HealthPathways Melbourne

Putting knowledge into practice

CASE STUDY 12:

HealthPathways Melbourne assistance with chronic obstructive pulmonary disease (COPD)

Peter, a retired builder, 63, presents with a seven-month history of increasing shortness of breath and a chronic productive cough with white sputum. Symptoms are exacerbated by exercise.

He has a medical history of hypertension, hyperlipidaemia and is a smoker (35 pack-years).

He is concerned because on a recent holiday, he was unable to participate in several of the physical actvities. He has also experienced frequent chest infections over the previous year.

On further history, the GP uses the Modified Medical Research Council (mMRC) dyspnoea scale to assess the severity of his shortness of breath, and its impact on his wellbeing and daily life.

Peter denies other symptoms including wheeze, chest tightness and haemoptysis. There is no history of exposure to occupational dusts, particles or chemicals.

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CASE STUDY 12:

MMRC dyspnoea scale from non-acute COPD

0	"I only get breathless with strenuous exercise"
1	"I get short of breath when hurrying on the level or walking up a slight hill"
2	"On level ground, I walk slower than people of the same age on the level because of breathlessness or have to stop for breath when walking at my own pace"
3	"I stop for breath after walking about 100 yards or after a minutes on the level
4	"I am too breathless to leave the house" or "I am breathless when dressing"

Used with the permission of the Medical Research Council. This is the modified MRC scale that uses the same descriptors as the original MRC scale in which the descriptors are numbered 1 to 5. The modified MRC scale (0 to 4) is used for calculation of BODE index. The BODE index takes into account body mass index, airflow obstruction, dyspnoea, and exercise capacity which can be used to assess prognosis and life expectancy.

The GP performs a targeted respiratory and cardiovascular examinaton. Vital signs: Afebrile, BP 145/87 mmHg, HR 88 bpm, RR 22 breaths/min, SpO2 96% on room air and a BMI of 28. Heart sounds x2 with no murmur and no oedema. There is no respiratory distress, but a prolonged expiration phase, wheezing, and reduced breath sounds are noted on auscultation.

Peter is started on a short-acting bronchodilator for symptom relief and referred for spirometry. He is also referred for a chest X-ray to exclude othr pulmonary conditions. Baseline blood tests, including FBE, E/LFTs, are ordered.

At follow up, the GP reviews all results, spirometry shows a post-bronchodilator FEV1/FVC ratio <0.7 (obstructive pattern), CXR showed hyperinflation of lungs and flattening of the diaphragm, blood tests were within normal range.

The GP checks the COPD-X Handbook and the COPD Severity Classification pathways and confirms the diagnosis of moderately severe chronic obstructive pulmonary disease based on the spirometry results and symptom burden.

After consulting the Non-Acute COPD pathway, a management plan was developed covering non-pharmacological strategies including smoking cessation advice, education on COPD self-management covering inhaler technique and adherence, as well as exercise and vaccination recommendations. A long-acting beta agonist was started and his COPD Action Plan completed. He was also referred for pulmonary rehabilitation.

Provide pharmacological management, introduce medications in a step-wise fashion, according to the Lung Foundation Australia – Stepwise Management of Stable COPD. Manage according to severity. In patients with a background of asthma, ensure inhaled corticosteroid is used.

- Medications for mild COPD
- Medications for moderate COPD

Medications for moderate COPD

- Initially use short-acting bronchodilators for relief of symptoms as required.
- If adequate control not achieved with short-acting bronchodilators, add in a Long-acting beta agonists (LABA).
- If persistent symptoms or exacerbations, use LAMA/LABA combination therapy.
- Prior to prescribing, see AMH – $Beta_2$ Agonists and Anticholinergics (Inhaled) or similar authoritative source.
- Check patient's inhaler technique as well as therapy compliance at each visit. See inhaler device identification chart and inhaler technique videos.

Peter does not attend his follow up appointments or pulmonary rehabilitation. He then presents after a hospital admission with a severe Acute Exacerbation of COPD and Community Acquired

CASE STUDY 12:

Further education is provided, his COPD action plan is reviewed and updated and a GP management plan begun, with an appointment booked for review.

He accepted referrals for pulmonary rehabilitation and for a non-acute respiratory assessment. The GP checked the statewide referral criteria for suspected or confirmed chronic obstructive pulmonary disease (COPD) to ensure all required information was included.

Early recognition and comprehensive management of COPD, including pharmacologic treatment, lifestyle modifications, and rehabilitation are essential. Ongoing patient educaton and support are crucial for improving outcomes and quality of life in individuals with COPD. See Australia Commission on Safety and Quality in Health Care - Chronic Obstructive Pulmonary Disease Clinical Care Standard.

Do you have a case study?

If you would like to be involved, submit a case study, or for more information email info@healthpathwaysmelbourne.org.au