

Update on managing chronic obstructive pulmonary disease

- Spirometry still essential
- Pharmacotherapy
- Anticholinergics and cardiovascular safety
- Encourage self-management

Case study 63: Managing chronic obstructive pulmonary disease

Helping smokers quit

Of the 1 in 5 Australians who smoke, about two-thirds are currently considering quitting.¹⁻³ Data from NSW indicate that the number of smokers seeking advice from GPs and pharmacists about quitting has doubled since 2007, apparently driven by publicity about varenicline (Champix).²

Guidelines continue to recommend the 5As strategy, an evidence-based approach to helping smokers quit.⁴

Use the 5As strategy

- Ask and identify smokers at every visit
- Advise about the risks of smoking and benefits of quitting
- Assess the motivation to quit and level of nicotine dependence
- Assist cessation
- Arrange follow-up within a week of the quit date and 1 month after.
- Refer to the *Let's take a moment* guide for a 1-page flow chart (see online resources list at www.nps.org.au/news_68)

A measured approach minimises negative reactions

A survey of smokers presenting to Australian GP surgeries found 42% were willing to discuss smoking with their GP.³ When the consultation is not smoking-related, establish smoking status (Ask) and ask permission to discuss the subject further. Smokers are less likely to react negatively if the conversation starts by building rapport and is not judgemental.⁵

Assess readiness to quit and respond accordingly

Ask smokers if they are ready to quit (Assess). Tailor Assistance according to whether the patient is not ready, unsure or ready to quit (i.e. the 'stage of change') — see Table 1. In a study in Australian general practice, the proportion of smokers at each stage were: 37% not ready, 42% unsure and 21% ready to quit.³ Note however that unplanned quit attempts are very common and often successful, and GP advice is an important trigger for these.^{2,6}

Ask about smoking habits to assess nicotine dependence: smoking within 30 minutes of waking, smoking more than 15 cigarettes per day or a history of withdrawal symptoms in previous quit attempts indicate that a smoker is dependent.⁴

Table 1. Suggested assistance at each stage of change*

Not ready	
<ul style="list-style-type: none"> • Give brief, clear non-confrontational advice • Point out effects on current and future health 	
Unsure	
<ul style="list-style-type: none"> • Discuss pros and cons of quitting (motivational interviewing) • Discuss related mental or physical health problems 	
Ready	
<ul style="list-style-type: none"> • Offer encouragement • Help develop a quit plan 	<ul style="list-style-type: none"> • Advise about pharmacotherapy
Recently quit	
<ul style="list-style-type: none"> • Offer congratulations • Review pharmacotherapy 	<ul style="list-style-type: none"> • Reinforce benefits of quitting • Discuss relapse prevention
<p>At all stages, offer further consultation and/or written information (e.g. Quit pack) and referral to Quitline or other services.</p>	

* Adapted from RACGP smoking cessation guidelines for Australian general practice.⁴



Thinking differently about medicines

Offer support to all who are quitting

Individual face-to-face support by GPs, pharmacists or practice nurses is effective.⁷⁻¹⁰ Telephone counselling also has demonstrated effectiveness, but GP referral rates to Quitline are low.¹¹ In one study, referral to Quitline increased the proportion of people who stopped smoking for 12 months from 1.6% to 4.4%.¹² Quitline offers a callback service based on the smoker's planned quit schedule, which yields higher long-term quit rates than patient-initiated calls.¹³ Quitline staff can also advise about other support options, including local quit courses and groups.

Several internet-based support programs are available through State-based Quit organisations and pharmaceutical companies, and there is some evidence that these types of programs can increase quit rates.¹⁴

Help smokers plan their quitting strategy

Although most smokers choose to quit without pharmacotherapy and many succeed, smokers who are nicotine dependent can increase the odds of successfully quitting by using a smoking cessation drug.^{2,15,16} Inform smokers about what works and what doesn't, including the importance of support in preventing relapse.

RACGP guidelines recommend nicotine replacement therapy (NRT), varenicline or bupropion as first-line options to help people quit.¹⁷ While trials have found differences in quit rates with these options, particularly in the short term, individual circumstances and preferences are important.¹⁷ After considering contraindications, discuss the differences in adverse

effects, and practicalities such as convenience and cost. See Table 2 for some of the advantages and disadvantages of these drugs.

