parents who smoke are more likely to be admitted to hospital for bronchitis and pneumonia during the first year of life⁵⁷.</p> <p>Serious breathing problems: Children of parents who smoke are twice as likely to suffer from serious respiratory infections like pneumonia compared to the children of non-smokers⁵⁸. More than 17,000 children under the age of five are admitted to hospital every year in the UK because of the effects of secondhand smoke⁵⁹.</p> <p>Deafness: Children whose parents smoke are more likely to have acute and chronic middle ear disease, which can cause deafness⁶⁰.</p> <p>Behavioural problems: Children exposed to secondhand smoke are at increased risk of behavioural (emotional and conduct) problems, with those exposed in the pre-natal period at even great risk⁶¹.</p>	<p>Breathing problems: Being exposed to smoke can cause serious breathing problems for babies and children. Every year, more than 17,000 children under five are admitted to hospital in the UK because of the effects of secondhand smoke.</p> <p>Ear disease and deafness: Smoking around babies and children increases their risk of ear disease and deafness.</p> <p>Behavioural problems: Behavioural problems in childhood are more likely if babies and children are exposed to secondhand smoke.</p>
<p>Co-sleeping: Babies are at increased risk of Sudden Infant Death Syndrome if the parent and or partner smokes and sleeps with a baby in a bed, on a chair or sofa⁶². Studies recently reviewed by NICE have consistently shown a significant interaction between habitual parental</p>	<p>Co-sleeping: If you smoke there is a risk your baby could die suddenly and unexpectedly. This risk will increase if you decide to sleep with your baby in a bed, on an armchair or sofa. Never co-sleep with your baby if you or your partner smokes. Always put your baby to</p>

smoking and co-sleeping. There is 65-fold increase in SIDS risk for two week old babies who share a bed with parents who both smoke ⁶³ .	sleep on their back in a cot or Moses basket in your room for the first six months.
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Stopping smoking in pregnancy

Technical audience	Lay audience
<p>Quitting smoking is one of the best things a woman and her partner can do to protect their baby’s health through pregnancy and beyond. There is lots of help and support available: to find out more, visit the Start4Life and NHS Smokefree websites or contact your local stop smoking service.</p>	<p>Stopping smoking is one of the best things a woman and her partner can do to protect the health of their baby through pregnancy and beyond. There is lots of help and support available: to find out more, visit the Start4Life and NHS Smokefree websites or contact your local stop smoking service.</p>
<p>Stopping smoking early in pregnancy can almost entirely prevent damage to the baby. Babies born to smoking mothers who quit in early pregnancy have rates of stillbirth, prematurity, low birth weight and small for gestational age the same as or close those of non-smokers⁶⁴. However, stopping smoking early in pregnancy was not found to reduce the risks of major congenital anomalies or of requiring admission to the special care baby unit⁶⁵.</p> <p>It is never too late to quit smoking during pregnancy: Although it’s best for a woman to stop smoking from the beginning of her pregnancy, monitoring and encouragement should be provided throughout the pregnancy to support her in quitting.</p>	<p>Stopping smoking early in pregnancy can almost entirely prevent damage to the baby. It is never too late to stop, but the earlier the better.</p> <p>It is never too late to quit smoking during pregnancy: Although it’s best to stop smoking from the beginning of the pregnancy, a mother-to-be and her baby start to benefit whenever she does quit.</p>
<p>Licensed nicotine replacement therapy (NRT) is safe in pregnancy: Licensed nicotine replacement products are safe to use during pregnancy and increase the chances of stopping successfully^{66,67}.</p>	<p>Licensed nicotine replacement products are safe to use during pregnancy and can increase the chances of quitting successfully. This is particularly the case when combined with specialist help from local stop smoking services.</p>

