



BETs format

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Full details of the structure and creation process for a BET review are given here.

BETs are similar to the Critically Appraise Topic (CAT) devised by Sackett et al. They are modified for use in Emergency Medicine, where many of the questions raised by the varied clinical workload are not addressed by high quality clinical trials. BETs allow the inclusion of lower quality evidence, by listing weaknesses of papers included for evaluation. The same rigorous approach to finding papers is taken. It should be noted, however, that BETs are not systematic reviews of the sort conducted by the Cochrane Collaboration, and therefore include only published evidence.

In a busy specialty, with a wide variety of clinical problems, some minor and not covered by widely publicised guidelines, BETs allow clinicians rapid access to the best available evidence, summarised in a patient-centred way.

The 3 part question

Central to the creation of a BET review is the posing and refinement of the question to be asked. It should be concise, precise and able to be answered from the literature. The format is shown below.

General Question	
Clinical problem	Is a haematoma block the best way to reduce a Colles fracture
3 part question	
Patient characteristic	In [elderly patients with a Colles fracture]
Intervention(s) or Defining Question	Is [a haematoma block better than a Biers block]
Relevant Outcome(s)	At [reducing pain during manipulation and decreasing the need for remanipulation]

The BET report format

Once the literature has been comprehensively searched, and relevant papers found, the best evidence is summarised in a standard format. Together with details of the review's author and the date of creation, this forms the final report (shown below).

Best Evidence Topic Report	
Title	
Report by	
Search checked by	
Clinical scenario	
Three part question	
Search strategy	
Search outcome	x papers found of which y irrelevant and z of insufficient quality for inclusion
Relevant papers	

Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses

Comment	
Clinical bottom line	
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BETs in use

BETs can be used by clinicians at the point of patient contact. They can be relied upon as being an unbiased, up-to-date summary of the best evidence for treatment or diagnostic choices. They are quick to search and read. BETs offer several clear advantages, therefore, over textbooks held in departmental libraries, or *ad hoc* personal knowledge, half-remembered from a journal read several months ago.

In the Accident & Emergency Department of Manchester University, where BETs were devised, the review of BETs written by staff regularly informs and changes departmental policies, as well as indicating avenues for research.

What constitutes best evidence is constantly changing, and BETs are therefore reviewed at regular intervals - generally between 6 and 12 months, using the same standard search strategies as used in the original compilation of the review.



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BETs and CATs

The Best Evidence Topic (BET) Report

A modified CAT for summarising the available evidence in emergency medicine

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Introduction

In order to achieve the optimal care for patients in the Emergency department it is essential that their management is based upon the best available evidence. While the concept of evidence based medicine is widely accepted across many hospital and community specialties, emergency medicine has lagged behind in formalising the approach to evidence based practice.

One commonly used approach is that of the critically appraised topic (CAT) ^{1 2}. This was designed to be a one page summary of the evidence related to a particular clinical question. This established method would appear to be a reasonable starting point for developing a clinically based approach to examining the evidence in emergency medicine. Unfortunately problems have been identified. CATs work best when based on papers that stand up to rigorous critical appraisal. In emergency medicine the evidence that does exist is frequently not of high quality, and consequently the critical appraisal process would tend to discard many papers because of either methodological flaws or poor design. The experience of the critical appraisal journal club ¹³ was that an absolute requirement for high quality evidence meant that large numbers of clinical questions in emergency medicine could not be answered at all. It became apparent during the searches that evidence of lower quality was available, and that this could be assimilated to give the best available answer at the present time.

This realisation that it was necessary to use the best available evidence led to the development of the Best Evidence Topic (BET) report discussed below.

Design

The Best Evidence Topic reports (BETs) are constructed in four stages, based on the principles underlying all evidence based medicine. These stages are summarised in Box 1 below:

Asking the right question
Searching for the evidence
Appraising the evidence
Summarising the evidence

Asking the right questions

If a BET report is to have real meaning to practising clinicians it is important that each topic selected is rooted in the practice of emergency medicine. In order to ensure that this is the case a clinical scenario is developed to illustrate the topic of interest. This scenario will be familiar to the person preparing the report, and will represent a real clinical problem in emergency medicine.

In order to ensure that the question is well defined and answerable a three part question is prepared from the clinical scenario. This process is well described as a tool for evidence based medicine^{2 4}. The three part question has the structure shown in Box 2.

Patient Characteristic
Intervention(s) or Defining Question
Relevant Outcome(s)

It is vitally important to define the three part question well as this helps ensure that an appropriate search strategy can be formulated. An example of a general question of interest and a derived three part question are shown in Box 3.

General question
Is a haematoma block the best way to reduce a Colles fracture
Derived three part question
In [elderly patients with a Colles fracture]
Is [a haematoma block better than a Biers block]
At [reducing pain during manipulation and decreasing the need for remanipulation]

Searching for evidence

In order to ensure that as much evidence as possible is included in the Best Evidence Topic report, it is essential that search strategies are sound and explicit. Two sources are explored in the construction of a BET. First the medline database is searched using a strategy constructed as outlined below. Secondly the Best Evidence CD-ROM⁵ is searched to see if there are any relevant systematic reviews.

