

The clinical case for smoking cessation for paediatrics

What is the relationship between parental smoking and child health?

An estimated 2 million children in the UK live in a home where they are exposed to cigarette smoke.¹

Estimates indicate that parental smoking accounts for over 6,100 excess deaths per year in children under 19 years of age.¹

Exposure to secondhand smoke poses significant risks to children's health and can exacerbate acute illness.¹⁻⁵ There is strong evidence that infants living with parents who smoke have 2–3 times the risk of sudden infant death.^{1,6} Parental smoking also increases the risk of neonatal death, and both neonatal and paediatric hospitalisation.¹⁻⁵ For example, the risk of hospitalisations for lower respiratory tract infections is increased by around 60%.^{1,7}

Why intervene in secondary care?

A child's hospitalisation is an ideal opportunity to encourage parents or carers, as well as those children who smoke, to stop smoking for four main reasons:

- Firstly, smoking cessation will eliminate a child's exposure to environmental tobacco smoke and the associated risks to their health.
- Secondly, permanent cessation will not only benefit the parent or carer's long-term health but will reduce the likelihood of the child beginning to smoke in later years.
- Thirdly, parents, carers and children who smoke may be more receptive to intervention at this time and are ideally placed to be given information about treatment options and sign posted to specialist services.
- Fourthly, the hospital's no smoking environment creates an external force to support abstinence.

Children who are exposed to environmental tobacco smoke are at higher risk of developing:¹⁻⁵

- **Sudden infant death syndrome**^{1,6}
- **Asthma, wheeziness**^{1,8,9}
- **Acute lower respiratory infection**^{1,2,7}
- **Reduced lung function**^{1,2,8}
- **Acute and chronic middle ear infection**¹⁻³
- **Bacterial meningitis**^{1,2,11}
- **Reduced wound healing**^{1,2,12}
- **Surgical complications**^{1,2,12}
- **90% more likely to become smokers themselves**¹³

Healthcare impact of passive smoke exposure among children in the UK

Passive smoking is estimated to cost the NHS at least £23.3 million and generate:¹

- 300,000 GP consultations (£9.7 million)
- 9,500 hospital admissions (£13.6 million)
- increase use of asthma drugs (£4 million)

What are the health benefits of parental/carers quitting for paediatric patients?

For conditions that are exacerbated by smoking, e.g. asthma, cessation of exposure to environmental tobacco smoke would immediately begin to improve a child's health.^{2,14,15} Furthermore, it is likely that parental or carer smoking cessation leads to a reduced risk of infection and improved wound healing within a short space of time. Given that secondhand smoke exposure has the same effect on the child as first hand smoking, we would expect that once exposure to environmental tobacco smoke is eradicated, his or her risk of developing disease will reduce to the level associated with children in non-smoking homes; however, it is presently not known how long this would take. Moreover quitting smoking will have immediate improvements in the parent or carer's own health, significantly reducing risk of smoking-related illness (i.e. cardiovascular disease, cancer, COPD, respiratory conditions).²

What do we know about helping parents and carers stop smoking in the inpatient setting?

Hospitalisation of a child offers an important opportunity to address tobacco use with parents and carers and provide links to evidence-based stop smoking treatment.^{15,16} When surveyed, parents of paediatric patients have demonstrated that they would be willing to stop smoking^{17,18} and smoking cessation interventions have been proven effective for parents of paediatric patients.¹⁹⁻²¹

Addressing tobacco use with parents in a non-judgemental and supportive manner and linking parents to stop smoking support is recommended.¹⁸ **People are more successful in a quit attempt if they access specialist stop smoking support and pharmacotherapy (nicotine replacement therapy (NRT) or varenicline).**^{16,19,22}

Advising parents and carers about the importance of a smokefree home and car to their child's health and supporting them with developing a plan for smoking elsewhere is important, regardless of their interest or ability to stop smoking.