<p>NHS approved support increases chance of a successful quit: Smokers are up to four times more likely to quit successfully using help from local stop smoking services compared to doing it alone⁶⁸, these offer FREE, non-judgemental, specialist support for pregnant smokers including teenagers mothers-to-be.</p> <p>E-cigarettes: E-cigarettes are not harmless – the vapour they produce contains some toxins, but studies have shown that these are at levels far lower than those found in tobacco smoke. On the available evidence, they are a great deal safer for users than smoked tobacco⁶⁹, however there are unanswered questions on the effects of longer term use, and we also don't know about any risks to a fetus from exposure to vapour.</p> <p>At present there are no available e-cigarette products licensed as stop smoking medicines, however early evidence indicates that e-cigarettes can help smokers to quit and that their effectiveness may be comparable to, or better than, nicotine replacement therapy^{70,71}. Licensed NRT is the recommended option, however if a pregnant smoker has chosen to use an e-cigarette to help her quit she should not be discouraged from doing so if it helps her stop smoking and a referral should be made to the local stop smoking service, or a smoking in pregnancy specialist if available, for advice and support.</p>	<p>E-cigarettes: E-cigarettes are not harmless – the vapour they produce contains some toxins, but studies have shown that these are at levels, far lower than those found in tobacco smoke. On the available evidence, using an e-cigarette is a great deal safer than smoking. There are unanswered questions on the effects of longer term use, however, and we also don't know about any risks to a fetus from exposure to vapour. Mothers-to-be who smoke are recommended to use licensed NRT products to help them quit, however if they do choose to use an e-cigarette they should not be discouraged from doing so if it helps them stop smoking. Local stop smoking services can offer advice and support.</p>
<p>Remaining smokefree: Remaining smokefree after the baby's birth is also critical. Exposure to tobacco smoke in the home damages babies and children, just as it does in the womb⁷².</p>	<p>By staying smokefree after the birth, parents can carry on protecting themselves, their babies and children from harm.</p>
<p>Carbon Monoxide testing during pregnancy can save lives: Carbon Monoxide (CO) is a colourless, odourless and tasteless poisonous gas which can kill people. It can be present in exhaust fumes, faulty gas appliances, coal/wood fires, oil burning appliances and cigarette smoke.</p>	<p>Carbon monoxide testing during pregnancy can save a woman's life and the life of her baby: Carbon Monoxide (CO) is a poisonous gas which you can't see or smell but which is dangerous to a pregnant woman and her baby. Exposure to this gas can prevent oxygen</p>

It is especially dangerous during pregnancy because it deprives the baby of oxygen, slows its growth and development, and increases the risk of miscarriage, stillbirth and sudden infant death.

This is why it is important for midwives, and other health professionals, to carry out CO screening at booking and other antenatal appointments during pregnancy.

Some women find it difficult to say that they smoke because the pressure not to smoke during pregnancy is so intense. This can stop women giving correct information and thereby receiving appropriate support. A CO screen is an immediate and non-invasive biochemical method for helping to assess whether or not someone smokes. It also assesses whether someone has been exposed to unsafe levels of CO from other sources, including faulty cooking and heating appliances.

The National Institute for Health and Care Excellence (NICE) recommends that carbon monoxide (CO) testing is an essential part of routine care for pregnant women⁷³.

reaching the baby, slow its growth and development, and can result in miscarriage, stillbirth and sudden infant death.

Exposure usually happens in one of three ways: from cigarette smoke; from faulty or poorly ventilated cooking or heating appliances; or faulty car exhausts.

The amount of CO in a pregnant woman's system can be measured through a quick and simple breath test during a routine antenatal appointment and if the level is high, the midwife will discuss it with her.

