TeachingEBHC.org
Editorial Workshop

Douglas Badenoch, Minervation Ltd
Loai Albarquoni, Bond University
David Nunan, Oxford University
Programme

1. Introduction (DB)
2. Using TeachingEBHC to build a course in EBHC (LA)
3. Hands-on testing (DN)
4. Feedback (All)
5. Wrap-up (DB)
At EBHC2017, we decided:

- It was a good idea to build a website of **open access** teaching resources for EBHC
- Members should comment, rate and suggest new ones (their own and others’)
- People should be able to create “bundles” for their own use
- The interface should be user-friendly and responsive
# Learning Resources Database

## Find Resources...

Filter by:
- EBM Stage
- Key Concept
- Target audience
- Language
- Format
- Difficulty

Sort by:
- Relevancy

Display as:
- List

Search

___

**599 results**

## Bundles

**Contemporary EBP workshop for clinicians**
- 2 Resources

**Asking answerable clinical questions**
- 5 Resources
Launched in November 2018

Learning resources
- 599 learning resources
- 551 from the CARL database
- 48 added since launch
- User suggestions reviewed by editorial group

Filter by:
- EBM Stage
- Key Concept
- Target audience
- Language (36 available)
- Format
- Duration

Usage
- 301 members
- c 200 users per week
- Half from social media, a quarter from search engines
- 7 Bundles
- Top content:
  - Association is not the same as causation
  - Bundle: Asking answerable questions
  - Know Your Chances

www.teachingebhc.org
Abstract

Background

People are frequently confronted with untrustworthy claims about the effects of treatments. Uncritical acceptance of these claims can lead to poor, and sometimes dangerous, treatment decisions, and wasted time and money. Resources to help people learn to think critically about treatment claims are scarce, and they are widely scattered. Furthermore, very few learning-resources have been assessed to see if they improve knowledge and behavior.

Objectives

Our objectives were to develop the Critical thinking and Appraisal Resource Library (CARL). This library was to be in the form of a database containing learning resources for those who are responsible for encouraging critical thinking about treatment claims, and was to be made available online. We wished to include resources for groups we identified as ‘intermediaries’ of information, who might influence the process of patients seeking health-care. To date, we have not been able to clearly define such intermediary groups and have developed the library for all levels of users, from the general public up to the research scientist. As a result, the library is vast and will be continually updated.


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4 Centre for Evidence Based Medicine, University of Oxford, Oxford, UK.
5 Makerere University College of Medicine, Makerere University, Kampala, Uganda.
6 Centre for Research in Evidence-Based Practice, Bond University, Robina, Queensland, Australia.

Abstract
Many claims about the effects of treatments, though well intentioned, are wrong. Indeed, they are sometimes deliberately misleading to serve interests other than the well-being of patients and the public. People need to know how to spot unreliable treatment claims so that they can protect themselves and others from harm. The ability to assess the trustworthiness of treatment claims is often lacking. Acquiring this ability depends on being familiar with, and correctly applying, some key concepts, for example, that 'association is not the same as causation.' The Informed Health Choices (IHC) Project has identified 36 such concepts and shown that people can be taught to use them in decision making. A randomised trial in Uganda, for example, showed that primary school children with poor reading skills could be taught to apply 12 of the IHC Key Concepts. The list of IHC Key Concepts has proven to be effective in providing a framework for developing and evaluating IHC resources to help children to think critically about treatment claims. The list also provides a framework for retrieving, coding and organising other teaching and learning materials for learners of any age. It should help teachers, researchers,
Using TeachingEBHC.org to help in developing a postgraduate subject in Evidence-Based Practice

Loai Albarqouni
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@LoaiAlbarqouni

Institute for Evidence-Based Healthcare
Faculty of Health Sciences and Medicine
Bond University
<table>
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<th>Week 1</th>
<th>Week 2</th>
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<th>Week 5</th>
<th>Week 6</th>
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<tbody>
<tr>
<td>Rational for Evidence-Based Practice</td>
<td>Formulate answerable questions</td>
<td>Searching for the best evidence</td>
<td><strong>Intensive Workshop</strong></td>
<td>Studies about diagnosis</td>
<td>Studies about prognostics and risk factors</td>
<td>Studies about qualitative research</td>
<td>Systematic reviews</td>
<td>Shared decision making and decision aids</td>
<td>Clinical practice guidelines and health policy</td>
<td>Becoming an evidence-based practitioner</td>
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**Learning Objectives**
- Formulate a question
- Search evidence
- Critically appraise evidence
- Interpret evidence
- Apply evidence
- Communicate evidence
MASTER OF HEALTHCARE INNOVATIONS
Evidence Based Practice and Policy

Rationale for EBP
Why study Evidence-Based Practice (EBP)

Formulating an answerable question
How do I create a question that will help me find relevant evidence?

