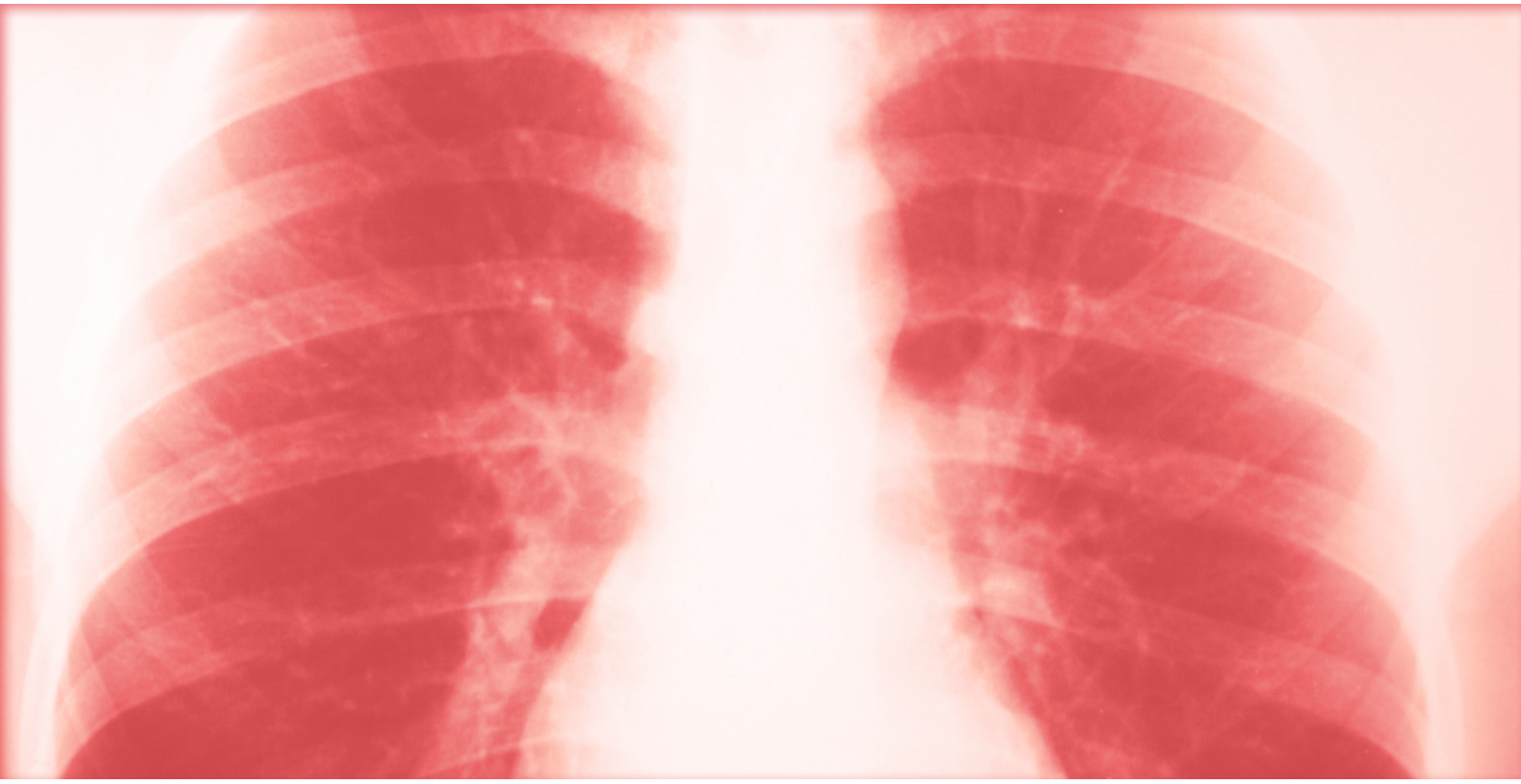

Coping with COPD

As chronic obstructive pulmonary disease remains the fourth most common cause of death in Ireland, **Shauna Rahman** discusses the reasons behind this high incidence, the importance of prevention, and how a fresh look at the present primary care model should be top of the agenda, with **Dr Emmet Kerin**, president of the National Association of General Practitioners, in practice at Treaty Medical Centre, Limerick

It is estimated that approximately 400,000 people in Ireland are living with chronic obstructive pulmonary disease (COPD), with the majority having not attended their GP for a clinical diagnosis. The disease itself is due to airflow limitation within the lungs from airway narrowing (chronic bronchitis) and/or destruction of the lung tissue (emphysema) the origins of which are usually caused by significant exposure to noxious particles or gases. Smoking is the leading cause globally. Dr Emmet Kerin says there are three specific symptoms in isolation or combination that usually indicate a COPD diagnosis: shortness of breath; chronic cough; and excessive daily sputum production.

"Most COPD patients, who I have treated, are over the age of 40 and are smokers or former smokers. The problem for general practitioners (GPs) when treating COPD, is that the majority of patients present when respiratory diseases have developed to advanced debilitating stages and, as we are currently a hospital-centric model of care in Ireland. Patients are requiring admissions, which could have been avoided with early detection, treatment and management planning for flares of the disease at a community level. As it stands, we have the highest admission rate in Europe for exacerbations of COPD," he says.