References

- ¹ Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ² Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ³ SATOD 2013
<http://www.hscic.gov.uk/searchcatalogue?q=title%3A%22Statistics+on+Women%27s+Smoking+Status+at+Time+of+Delivery%22&area=&size=10&sort=RelevanceDesc>
- ⁴ Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ⁵ Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ⁶ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ⁷ Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ⁸ Stocks, J., & Dezaux, C. 2003. The Effect of Parental smoking on Lung Function and Development During Infancy. *Respirology*, 8, 266-285
- ⁹ ASH 2013, A Call to Action, http://ash.org.uk/files/documents/ASH_893.pdf
- ¹⁰ Royal College of Physicians 1992. Smoking and the young.
- ¹¹ Fleming P, Blair PS. Sudden Infant Death Syndrome and parental smoking. *Early Human Development*. 2007;83:721-725
- ¹² RCP 2010, Passive Smoking and Children, *Soc Sci Med*. 2005 Mar;60(5):1071-85, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ¹³ Petrou et al 2005, The association between smoking during pregnancy and hospital inpatient costs in childhood, <http://www.ncbi.nlm.nih.gov/pubmed/15589675>
- ¹⁴ Suzuki et al 2014, Effect of maternal smoking cessation before and during early pregnancy on fetal and childhood growth, *J Epidemiol*. 2014;24(1):60-6. Epub 2013 Dec 14 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3872526/>
- ¹⁵ Räisänen et al 2014, Smoking cessation in the first trimester reduces most obstetric risks, but not the risks of major congenital anomalies and admission to neonatal care, *J Epidemiol Community Health*
- ¹⁶ Kumosani, T. A., Elshal, M. F., Al-Jonaid, A. A., & Abduljabar, H. S. (2008). The Influence of Smoking on Semen Quality Seminal Microelements and Ca²⁺-ATPase Activity among Infertile and Fertile Men. *Clinical Biochemistry*, 41, 1199-1203
- ¹⁷ ASH and the British Medical Association 1999. Warning: Smoking Causes Male Sexual Impotence. London: ASH and the British Medical Association <http://old.ash.org.uk/html/health/html/impotent.html>
- ¹⁸ Stocks, J., & Dezaux, C. 2003. The Effect of Parental smoking on Lung Function and Development During Infancy. *Respirology*, 8, 266-285
- ¹⁹ ASH 2013, A Call to Action, http://ash.org.uk/files/documents/ASH_893.pdf
- ²⁰ Chen, J., Higby, R., Tian, D., Tan, D., Johnson, M. D., Xaio, Y., Kellar, K. J., Feng, S., & Shields, P. G. (2008). Toxicological Analysis of Low-Nicotine and Nicotine-free Cigarettes. *Toxicology*, 249, 194-203
- ²¹ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ²² Emura I, Usuda H 2011. Biochemical, cytological and histopathological examination of sudden unexpected death in infancy. *Path Int*. 2011;61(8):469-74
- ²³ Fleming P, Blair PS. Sudden Infant Death Syndrome and parental smoking. *Early Human Development*. 2007;83:721-725
- ²⁴ <http://www.lullabytrust.org.uk/sids>
- ²⁵ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ²⁶ Räisänen et al 2014, Smoking cessation in the first trimester reduces most obstetric risks, but not the risks of major congenital anomalies and admission to neonatal care, *J Epidemiol Community Health*
- ²⁷ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ²⁸ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ²⁹ Räisänen et al 2014, Smoking cessation in the first trimester reduces most obstetric risks, but not the risks of major congenital anomalies and admission to neonatal care, *J Epidemiol Community Health*
- ³⁰ Department of Health, 2007. Your Health in Pregnancy. In *The Pregnancy Book*, 8-20. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/dh_074920
- ³¹ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ³² RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ³³ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ³⁴ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ³⁵ Hackshaw et al 2011, Maternal smoking in pregnancy and birth defects: a systematic review based on 173 687 malformed cases and 11.7 million controls, *Hum. Reprod. Update* <http://humupd.oxfordjournals.org/content/17/5/589>
- ³⁶ Bailey et al 2012, Infant birth outcomes among substance using women: why quitting smoking during pregnancy is just as important as quitting illicit drug use. *Matern Child Health J*. 2012 Feb;16(2):414-22. doi: 10.1007/s10995-011-0776-y
- ³⁷ Button TMM, Maughan B, McGuffin P 2007, The relationship of maternal smoking to psychological problems in the offspring. *Early Human Development* 83 (11): 727–32
- ³⁸ Royal College of Physicians 1992. Smoking and the young
- ³⁹ US Department of Health and Human Services 2004. The Health consequences of Smoking- a report of the surgeon general http://www.cdc.gov/tobacco/data_statistics/sgr/sgr_2004/index.htm
- ⁴⁰ Broughton-Pipkin, F. 2008. Smoking in Moderate/Severe Preeclampsia Worsens Pregnancy Outcome, but Smoking Cessation Limits the Damage. Hypertension: Journal of the American Heart Association, 51, 1042-1046
- ⁴¹ Douglas, K. a., & Redman, C. W. G. 1994. Eclampsia in the United Kingdom. *British Medical Journal*, 309, 1395-1400

