

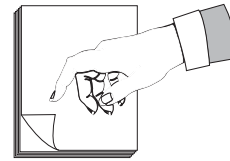
COPD diagnosis and treatment

Aims of the clinical audit

- To review the use of spirometry in the diagnosis of chronic obstructive pulmonary disease (COPD)
- To review use of 'quit smoking' strategies
- To optimise drug therapy for stable COPD
- To review management of acute exacerbations

Please tear off each section carefully.

Registration form and completed audit forms should be received at NPS by **Friday, 14 July 2006.**



How to participate

1. Select patients

Identify **10 patients** who have been diagnosed with COPD by:

- prospectively choosing patients as they present for consultation, or
- a retrospective search of electronic/paper medical records.

2. Inform patients

Patients must be informed that de-identified information from their medical records may be used for clinical audits. Obtain patient's verbal consent (the *Patient information and consent* leaflet may be given to the patient). Display the attached poster *Quality assurance in this practice and your privacy* in your practice.

3. Record patient data (first data collection)

Use the *Patient record form* to record the patients included. **Keep this record** to allow you to identify patients for the review phase (see 6. Completing the audit cycle). DO NOT send the *Patient record form* to NPS.

Complete a clinical audit form for each patient. See notes on pages 2–5.

Please note:

- patient information must only be collected and recorded by the participating doctor
- both full-time and part-time GPs are required to submit 10 completed clinical audit forms.

4. Submit the clinical audit forms

Return the 10 clinical audit forms and *Registration form* to:

**NPS Clinical Audit: COPD
Locked Bag 4888
STRAWBERRY HILLS NSW 2012**

**To be received at NPS not later than
14 July 2006**

Note: Late submissions cannot be accepted.

5. When you receive your results

You will receive:

- your original clinical audit forms
- feedback on your individual results
- the aggregate results of all participants' management practices
- commentary on the aggregate results
- a *Review phase pack* to complete and return (see below).

6. Completing the audit cycle (including second data collection)

You must:

- review your individual and the aggregate results in the *Feedback report*
- identify which of your original 10 patients require follow-up (you will need the *Patient record form*)
- record additional patient data
- reflect on changes in management
- submit the *Review phase pack*.

Professional development and PIP

NPS has applied for clinical audit points in the 2005–2007 triennium of the Royal Australian College of General Practitioners (RACGP) Quality Assurance & Continuing Professional Development (QA&CPD) Program (category 1 activity) and the Australian College of Rural and Remote Medicine (ACRRM) Professional Development Program (practice improvement category – includes mandatory points).

The *Review phase pack* **must** be completed and returned to NPS for RACGP and/or ACRRM clinical audit points to be allocated and for the clinical audit to qualify for the Quality Prescribing Initiative (QPI) of the Practice Incentives Program (PIP). You will then be sent a certificate of completion.

(Continued back page)

Notes for clinical audit form

Use this information to complete the forms.

Patient details

Q1. Select only patients who have been diagnosed with COPD. COPD is characterised by airflow limitation that is not fully reversible. However, significant reversibility after acute bronchodilator use, which is characteristic of asthma, also occurs in COPD.¹ Patients who have COPD with an asthma component may be included in the audit.

Choose your own unique identifying code for the patient, e.g. a sequential number or the patient's initials (please do not use the patient's name).

Spirometry

Q4–Q6. COPD is characterised by airway inflammation and airflow limitation that is not fully reversible, leading to an abnormal post-bronchodilator FEV₁/FVC.² COPD is defined by an FEV₁ < 80% of the predicted value and post-bronchodilator FEV₁/FVC < 0.70.²

Consider spirometry for all smokers and ex-smokers over 35 years old or any patient with a risk factor and one or more symptoms.^{2–4} Risk factors include tobacco smoking, exposure to occupational dusts and chemicals, indoor/outdoor air pollution and hereditary deficiency of alpha-1 antitrypsin.⁴ Symptoms may include:

- breathlessness
- chronic cough
- regular sputum production
- wheezing
- recurrent infective bronchitis.^{2–4}

In the initial stages, symptoms may be absent even with a lowered FEV₁. Use spirometry to reach an early diagnosis.^{2–4}

Peak expiratory flow (PEF) readings are not a sensitive measure of airway function in COPD patients, and may be normal despite significant airflow obstruction.^{2,3} Other investigations to aid diagnosis or management include:

- chest X-ray
- arterial blood gas measurement
- full blood count to identify anaemia or polycythaemia
- alpha-1 antitrypsin deficiency screening.^{3,4}