Dr Kerin says there is a number of key factors, which should be considered before diagnosing COPD – host factors (genetics and lung structure); environmental factors; and lifestyle choices.

Host factors

Dr Kerin discusses the concept of epigenetics – the influence that your environment has on your genetic makeup. "In northern Europe, there is a higher incidence of the genetic disorder, alpha-1 antitrypsin deficiency, which may lead to destruction of the air sacs in the lungs. As smoking causes inflammation of these air sacs, the white cells are in overdrive and we see the lung sac being literally dissolved and severe COPD developing. Children, who are born prematurely, low birthweight or significant childhood illness can result in poorly developed lung structure and increases the risk of developing COPD when exposed to smoking or noxious particles.

"As a country, we need to invest in educating society on the benefits of smoking cessation as well as intervening at an early stage with the younger demographics on how smoking can cause serious diseases later in life. We have made significant advances with the smoking ban, pricing and now

plain packaging. The effects of smoking are never completely reversible like in other chronic diseases (eg. type 2 diabetes), but, the earlier you cease your smoking habit, the easier it is for your body to respond to treatment and prevent more serious outcomes," says Dr Kerin. "If children are in a smoking environment, they are highly susceptible to the development of asthma, lung problems and in later life, COPD."

Environmental factors

It has been regularly reported that in high- and middle-income countries, tobacco smoke is the biggest risk factor for COPD, while in low-income countries the biggest risk is exposure to indoor air pollution, such as the use of biomass fuels for cooking and heating. "Air pollution, where people are breathing in nitrogen dioxide, which is a by-product of fossil fuel combustion, and exposure to diesel particulate matter, can decrease lung function and cause COPD," says Dr Kerin. "Also, houses or areas, where the burning of wood, coal and other biomass fuels are common occurrences, account for a higher prevalence of COPD. In many of these situations, proper smoke-releasing channels or appropriate chimneys do not exist and the free radical and hydrocarbon by-products of combustion cause inflammation of the lung."

Lifestyle and secondary diseases

"Smoking is the leading cause of COPD, with approximately 50 per cent of those who smoke developing some form of COPD. It is never too late to quit smoking. I have an 84-year-old patient in my practice, who has quit recently and there is a major improvement in his COPD and overall health." Dr Kerin emphasises how COPD can lead to secondary problems like stroke, congestive heart failure, pulmonary hypertension, nutritional deficiencies and weight loss, and sarcopenia – muscle mass loss. "For those who have COPD and are underweight, the outcomes are worse, with frequent infections, nutritional supplementation is essential to gain weight and in turn, improves respiratory muscle function. The role of pulmonary rehabilitation is also important, but it is not a space we are in yet nationally. It involves patient education, behavioural change, exercise and education in self-management, and plans to address an exacerbation early in the community instead of at the hospital. The importance of exercise also cannot be stressed enough. Even if someone cannot walk two steps, muscle development from an appropriate weights programme is proven to improve lung functioning. The MedEx Wellness programme in Dublin City University run by Dr Noel McCaffrey has huge evidence to support this."

New initiatives

GPs use spirometers which measure lung volumes and air flow. This is necessary to make a formal diagnosis of COPD, quantify lung impairment, monitor the effects of occupational and environmental exposures, and determine the effects of medications. Chest x-rays are also performed to identify how advanced the disease is. However, according to Dr Kerin, although a new National Clinical Programme for COPD has recently been launched by the Health Service Executive (HSE), with the aim to reduce 1,500 hospital admissions annually, it is unlikely to reach this target as GPs are not being supported enough when it comes to managing patients with COPD. "Unfortunately, the screening for early detection and the management of COPD in general practice is not currently resourced for the general medical service (GMS). The cost of the equipment and tests and the general management of the disease is not feasible on the backdrop of funding cuts to general practice. People who have COPD usually have to have their medications, inhalers, weight, blood pressure, heart, etc. monitored as there are underlying conditions present too," he says. "We don't have a proper up-to-date wellness-focused contract, which would ensure that there is a GP-led programme in place where at-risk patients undergo mandatory screening. At the moment, the contract that GPs work under is over 40 years old. "Recently, the NAGP has started working on a new contract with the Department of Health and the Health Service Executive and we are focusing on moving the current disease model to a better wellness model and promoting the targeting of chronic diseases at earlier stages, which would incorporate asthma, diabetes and COPD. This would mean more supports, additional nurses, advanced equipment, diagnostics, funding and resources, are made available. If these negotiations went well and the contract was tailored to meet the needs of the patient, then the incidence of COPD could significantly decrease."

ABC OF COPD

- **A**void the risks of COPD, such as smoking and environmental toxins;
- **B**e aware of the symptoms of COPD that include persistent cough with phlegm, chest infections and breathlessness; and
- **C**onsult your GP for a COPD spirometry breathing test, particularly if you are over 35 years', have symptoms, are or have been a smoker, or have a family history of lung conditions.

*Source: *COPD Support Ireland*

MRC DYSPNOEA SCALE	
Grade	**Degree of breathlessness related to activities**
1	Not troubled by breathlessness, except on strenuous exercise
2	Short of breath when hurrying or walking up a slight hill
3	Walks slower than contemporaries on level ground because of breathlessness, or has to stop for breath when walking at own pace
4	Stops for breath after walking about 100m or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when dressing or undressing