

# Tobacco in Australia

## Facts & Issues

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### Relevant news and research

#### 4.8 Cardiovascular disease and secondhand smoke

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#### Research:

Cao, S, Liu, J, Huo, Y, Liu, H, Wang, Y, Zhang, B et al. (2024). Secondhand smoking increased the possibility of hypertension with a significant time and frequency dose-response relationship. *Sci Rep*, 14(1), 24950. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/39438598>

Chiang, TY, Pai, CS, Geng, JH, Wu, PY, Huang, JC, Chen, SC, & Chang, JM. (2024). Sex difference in the associations among secondhand smoke with metabolic syndrome in non-smokers in a large Taiwanese population follow-up study. *Int J Med Sci*, 21(8), 1518-1528. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38903920>

Pan, D, Guo, J, Wu, S, Wang, H, Wang, J, Wang, C, & Gu, Y. (2024). Association of secondhand smoke exposure with all-cause mortality and cardiovascular death in patients with hypertension: Insights from NHANES. *Nutr Metab Cardiovasc Dis*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38658224>

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Qadri, S, Maia, ACG, Ali, HEA, Alarabi, AB, Alshbool, FZ, & Khasawneh, FT. (2024). Sex Dependent Occlusive Cardiovascular Disease Effects of Short-Term Thirdhand Smoke Exposure. *Nicotine Tob Res*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38520288>

Park, H, Jeong, H, Yim, HW, & Bae, S. (2024). Associations of active and passive tobacco exposure with elevated blood pressure in Korean adolescents. *Epidemiol Health*, e2024028. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38374705>

Bruijnzeel, AW. (2024). Deciphering the Multidimensional Effects of Tobacco Smoke and E-cigarette Aerosol in Humans and Rodents: From Behavior to Inflammation and Beyond. *Nicotine Tob Res*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38381596>

Janjani, H, Motevaseli, S, Salehi, N, Naseri, S, Fazlzadeh, M, & Janjani, P. (2023). Assessing exposure to secondhand smoke among Iranian patients with cardiac diseases; a cross-sectional study. *Heliyon*, 9(11), e22715. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38034752>

Yarlioglues, M, & Oguzhan, A. (2024). Attention to an important public health issue: deleterious vascular effects of acute exposure to passive smoking in adult young females. *J Hypertens*, 42(1), 185. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38033255>

Nakanishi, K, Ishibashi, C, Ide, S, Yamamoto, R, Nishida, M, Nagatomo, I et al. (2023). Association of secondhand smoke exposure and health-related lifestyle behaviors among male university employees in Japan. *Sci Rep*, 13(1), 13848. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37696832>

Granda-Orive, JI, Jimenez-Ruiz, CA, Unzueta, IG, Higes-Martinez, E, Cabrera-Cesar, E, Sandoval-Contreras, R, & Rabade-Castedo, C. (2022). Effects on Health of Passive Smoking and Vape on Terraces in the COVID-19 Pandemic: A Review. *Open Respir Arch*, 4(4), 100204. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37496956>

Lee, JH, Shim, JY, & Lee, JW. (2023). Association between the Urine Cotinine Level and Blood Pressure in Korean Adults with Secondhand Smoke Exposure: Korea National Health and Nutritional Examination Survey 2016-2018. *Korean J Fam Med*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37248072>

Kobayashi, Y, Yamagishi, K, Muraki, I, Kokubo, Y, Saito, I, Yatsuya, H et al. (2022). Corrigendum to "Secondhand smoke and the risk of incident cardiovascular disease among never-smoking women" [Preventive Medicine 162 (2022) 107145]. *Prev Med*, 107396. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36581521>

Lin, GM, Lloyd-Jones, DM, Colangelo, LA, Szklo, M, Heckbert, SR, Chen, LY et al. (2022). Secondhand tobacco smoke exposure, urine cotinine, and risk of incident atrial fibrillation: The multi-ethnic study of atherosclerosis. *Prog Cardiovasc Dis*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36279945>

Wang, J, & Zhang, S. (2022). Passive smoking may be associated with bleeding of cerebral arteriovenous malformation in non-smoking women: a retrospective analysis. *Arq Neuropsiquiatr*, 80(6), 557-562. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35946710>