Medline

There are three parts to the Medline search. First it is necessary to use search terms to produce a subset of the medline database that contains all the papers relevant to the subject defined by the three part question. Second evidence based or methodological filters are applied if appropriate. Finally the titles and abstracts of the "hits" are scanned to see which papers are actually relevant to the question posed. Techniques for searching the Medline database have been reviewed recently⁶.

The subject search

In order to achieve the aims of the BET report (finding and summarising the best evidence) it is important that the subject search has a high sensitivity (that is it has a high likelihood of retrieving all relevant items) so that important evidence is not overlooked. It may be necessary to use a number of different search strategies (that is use different search terms

and combinations of terms) as well as using search terms that cover a slightly broader question. Greater sensitivity is achieved by using a combination of free text and text words together with medical subject headings (MeSH). A particularly useful feature enabling increased search sensitivity is the explosion command; this maps individual MeSH term on to other related MeSH terms. Since some 50% of the articles on medline are misclassified by subject heading, this ability to search for related terms is invaluable.

If the highly sensitive search yields too many "hits" to be manageable, then it may be necessary to increase the specificity (the proportion of documents which are relevant) by refining the search. In general techniques for increasing specificity are the opposite of those for increasing sensitivity. Thus the question needs to be better defined and more specific terms need to be used in free text. Other techniques for increasing specificity include combining terms using the boolean operator AND to combine different aspects of the question, and use of the Medline LIMIT command to set various general limits of the search such as language, species or publication type.

As has been mentioned above the proper construction of a three part question holds the key to the search. A properly constructed question will allow a sensitive search to be carried out in a particular area of interest, so that all relevant papers relating to that area can be gathered and appraised.

Applying filters

If a properly sensitive search carried out in a relevant area still yields a large number of hits then filters can be used. These are search strategies that have been designed to perform particular tasks such as finding randomised controlled trials or research overviews. A number of these are available in the public domain and have been published ⁶ or can be found at appropriate web sites ⁷.

The vast majority of questions of interest to Emergency Physicians at the present time (and therefore those most likely to appear as BET reports) involve either treatments (interventions) or diagnosis. An appropriate filter for intervention studies in the context of BET reports is a maximally sensitive randomised control trial filter - one such is shown in Box 4.

1	Randomized controlled trial.pt.
2	Controlled clinical trial.pt.
3	Randomized controlled trials.sh.
4	Random allocation.sh.
5	Double-blind method.sh.
6	Single-blind method.sh.
7	or/1-6
8	Animals.sh not Human.sh.
9	7 not 8
10	Clinical trial.pt.
11	Exp Clinical trials
12	(clin\$ adj25 trial\$).ti,ab.
13	((single or double or treble or triple) adj25 (blind\$ or mas\$)).ti,ab.
14	Placebos.sh.

15	placebo\$.ti,ab
16	random\$.ti,ab.
17	Research design.sh.
18	or/10-17
19	18 not 8
20	19 not 9
21	Comparative study.sh.
22	exp Evaluation studies/
23	Follow up studies.sh.
24	Prospective studies.sh.
25	(control\$ or prospective\$ or volunteer\$).ti,ab.
26	or/21-25
27	26 not 8
28	26 not (9 or 20)
29	9 or 20 or 28

Diagnostic questions require a different approach since randomised controlled trials are not in general an appropriate method of investigation. In such cases an appropriate diagnostic evidence based medicine filter can be used. Diagnostic evidence filters and other evidence based filters appropriate to different types of questions (such as epidemiological or aetiological ones) are available from the Centre for Evidence Based Medicine and other appropriate sources ⁷.

