Appendix 2: Protocol for the evaluation of chronic cough in an adult

Part 2: Boxes 1–4

Box 1 Symptoms suggesting potential aggravants[1]

Asthma	nocturnal cough, wheezing, exercise, aerosols
Upper airway disorders	nasal discharge, previous sinusitis
GORD	cough worse with or after meals, stooping – cough on phonation, dysphonia, dyspepsia, abatement of cough during sleep
Environment	cough associated with work/specific environmental irritant
Recommendation: Trial of therapy directed at potential aggravants; aggravant avoidance	

Box 2 Assessing treatment response

Outcome measure	Minimum significant change
Cough visual analogue scale (VAS)[2] (no cough: 0♣mm – worst cough ever: 100♣mm	15♣mm
Leicester Cough Questionnaire (LCQ)[2] (range 3 – 21)	1.8
Capsaicin challenge[3]	
C2: concentration of capsaicin causing 2 coughs	2.0 doubling doses
C_5: concentration of capsaicin causing 5 coughs	3.2 doubling doses

Box 3 Diagnostic testing

Investigation	Comment
Bronchial provocation testing (methacholine, histamine)	A positive test supports a diagnosis of asthma but cough may be steroid responsive even if negative
Induced sputum analysis	May identify an eosinophilic bronchitis: indicated in patients with negative bronchial provocation test
24 h ambulatory oesophageal pH testing	To assess acid reflux severity and any temporal association with cough: indicated for patients without reflux symptoms and pre fundoplication
Oesophageal manometry	Indicates oesophageal dysmotility
Sinus radiograph/CT scan sinuses	Indicated for patients with suggestive history but normal ENT examination

Box 4 Additional investigations

Investigation	Comment
High resolution CT scan thorax	May identify abnormalities not apparent on chest radiograph but diagnostic yield is low

Investigation	Comment
Fibreoptic bronchoscopy[4]	High index of suspicion of inhaled foreign body. Clinical utility may be improved in patients with the more common causes excluded
Psychiatric appraisal	Only consider after thorough exclusion of physical cause
Non invasive cardiac studies (Echocardiogram)	Consider early in protocol only if suggestive clinical features

References

1. McGarvey LP, Heaney LG, Lawson JT, *et al*. Evaluation and outcome of patients with chronic non-productive cough using a comprehensive diagnostic protocol.[see comment]. *Thorax* 1998;**53**:738–43.
2. Birring SS, Prudon B, Carr AJ, *et al*. Development of a symptom specific health status measure for patients with chronic cough: Leicester Cough Questionnaire (LCQ). *Thorax* 2003;**58**:339–43.
3. Prudon B, Vara DD, Pavord ID, *et al*. Analysis of cough reflex sensitivity data. *Thorax* 2005;**60**:ii53–120 (Abstract).
4. Sen RP, Walsh TE. Fiberoptic bronchoscopy for refractory cough. *Chest* 1991;**99**:33–5.