- Kobayashi, Y, Yamagishi, K, Muraki, I, Kokubo, Y, Saito, I, Yatsuya, H et al. (2022). Secondhand smoke and the risk of incident cardiovascular disease among never-smoking women. *Prev Med*, 162, 107145. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35803355>
- Kim, K, & Chang, Y. (2022). Association of secondhand smoke exposure with cardiometabolic health in never-smoking adult cancer survivors: a population-based cross-sectional study. *BMC Public Health*, 22(1), 518. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35296273>
- Klug, NR, & Nelson, MT. (2022). Enhanced Vascular Contractility Following Secondhand Smoke Exposure: A Pathological "Double-hit" to Critical Smooth Muscle Ion Channels. *Function (Oxf)*, 3(1), zqab061. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35330927>
- Skipina, TM, Patel, N, Upadhyaya, B, & Soliman, EZ. (2022). Secondhand smoke exposure is associated with abnormal P-wave axis. *Public Health*, 205, 79-82. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35247863>
- Shu, D, Chen, F, Zhang, C, Guo, W, & Dai, S. (2022). Environmental tobacco smoke and carotid intima-media thickness in healthy children and adolescents: a systematic review. *Open Heart*, 9(1). Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34992157>
- Wu, CW, Chuang, HY, Watanabe, K, Wu, PS, Pan, HC, Wang, CL et al. (2022). Association between secondhand smoke and peripheral arterial disease: a meta-analysis of cross-sectional studies. *Int Arch Occup Environ Health*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35083550>
- Bernabe-Ortiz, A, & Carrillo-Larco, RM. (2021). Second-hand smoking, hypertension and cardiovascular risk: findings from Peru. *BMC Cardiovasc Disord*, 21(1), 576. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34861819>
- Kim, BJ, Kang, JG, & Kim, BS. (2021). Association between secondhand smoke exposure and new-onset hypertension in self-reported never smokers verified by cotinine. *Korean J Intern Med*, 36(6), 1377-1388. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34742177>
- Parnell, M, Fowweather, L, Whyte, G, Dickinson, J, & Gee, I. (2021). Associations between Second-Hand Tobacco Smoke Exposure and Cardiorespiratory Fitness, Physical Activity, and Respiratory Health in Children. *Int J Environ Res Public Health*, 18(21). Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34769962>
- Shen, Q, Xu, Q, Li, G, Ren, L, Zhang, Z, Zhang, Y et al. (2021). Joint effect of 25-hydroxyvitamin D and secondhand smoke exposure on hypertension in non-smoking women of childbearing age: NHANES 2007-2014. *Environ Health*, 20(1), 117. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34781965>
- Le, T, Martin-Aragon Baudel, M, Syed, A, Singhrao, N, Pan, S, Flores-Tamez, VA et al. (2021). Secondhand Smoke Exposure Impairs Ion Channel Function and Contractility of Mesenteric Arteries. *Function (Oxf)*, 2(5), zqab041. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34553140>
- Zhang, Q, Zeng, G, Wang, X, & Wu, KH. (2021). Associations of exposure to secondhand smoke with hypertension risk and blood pressure values in adults. *Environ Health Prev Med*, 26(1), 86. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34488622>

Okekunle, AP, Asowata, JO, Adedokun, B, & Akpa, OM. (2021). Secondhand smoke exposure and dyslipidemia among non-smoking adults in the United States. *Indoor Air*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34331323>

Gac, P, Martuszewski, A, Paluszkiewicz, P, Poreba, M, Mazur, G, & Poreba, R. (2021). Aortic Valve Calcification Score in Patients with Arterial Hypertension Environmentally Exposed to Tobacco Smoke. *Cardiovasc Toxicol*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34198520>

Skipina, TM, Upadhya, B, & Soliman, EZ. (2021). Secondhand Smoke Exposure is Associated with Prevalent Heart Failure: Longitudinal Examination of the National Health and Nutrition Examination Survey. *Nicotine Tob Res*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34213549>

Skipina, TM, Upadhya, B, & Soliman, EZ. (2021). Exposure to secondhand smoke is associated with increased left ventricular mass. *Tob Induc Dis*, 19, 43. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34140842>

Akpa, OM, Okekunle, AP, Asowata, JO, & Adedokun, B. (2021). Passive smoking exposure and the risk of hypertension among non-smoking adults: the 2015-2016 NHANES data. *Clin Hypertens*, 27(1), 1. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/33384019>

Kim, JH, Kim, BJ, Hyun, YY, & Kang, JH. (2020). Association between Secondhand Smoke Exposure and Metabolic Syndrome in 118,609 Korean Never Smokers Verified by Self-Reported Questionnaire and Urine Cotinine. *Endocrinol Metab (Seoul)*, 35(4), 892-900. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/33397042>

Woo, KS, Yip, TWC, Chook, P, Koon, KV, Leong, HC, Feng, XH et al (2021). Vitamins B-12 and C Supplementation Improves Arterial Reactivity and Structure in Passive Smokers: Implication in Prevention of Smoking-Related Atherosclerosis. *J Nutr Health Aging*, 25(2), 248-254. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/33491041>

Liu, F, Liu, Y, Zhuang, Z, Ma, J, Xu, X, Zhang, W et al. (2020). Beclin1 Haploinsufficiency accentuates second-hand smoke exposure -induced myocardial Remodeling and contractile dysfunction through a STING-mediated mechanism. *J Mol Cell Cardiol*, 148, 78-88. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/32891637>

Skipina, TM, Soliman, EZ, & Upadhya, B. (2020). Association between secondhand smoke exposure and hypertension: nearly as large as smoking. *J Hypertens*, 38(10), 1899-1908. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/32890262>

Zheng, Y, Wu, Y, Wang, M, Wang, Z, Wang, S, Wang, J et al. (2020). Impact of a comprehensive tobacco control policy package on acute myocardial infarction and stroke hospital admissions in Beijing, China: interrupted time series study. *Tob Control*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/32669389>