Differential diagnosis

The major differential diagnosis is between COPD and asthma. Congestive heart failure, bronchiectasis, tuberculosis or bronchiolitis may also be involved.⁴ The pattern of clinical features can usually be used to differentiate COPD and asthma, which is important for optimal management.^{2–5} Where the diagnosis remains uncertain, refer the patient to a respiratory physician for review.²

COPD severity²

(FEV₁/FVC < 0.70 for all COPD severities)

COPD Severity	Post-bronchodilator FEV ₁
Mild	60–80% predicted
Moderate	40–59% predicted
Severe	< 40% predicted

Smoking cessation Q7–Q9

- Smoking cessation reduces the rate of decline in lung function characteristic of COPD.²
- Even short (3–5 minute) counselling sessions by health professionals can be effective.⁶
- Combining counselling with pharmacotherapy improves success rates.⁷
- Offer all smokers as a minimum, brief advice to quit, written information (e.g. Quit Pack) and the option of referral to a support service (Quitline 131 848).⁷
- Target smokers who are ready to quit, or are in the process of quitting, for the most active help.⁷

Use the **5As** (Ask, Assess, Advise, Assist and Arrange follow up) to help patients quit.

ASK: Use a practice system to identify all smokers and document tobacco use. Record number of cigarettes smoked per day, the number of years smoked, previous quit attempts and what happened.⁷ Clinicians with such a system in place are more likely to intervene, leading to higher rates of smoking cessation.^{6,7}

ASSESS: Assessing readiness to quit is important for planning treatment.⁷ Also explore barriers to quitting, triggers for smoking, social support, smoker's experiences in previous quit attempts and previous use of pharmacotherapy.⁷

ADVISE: Offer brief cessation advice in routine consultations whenever possible and at least annually.⁷

ASSIST: Give targeted assistance based on the patient's needs and preferences and on the practice's capacity and availability of other services. Strategies that improve rates of smoking cessation include:

- brief advice to quit (3–5 minutes)
- intensive counselling (> 10 minutes) by GP or nurse
- telephone counselling services (e.g. Quitline); proactive or reactive
- individual counselling by a smoking cessation specialist
- group behavioural therapy
- follow up visits to the GP or nurse
- telephone support by nurses
- pharmacotherapy.⁶

ARRANGE FOLLOW UP: Offer follow up (visit or phone call), one week and one month after the quit day for all smokers attempting to quit. Review progress and problems, assess pharmacotherapy, explore reasons for any relapse or delay in quitting and discuss relapse prevention.⁷

Pharmacotherapy for smoking cessation

Offer pharmacotherapy in addition to counselling and support to motivated patients who smoke more than 10 cigarettes per day.^{6–8} Adding nicotine replacement therapy (NRT) or bupropion to counselling results in quit rates that are approximately double those achieved with placebo.^{6–8} There is currently insufficient comparative data to establish NRT or bupropion as being more effective than the other.^{2,6,8}

Nicotine replacement therapy (NRT) **(Nicorette, Nicotinell, QuitX, NicabateCQ)**

The choice of NRT product (gum, inhaler, lozenge, patch or sublingual tablet) depends on patient needs, tolerance, previous experience and cost considerations.² None of the different NRT products have been shown to be more effective than others.⁶ Adverse effects of NRT are usually minor and transient (e.g. local irritation).^{7,8} NRT can be used with caution in patients with stable cardiovascular disease.⁷ Caution is recommended in light smokers (< 10 cigarettes a day) who may become dependent on NRT, pregnant women and adolescents.² Contraindications include a recent cerebrovascular event, recent myocardial infarction (within 3 months) or severe arrhythmias.⁸

Bupropion (Zyban SR)

Bupropion should only be prescribed when combined with a comprehensive support and counselling program. Increased smoking cessation rates have only been shown under these conditions.^{7,8} Bupropion commonly causes insomnia and dry mouth and has other rare but serious adverse effects (e.g. seizures, anaphylaxis).⁸ Bupropion is contraindicated in patients with a history of seizures, significant head injury, CNS tumour, history of bulimia or anorexia nervosa, abrupt withdrawal from alcohol or benzodiazepines, and in patients taking monoamine oxidase inhibitors or drugs which lower the seizure threshold.^{2,8}

Nortriptyline (Allegron)

Nortriptyline is a tricyclic antidepressant that is effective in promoting smoking cessation in people with and without a history of depression.⁶ Due to its adverse effects profile, it should only be considered when other pharmacotherapies are contraindicated or not tolerated.^{6,7}