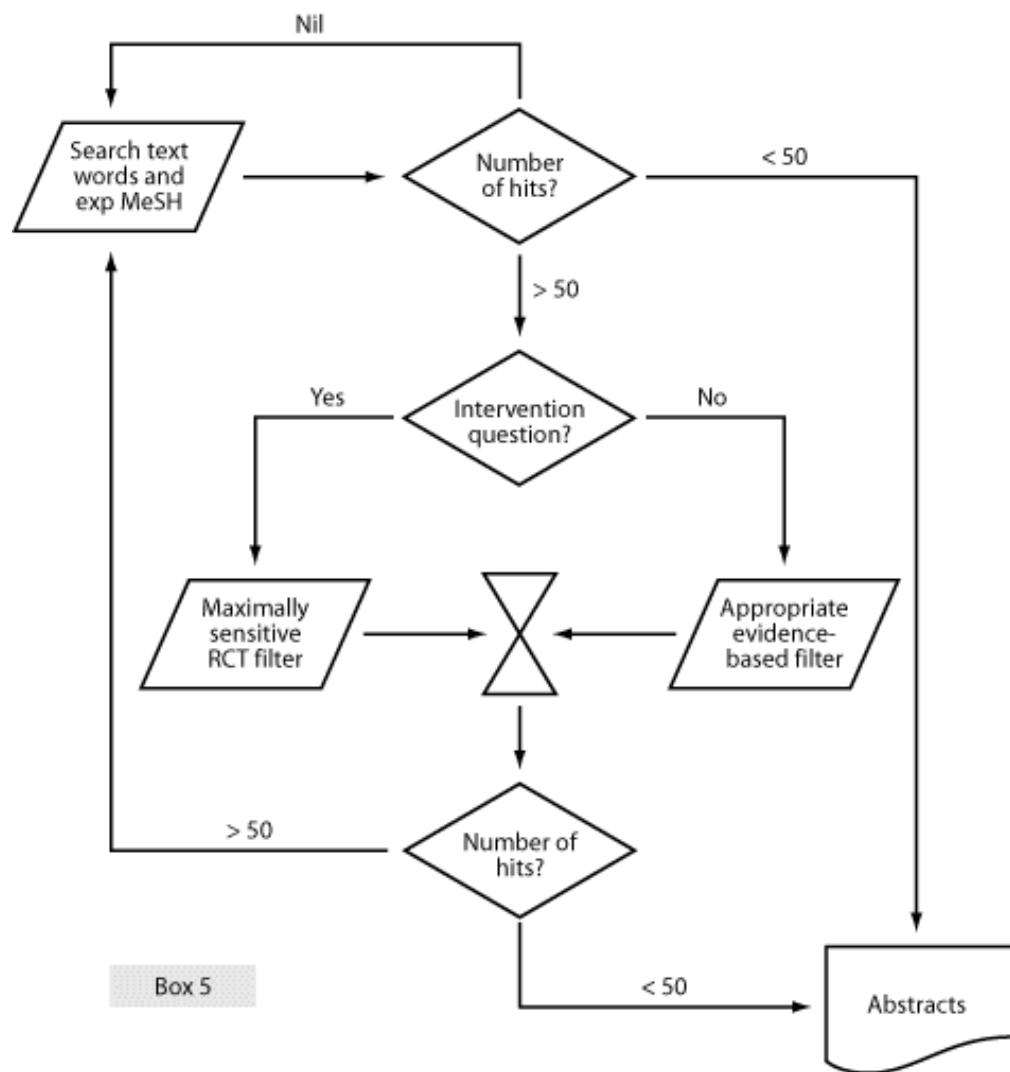
Making the searches explicit meant that they can easily be repeated to update the BET at a later date.

Scanning titles and abstracts

Once the subject search has been completed and any necessary filters have been applied a number of papers will fulfil the search criteria. There is no guarantee that these will all be relevant to the question posed and a final scan of titles and, if there is any doubt, abstracts will be necessary. Ideally a maximum of fifty papers will be left for scanning in this way, but on some occasions more than this number will remain despite increasing the specificity of the search. It is better to have a higher number of papers to scan than to miss relevant papers by over refining the search.

At the end of the scanning process a number of papers will be discarded as "irrelevant to the question". All the other papers remaining will need to be critically appraised. This process is described below.

The overall search strategy used in the construction of best evidence topic report is summarised in Box 5.



Appraising the evidence

Evidence based medicine is not about dismissing all evidence that has not been gained by randomised trials and meta-analyses⁸. Some types of question are not best answered by these approaches and appropriate evidence needs to be found for these. Furthermore for many questions in emergency medicine there is no appropriate research that stands up to rigorous critical appraisal. Best evidence topic reports are designed to find the best evidence that exists to answer a particular question. If high level evidence does exist then the question posed can be answered with some certainty. If high level evidence does not exist then best evidence available can be summarised, and the failure to find good evidence can be used as a spring board for appropriate research.

The first critical appraisal filter to be applied to papers that are found by the search is methodological. The question underlying the methodological filter is: "what is the appropriate design of research to answer this question?", and, if more than one approach is possible the second question is: "what is the relative merit of each of the possible methods?" In the case of questions concerning interventions the hierarchy of evidence shown in Box 6 is generally accepted⁷ and is used in constructing BETs. Although other hierarchies have been proposed⁹ the concepts underlying them all are the same.

The highest available level of evidence is used to construct the BET - thus level I evidence will be used if it exists; if there is no level I evidence then level II will be sought and so on.