Zhang, D, Liu, Y, Cheng, C, Wang, Y, Xue, Y, Li, W, & Li, X. (2020). Dose-related effect of secondhand smoke on cardiovascular disease in nonsmokers: Systematic review and meta-analysis. *International Journal of Hygiene and Environmental Health*, 228, 113546. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32387882>

Regev-Avraham, Z, Rosenfeld, I, Sharabi-Nov, A, & Halabi, M. (2020). Is second hand smoking associated with atrial fibrillation risk among women in Israel? A case-control study. *Int J Cardiol*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32029307>

Lin, PY, Wang, JY, Tseng, P, Shih, DP, Yang, CL, Liang, WM, & Kuo, HW. (2020). Environmental tobacco smoke (ETS) and hyperlipidemia modified by perceived work stress. *PLoS ONE*, *15*(1), e0227348. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31945779>

Psotka, MA, Rushakoff, J, Glantz, SA, De Marco, T, & Fleischmann, KE. (2020). The Association Between Secondhand Smoke Exposure and Survival for Patients with Heart Failure. *Journal of Cardiac Failure*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31926217>

Carrasco-Rios, M, Ortola, R, Rodriguez-Artalejo, F, & Garcia-Esquinas, E. (2019). Exposure to secondhand tobacco smoke is associated with reduced muscle strength in US adults. *Aging (Albany NY)*, *11*(24), 12674-12684. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31815682>

He, X, Zhao, J, He, J, Dong, Y, & Liu, C. (2019). Association of household secondhand smoke exposure and mortality risk in patients with heart failure. *BMC Cardiovasc Disord*, *19*(1), 280. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31791236>

Khoramdad, M, Vahedian-Azimi, A, Karimi, L, Rahimi-Bashar, F, Amini, H, & Sahebkar, A. (2019). Association between passive smoking and cardiovascular disease: A systematic review and meta-analysis. *IUBMB Life*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31833635>

Linardatou, V, Karatzanos, E, Panagopoulou, N, Delis, D, Kourek, C, Rovina, N et al. (2019). Passive smoking acutely affects the microcirculation in healthy non-smokers. *Microvasc Res*, *128*, 103932. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31647963>

Lippi, G, & Sanchis-Gomar, F. (2019). Secondhand smoke and ischaemic heart disease: demographic characteristic of a worldwide healthcare problem. *Eur J Prev Cardiol*, 2047487319879532. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31648524>

Chamberlain, AM. (2019). Secondhand Smoke and Atrial Fibrillation: Importance of Managing Modifiable Risk Factors. *J Am Coll Cardiol*, *74*(13), 1665-1666. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31558249>

Holahan, CJ, Holahan, CK, Lim, S, & Powers, DA. (2019). Living with a smoker, health risk behaviors, and adiposity: an analysis with middle-aged and older women. *J Behav Med*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31535272>

Critselis, E, Panagiotakos, DB, Georgousopoulou, EN, Katsaounou, P, Chrysohoou, C, Pitsavos, C, & Group, AS. (2019). Exposure to second hand smoke and 10-year (2002-2012) incidence of cardiovascular disease in never smokers: The ATTICA cohort study. *Int J Cardiol*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31375335>

Kim, BJ, Kang, JG, Kim, JH, Seo, DC, Sung, KC, Kim, BS, & Kang, JH. (2019). Association between Secondhand Smoke Exposure and Hypertension in 106,268 Korean Self-Reported Never-Smokers Verified by Cotinine. *J Clin Med*, *8*(8). Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31426428>

Ozturk, O, Sezen, GY, Ankarali, H, Ozlu, O, Demiraran, Y, Ates, H, & Dost, B. (2019). Re: The Negative Influence of Cigarette Smoke on Passive Smokers–Deteriorated Pulmonary Function Tests and Increased Urine Cotinine Levels. *Turk J Anaesthesiol Reanim*, 47(3), 243. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31183474>

Pistilli, M, Howard, VJ, Safford, MM, Lee, BK, Lovasi, GS, Cushman, M et al. Association of secondhand tobacco smoke exposure during childhood on adult cardiovascular disease risk among never-smokers. *Ann Epidemiol*, 2019. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30799203>

DiGiacomo, SI, Jazayeri, MA, Barua, RS, & Ambrose, JA. Environmental Tobacco Smoke and Cardiovascular Disease. *Int J Environ Res Public Health*, 2018. 16(1). Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30602668>

Tamura, T, Kadomatsu, Y, Tsukamoto, M, Okada, R, Sasakabe, T, Kawai, S et al. Association of exposure level to passive smoking with hypertension among lifetime nonsmokers in Japan: a cross-sectional study. *Medicine (Baltimore)*, 2018. 97(48), e13241. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30508907>

Burroughs Pena, MS, Swett, K, Kaplan, RC, Perreira, K, Daviglius, M, Kansal, MM et al. Childhood and adult exposure to secondhand tobacco smoke and cardiac structure and function: results from Echo-SOL. *Open Heart*, 2018. 5(2), e000831. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6203071/pdf/openhrt-2018-000831.pdf>

Wei, J, Shufelt, C, Oestreicher Stock, E, Mills, C, Dhawan, S, Jacob, R et al. Vascular Aging is Accelerated in Flight Attendants with Occupational Secondhand Smoke Exposure. *J Occup Environ Med*, 2018. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30475308>