Management of stable COPD

Medication used for COPD is aimed at reducing symptoms and/or complications. Currently used medications have not been shown to slow the decline in lung function typically seen in COPD.²⁻⁴

Q10. Inhaler technique

Errors in inhaler technique are common and occur with all devices. Explain, demonstrate and check technique with the patient for each new inhalation device. Check patients' inhaler technique frequently and correct any poor technique or switch to a more manageable device. Inhaler technique can deteriorate within 2 months of correct demonstration.⁹

Q11. Pulmonary rehabilitation

Pulmonary rehabilitation can reduce dyspnoea, anxiety and depression, and improve exercise capacity and quality of life.⁹ Programs may be hospital- or community-based and may include exercise training, patient education and/or psychosocial support components.² The aims are to help improve medication compliance, exercise capacity, coping skills, use of devices and smoking cessation.² Pulmonary rehabilitation should be offered to all patients with moderate to severe COPD.²

Q12. Management plans

A COPD action plan may include the patient's medications for maintenance therapy and for exacerbations, and instructions on how to identify and respond to exacerbations. Selected patients may benefit from early intervention for an exacerbation with bronchodilators, antibiotics, systemic corticosteroids and/or supplemental oxygen while awaiting medical review.² See www.lungnet.com.au/copd.html for a COPD action plan template.

Q13. Influenza vaccination

(Fluad, Fluarix, Fluvax, Influvac, Vaxigrip)

Vaccinate all patients with COPD annually for influenza as this reduces by about 50% the development of severe respiratory complications and hospitalisation or death from both respiratory disease and all causes.²

Q14. Pneumococcal vaccination (Pneumovax 23)

Pneumococcal vaccination (with 23-valent pneumococcal polysaccharide vaccine) is recommended for all patients with COPD as they are at increased risk of invasive pneumococcal disease. Revaccination is then recommended for:

- Aboriginal and Torres Strait Islander people 50 years and over and for non-Indigenous adults 65 years and over, 5 years after the first dose
- Aboriginal and Torres Strait Islander people 15 to 49 years old 5 years after the first dose, then again at 50 years or 10 years after the first dose, whichever is later
- non-Indigenous adults under 65 years, once at 65 years of age or 10 years after the first dose, whichever is later.¹⁰

Pharmacotherapy for stable COPD and acute exacerbations

In Questions 16 to 21, record information about all drugs used in the management of the most recent period of stable COPD for each class of drugs in the left column. Then record the drugs and strategies used for the patient's most recent exacerbation that you were involved in treating, in the right column.

Q16. Inhaled short-acting bronchodilators

Short-acting bronchodilators provide symptom relief and variably improve exercise tolerance.²

- In mild COPD, use of one short-acting bronchodilator as needed or regularly may be sufficient.²
- Patients who remain symptomatic or those with more severe disease, may benefit from combined use of a short-acting beta₂ agonist and a short-acting anticholinergic.³ This may be more effective and better tolerated than higher doses of either agent alone.^{2,4}
- Patients with poor inhaler technique can use a spacer with a metered dose inhaler (MDI) to improve lung deposition.⁹
- Avoid using a nebuliser for stable COPD unless it has been shown to be better than conventional dose therapy.⁴

Drug class	Drug name	Brand names
Inhaled short-acting beta ₂ agonist bronchodilators	salbutamol	Airomir, Asmol, Butamol, Epaq, Ventolin
	terbutaline	Bricanyl
Inhaled short-acting anticholinergic bronchodilator	ipratropium	Aeron, Apoven, Atrovent, Ipratrin, Ipravent
Combination short-acting bronchodilator	salbutamol + ipratropium	Combivent
Inhaled long-acting beta ₂ agonist bronchodilators	salmeterol	Serevent
	eformoterol	Oxis, Foradile
Inhaled long-acting anticholinergic bronchodilator	tiotropium	Spiriva
Combination long-acting bronchodilator + corticosteroid	salmeterol + fluticasone	Seretide
	eformoterol + budesonide	Symbicort
Theophylline derivatives	choline theophyllinate	Brondecon Elixir, Brondecon Expectoant
	theophylline	Nuelin/SR
Inhaled corticosteroids	beclomethasone	Qvar
	budesonide	Pulmicort
	fluticasone	Flixotide
	ciclesonide	Alvesco
Oral corticosteroids	prednisolone	Panafcortelone, Predsolone, Solone
	prednisone	Panafcort, Predsone, Sone
	dexamethasone	Dexmethasone