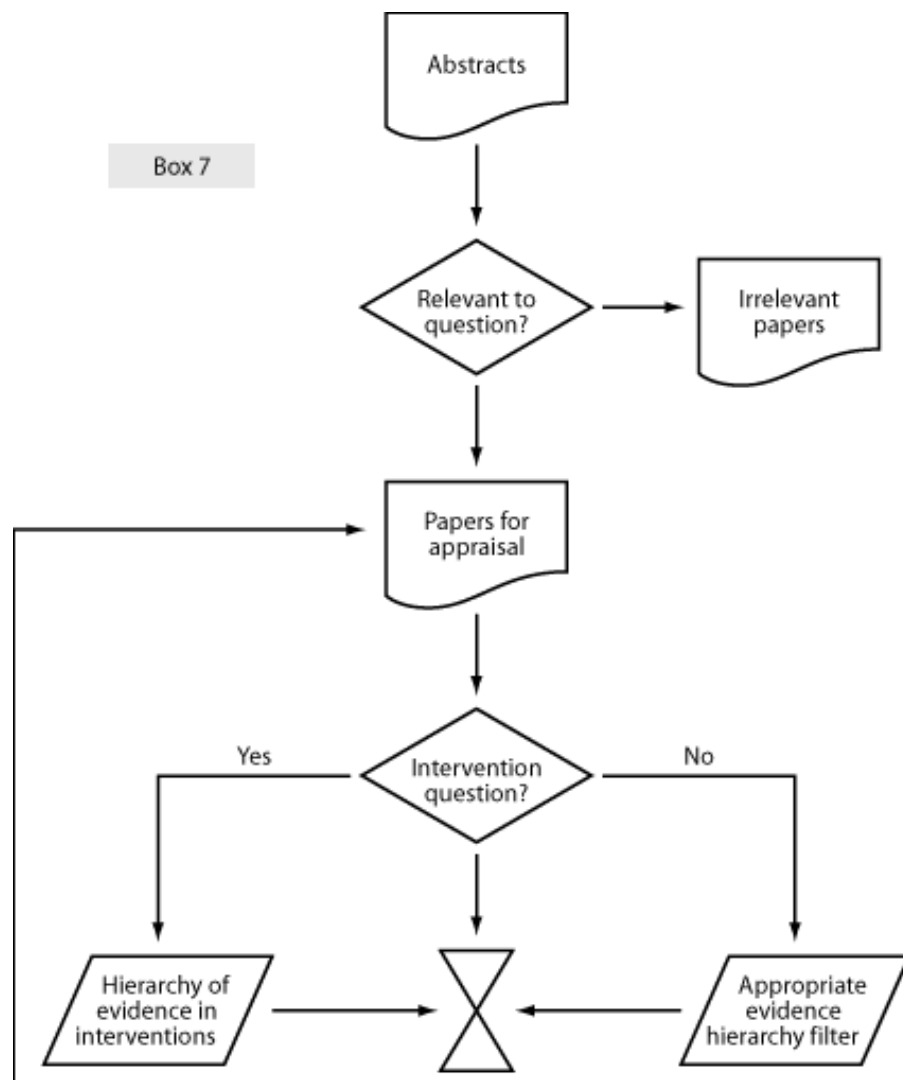
Once papers containing the highest level of evidence available have been identified, they are critically appraised. The critical appraisal methods used are standard and have been published

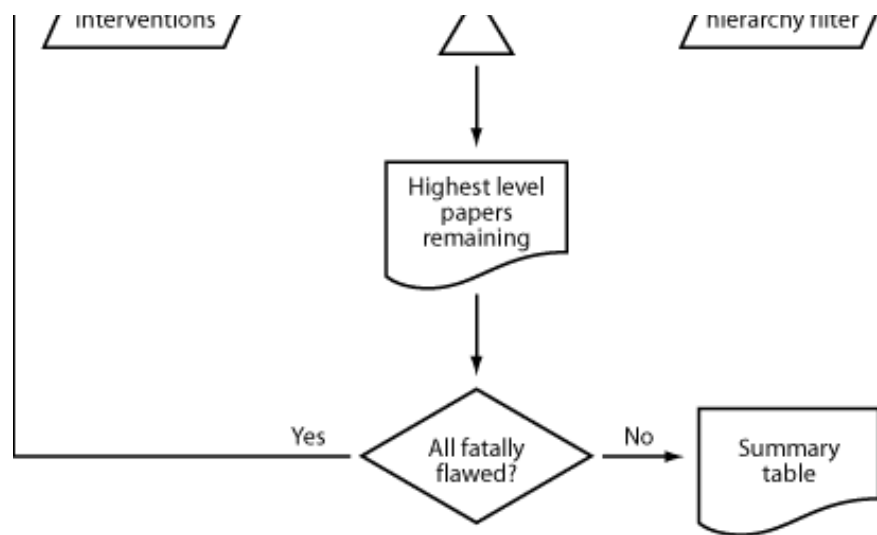
in a number of places ^{2 10 11}. Key questions include methodological and analytical soundness.