Siti Hajar, MH, Zulkefli, S, Juwita, S, Norhayati, MN, Siti Suhaila, MY, Rasool, AHG, & Harmacy, MY. Metabolic, inflammatory, and oxidative stress markers in women exposed to secondhand smoke. *PeerJ*, 2018. 6, e5758. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30356972>

Hassanzad, M, Eslampanah, S, Modaresi, M, Tashayoie-Nejad, S, Velayati, AA. Pulmonary Function and Hospital Admission in Patients with Cystic Fibrosis Based on Household Second-Hand Smoking. *Tanaffos*. 2018 Jan;17(1):37-41. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30116277>

Park, YS, Lee, CH, Kim, YI, Ahn, CM, Kim, JO, Park, JH, Lee, SH, Kim, JY, Chun, EM, Jung, TH, Yoo, KH. Association between secondhand smoke exposure and hypertension in never smokers: a cross-sectional survey using data from Korean National Health and Nutritional Examination Survey V, 2010-2012. *BMJ Open*. 2018 May 14;8(5):e021217. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29764884>

Kang, J, Kong, E, Choi, J. The associations of urinary cotinine-verified active and passive smoking with thyroid function: analysis of population-based nationally representative data. *Thyroid*. 2018. Mar 28, 2018. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29592779>

Lu, L, Mackay, DF, Pell, JP. Secondhand smoke exposure and risk of incident peripheral arterial disease and mortality: a Scotland-wide retrospective cohort study of 4045 non-smokers with cotinine measurement. BMC Public Health. 2018 Mar 19;18(1):348. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/29551089>

Gac, P, Poreba, M, Pawlas, K, Sobieszczanska, M, Poreba, R. Influence of environmental tobacco smoke on morphology and functions of cardiovascular system assessed using diagnostic imaging. Inhal Toxicol. 2017 Oct - Dec;29(12-14):518-529. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/29458307>

Ngu, NL, McEvoy, M. Environmental tobacco smoke and peripheral arterial disease: A review. Atherosclerosis. 2017 Sep 22;266:113-120. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/29024863>

Banegas, JR. Lack of association between passive smoking and blood pressure, lipids, and fasting glucose. J Hypertens. 2017 Oct;35(10):1952-1954. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/28858196>

Gac, P, Jazwicz, P, Poreba, M, Mazur, G, Pawlas, K, Sobieszczanska, M, Poreba, R. The risk of coronary artery disease estimated non-invasively in patients with essential hypertension environmentally exposed to cigarette smoke. Environ Toxicol Pharmacol. 2017 Sep 1;56:114-120. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/28892753>

Feng, X, Wang, L, Guo, E, Zhang, B, Qian, Z, Wen, X, Xu, W, Li, Y, Jiang, C, Wu, Z, Liu, A. Passive smoking is not associated with risk of intracranial aneurysm rupture in nonsmoking women. World Neurosurg. 2017 Jul 29. pii: S1878-8750(17)31220-2. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/28765026>

de Jong, K, Vonk, JM, Imboden, M, Lahousse, L, Hofman, A, Brusselle, GG, Probst-Hensch, NM, Postma, DS, Boezen, HM. Genes and pathways underlying susceptibility to impaired lung function in the context of environmental tobacco smoke exposure. Respir Res. 2017 Jul 24;18(1):142. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/28738859>

Gac, P, Jazwicz, P, Mazur, G, Poreba, R. Exposure to cigarette smoke and the carotid arteries calcification index in patients with essential hypertension. Cardiovasc Toxicol, Nov 2016. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/27826876>

Sadreameli, SC, Kopp, BT, Creary, SE, Eakin, MN, McGrath-Morrow, S, Strouse, JJ. Secondhand smoke is an important modifiable risk factor in sickle cell disease: a review of the current literature and areas for future research. Int J Environ Res Public Health. 2016 Nov 12;13(11). pii: E1131. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/27845754>

Yankelevitz, DF, Cham, MD, Hecht, H, Yip, R, Shemesh, J, Narula, J, Henschke, CI. The association of secondhand tobacco smoke and CT angiography-verified coronary atherosclerosis. JACC Cardiovasc Imaging. 2016 Nov 5. pii: S1936-878X(16)30618-0. Available from:

<https://www.ncbi.nlm.nih.gov/pubmed/27852512>

Nasir, K, Patel, J. Risk of ASCVD and secondhand tobacco exposure: all smoke and mirrors? No more. JACC Cardiovasc Imaging, Nov 2016. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27852511>

Lee, PN, Thornton, AJ, Forey, BA, Hamling, JS. Environmental tobacco smoke exposure and risk of stroke in never smokers: an updated review with meta-analysis. J Stroke Cerebrovasc Dis. 2016 Oct 17. pii: S1052-3057(16)30340-8. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27765554>

Lin, MP, Ovbiagele, B, Markovic, D, Towfighi, A. Association of secondhand smoke with stroke outcomes. Stroke. 2016 Nov;47(11):2828-2835. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27729574>