Antibiotics	
Drug name	Brand names
amoxicillin	Amoxil/Duo, Maxamox, Alphamox, Amohexal, Bgramin, Cilamox, Moxacin
amoxicillin+ clavulanic acid	Augmentin Duo/Forte, Clamohexal Duo, Clamoxyl Duo/Forte, Curan
doxycycline	Doxy, Doxylin, Doryx, Doxyhexal, Frakas, Vibra-tabs, Vibramycin, Doxsig
erythromycin	Eryc/LD, E-Mycin, EES 400 Filmtabs
roxithromycin	Rulide/D, Biaxig
clarithromycin	Clarac, Kalixocin, Klacid
azithromycin	Zithromax
ciprofloxacin	C-Flox, Profloxin, Ciprol, Proquin, Ciproxin
moxifloxacin	Avelox
cefaclor	Ceclor/CD, Karlor/CD, Keflor/CD, Cefaclor/CD, Aclor
cephalexin	Cilex, Ialex, Ibilex, Keflex, Sporahexal
cefuroxime	Zinnat

Q17. Inhaled long-acting bronchodilators

For patients who are still symptomatic despite treatment with short-acting bronchodilators or those with at least 2 exacerbations per year, adding a long-acting beta₂ agonist (salmeterol, eformoterol) or the long-acting anticholinergic, tiotropium, has been shown to provide sustained relief of symptoms, reduce exacerbation rates and improve health status.^{2,3,9} Tiotropium is the only long-acting bronchodilator subsidised under the Pharmaceutical Benefits Scheme (PBS) for COPD. Tiotropium is subsidised on the PBS for the long-term maintenance treatment of bronchospasm and dyspnoea associated with COPD.¹¹

Q18. Inhaled corticosteroids

Introduce regular treatment with inhaled corticosteroids with or without a long-acting beta₂ agonist for symptomatic patients:

- with an FEV₁ ≤ 50% predicted
- who are having 2 or more exacerbations per year requiring treatment with antibiotics or oral corticosteroids
- who have a documented response (on spirometry or functional assessment) to inhaled corticosteroids.^{3,9}

Patients with clinically significant acute bronchodilator reversibility may benefit from long-term inhaled corticosteroid therapy.²

High-dose inhaled corticosteroids (e.g. fluticasone 1000 micrograms daily) may reduce the exacerbation rate and improve quality of life.² Recommended trial periods are not consistent across guidelines and vary from 6 weeks up to 6 months (or longer to assess the effect on exacerbation rate).^{2,8,9} If the patient does not suffer from frequent exacerbations, stop after 6–12 weeks if FEV₁ and symptoms don't improve.^{8,9}

Q19. Oral corticosteroids

Long-term use of systemic corticosteroids is not recommended.^{2-4,9} However, in some patients with very severe COPD, oral corticosteroids cannot be withdrawn after an exacerbation without deterioration in the patient's condition. In these patients, oral corticosteroids should be continued at the lowest possible dose.^{3,9}

Patient response to a short course of oral corticosteroids is a poor predictor of the long-term response to inhaled corticosteroids.^{3,4} This method should not be used to identify patients for long-term treatment with oral or inhaled corticosteroids.⁴

Q20. Antibiotics

Current evidence does not support routine prophylactic use of antibiotics to prevent exacerbations in patients with COPD.^{2,4} See 'Managing COPD exacerbations' (page 5) for further information about the use antibiotics in COPD.

Q21. Other drug therapy: theophylline

Only slow-release preparations of theophylline have been shown to be effective in COPD.² There is no evidence that choline theophyllinate is better tolerated than slow-release theophylline preparations.⁸ Due to the potential for toxicity and interactions and the need for monitoring plasma levels, inhaled bronchodilators are preferred over theophylline derivatives.⁴ Consider adding theophylline if a patient has persistent airflow obstruction despite optimal use of short- and long-acting inhaled bronchodilators or if they are unable to use inhaled devices.^{3,8} Macrolide (especially erythromycin) and fluoroquinolone (e.g. ciprofloxacin) antibiotics interact with theophylline — monitor theophylline concentration with these combinations.^{3,8}

Other drug therapy: mucolytic agents (bromhexine – *Bisolvon Chesty*, *Duro-Tuss Mucolytic*; acetylcysteine – *Mucomyst*)