I	Strong evidence from at least one published systematic review of multiple well-designed randomised controlled trials
II	Strong evidence from at least one published properly designed randomised controlled trial of appropriate size and in an appropriate clinical setting
III	Evidence from published well designed trials without randomisation, single group pre-post, cohort, time series or matched case-control studies
IV	Evidence from well designed nonexperimental studies from more than one centre or research group
V	Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert consensus committees

After critical appraisal a paper may be found to be so flawed as to be unusable and will thus be discarded as of "insufficient quality for inclusion". If a paper is not fatally flawed or if, despite being flawed it represents the best evidence that is available despite flaws it will be included in the BET report. Comments about study weaknesses will be included in the last column of the table summarising the evidence.

The overall strategy for critical appraisal used in the construction of best evidence topic report is summarised in Box 7.





Summarising the evidence

In order to keep a record of appraised topics a summary of the evidence is made in the form of a best evidence topic report (BET). The first of these BETs appear in this month's Journal. The reports follow a standardised format. This includes the title, the clinical scenario, the derived three part question, the detailed search strategy and the results of the search. The number of "hits" is followed by the number of papers which were not relevant to the question and the number which were of insufficient quality for inclusion (following critical appraisal). Those papers which are included in the best evidence topic report are reported in table format. The table includes the author date and country of the research, the patients groups the study type (and the level of evidence), the outcomes that were investigated, the key results for each outcome and the study weaknesses that were identified. A further analysis of the results of the best papers may be given if the results allow this. Free text comment about the search and its outcome is then given, followed by the clinical bottom line (the answer to the original question). The references of the relevant papers are given in full.

The template for the best evidence topic report is shown in Box 9.

Best Evidence Topic Report					
Title					
Report by					
Search checked by					
Clinical scenario					
Three part question					
Search strategy					
Search outcome	x papers found of which y irrelevant and z of insufficient quality for inclusion				
Relevant papers					
Author, date and country	Patient group	Study type (level of evidence)	Outcomes	Key results	Study weaknesses

Comment	
Clinical bottom line	
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Box 9. Template for a BET report

Each BET is attributed to a main author and also a subsidiary author who is responsible for checking the search strategy and outcome.

Negative BETs

It is foreseen that a significant number of topics will fail to produce any evidence to answer the clinical question posed. These "negative" BETs are indicative of areas for further research, and a list of the questions for which no answer at all can be found should be circulated alongside "positive" BETs.

Discussion


BETs are an attempt to formalise evidence based practice in the emergency department. Their very name indicates the uncertain nature of much of the "evidence" in this area. The hope is that by basing BETs on real problems in emergency medicine, real questions will be answered with the best evidence available. This process is essential as real questions about patient care arise on a daily basis in the emergency department, yet there is rarely time to search for evidence at the time of a patient presentation. It is therefore essential to be pro-active in the approach to evidence based practice. Emergency medicine is still a relatively young specialty and there is a paucity of high quality evidence for many aspects of practice, BET reports will therefore not be confined to questions regarding new or novel practices and will examine the evidence for well established practices as well.

The BET report does have its weaknesses. While it reports the best available evidence obtained through literature searching on medline and other information resources, it does not examine unpublished literature in the way that systematic reviews do. It is unlikely that systematic reviews will become available for many of the more minor complaints that present to the emergency department for some time. Even if they did, as the BETs will show, it is unlikely that much of the evidence would pass the methodological filters used in systematic reviews.

Best Evidence Topic reports contain the best evidence that can be practically obtained by busy practising clinicians and should be used to inform best practice. They can be disseminated around members of journal clubs, training schemes and can be published in peer reviewed journals or web sites. It is hoped that BETs will demonstrate both the strengths and the weaknesses of the evidence base on which the practice of emergency medicine is based.

References

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EBM

Evidence Based Medicine (EBM) is an approach to forming medical knowledge, based on systematic and unbiased methods of appraising scientific evidence. It addresses the problems of medical practice based on tradition and personal opinion, and has gained wide acceptance over recent years.

It is outside the bounds of this website to provide a comprehensive review of the principles and practice of EBM. However, some information can be gleaned from the other pages and papers listed on the site.

An excellent introduction to practical EBM is provided by David Sackett's book "Evidence Based Medicine: how to practice and teach EBM" (ISBN 0443062404). See the [links page](#) for some excellent websites about EBM.

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NEW! Sign-up **HERE** to receive
the **BestBETs newsletter!**

Physicians need rapid access to the best current evidence on a wide range of clinical topics. But where to find it? Textbooks are frequently out-of-date, and we don't have the time to perform literature reviews while the patient is waiting.


BETs were developed in the Emergency Department of Manchester Royal Infirmary, UK, to provide rapid evidence-based answers to real-life clinical questions, using a systematic approach to reviewing the literature. BETs take into account the shortcomings of much current evidence, allowing physicians to make the best of what there is. Although BETs initially had an emergency medicine focus, there are a significant number of BETs covering cardiothoracics, nursing, primary care and paediatrics.

[BROWSE](#) or [SEARCH](#) the database of BETs. New topics are being added all the time, so come back often.

Tell your colleagues about this site - it could save your department a lot of time!

Place your BETs!