Lu, L, Jiang, C, Mackay, DF, Pell, JP, Cheng, KK, Lam, TH, Thomas, GN. Exposure to secondhand smoke and risk of peripheral arterial disease in southern Chinese non-smokers: The Guangzhou Biobank Cohort Study-Cardiovascular Disease Sub-cohort. Vascular, Oct 2016. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27770029>

Raghuveer, G, White, DA, Hayman, LL, Woo, JG, Villafane, J, Celermajer, D, Ward, KD, de Ferranti, SD, Zachariah, J, American Heart Association Committee on Atherosclerosis, Hypertension, Obesity in the Young of the Council on Cardiovascular Disease in the Young, Behavior Change for Improving Health Factors Committee of the Council on, Lifestyle, Cardiometabolic, Health, Council on, Epidemiology, Prevention and Stroke, Council. Circulation, 2016. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27619923>

Garza, JL, Mittleman, MA, Zhang, J, Christiani, DC, Cavallari, JM. Time course of heart rate variability response to PM2.5 Exposure from secondhand smoke. PLoS One. 2016 May 25;11(5):e0154783. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27223894>

Gac, P et al. The aortic mechanical properties in patients with the essential hypertension environmentally exposed to cigaret smoke. Inhal Toxicol, Nov 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26525079>

O'Neal, WT et al. Environmental tobacco smoke and atrial fibrillation: The REasons for Geographic And Racial Differences in Stroke (REGARDS) study. J Occup Environ Med, Nov 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26539762>

Dixit, S et al. Secondhand smoke and atrial fibrillation: Data from the Health eHeart Study. Heart Rhythm, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26340844>

Sanip, Z et al. The effects of Secondhand Smoke (SHS) exposure on microvascular endothelial function among healthy women. Tob Induc Dis, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26346914>

Li, N et al. Effects of passive smoking on hypertension in rural Chinese nonsmoking women. J Hypertens, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26259123>

Wang, MP et al. Impact of secondhand smoke exposure on smoking cessation in cardiac patients. J Am Coll Cardiol, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26227200>

Jung, SY et al. Association between secondhand smoke exposure and blood lead and cadmium concentration in community dwelling women: the fifth Korea National Health and Nutrition Examination Survey (2010-2012). *BMJ Open*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26185180>

Lv, X et al. Risk of all-cause mortality and cardiovascular disease associated with secondhand smoke exposure: A systematic review and meta-analysis. *International Journal of Cardiology*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26188829>

Malek, AM et al. Secondhand smoke exposure and stroke: the Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study. *American Journal of Preventive Medicine*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26117341>

Srikanth, S et al. A single controlled exposure to second hand smoke may not alter thrombogenesis or trigger platelet activation. *Nicotine & Tobacco Research*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26101293>

acke, C, Weisser, B. Effects of parental smoking on exercise systolic blood pressure in adolescents. *Journal of the American Heart Association*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25964207>

Adams, T et al. Secondhand smoking is associated with vascular inflammation. *Chest*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25742439>

Chen, W et al. Secondhand smoke exposure is associated with increased carotid artery intima-media thickness: The Bogalusa Heart Study. *Atherosclerosis*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25875389>

Lim, GB. Risk factors: Carotid plaque in adulthood after childhood exposure to parental smoking. *Nature reviews. Cardiology*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25869335>

No authors listed. Children exposed to parents' smoking at twice the risk of carotid artery plaque as adults. *Nursing Standard*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25850479>

No authors listed. Patient pages. Secondhand smoke causes cardiovascular disease. *The Journal of the Oklahoma State Medical Association*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25790607>

Vandivier RW. Learning to Act on Secondhand Tobacco Smoke Exposure to Limit Risk for Coronary Heart Disease. *JAMA Intern Med*, 2014. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25383686>

Yin W, Ngwe EC, Ghebrehiwet B, and Rubenstein DA. The combined effect of sidestream smoke and dynamic shear stress on endothelial cell inflammatory responses. *Thromb Res*, 2014. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25467082>

Munteanu I and Mihaltan FD. Second-hand Smoking and CV Risk. *Curr Treat Options Cardiovasc Med*, 2014; 16(12):348. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25261045>

Japuntich SJ, Eilers MA, Shenhav S, Park ER, Winickoff JP, et al. Secondhand Tobacco Smoke Exposure Among Hospitalized Nonsmokers With Coronary Heart Disease. *JAMA Intern Med*, 2014. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25383761>

#### 4.8.1 Coronary heart disease

Yang, X, Zhang, Z, Sun, J, & Zhang, W. (2024). Global, regional, and national burden of ischemic heart disease attributable to secondhand smoke from 1990 to 2019. *Tob Induc Dis*, 22. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38966818>

Flor, LS, Anderson, JA, Ahmad, N, Aravkin, A, Carr, S, Dai, X et al. (2024). Author Correction: Health effects associated with exposure to secondhand smoke: a Burden of Proof study. *Nat Med*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38291302>

Flor, LS, Anderson, JA, Ahmad, N, Aravkin, A, Carr, S, Dai, X et al. (2024). Health effects associated with exposure to secondhand smoke: a Burden of Proof study. *Nat Med*, 30(1), 149-167. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38195750>

