

BEST EVIDENCE TOPIC REPORTS

Towards evidence based emergency medicine: Best BETs from the Manchester Royal Infirmary

Edited by Simon D Carley

Emerg Med J 2007;**24**:294–301. doi: 10.1136/emj.2007.047837

Best Evidence Topic reports (BETs) summarise the evidence pertaining to particular clinical questions. They are not systematic reviews, but rather contain the best (highest level) evidence that can be practically obtained by busy practicing clinicians. The search strategies used to find the best evidence are reported in detail in order to allow clinicians to update searches whenever necessary. Each BET is based on a clinical scenario and ends with a clinical bottom line which indicates, in the light of the evidence found, what the reporting clinician would do if faced with the same scenario again. The BETs published below were first reported at the Critical Appraisal Journal Club at the Manchester Royal Infirmary¹ or placed on the BestBETs website. Each BET has been constructed in the four stages that have been described elsewhere.² The BETs shown here together with those published previously and those currently under construction can be seen at <http://www.bestbets.org>.³ Four BETs are included in this issue of the journal.

- ▶ Auscultating to diagnose pneumonia
- ▶ Tennis elbow and the epicondyle clasp
- ▶ Chlorpromazine in migraine
- ▶ The use of intrapleural anaesthetic after chest drain insertion.

1. Carley SD, Mackway-Jones K, Jones A, *et al*. Moving towards evidence based emergency medicine: use of a structured critical appraisal journal club. *J Accid Emerg Med* 1998;**15**:220–222.
2. Mackway-Jones K, Carley SD, Morton RJ, *et al*. The best evidence topic report: A modified CAT for summarising the available evidence in emergency medicine. *J Accid Emerg Med* 1998;**15**:222–226.
3. Mackway-Jones K, Carley SD. bestbets.org: Odds on favourite for evidence in emergency medicine reaches the worldwide web. *J Accid Emerg Med* 2000;**17**:235–6.

Auscultating to diagnose pneumonia

Report by Dr Saima Saeed, Clinical Fellow, St George's Hospital, London
 Search checked by Rick Body, Specialist Registrar, Manchester Royal Infirmary
 doi: 10.1136/emj.2007.047845

A short cut review was carried out to establish whether there is any evidence that auscultation is a reliable indicator for pneumonia. 292 papers were found using the reported search, of which five answered the clinical question. The authors, patient groups, outcomes results and key weaknesses of this evidence are presented. The clinical bottom line is that, in the Emergency Department, pneumonia cannot reliably be confirmed or excluded by auscultation, or indeed physical examination, alone.

Three part question

In [adult patients presenting to the emergency department with suspected community acquired pneumonia] is [auscultation] reliable in [confirming the diagnosis]?

Clinical scenario

A 50-year-old lady presents with a fever and cough. Physical examination of her chest reveals crackles in the left base. You wonder whether this means that you can be confident of a diagnosis of pneumonia before the results of further investigations are obtained.

Search strategy

Medline 1966 to 2007 February Week 1 using OVID interface
 Embase 1980–2007 Week 7 using OVID interface [exp Pneumonia, Bacterial/ OR exp Pneumonia/ OR pneumonia.mp.] AND [exp Auscultation/ OR auscultat\$.mp.] limit to humans and English language

Search outcome

110 papers were identified in Medline and 192 in Embase. Five were relevant to the three-part question.

Comment(s)

The stethoscope remains a hallmark of the physician's diagnostic armoury. However, the studies identified report it's limited diagnostic efficacy for acute pneumonia. Further, the studies reported high rates of interobserver variability. Other conditions, including the kind of stethoscope used, the conditions it is used in (noisy resuscitation room versus quiet cubicle) and the experience of the examiner, are likely to influence sensitivity and specificity. The studies identified suggest that auscultation has a limited role in the diagnosis of acute pneumonia in the emergency department. Of course, this does not mean that the stethoscope should be thrown away. A careful physical examination may guide the emergency physician in the formulation of differential diagnoses and selection of appropriate investigations.

▶ CLINICAL BOTTOM LINE

In the Emergency Department, pneumonia cannot reliably be confirmed or excluded by auscultation, or indeed physical examination, alone.

Hopstaken RM, Muris JWM, Knottnerus JA, *et al*. Contributions of symptoms, signs, erythrocyte sedimentation rate, and C-reactive protein to a diagnosis of pneumonia in acute lower respiratory tract infection. *British Journal of General Practice* 2003;**53**:358–364.

Osmer JC, Cole BK. The stethoscope and roentgenogram in acute pneumonia. *Southern Medical Journal* 1966;**1**:75–77.

Metlay JP, Kapoor WN, Fine MJ. The rational clinical examination: Does this patient have community-acquired pneumonia? Diagnosing pneumonia by history and physical examination. *JAMA* 1997;**278**:1440–1445.

Wipf JE, Lipsky BA, Hirschmann JV, *et al*. Diagnosing Pneumonia by Physical Examination. Relevant or Relic? *Archives of Internal Medicine* 1999;**159**:1082–1087.

Leuppi JD, Dieterle T, Koch G, *et al*. Diagnostic value of lung auscultation in the emergency room setting. *Swiss Medical Weekly* 2005;**135**:520–524.