Why not write a BET of your own, and have it published here, for the benefit of patients everywhere? We're keen to receive Best Evidence Topic reviews from colleagues all over the world. Use the [submission form](#) in the database section, for you to register your intention to write a BET. We'll add your topic to the database, and the world will await your completed review!

A more advanced feature is now available on the BestBETs website - appraisal tool checklists are available for use online or downloading as an aid to the critical appraisal process. We strongly encourage BET authors to submit their critical appraisals of papers in the BET table along with their BET. Visitors to the site can now view critical appraisals independently or link directly from the BET table wherever  appears. Further details of BestBETs new features can be found on the '[Site & EBM news](#)' page in the News section.

If you have any comments about BETs or the website, please feel free to contact us.

Note:

Netscape 4 users should read the [small print](#).



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BETs intro

Why EBM?

Medical practice has always been informed by many things: textbooks, personal experience (good and bad), scientific research, patient expectations, teaching from senior doctors, colleagues opinions, old wives' tales... the list goes on. Every clinical decision is based on a combination of these factors, acting to differing degrees upon the individual clinician. The trouble is, of course, that many of these sources of information are far from trustworthy. Many of the traditions within medicine, handed down through generations of doctors, are simply wrong, and many more miss the mark of the best practice. Personal experience can be helpful to clinicians, but it can also bias their judgements detrimentally. Our reading of the scientific literature, being necessarily limited by time, will tend to bias our knowledge.

Evidence Based Medicine (EBM) is an approach to medical decision making that acknowledges our need to be informed by a comprehensive summary of the best scientific evidence, appraised systematically and expertly, without bias. Factors such as experience, compassion and equity still factor in the decision making process, but EBM allows a reasonable degree of certainty that the scientific basis for decisions is as sound as possible. The Critically Appraised Topics (CATs) developed by Sackett in Oxford are well suited to their "home specialty" of general medicine, where evidence from large scale trials is generally readily available, and physicians have multiple contacts with each patient. Emergency Medicine, however, often sees problems dealt with very little by high quality research, and has single patient contact episodes.

Why BETs?

BETs bring the evidence one step closer to the bedside, by providing answers to very specific clinical problems, using the best available evidence. Each Topic answers a carefully worded 3-part question, using a structured approach to finding and reviewing the literature. BETs are designed specifically for Emergency Medicine. The BET method allows the use of lower quality research, and lists the shortcomings of the evidence used. As with other forms of EBM topic review, each BET has a clinical "bottom line" for the busy physician.

Being brief and well-structured, BETs can be reviewed at regular intervals, to ensure the evidence remains the best available.



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Databases

[National electronic Library for Health \(NeLH\)](#)

Aimed primarily at NHS staff the NeLH provides links to virtual branch libraries and professional portals. Provides free access to numerous health databases including the Cochrane Library for all NHS staff in England and Wales.

[National electronic Library for Health - Emergency Care](#)

One of 17 specialist libraries providing resources on specific topics. The Emergency Care Library aims to provide high quality information for professionals in the field on all aspects of emergency healthcare.

[TRIP \(Turning Research into Practice\)](#)

A single search interface searching over 100 datasets relevant to EBM from around the world, including peer-reviewed journals, guidelines and medical images.

MEDLINE

[PubMed](#)

Free access to Medline provided by the National Library of Medicine.

[Medline Dialog Datastar via the NeLH](#)

Free access to MEDLINE and other healthcare databases (CINAHL, EMBASE, PsychInfo, AMED, BNI, DH-Data and King's Fund) for all NHS staff in England and Wales. Registration is required.

Subject gateways

[NMAP \(Nursing, Midwifery and the Allied health Professions\)](#)

Part of the [BIOME](#) gateway, NMAP provides access to over 1200 evaluated Nursing, Midwifery and the Allied health Professions Internet resources.

[OMNI \(Organising Medical Networked Information\)](#)

Part of the [BIOME](#) gateway, OMNI provides access to over 5900 evaluated quality UK and international health and medical resources on the Internet.

Guidelines

[NeLH Guidelines Finder](#)

[National Institute for Clinical Excellence \(NICE\) \(UK\)](#)

[Scottish Intercollegiate Guidelines Network \(SIGN\)](#)

[National Guideline Clearing House \(US\)](#)

Journals and publications

[ACP journal](#)

Published bi-monthly by the American College of Physicians the ACP journal reviews over 100 journals. Aims to keep practitioners up-to-date with medical research. Research-based articles

are selected according to methodologic rigor and clinical relevance and summarized by clinical experts.

[Archives of Disease in Childhood](#)

Archives is published monthly and focuses on 'all aspects of child health and disease from the perinatal period (in the Fetal and Neonatal edition) through to adolescence'.

[BMJ Bookshop Online](#)

Online medical bookshop of the British Medical Association (BMA).

[EMJ](#)

Published monthly the Emergency Medicine Journal (formerly the Journal of Accident and Emergency Medicine) focuses on developments and advances within the field of emergency medicine, representing all specialities involved in emergency care.