Varenicline produced superior quit rates to bupropion in several clinical trials, but indirect comparisons between varenicline and NRT are inconclusive.¹⁶ In the only direct comparison, more people using varenicline were continually abstinent after 3 months (56%) than with NRT patches (43%). However, at 1 year the difference was no longer statistically significant (26% vs 20%, $p=0.06$).¹⁸

Optimal pharmacotherapy improves quit rates

Recent trials found that optimised NRT (using both patch and lozenge) yielded greater long-term abstinence than monotherapy with bupropion or nicotine patch.^{20,21} Provide advice on optimising the benefit of NRT by choosing the right dose or using a combination of dosage forms. Nicotine patches maintain steady state nicotine levels, while products such as gum or lozenges can be used in response to urges to smoke.

It is unclear if the combination of NRT and bupropion is more effective than either treatment alone; trials have had mixed results.²⁰⁻²² The safety and efficacy of varenicline in combination with bupropion or NRT has not been established.

It usually takes multiple attempts to quit smoking successfully — about 4 attempts on average.² Even people who have used NRT unsuccessfully in the past may find it useful on a repeat attempt.¹⁹

Table 2. Selected advantages and disadvantages of first-line smoking cessation drugs^{17,19}

Nicotine replacement therapy	Bupropion	Varenicline
Advantages		
Over the counter availability [†] Suitable for people with psychiatric illness Can be used in pregnancy and by < 18 year olds	Evidence of benefit in chronic disease and depression	More effective than bupropion at 12 months and NRT at 3 months
Disadvantages		
Skin irritation* common with patch Abnormal dreams* common with overnight use	Not for people with a history of seizures Rash [†] , insomnia* are common Several significant drug interactions	Nausea*, abnormal dreams* are common Lack of safety data from people with smoking-related diseases

* Incidence > 10% in trials.

† Incidence > 1% in trials.

‡ PBS subsidy available for indigenous Australians.

A list of resources and support services for health professionals and patients is available online at www.nps.org.au/news_68

Update on managing chronic obstructive pulmonary disease

Several Australian and international guidelines for chronic obstructive pulmonary disease (COPD) have had minor updates in the last few years. While new data have led to some changes, encouraging people with COPD to quit smoking remains the most important recommendation — no treatment has been found to slow the progression of airflow limitation as much as quitting smoking does.²³

Spirometry is still essential

Spirometric assessment is necessary to confirm the diagnosis of COPD and to select optimal therapy. Irreversible airflow limitation is defined as a post-bronchodilator FEV₁ (forced expiratory volume in 1 second) < 80% predicted, and an FEV₁ to FVC (forced vital capacity) ratio < 0.70.^{23,24} About 1 in 2 people with irreversible airflow limitation also has significant reversible airflow limitation, as seen with asthma.²⁵ If bronchodilator reversibility testing indicates that asthma and COPD symptoms co-exist, manage as for asthma.^{23,24} Repeated spirometry is recommended annually as part of regular review of people with COPD.²⁶

Pharmacotherapy evidence update

Long-term trials of fluticasone with or without salmeterol versus placebo (TORCH), and tiotropium versus placebo (UPLIFT) confirm that all 3 drugs can reduce exacerbation rates in COPD.^{27,28} Add-on inhaled corticosteroid (ICS)

therapy modestly reduces exacerbation rates for people with severe COPD, but with increased rates of adverse effects including pneumonia, and with no effect on all-cause mortality.²⁹

Neither UPLIFT nor TORCH found a disease-modifying effect.^{27,28} The UPLIFT trial failed to demonstrate a slowing of lung function decline with tiotropium.²⁸ A post hoc analysis of the data from the TORCH trial did find that regular treatment with long-acting beta₂ agonists (LABAs), ICSs and their combination can decrease the rate of decline of lung function, but the effect was small and of doubtful clinical significance.³⁰

Inhaled anticholinergics and cardiovascular safety

A 2008 meta-analysis found a small increase in cardiovascular death, MI or stroke with the inhaled anticholinergics ipratropium or tiotropium in COPD, compared with placebo or alternative treatments.³¹

Since 2008 the US FDA has reviewed all the safety data for tiotropium, adding results from the UPLIFT trial, and concluded that they do not support an increased risk of serious cardiovascular adverse events.³² The 4-year UPLIFT data showed a decrease in mortality compared with placebo, and no increase in stroke or MI.²⁸

There are no new safety data for ipratropium, but regulators in Australia and internationally have not issued warnings about its cardiovascular safety.