The introduction of a system to address tobacco use to among parents and carers in the paediatric inpatient settings is a best practice. Such systems include standard protocols for assessing smoking status of parents and carers, providing brief intervention, recommending the use of stop smoking medications and linking patients with specialist stop smoking support at the hospital or via the local stop smoking services.

Vaping

E-cigarettes provide nicotine without combustion and are popular among UK smokers as an alternative to smoking. While electronic cigarettes are not risk-free, Public Health England estimates they are 95% safer than smoking cigarettes.²³ To date there are no identified health risks of passive vaping to bystanders.²³ There is also evidence to indicate that e-cigarettes are effective in helping patients stop smoking.²⁴ Evidence on safety and the role vaping plays in supporting quitting is reviewed regularly. Policies related to the use of electronic cigarettes in inpatient settings will vary by trust and organisation.

Best practices for managing tobacco withdrawal in the inpatient setting

Most regular smokers will experience tobacco withdrawal symptoms within hours of their last cigarette and can range from mild to severe.²⁵ Parents, carers, as well as children who are regular smokers may find it difficult to abstain from smoking and/or experience withdrawal symptoms when they are unable to smoke. Many smokers also smoke as a coping strategy during periods of high stress such as a child's hospitalisation. Recognising and helping parents and carers with managing withdrawal symptoms in paediatric settings can improve a parent or carer's ability to support their child and may lead to long-term quitting and improved health outcomes for the child. A combination of the NRT patch (20–40 minutes to reach therapeutic dose) with a short-acting oral NRT product (e.g. gum, inhaler, spray) is a recommended evidence-based practice for managing withdrawal symptoms in the hospital setting.^{45,47}

Tobacco withdrawal symptoms include:²⁵

- Urges to smoke or cravings
- Restlessness or difficulty concentrating
- Irritability, aggression, anxiety, crying, sadness or depression
- Difficulty sleeping or sleeping disturbances
- Increased appetite and weight gain
- Coughing
- Mouth ulcers
- Constipation
- Light headedness

Very Brief Advice

How to approach smoking cessation with parents or carers

NICE guidance outlines a care pathway for supporting smoking cessation that can be adopted for use with parents or carers.^{22,26} In essence, the care pathway incorporates a very brief intervention using the 3As:

ASK and record smoking status of parents and/or carers

ADVISE the parents and/or carers:

- of the association between secondhand smoke exposure and their child's health/condition and of the personal health benefits of stopping smoking
- the best way of quitting is with a combination of support and stop smoking medication
- support with stopping smoking and/or managing any tobacco withdrawal symptoms (temporary abstinence) is available

ACT on the response of parents and/or carers

- prescribe stop smoking medication for parents and carers experiencing withdrawal
- monitor withdrawal and adjust pharmacotherapy accordingly
- refer to specialised stop smoking support (hospital-based, local stop smoking service)

