Pollution and noise reduction advised in ESC guidelines on chronic coronary syndromes

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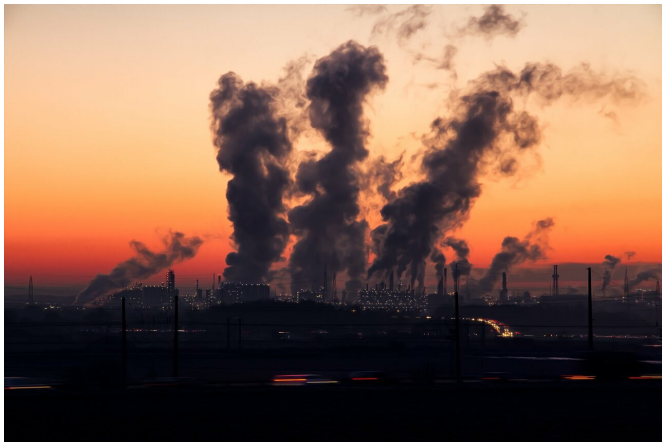

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The detrimental impact of pollution and noise on patients with chronic coronary syndromes is highlighted for the first time in European Society of Cardiology (ESC) Guidelines published online today in *European Heart Journal*

Professor Juhani Knuuti, Chairperson of the guidelines Task Force and director of the Turku PET Centre, Finland said: "Air pollution and environmental noise increase the risk of heart attack and stroke, so policies and regulations are needed to minimise both. Patients with chronic coronary syndromes should avoid areas with heavy traffic congestion and may consider wearing a respirator face mask. Air purifiers with high efficiency particulate air filters can be used to reduce indoor pollution."

The document covers chronic coronary syndromes and is a continuation of the previous stable coronary artery disease (CAD) guidelines. "This reflects the fact that CAD can be acute (covered in separate guidelines) or chronic and both are dynamic conditions," said Professor William Wijns, Chairperson of the guidelines Task Force and professor in interventional cardiology at the Lambe Institute for Translational Medicine, Galway, Ireland. "Therapy is lifelong and aimed at preventing progression of the disease and cardiac events such as heart attacks."

Lifestyle is given stronger emphasis than in the previous document, since unhealthy behaviours will have contributed to the development of a chronic coronary syndrome and changes can prevent it worsening.

Patients should stop smoking, avoid passive smoking, eat a diet high in vegetables, fruit, and whole grains, and limit saturated fat and alcohol. A healthy body weight is advised, plus 30 to 60 minutes of moderate physical activity most days. Sexual activity is low risk for patients with no symptoms (e.g. chest pain). An annual flu vaccination is promoted, particularly for elderly patients, to prevent heart attacks and premature death.

Patients with CAD have a twofold higher risk of mood and anxiety disorders compared to those without. Stress, depression, and anxiety are linked to worse outcomes and make it difficult to improve lifestyle and adhere to medications. Counselling is encouraged for those with depression, anxiety, or stress.

Cognitive behavioural therapy can also help patients achieve a healthy lifestyle—for example supporting patients to set realistic goals, self-monitor, harness support from friends and family, and plan how to implement changes and deal with difficult situations. In addition, some patients—for example after an acute event or the morbidly

obese—should be referred to exercise-based cardiac rehabilitation and receive assistance from a multidisciplinary team including cardiologists, GPs, dietitians, physiotherapists, psychologists, and pharmacists.

Patients with chronic coronary syndromes require medication to alleviate symptoms and prevent acute events such as heart attack and cardiac death. Statins are recommended in all patients and antithrombotic drugs in high-risk patients, while other drugs such as angiotensin-converting enzyme (ACE) inhibitors are for specific groups.

"Patients need to take medications as prescribed even if they have no symptoms," said Prof Knuuti. "Promoting behaviour change and medication adherence should be part of each appointment with GPs or specialists including nurses and cardiologists."

Revascularisation to open blocked arteries is an important therapy for some patients, such as those at high risk of poor outcomes and those whose symptoms are not controlled through lifestyle and drugs.

Diagnosis of chronic coronary syndromes has evolved significantly since the last document. The six most frequently encountered clinical scenarios are outlined:

- Those with suspected CAD and stable chest pain (angina) or shortness of breath.
- Patients without symptoms or with stable symptoms less than one year after an acute coronary syndrome or with recent revascularisation.
- Patients with and without symptoms more than one year after initial diagnosis or revascularisation.
- Patients with new onset of heart failure or left ventricular dysfunction and suspected CAD.
- Those with chest pain (angina) and suspected vasospastic or microvascular disease.
- Asymptomatic patients in whom CAD is detected at screening

Prof Wijns said: "Each of these scenarios requires different diagnostic and therapeutic approaches. But in general, treatment of a chronic coronary syndrome demands long-lasting healthy habits, medication adherence, and interventions in selected patients."

More information: Juhani Knuuti et al. 2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes, *European Heart Journal* (2019). DOI: 10.1093/eurheartj/ehz425

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