Organisations

[Centre for Evidence Based Child Health, London](#)

[Centre for Evidence Based Medicine, Oxford](#)

Provides access to Critically Appraised Topics (CATs)

[Centre for Evidence Based Nursing, York](#)

[Centre for Evidence Based Physiotherapy, Sydney](#)

[Central Manchester and Manchester Children's University Hospitals NHS Trust, Manchester Royal Infirmary](#)

BestBETs were first developed in the Emergency Department of Manchester Royal Infirmary.

[The Cochrane Collaboration](#)

[NHS centre for reviews & dissemination](#)

Statistics

[BMJ How to read a paper series](#)

Written by Dr Trisha Greenhalgh the online version of her book covers important topics including searching the literature, statistics for non-statisticians and how to read papers on therapy, diagnosis, reviews, guidelines, economic analysis and qualitative research.

[Statistics glossary](#)

Hosted by the Lancaster University the glossary provides concise definitions of statistical terminology

Search filters

[CASPfew filters](#)

CASPfew includes a list of both tested and untested methodological search filters for use in Medline, Cinahl, Embase and PsychInfo (OVID and SilverPlatter versions available). Filters can be downloaded from this site.

Further information on methodological search filters and BestBET subject filters can be found on the [BETs search strategies](#) page.



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BETs search strategies

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What is a search filter?

A methodological search filter is defined as:

"A search term or terms (such as 'random allocation' for sound studies of medical intervention) that select studies that are at the most advanced stages of testing for clinical application."
 (Wilczynski et al 1995, p436)

In other words, it is a predefined search strategy designed to retrieve levels of evidence (RCTs, systematic reviews etc) or types of clinical queries (diagnosis, prognosis, etiology, treatment) when combined with the subject search terms of your choice. They are also referred to as hedges, Clinical Queries (USA), or optimal search strategies.

Called 'methodological' search strategies since the strategies are made up of search terms that relate to the methodology of study design. For example, an RCT filter may contain terms such as double blinded, randomized, clinical trial. A diagnosis filter may contain terms such as sensitivity, specificity, etc.

Main aims of a search filter

Designed to overcome imprecise search skills of end-users in the MEDLINE database they also compensate for indexing inconsistencies inherent in the Medline database.

Methodological search filters were first devised by Haynes et al, at McMaster University in 1994. Search terms relating to diagnosis, prognosis, therapy and etiology were collated and ran through a computer program to identify optimal search strategies which were then tested and validated in the Medline database and compared against a 'gold standard' of known articles in each of the 4 areas. Further studies have tested and validated search filters in a number of areas relating to research methodology and evidence-based medicine. (Dickersin 1994, White 2001).

Search filters are NOT a guarantee of retrieving quality research. While they will retrieve studies relating to research methodology the onus remains on the user to appraise the evidence for QUALITY, RELEVANCE and APPLICABILITY.

Types of filters available

Filters currently available are system specific (OVID, Dialog, PubMed, etc.) and database specific (Medline, Cinahl, Embase, PsychInfo) covering a range of publication types (RCT, systematic reviews, diagnosis, etc.). Depending on user needs filters are designed to be highly sensitive, precise or one-line strategies. For BETs searches we recommend the highly sensitive filters be used to ensure no evidence is overlooked.

Example (and explanation of commands)

Methodological search filters are made up of MeSH and freetext search terms and use advanced search operators (exp, .pt., adj, etc).

RCT filter for OVID (Dickersin K et al, 1996)

```

1 RANDOMIZED CONTROLLED TRIAL.pt.
2 CONTROLLED CLINICAL TRIAL.pt.
3 RANDOMIZED CONTROLLED TRIALS.sh.
4 RANDOM ALLOCATION.sh.
5 DOUBLE BLIND METHOD.sh.
6 SINGLE-BLIND METHOD.sh.
7 or/1-6
8 ANIMALS.sh. not HUMAN.sh.
9 7 not 8
10 CLINICAL TRIAL.pt.
11 exp CLINICAL TRIALS
12 (clin$ adj25 trial$).ti,ab.
13 ((singl$ or doubl$ or trebl$ or tripl$) adj25 (blind$ or mask$)).ti,ab.
14 PLACEBOS.sh.
15 placebo$.ti,ab.
16 random$.ti,ab.
17 RESEARCH DESIGN.sh.
18 or/10-17
19 18 not 8
20 19 not 9
21 COMPARATIVE STUDY.sh.
22 exp EVALUATION STUDIES
23 FOLLOW UP STUDIES.sh.
24 PROSPECTIVE STUDIES.sh.
25 (control$ or prospectiv$ or volunteer$).ti,ab.
26 or/21-25
27 26 not 8
28 27 not (9 or 20)
29 9 or 20 or 28