- ⁴² Cigarette smoking-attributable morbidity – United States, 2000. MMWR Weekly Report. 5 Sep. 2003
- ⁴³ Doll R, Peto, R, Boreham & Sutherland I. Mortality in relation to smoking: 50 years' observations on male British doctors. *BMJ* 2004; 328: 1519
- ⁴⁴ Baird, D.D., & Wilcox, A. J. 1985. Cigarette smoking associated with delayed conception. *JAMA*, 253, 2979-2983
- ⁴⁵ Midgette, A.S., & Baron, J.A. 1990. Cigarette smoking and the risk of natural menopause. *Epidemiology* 1, 474-480
- ⁴⁶ Public Health England: <http://www.cancerscreening.nhs.uk/cervical/risk-factors-cervical-cancer.html>
- ⁴⁷ ASH and the British Medical Association 1999. Warning: Smoking Causes Male Sexual Impotence. London: ASH and the British Medical Association <http://old.ash.org.uk/html/health/html/impotent.html>
- ⁴⁸ Kumosani, T. A., Elshal, M. F., Al-Jonaid, A. A., & Abduljabar, H. S. (2008). The Influence of Smoking on Semen Quality Seminal Microelements and Ca²⁺-ATPase Activity among Infertile and Fertile Men. *Clinical Biochemistry*, 41, 1199-1203
- ⁴⁹ US Department of Health and Human Services 1984. The Health Consequences of Smoking: Chronic Obstructive Lung Disease, a report of the surgeon general. Rockville Maryland: US Department of Health and Human Services <http://profiles.nlm.nih.gov/NN/B/C/C/S/>
- ⁵⁰ Blair et al 2006. Major Epidemiological Changes in Sudden Infant Death Syndrome: a 20-year population based study in the UK. *Lancet*, 367, 314-319
- ⁵¹ Ribot et al 2014 [Effects of tobacco habit, second-hand smoking and smoking cessation during pregnancy on newborn's health] Article in Spanish <http://www.ncbi.nlm.nih.gov/pubmed/24361155>
- ⁵² Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ⁵³ Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ⁵⁴ Infant Feeding Survey UK 2010, <http://www.hscic.gov.uk/catalogue/PUB08694>
- ⁵⁵ British Medical association 2004. Smoking and Reproductive Life. The Impact of Smoking on Sexual, Reproductive and Child Health. <http://www.bma.org.uk/ap.nsf/Content/smokingreproductivelife>
- ⁵⁶ ONS Smoking related behaviour and attitudes, 2008/09 file:///C:/Users/hasquith/Downloads/smoking2008-9_tcm77-144518.pdf
- ⁵⁷ Royal College of Physicians 1992. Smoking and the young
- ⁵⁸ RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ⁵⁹ Royal College of Physicians 1992. Smoking and the young
- ⁶⁰ RCP 2005. Going smokefree: the medical case for clean air in the home, at work and in public places. London: Royal College of Physicians <http://www.rcplondon.ac.uk/pubs/brochure.aspx?e=4>
- ⁶¹ Chastang, J., Baiz, N., Cadwallader, J., Robert, S., Dywer, J., Charpin, D., Caillaud, D., Raherison, C., Lavaud, F., Blay F. & Annesi-Maesano, I. Postnatal Environmental Tobacco Smoke Exposure Related to Behavioral Problems in Children. *PLOS ONE*, 10 (8). <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0133604>
- ⁶² NICE Addendum to Clinical Guideline 37, Postnatal Care December 2014 <http://www.nice.org.uk/guidance/cg37/evidence/cg37-postnatal-care-full-guideline-addendum2>
- ⁶³ Carpenter et al (2013) Bed Sharing when parents do not smoke: is there a risk of SIDS An Individual level analysis of 5 major case control studies *BMJ Open* <http://bmjopen.bmj.com/content/3/5/e002299.full>
- ⁶⁴ Räisänen et al 2014, Smoking cessation in the first trimester reduces most obstetric risks, but not the risks of major congenital anomalies and admission to neonatal care, *J Epidemiol Community Health*
- ⁶⁵ Räisänen et al 2014, Smoking cessation in the first trimester reduces most obstetric risks, but not the risks of major congenital anomalies and admission to neonatal care, *J Epidemiol Community Health*
- ⁶⁶ Cooper et al 2014, Effect of nicotine patches in pregnancy on infant and maternal outcomes at 2 years: follow-up from the randomised, double-blind, placebo-controlled SNAP trial, *The Lancet Respiratory Medicine* [http://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(14\)70157-2/fulltext?eventId=login](http://www.thelancet.com/journals/lanres/article/PIIS2213-2600(14)70157-2/fulltext?eventId=login)
- ⁶⁷ Coleman et al 2012, A Randomized Trial of Nicotine-Replacement Therapy Patches in Pregnancy *N Engl J Med* 2012;366:808-18 <http://www.nejm.org/doi/full/10.1056/NEJMoa1109582>
- ⁶⁸ West, R. (2006) Feasibility of a national longitudinal study ('The Smoking Toolkit Study') to monitor smoking cessation and attempts at harm reduction in the UK. www.smokinginengland.info/Ref/stp001.pdf
- ⁶⁹ Farsalinos KE, Polosa R. Safety evaluation and risk assessment of electronic cigarettes as tobacco cigarette substitutes: a systematic review. *Ther Adv Drug Saf*. 2014 Apr;5(2):67-86.
- ⁷⁰ Electronic cigarettes for smoking cessation: a randomised controlled trial – *Lancet* 2013 <http://www.sciencedirect.com/science/article/pii/S0140673613618425>
- ⁷¹ Brown J, Beard E, Kotz D, Michie S, and West R (2014) Real-world effectiveness of e-cigarettes when used to aid smoking cessation: A cross-sectional population study. *Addiction* 109: doi: 10.1111/add.12623.
- ⁷² RCP 2010, Passive Smoking and Children, <https://www.rcplondon.ac.uk/sites/default/files/documents/passive-smoking-and-children.pdf>
- ⁷³ NICE Guidance PH26 2010 Quitting Smoking in Pregnancy and Following Childbirth <http://www.nice.org.uk/guidance/ph26>