References

1. Royal College of Physicians (RCP). Passive Smoking and Children. London: RCP; 2010. Available from: www.rcplondon.ac.uk/news/passive-smoking-major-health-hazard-children-says-rcp
2. U.S. Department of Health and Human Services. The health consequences of smoking – 50 years of progress. A report of the surgeon general. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office of Smoking and Health; 2014.
3. U.S. Dept. of Health and Human Services. The health consequences of involuntary exposure to tobacco smoke: a report of the surgeon general – executive summary. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office of Smoking and Health; 2006.
4. Aligne CA, Stoddard JJ. Tobacco and children. An economic evaluation of the medical effects of parental smoking. *Arch Pediatr Adolesc Med.* 1997;151:648–53.
5. Royal College of Physicians (RCP). Hiding in plain sight: treating tobacco dependency in the NHS. London: RCP; 2018.
6. Zhang K, Wang X. Maternal smoking and increased risk of sudden infant death syndrome: a meta-analysis. *Leg Med (Tokyo)* 2013;15(3):115–21.
7. Strachan D, Cook DG. Parental smoking and lower respiratory illness in infancy and early childhood. *Thorax* 1997;52:905–14.
8. Burke H, Leonardi-Bee J, Hashim A et al. Prenatal and passive smoke exposure and incidence of asthma and wheeze: systematic review and meta-analysis. *Pediatrics* 2012;129:735–44.
9. Silvestri M, Franchi S, Pistorio A, et al. Smoke exposure, wheezing, and asthma development: a systematic review and meta-analysis in unselected birth cohorts. *Pediatr Pulmonol.* 2015;50:353–62.
10. Jayes L, Haslam PL, Gratzou CG, et al. SmokeHaz: systematic reviews and meta-analyses of the effects of smoking on respiratory health. *Chest* 2016;150:164–79.
11. Murray RL, Britton J, Leonardi-Bee J. Second hand smoke exposure and the risk of invasive meningococcal disease in children: systematic review and meta-analysis. *BMC Public Health* 2012;12:1062.
12. Chiswell C, Akram Y, Cummins C. Impact of environmental tobacco smoke exposure on anaesthetic and surgical outcomes in children: a systematic review and meta-analysis. *Arch Dis Child* 2017;102(2):123–30.
13. Leonardi-Bee J, Jere ML, Britton J. Exposure to parental and sibling smoking and the risk of smoking uptake in childhood and adolescence: a systematic review and meta-analysis. *Thorax* 2011;66:847–55.
14. Mackay D, Haw S, Ayres JG, et al. Smoke-free legislation and hospitalizations for childhood asthma. *N Engl J Med.* 2010;363(12):1139–45.
15. Hall N, Hipple B, Friebely J, et al. Addressing family smoking in child health care settings. *J Clin Outcomes Manag.* 2009;16(8):367–73.
16. Borchers AT, Keen CL, Gershwin ME. Smoking cessation: significance and implications for children. *Clin Rev Allergy Immunol.* 2008;34(2):231–49.
17. Frankowski BL, Weaver SO, Secker-Walker RH. Advising parents to stop smoking: pediatricians' and parents' attitudes. *Pediatrics* 1993;91:296–300.
18. Moss D, Cluss PA, Mesiano M, et al. Accessing adult smokers in the pediatric setting: what do parents think? *Nicotine Tob Res.* 2006;8(1):67–75.
19. Behbod B, Sharma M, Baxi R, et al. Family and carer smoking control programmes for reducing children's exposure to environmental tobacco smoke. *Cochrane Database Syst Rev.* 2018, Issue 1, Art. No.:CD001746.
20. Winickoff JP, Buckley VJ, Palfrey JS, et al. Intervention with parental smokers in an outpatient pediatric clinic using counseling and nicotine replacement. *Pediatrics* 2003;112(5):1127–33.
21. Nabi-Burza E, Drehmer JE, Hipple Walters B, et al. Treating parents for tobacco use in the pediatric setting: the clinical effort against secondhand smoke exposure cluster randomized clinical trial. *JAMA Pediatr.* 2019;173(10):931–39.
22. National Institute for Clinical Excellence (NICE). Smoking: acute, maternity, and mental health services (PH48). London: NICE; 2013. Available from: <https://www.nice.org.uk/guidance/ph48/>
23. McNeill A, Brose LS, Calder R, et al. Vaping in England: an evidence update including mental health and pregnancy, March 2020: a report commissioned by Public Health England. London: Public Health England; 2020.
24. Hartmann-Boyce J, McRobbie H, Lindson N, et al. Electronic cigarettes for smoking cessation. *Cochrane Database Syst Rev.* 2020, Issue 10. Art. No.: CD010216.
25. National Centre for Smoking Cessation and Training. Practitioner training (elearning). Available from: <https://elearning.ncsct.co.uk/england>
26. National Institute for Clinical Excellence (NICE). Smoking cessation in secondary care: NICE pathway. London: NICE; 2019. Available from: <https://pathways.nice.org.uk/pathways/smoking-cessation-in-secondary-care>