```

Commands

Command	Function
/	Subject heading (MeSH) Retrieves all items with the subject heading assigned to it by the indexers
.exp. Explode	Retrieves all items with the subject heading and all associated narrower MeSH terms assigned
.ti. Title	Retrieves items with words contained in the title
.ab. Abstract	Retrieves items with words contained in the abstract
.mp. Keyword	Retrieves items with words contained in the title, abstract or subject heading
.pt. Publication type	Retrieves items of a specified publication type (e.g. Multicenter study)

\$	Truncation	Replaces any number of characters including zero (e.g. child\$ will retrieve items containing child, children, childhood, etc.)
adj	Adjacency operator	Retrieves items with query terms on either side in the specified order

N.B. Other systems may use different commands, refer to the 'help' page in the particular system/database in which the search is conducted for further explanations.

Why use search filters?

Search filters are a useful way of limiting broad searches. They apply a level of consistency to your searching making it more systematic. Above all they can save you time in conducting searches since tested and validated search strategies exist which present a list of search terms which are known to be effective in retrieving particular types of study.

When to use search filters

Used to limit large search results or when looking for a particular publication type (RCTs, etc) or clinical query (diagnosis, etc).

How to use search filters

Filters are an advanced searching technique and may seem daunting at first but don't be put off by them, as they can be an extremely useful tool in retrieving quality research from the medical literature. To use them follow the instructions below.

1. Conduct a highly sensitive subject search combining MeSH and free text.
2. Check that the filter is relevant to the system, database and study design.
3. To avoid typographical errors highlight each line in turn, copy and paste each line of the search into the database and perform search. Alternatively type each line in manually. (Take care to note any changes in the written numbers of search statements when combining with 'OR'/'AND' e.g. 'or/10-17', which may occur as a result of adding on the search filter to your subject search. To avoid confusion it may be easier to type in the filter first and save it, then start a new subject search and re-run the saved filter at the end).
4. Use 'AND' to combine the results of the subject search with the filter.

Although filters may be downloaded to disk, at this time they cannot be uploaded from disk into OVID and therefore they have to be typed in manually. For frequent users, type in the filter and save it as a permanent search. The filter can then be re-run as required. If in doubt seek help from a librarian/information professional.

Things to consider when using filters

1. Search filters are NOT a guarantee of retrieving 'quality' research'. You still need to critically appraise results for QUALITY and RELEVANCE.
2. A filter developed in Medline will not have the same sensitivity/specificity when run in Embase for example, since the indexing language used in the two databases is different.

It is important to ensure that the search filter is compatible with the database and the system (Ovid, PubMed etc.).

3. Due to annual amendments and updates to MeSH the search terms in the filter should be checked annually to see if there are any new terms which may be relevant.
4. Not relevant to all research areas (eg public health) or where the research base is small.
5. Not all filters published on the www have been tested and validated.
6. The aim of your search is to locate the 'best evidence'. It is important to note that specific types of filter (e.g. RCT) will not necessarily pick up all systematic reviews or meta-analyses. Hence it is recommended that a search using filters also aims to retrieve such reviews.

Finally, there will always be some articles missed and erroneous ones captured, however search filters have been shown to improve upon end-user searching (Dickersin 94).

Filters on the www

Filter type	Available at
RCT	Cochrane Library (can be found under Appendices>Appendix 5b)
Systematic reviews	NHS centre for reviews and dissemination
Meta-analysis	
Diagnosis	CASPfew
Etiology	
Therapy	PubMed
Prognosis	

BestBETs subject filters in emergency medicine

Emergency physicians face two additional problems in their search for the evidence. Firstly, Emergency medicine is a broad specialty covering many topic areas and secondly, evidence of the highest quality is not always available in emergency medicine (Mackway-Jones et al 1998). Therefore, the subject becomes the focus of the search. Initially searches need to be highly sensitive to ensure important evidence is not overlooked.

BestBETs Paediatric Filter

NEW FOR 2003

Updated Paediatric filter incorporating MeSH 2003 changes



[BestBETs Paediatric Filter 2003 \(PDF - 108KB\)](#)

Please note that the filter is a prototype and as such is still in the testing stages, further amendments to the filter may result from more rigorous testing.

Poster presented at the 8th European Conference of Medical and Health Libraries, Cologne, 16-21 September 2002.



BestBETs Paediatric Filter (PDF - 1.22MB)

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Information officers at BestBETs are currently devising further subject filters to be used in the BETs search strategy. These filters will appear here once testing is complete.

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- [\(?\) Qualitative](#)
- [\(?\) Randomised control trial](#)
- [\(?\) Review or meta-analysis](#)
- [\(?\) Screening](#)
- [\(?\) Survey \(including pre-test probabilities\)](#)





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CEBM levels of evidence

Links

Centre for Evidence Based Medicine Levels of Evidence

http://www.cebm.net/levels_of_evidence.asp

Produced by Bob Phillips, Chris Ball, Dave Sackett, Doug Badenoch et al.

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