For patients with COPD or chronic bronchitis who have a higher than average rate of exacerbations, mucolytic agents such as bromhexine and acetylcysteine may slightly reduce the frequency and duration of exacerbations.^{2,8} However, the overall benefits seem to be small and mucolytics are not routinely recommended in COPD.⁸

Managing COPD exacerbations

Worsening breathlessness, cough, increased sputum production, change in sputum colour and change in ability to carry out daily activities are commonly reported symptoms of an exacerbation.³

Patients presenting with an exacerbation need to be assessed for:

- increased severity of symptoms
- onset of new or worsening cyanosis or peripheral oedema
- inability to perform daily activities
- altered mental state
- exacerbation of co-morbidities.⁴

These factors need to be considered when deciding between home care and referral to hospital.

Early diagnosis and treatment of acute exacerbations may reduce hospital admissions.² Treatment is aimed at reducing airflow limitation, sputum production and/or purulence and other symptoms, airway inflammation, and if present, other signs such as hypoxia and acidosis.²

Bronchodilators: Inhaled salbutamol or terbutaline combined with ipratropium can be given at higher doses and/or frequencies than used in the management of the patient's stable COPD or can be given via a spacer or nebuliser. Use nebulised therapy if symptoms are not controlled with a spacer.^{2,4}

Systemic corticosteroids: Oral corticosteroids reduce the severity of, and shorten recovery from, acute exacerbations.^{2,4,8} Use oral prednisolone 30–50 mg daily for 7–14 days then stop. Longer treatment does not lead to increased efficacy but does increase the risk of adverse effects.^{2,4} Consider oral corticosteroids for acute exacerbations in patients where significantly increased breathlessness or other symptoms interfere with daily activities.³

For patients who cannot withdraw from oral corticosteroids, use the lowest dose possible and consider preventive pharmacotherapy for steroid-induced osteoporosis.⁹ Systemic corticosteroids increase the risk of osteoporosis, as do periods of immobilisation or hospitalisation, low FEV₁, low body mass index and smoking.² Advise patients taking oral corticosteroids to undertake regular, weight-bearing exercise.² Monitor for other potential adverse effects such as hyperglycaemia.

Antibiotics: Use antibiotics to treat acute exacerbations if the patient has increased sputum purulence with either increased sputum volume and/or increased dyspnoea.^{2,4,9}

Use amoxicillin or doxycycline as first-line therapy. Amoxicillin + clavulanic acid can be used if patients do not respond or if resistant organisms are suspected.² Other antibiotics such as macrolides (e.g. erythromycin, roxithromycin) and cephalosporins have not been shown to be superior.⁹ Macrolides should only be used if *Haemophilus influenzae* has been excluded.⁹ Fluoroquinolones (e.g. ciprofloxacin) should only be used with laboratory evidence of resistance to other antibiotics.⁹ If pneumonia is suspected, investigate and treat as for community-acquired pneumonia.⁹

Confidentiality and privacy

You must sign and date the *Registration form to participate in this audit*.

By participating you agree to aggregation of your de-identified patient data and use of your personal data. Individual results of your clinical audit are kept confidential by NPS.

What will happen to your patient data

- Your de-identified patient data forms are returned to you.
- Your individual results are provided to you only.
- Your data are aggregated with that of other participants and the de-identified aggregate results:
 - are provided to all participants
 - may be used in NPS evaluation and reports
 - are provided to the RACGP and ACRRM.

The RACGP has advised that program information may be shared with researchers and interested general practitioners for the purpose of continuing education coordination at the discretion of the QA&CPD Program.

What will happen to your personal details

Your personal details:

- are provided to the RACGP QA&CPD Program and/or ACRRM Professional Development Program for point allocation (if applicable)
- are recorded for the purpose of the PIP and NPS evaluation
- can be obtained from NPS by request in writing.

Individual clinical audit results will not be available after potentially identifying data are removed from NPS records at the close of the clinical audit cycle.

Please note: You are responsible for advising NPS of any changes of address during the audit cycle.