Niu, Z, Mu, L, Buka, SL, Loucks, EB, Wang, M, Tian, L, & Wen, X. (2024). Involuntary tobacco smoke exposures from conception to 18 years increase midlife cardiometabolic disease risk: a 40-year longitudinal study. *J Dev Orig Health Dis*, 1-10. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38186328>

Chaar, S, Yoon, J, Abdulkarim, J, Villalobos, J, Garcia, J & Lopez Castillo, H. (2022). Angina Outcomes in Secondhand Smokers: Results from the National Health and Nutrition Examination Survey 2007-2018. *Avicenna J Med*, 12(2), 73-80. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/35833157>

Wang, K, Wang, Y, Zhao, RGong, L, Wang, L, He, Q et al. (2021). Relationship between childhood secondhand smoke exposure and the occurrence of hyperlipidaemia and coronary heart disease among Chinese non-smoking women: a cross-sectional study. *BMJ Open*, 11(7), e048590. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34226229>

Sadeghi, M, Daneshpour, MS, Khodakarim, S, Momenan, AA, Akbarzadeh, M, & Soori, H. (2020). Impact of second-hand smoke exposure followed by cigarette smoking quitting on subsequent risk of coronary heart disease: Evidence from the population-based cohort of Tehran Lipid and Glucose Study (TLGS). *Epidemiol Health*, e2020009. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32150674>

Abu-Baker, NN, Al-Jarrah, EA, & Suliman, M. (2020). Second-Hand Smoke Exposure Among Coronary Heart Disease Patients. *J Multidiscip Healthc*, 13, 109-116. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32099378>

#### 4.8.2 Stroke

**Jung, E, Kim, HG, Kim, DK, & Ryu, HH. (2024). Association Between Secondhand Smoke Exposure and the Incidence of Stroke in never smoker According to Alcohol Intake: 19-year prospective**

cohort study in Korea. *J Occup Environ Med*. Retrieved from

<https://www.ncbi.nlm.nih.gov/pubmed/39234943>

Lin, F, Chen, X, Shi, Y, Yang, K, Hu, G, Zhuang, W et al. (2024). Early-life tobacco smoke exposure and stroke risk: a prospective study of 341,783 and 352,737 UK Biobank participants. *BMC Public Health*, 24(1), 1339. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38760724>

Lu, R, Qin, Y, Xie, C, Tan, X, Zhu, T, Tan, J et al. (2024). Secondhand smoke exposure can increase the risk of first ischemic stroke: A 10.7-year prospective cohort study in China. *Ann Epidemiol*, 92, 25-34. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38367798>

Yang, X, Sun, J, & Zhang, W. (2024). Global burden of stroke attributable to secondhand smoke in 204 countries and territories from 1990 to 2019: analysis of the global burden of disease study. *Front Neurol*, 15, 1320033. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38343713>

Flor, LS, Anderson, JA, Ahmad, N, Aravkin, A, Carr, S, Dai, X et al. (2024). Author Correction: Health effects associated with exposure to secondhand smoke: a Burden of Proof study. *Nat Med*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38291302>

Flor, LS, Anderson, JA, Ahmad, N, Aravkin, A, Carr, S, Dai, X et al. (2024). Health effects associated with exposure to secondhand smoke: a Burden of Proof study. *Nat Med*, 30(1), 149-167. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38195750>

Wang, S, Yang, P, Liu, H, Wang, Z, Hu, P, Ye, P et al. (2023). Assessing causality between second-hand smoking and potentially associated diseases in multiple systems: A two-sample Mendelian randomization study. *Nicotine Tob Res*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37788476>

Okekunle, AP, Asowata, OJ, Fakunle, AG, Akpa, OM, Sarfo, FS, Akpalu, A et al (2022). Secondhand smoke exposure is independently associated with stroke among non-smoking adults in West Africa. *J Neurol Sci*, 443, 120489. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36399928>

Gac, P, Czerwinska, K, Poreba, M, Macek, P, Mazur, G, & Poreba, R. (2020). Environmental Tobacco Smoke Exposure Estimated Using the SHSES Scale and Epicardial Adipose Tissue Thickness in Hypertensive Patients. *Cardiovasc Toxicol*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/32809142>

Ogilvy, CS, Gomez-Paz, S, Kicielinski, KP, Salem, MM, Maragos, GA, Lee, M et al (2020). Women With First-Hand Tobacco Smoke Exposure Have a Higher Likelihood of Having an Unruptured Intracranial Aneurysm Than Nonsmokers: A Nested Case-Control Study. *Neurosurgery*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32521003>

No authors listed. Secondhand smoke boosts stroke risk. *Harv Heart Lett*, Oct 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26685366>

#### 4.8.3 Other cardiovascular disease

Saito, M, Miyake, Y, Tanaka, K, Nagata, C, Senba, H, Hasebe, Y et al. (2024). Smoking and secondhand smoke exposure and carotid intima-media thickness: Baseline data from the Aikai Cohort Study in Japan. *Tob Induc Dis*, 22. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38250629>

Lin, GM, Lloyd-Jones, DM, Colangelo, LA, Lima, JAC, Szklo, M, & Liu, K. (2024). Association between secondhand smoke exposure and incident heart failure: The Multi-Ethnic Study of Atherosclerosis (MESA). *Eur J Heart Fail*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/38291555>