Pharmacotherapy guidelines for stable COPD^{23,24,26}

An *as needed* short-acting bronchodilator remains the recommendation for initial pharmacotherapy, but people who remain breathless or have exacerbations should progress directly to a regular long-acting bronchodilator — these are more effective than regular dosing of a short-acting bronchodilator.^{23,26}

Step 1: Short-acting bronchodilator, inhaled as needed

salbutamol (e.g. Ventolin) OR
terbutaline (Bricanyl) OR
ipratropium (e.g. Atrovent)

Step 2: Add long-acting bronchodilator

tiotropium (Spiriva) OR
salmeterol (Serevent)* OR
efomedoterol (Foradile, Oxis)* OR

If FEV₁ ≤ 50% and ≥ 2 exacerbations in past 12 months, start a fixed-dose combination inhaler

fluticasone with salmeterol (Seretide)[†] OR
budesonide with efomedoterol (Symbicort)[‡]

Stop ipratropium if starting tiotropium

Step 3: Combination therapy

If fixed-dose combination inhaler is not started at Step 2, and FEV₁ ≤ 50% and ≥ 2 exacerbations in past 12 months, add an inhaled corticosteroid

fluticasone with salmeterol (Seretide)[†] OR
budesonide with efomedoterol (Symbicort)[‡] OR
beclomethasone (Qvar) OR
budesonide (Pulmicort) OR
fluticasone (Flixotide)

*If fixed-dose combination inhaler started at Step 2, add tiotropium***

Further options for intensifying therapy

- Combine a long-acting beta₂ agonist, inhaled corticosteroid and tiotropium**
- Consider adding oral slow-release theophylline

- Review 4–8 weeks after changing or adding a medication: ask about symptoms, difficulties with daily activities and exercise capacity.
- Check inhaler technique regularly and ask about adherence.
- Effect of inhaled corticosteroids on exacerbations may take 3–6 months to become evident.
- Progress to next step if adherence is good but symptoms do not improve.

* Single-ingredient inhalers containing either salmeterol or efomedoterol are not PBS listed for COPD.

† Fluticasone with salmeterol (Seretide 250/25 MD and Seretide 500/50 DPI strengths only) is PBS listed for COPD in people with FEV₁ < 50% predicted who have a history of repeated exacerbations despite regular beta₂ agonist treatment.

‡ Budesonide with efomedoterol (Symbicort) is not PBS listed for COPD.

** Combine a long-acting beta₂ agonist and tiotropium if an inhaled corticosteroid is not tolerated.

Encourage self-management and consider pulmonary rehabilitation

Pulmonary rehabilitation reduces dyspnoea and fatigue, improves exercise capacity, and has a positive effect on mood and quality of life.²³ Self-management education may also improve outcomes.³³ People whose day-to-day life is affected by COPD symptoms, who are motivated to participate and who do not have severe co-morbidities (such as unstable angina) should be informed of available rehabilitation programs.²⁶ Most pulmonary rehabilitation programs include elements of exercise training, education, behaviour modification, outcome assessment and assistance with smoking cessation. There is evidence that the benefits dissipate over time, but additional targeted exercise, at home or in a repeat program, may maintain improvements.^{34–36}

For more information about pulmonary rehabilitation including listings of programs by location,

refer to the Australian Lung Foundation website (go to www.lungfoundation.com.au and choose 'Pulmonary Rehabilitation' from the main menu) or call 1800 654 301. The Lung Foundation also provides patient information online and as printed brochures, and assists local patient support groups.

Erratum – Prescribing Practice Review 49: Management options for improving sleep

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NPS wish to clarify the information provided on page 3 that 'there is no evidence that zolpidem and zopiclone differ in their efficacy or safety'. This statement was intended to be 'there is no evidence that benzodiazepines, zolpidem or zopiclone differ in their efficacy or safety'.

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Other reviewers are listed at www.nps.org.au/news_68

Any correspondence regarding content should be directed to NPS. Declarations of conflicts of interest have been sought from all reviewers. The opinions expressed do not necessarily represent those of the reviewers.

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