Further information

Therapeutic enquiries

Holly Parsons at NPS: phone (02) 8217 8700

Audit and QPI enquiries

Chun Yu at NPS: phone (02) 8217 8700

References

1. Reid DW, Soltani A, Johns DP, et al. Bronchodilator reversibility in Australian adults with chronic obstructive pulmonary disease. *Intern Med J* 2003;33:572–7.
2. McKenzie DK, Frith PA, Burdon JGW, et al. The COPD-X Plan: Australian and New Zealand Guidelines for the management of chronic obstructive pulmonary disease. Australian Lung Foundation and Thoracic Society of Australia and New Zealand, 2006. <http://www.copdx.org.au/guidelines/index.asp> (accessed 6 April 2006).
3. The National Collaborating Centre for Chronic Conditions. Chronic obstructive pulmonary disease: National clinical guideline on management of chronic obstructive pulmonary disease in adults in primary and secondary care. *Thorax* 2004;59 (Suppl 1):1–232.
4. Global Initiative for Chronic Obstructive Lung Disease (GOLD) Committee. Global strategy for the diagnosis, management and prevention of chronic obstructive pulmonary disease. Updated 2005. Executive summary. GOLD, 2005. <http://www.goldcopd.org/Guidelineitem.asp?l1=2&l2=1&intId=996> (accessed 20 December 2005).
5. Jenkins CR, Thompson PJ, Gibson PG, et al. Distinguishing asthma and chronic obstructive pulmonary disease: why, why not and how? *Med J Aust* 2005;183:S35–S7.
6. Miller M, Wood L. Smoking cessation interventions: review of evidence and implications for best practice in health care settings. Canberra: Australian Government Department of Health and Ageing, 2002. [http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-publicat-document-smoking_ces-cnt.htm/\\$FILE/smoking_ces.pdf](http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-publicat-document-smoking_ces-cnt.htm/$FILE/smoking_ces.pdf) (accessed 1 February 2006).
7. Guideline Development Group. Smoking cessation guidelines for Australian general practice: Practice handbook. Australian Government Department of Health and Ageing, 2004. http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-publicat-document-smoking_cessation-cnt.htm (accessed 22 December 2005).
8. Australian Medicines Handbook 2006.
9. Therapeutic Guidelines: Respiratory Version 3, 2005.
10. National Health and Medical Research Council. The Australian Immunisation Handbook. 8th ed. Canberra: Commonwealth of Australia, 2003.
11. Schedule of Pharmaceutical Benefits, 1 April 2006.

The information contained in this material is derived from a critical analysis of a wide range of authoritative evidence. Any treatment decisions based on this information should be made in the context of the clinical circumstances of each patient.



National Prescribing Service Limited

NPSA0310

National Prescribing Service Limited ACN 082 034 393
An independent, non-profit organisation for Quality Use of Medicines,
funded by the Australian Government Department of Health and Ageing.

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Clinical audit: COPD diagnosis and treatment

Please see the *Guide to clinical audit* booklet to help you complete this double-sided form.

Use a **black biro** to mark a **cross (X)** in the box beside your response.

If you make a mistake, use white correction fluid.



NPS office use only

Patient details

1. Your patient code:
2. Gender: female male
3. Age (years): 16–35 36–49 50–64 ≥ 65

Spirometry

4. Were post-bronchodilator spirometry results used for diagnosis?

- yes ▼ no ► go to Q5 not known ► go to Q5

FEV₁ = . litres FVC = . litres

FEV₁/FVC: < 0.70 ≥ 0.70 FEV₁ = % predicted

5. If spirometry was NOT used at diagnosis, mark reason(s):

- | | |
|--|---|
| <input type="checkbox"/> lack of expertise in performing/interpreting | <input type="checkbox"/> patient unable to carry out |
| <input type="checkbox"/> no access to spirometry | <input type="checkbox"/> patient declined |
| <input type="checkbox"/> not previously considered | <input type="checkbox"/> time required of GP/nurse |
| <input type="checkbox"/> other investigations, signs or symptoms considered sufficient | <input type="checkbox"/> not known |
| | <input type="checkbox"/> not necessary (reason) _____ |

6. Severity based on latest FEV₁ (% predicted):

- | | |
|--|---|
| <input type="checkbox"/> mild (60–80% predicted) | <input type="checkbox"/> severe (< 40% predicted) |
| <input type="checkbox"/> moderate (40–59% predicted) | <input type="checkbox"/> not known |

Smoking cessation

7. Smoking status recorded: yes ▼ no not known

Mark all that apply:

- | | |
|---|--|
| <input type="checkbox"/> at last consultation | <input type="checkbox"/> 6–12 months ago |
| <input type="checkbox"/> < 6 months ago | <input type="checkbox"/> > 12 months ago |

8. Smoking status:

- never smoked OR not known ► Q10
- previous smoker: time since ceased: < 6 mths ≥ 6 mths ► Q9
- smoker: cigarettes/day: <10 >30 10–30 not known