Wang, S, Yang, P, Liu, H, Wang, Z, Hu, P, Ye, P et al. (2023). Assessing causality between second-hand smoking and potentially associated diseases in multiple systems: A two-sample Mendelian randomization study. *Nicotine Tob Res*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37788476>

Tanaka, K, Nishigori, H, Watanabe, Z, Tanoue, K, Iwama, N, Satoh, M et al. (2023). Secondhand smoke exposure is associated with the risk of hypertensive disorders of pregnancy: the Japan Environment and Children's Study. *Hypertens Res*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36732667>

Gac, P, Martuszewski, A, Paluszkiewicz, P, Poreba, M, Mazur, G, & Poreba, R. (2022). Environmental Tobacco Smoke Exposure Estimated Using the SHSES Scale, and Feature Tracking Computed Tomography-Derived Left Ventricular Global Longitudinal Strain in Hypertensive Patients. *Cardiovasc Toxicol*, 22(12), 940-950. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36315378>

Choi, HI, Lee, SJ, Kang, JG, Lee, SH, Kim, BS, & Kim, BJ. (2022). Association of environmental tobacco smoke exposure with metabolic syndrome: A longitudinal Cohort Study of 71,055 never smokers. *Nutr Metab Cardiovasc Dis*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36163214>

Lv, L, Wu, S, Yang, Y, & Yue, X. (2021). Modified effect of active or passive smoking on the association between age and abdominal aortic calcification: a nationally representative cross-sectional study. *BMJ Open*, 11(10), e047645. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/34642189>

Moreno, ACR, Nai, GA, Laurindo, CP, Gregorio, KCR, Olean-Oliveira, T, Teixeira, MFS, & Seraphim, PM. (2020). Resistance training prevents right ventricle hypertrophy in rats exposed to secondhand cigarette smoke. *PLoS One*, 15(8), e0236988. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/32764771>

Skipina, TM, Soliman, EZ, & Upadhyya, B. (2020). Association between secondhand smoke exposure and hypertension: nearly as large as smoking. *J Hypertens*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32384392>

McNeely, E, Mordukhovich, I, Staffa, S, Tideman, S, & Coull, B. (2019). Legacy health effects among never smokers exposed to occupational secondhand smoke. *PLoS One*, 14(4), e0215445. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30998729>

#### 4.8.4 Exposure to secondhand smoke in children and cardiovascular disease

Lehtovirta, M, Pahkala, K, Rovio, SP, Magnussen, CG, Laitinen, TT, Niinikoski, H et al. (2023). Association of Tobacco Smoke Exposure with Metabolic Profile from Childhood to Early Adulthood. The Special Turku Coronary Risk Factor Intervention Project (STRIP). *Eur J Prev Cardiol*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37655930>

Gu, H, Hao, L, Li, M, & Li, J. (2023). Joint effect of overweight/obesity and tobacco exposure on hypertension in children aged 6-17 years: a cross-sectional study. *Front Pediatr*, 11, 1188417. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/37456569>

Mourino, N, Perez-Rios, M, Yolton, K, Lanphear, BP, Chen, A, Buckley, JP et al. (2023). Pre- and postnatal exposure to secondhand tobacco smoke and cardiometabolic risk at 12 years: Periods of susceptibility. *Environ Res*, 224, 115572. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36841524>

Teramoto, M, Iso, H, Muraki, I, Shirai, K, & Tamakoshi, A. (2022). Secondhand Smoke Exposure in Childhood and Mortality from Coronary Heart Disease in Adulthood: the Japan Collaborative Cohort Study for Evaluation of Cancer Risk. *J Atheroscler Thromb*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36261366>

Pihlman, J, Nuotio, J, Rovio, S, Pahkala, K, Ruohonen, S, Jokinen, E et al. (2022). Exposure to parental smoking and cardiac structure and function in adulthood: the Cardiovascular Risk in Young Finns Study. *Scand J Public Health*, 14034948221119611. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/36071613>

Sert, A. (2020). Is pediatric obesity itself or second-hand smoking exposure effective on cardiovascular risk factors? *Atherosclerosis*. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/32593471>

Liu, SH, Liu, B, Sanders, AP, Saland, J, & Wilson, KM. (2020). Secondhand smoke exposure and higher blood pressure in children and adolescents participating in NHANES. *Prev Med*, 134, 106052. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32165119>

Oates, GR, Baker, E, Rowe, SM, Gutierrez, HH, Schechter, MS, Morgan, W, & Harris, WT. (2020). Tobacco smoke exposure and socioeconomic factors are independent predictors of pulmonary decline in pediatric cystic fibrosis. *J Cyst Fibros*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32081643>

Xu, SL, Liu, AP, Wu, QZ, Marks, T, He, ZZ, Qian, Z et al. (2020). Pet ownership in utero and in childhood decreases the effects of environmental tobacco smoke exposure on hypertension in children: A large population based cohort study. *Sci Total Environ*, 715, 136859. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/32014767>