Q8 cont'd
next column

Brief advice to quit last given (mark all that apply):

- | | |
|---|--|
| <input type="checkbox"/> at last consultation | <input type="checkbox"/> > 12 months ago |
| <input type="checkbox"/> < 6 months ago | <input type="checkbox"/> not known |
| <input type="checkbox"/> 6–12 months ago | <input type="checkbox"/> none given |

9. 'Quit smoking' strategies used in current or most recent quit attempt (mark all that apply):

- | | |
|---|--|
| <input type="checkbox"/> no quit attempts made | <input type="checkbox"/> assistance from other service(s) (e.g. mental health case worker, pulmonary rehabilitation) |
| <input type="checkbox"/> unaided quit attempt | <input type="checkbox"/> nicotine replacement therapy (NRT) |
| <input type="checkbox"/> brief advice to quit (3–5 mins) | <input type="checkbox"/> bupropion <i>Zyban SR</i> |
| <input type="checkbox"/> follow-up visit(s) to GP/other | <input type="checkbox"/> nortriptyline <i>Allegron</i> |
| <input type="checkbox"/> group behavioural therapy | <input type="checkbox"/> clonidine <i>Catapres</i> |
| <input type="checkbox"/> intensive counselling (>10 mins) | <input type="checkbox"/> not known |
| <input type="checkbox"/> telephone counselling services | <input type="checkbox"/> other (specify) _____ |
| <input type="checkbox"/> written information | |

Management of COPD

10. Inhaler (e.g. MDI, Turbuhaler, etc) technique last checked:

- | | |
|---|---|
| <input type="checkbox"/> < 2 months ago | <input type="checkbox"/> not checked |
| <input type="checkbox"/> 2–6 months ago | <input type="checkbox"/> not known |
| <input type="checkbox"/> > 6 months ago | <input type="checkbox"/> no inhalers used |

11. Patient (with moderate–severe COPD) attended/attending pulmonary rehabilitation?

- yes no not known not applicable

12. Which of the following have been completed?

- | | |
|---|--|
| <input type="checkbox"/> written COPD Action Plan | <input type="checkbox"/> Home Medicines Review |
| <input type="checkbox"/> Health Assessment/Plan | <input type="checkbox"/> none |

13. Annual influenza vaccination?

- yes no not known

14. Previous pneumococcal vaccination(s)?

- yes no not known

15. Has there been an adequate response to current treatment for stable COPD?

- yes no not known or not currently stable

to Q16

Drugs used for STABLE COPD

16. Short-acting bronchodilator yes ▼ no ►
- beta₂ agonist (salbutamol *Ventolin*, terbutaline *Bricanyl*)
► inhaler nebuliser
- anticholinergic (ipratropium *Atrovent*)
► inhaler nebuliser
- none ► If none, reason(s) for not using: asymptomatic patient refused
 adverse effect(s) or contraindications not known other (specify) _____

Drugs used for most recent ACUTE EXACERBATION

- Short-acting bronchodilator yes ▼ no ► go to Q17
- beta₂ agonist (salbutamol, terbutaline)
► inhaler nebuliser
- anticholinergic (ipratropium)
► inhaler nebuliser
- Strategies used for acute exacerbation:
 no change from stable management device changed or spacer added
 dosage or frequency increased short-acting bronchodilator changed
 short-acting bronchodilator added other (specify) _____

Please turn over to complete form

Drugs used for STABLE COPD (cont'd)

Drugs used for most recent ACUTE EXACERBATION (cont'd)

17. **Long-acting bronchodilator** yes ▼ no ►

beta₂ agonist (salmeterol *Serevent*; eformoterol *Oxis*, *Foradile*)

anticholinergic (tiotropium *Spiriva*)

Reason(s) for use in stable COPD:

at least 2 exacerbations per year trial period to assess response

symptomatic despite maximal short-acting bronchodilator therapy trial showed improvement

patient preference not known

other (specify) _____

Long-acting bronchodilator yes ▼ no ► go to Q18

beta₂ agonist (salmeterol, eformoterol)

anticholinergic (tiotropium)

Strategies used for acute exacerbation:

no change from stable management device changed or spacer added

dosage or frequency increased long-acting bronchodilator changed

long-acting bronchodilator added other (specify) _____

18. **Inhaled corticosteroids (ICS)** yes ▼ no ►

ICS: beclomethasone *Qvar*, ciclesonide *Alvesco*, budesonide *Pulmicort*, fluticasone *Flixotide* ► inhaler nebuliser

combination ICS + beta₂ agonist: fluticasone + salmeterol *Seretide*, budesonide + eformoterol *Symbicort*