Ebrahimi, M, Aghdam, MH, Qorbani, M, Abbaspour Kaboodan, F, Shafiee, G, Khatami, F et al. (2019). Passive smoking and cardiometabolic risk factors in Iranian children and adolescents: CASPIAN-V study. *J Diabetes Metab Disord*, 18(2), 401-408. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31890665>

Zhao, B, Johnston, FH, O'Sullivan, T, Williamson, GJ, Melody, S, Dalton, M et al. (2019). Early life exposure to coal mine fire and tobacco smoke affect subclinical vascular function. *Arch Dis Child*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31862698>

Georgiopoulos, G, Oikonomou, D, Pateras, K, Masi, S, Magkas, N, Delialis, D et al. (2019). A Bayesian meta-analysis on early tobacco exposure and vascular health: From childhood to early adulthood. *Eur J Prev Cardiol*, 2047487319883557. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31747795>

Harbin, MM, Kelly, AS, Dengel, DR, Rudser, KD, Evanoff, NG, & Ryder, JR. (2019). Relation of secondhand smoke exposure to vascular phenotypes in children and adolescents. *Pediatr Res*. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31645051>

Groh, CA, Vittinghoff, E, Benjamin, EJ, Dupuis, J, & Marcus, GM. (2019). Childhood Tobacco Smoke Exposure and Risk of Atrial Fibrillation in Adulthood. *J Am Coll Cardiol*, 74(13), 1658-1664. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31558248>

Aryanpur, M, Yousefifard, M, Oraii, A, Heydari, G, Kazempour-Dizaji, M, Sharifi, H et al. (2019). Effect of passive exposure to cigarette smoke on blood pressure in children and adolescents: a meta-analysis of epidemiologic studies. *BMC Pediatr*, 19(1), 161. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31113399>

Zhang, H, Yu, L, Wang, Q, Tao, Y, Li, J, Sun, T et al. (2019). In utero and postnatal exposure to environmental tobacco smoke, blood pressure, and hypertension in children: the Seven Northeastern Cities study. *Int J Environ Health Res*, 1-12. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/31140839>

Zhang, Z, Ma, J, Wang, Z, Dong, Y, Yang, Z, Dong, B, & Ma, Y. (2019). Parental smoking and blood pressure in children and adolescents: a national cross-sectional study in China. *BMC Pediatr*, 19(1), 116. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30999873>

Yorifuji, T, Tsukahara, H, & Doi, H. Early childhood exposure to maternal smoking and Kawasaki Disease: A longitudinal survey in Japan. *Sci Total Environ*, 2018. 655, 141-146. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/30469059>

Moore, B F, Clark, ML, Bachand, A, Reynolds, SJ, Nelson, TL, Peel, JL. Interactions between diet and exposure to Secondhand Smoke on glycated hemoglobin levels among US children: Results from NHANES 2007-2012. *Nicotine Tob Res*, 2016. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27679605>

Raghuvver, G, White, DA, Hayman, LL, Woo, JG, Villafane, J, Celermajer, D, Ward, KD, de Ferranti, SD, Zachariah, J et al. Cardiovascular consequences of childhood secondhand tobacco smoke exposure: prevailing evidence, burden, and racial and socioeconomic disparities: a scientific statement from the American Heart Association. *Circulation*. 2016 Oct 18;134(16):e336-e359. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27619923>

No authors listed. Correction to: Cardiovascular consequences of childhood secondhand tobacco smoke exposure: Prevailing evidence, burden, and racial and socioeconomic disparities: a scientific

statement from the American Heart Association. *Circulation*. 2016 Oct 18;134(16):e366. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/27754954>

Valentin, ML, Thalhammer, C. Childhood tobacco smoke exposure - A silent risk for atherosclerosis plaque in adulthood. *Vasa*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26515227>  
Gishti, O et al. Impact of maternal smoking during pregnancy on microvasculature in childhood. The Generation R Study. *Early Hum Dev*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26298032>

Zakhar, J et al. Passive and active tobacco exposure and children's lipid profiles. *Nicotine & Tobacco Research*, 2015. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26187391>

Tofield A. Passive smoking causes irreversible damage to children's arteries. *Eur Heart J*, 2014; 35(33):2199-2200. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25320759>

Groner JA, Huang H, Nagaraja H, Kuck J, and Bauer JA. Secondhand Smoke Exposure and Endothelial Stress in Children and Adolescents. *Acad Pediatr*, 2014. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/25306212>

## News reports:

No authors listed. Study Links Secondhand Smoke to Early Vascular Aging in Flight Attendants. *OHS Online*, 2019. Apr 4, 2019. Available from: <https://ohsonline.com/articles/2019/04/04/secondhand-smoke-linked-to-early-vascular-aging-in-flight-attendants.aspx?admgarea=news>

Scott, Gale. Kids exposed to tobacco smoke more likely to develop A-Fib. *HCPLive.com* (Healthcare Professionals Network). Sept 8, 2015. Available from: <http://www.hcplive.com/medical-news/kids-exposed-to-tobacco-smoke-more-likely-to-develop-a-fib>

No authors listed. Secondhand smoke increases stroke risk by 30 percent for nonsmokers. *Medical News Today*, 2015. July 9, 2015. Available from: <http://www.medicalnewstoday.com/releases/296568.php?tw>