Reason(s) for use in stable COPD:

FEV₁ ≤ 50% predicted trial period to assess response

≥ 2 exacerbations per year requiring antibiotics or oral corticosteroids co-existing asthma

documented response to ICS response to short course of oral corticosteroids

other (specify) _____

Duration of use: ≤ 12 weeks > 12 weeks i.e. long term

Inhaled corticosteroids (ICS) yes ▼ no ► go to Q19

ICS: beclomethasone, ciclesonide, budesonide, fluticasone ► inhaler nebuliser

combination ICS + beta₂ agonist: fluticasone + salmeterol, budesonide + eformoterol

Strategies used for acute exacerbation:

no change from stable management dosage or frequency increased

inhaled corticosteroid ceased inhaled corticosteroid changed

inhaled corticosteroid added other (specify) _____

Duration of use: ≤ 12 weeks > 12 weeks i.e. long term

19. **Oral corticosteroids** yes ▼ no ►

prednisolone, prednisone dexamethasone

Reason(s) for use in stable COPD:

withdrawal led to deterioration frequent exacerbations

previous documented response to inhaled or oral corticosteroids trial period to assess response

other (specify) _____

Duration of use: ≤ 2 weeks > 2 weeks

Monitored for osteoporosis & other adverse effects?

yes no not known

Oral corticosteroids yes ▼ no ► go to Q20

prednisolone, prednisone dexamethasone

Strategies used for acute exacerbation:

no change from stable management other (specify) _____

oral corticosteroid added _____

Duration of use: ≤ 2 weeks > 2 weeks

20. **Antibiotic(s) for long-term stable COPD treatment** yes ▼ no ►

amoxicillin

amoxicillin + clavulanic acid

doxycycline

erythromycin, roxithromycin, clarithromycin, azithromycin

ciprofloxacin, moxifloxacin

cefaclor, cephalexin, cefuroxime

other (specify) _____

Antibiotic(s) used in most recent exacerbation yes ▼ no ► go to Q21

Mark all that apply	Duration of use	
	≤ 2 wks	> 2 wks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reason(s) for use:

recommended on sensitivity testing

increased sputum purulence

increased sputum volume

increased dyspnoea

not known

other (specify) _____

21. **Other therapy** yes ▼ no ►

theophylline *Nuelin*, *Nuelin SR* choline theophyllinate *Brondecon*

bromhexine *Bisolvon* acetylcysteine *Mucomyst*

other (specify) _____

Reason(s) for use in stable COPD:

chronic cough with sputum production frequent exacerbations

not known symptoms despite short- and long-acting bronchodilators

patient unable to use inhaled therapy other (specify) _____

Other therapy yes ▼ no

theophylline choline theophyllinate

bromhexine acetylcysteine

other (specify) _____

Strategies used for acute exacerbation:

no change in stable management mucolytic added

theophylline derivative added other (specify) _____

dosage or frequency increased _____



National Prescribing Service Limited

Patient information and consent

Your health records and National Prescribing Service (NPS) clinical audits

Your doctor would like to ask your permission to collect some anonymous information from your health record. This information may possibly be used in a quality assurance activity known as a *clinical audit*.

Quality assurance activities are a type of professional development which are undertaken regularly by general practitioners to help improve the care provided to patients. Clinical audits are one type of quality assurance activity and involve a number of doctors collecting anonymous patient information to help with the care they provide.

NPS clinical audits involve the doctor recording information on the treatment prescribed or recommended to patients with a particular illness. **None of the information that is recorded for a clinical audit will identify you.** Only your doctor can collect this anonymous information. Your doctor can only collect this information if you give them permission or 'consent'.

Your medical care will not be affected in any way by whether or not you agree to have your anonymous information included in NPS clinical audits.

The anonymous information your doctor collects is sent to NPS, which is a non-profit organisation working to promote the quality use of medicines which will lead to better health for Australians. NPS collates the information and provides a report to participating doctors on the treatment of patients.

This practice and NPS ensure that the collection, storage and use of all health information for this clinical audit complies with the National Privacy Principles. We are confident that the privacy of patients, doctors and practices is protected.

If you would like further information about how your health information is used in clinical audits please talk to your doctor. If you would like more information about NPS please visit the website at: www.nps.org.au

In the event that you have any complaint or further questions you can write to or telephone your doctor.