Searching for the best evidence
How do I find the evidence?

Diagnosis
What is my patient’s problem?

Prognosis and risk factor
What caused my patient’s problem? What is my patient’s outlook?

Qualitative research
What is my patient’s experience of their illness?

Systematic reviews
What about when there’s more than one piece of evidence?

Shared decision making
How do I apply evidence in clinical practice?

Clinical practice guidelines and health policy
What about the experts’ role in evidence?

Becoming an evidence-based practitioner
How do I move forward from here?
We cannot rely on anecdotes

We are convinced most easily by anecdotes and personal experiences. However, personal stories and anecdotes can be fatally misleading.

Every single individual is unique and there is too much variability between individuals. Therefore, when one individual gets better with a treatment or an intervention, this is not evidence that this intervention or treatment actually works. The response of someone else may be markedly different.

Read this article in The Guardian, in which Ben Goldacre gives examples of how conclusions based on anecdotes and biased research can be misleading.

"anecdotes are a great communication tool, but only when they accurately illustrate the data" – that is only when there is evidence supporting it.

Remember the latest anecdote that you have heard of and search if there is evidence supporting it or not.
Forest Plot Interpretation

From Testing Treatments International

Learning Resources Database

Filter by:
- Key Concept
- Target audience
- English
- Videos
- Difficulty

Sort by:
- Relevancy
- Display as:
- List

2 results

NCCMT – Understanding Research Evidence

What does the Cochrane logo tell us?

Rated 0.0 from 0 votes

5-15 mins | Intermediate

Rated 5.0 from 1 votes

5-15 mins | Intermediate
Association is not the same as causation. Let’s say that again: association is not the same as causation!

Format
Cartoons, Texts, Websites
Language/s
English

EBM Stage
0 - Why EBM?
Duration
5-15 mins
Difficulty
Intermedia

Watch the video

ICE CREAM SALES
SHARK ATTACKS

Recent study shows that whenever ice cream sales rise, so do shark attacks.

Spurious correlations

Now a ridiculous book!
- Spurious charts
- Fascinating facts
- Commentary in the footnotes
Amazon | Barnes & Noble | Indie Bound

US spending on science, space, and technology

Suicides by hanging, strangulation and suffocation

Data sources: US Office of Management and Budget and Centers for Disease Control & Prevention

Association is not causation
## Teaching Tips: randomisation for trials

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<th>Language/s</th>
<th>Target Audience</th>
<th>Difficulty</th>
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<tr>
<td>Lessons</td>
<td>English</td>
<td>Schools, Further education</td>
<td>Introductory</td>
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<table>
<thead>
<tr>
<th>EBM Stage</th>
<th>Duration</th>
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<tbody>
<tr>
<td>3 - Appraising evidence</td>
<td>5-15 mins</td>
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</table>

### Randomisation & allocation concealment

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<th>Group Exercise</th>
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<tr>
<td>Randomisation &amp; allocation concealment</td>
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<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
<th>Total</th>
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<td></td>
<td>Anyone correctly guessed the content of the envelope? Anyone swapped the envelope?</td>
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View the Lesson: Rated 5.0 from 3 votes
Regression to the mean

Teaching Tip: Understanding Regression to the mean in preparation for teaching EBM

Format
Lessons, Texts

Language/s
English

Target Audience
Schools, Further education

Difficulty
Introductory

View the Lesson ★★★★★
Rated 5.0 from 2 votes

Regression to the mean

Your PBL Group is an orthopaedic surgical unit
You offer arthroscopic lavage to patients whose symptoms of osteoarthritis are intolerable
Symptoms of osteoarthritis defined as “intolerable” if dice scores ≥10 (scale 2 – 12)

1- Throw the dice and calculate your patient pain score (i.e. dice score)
2- Should you do an arthroscopy?
3- If yes, check symptoms in 12 months.

A poem about regression to the mean

Format
Videos

Language/s
English

Target Audience
Schools, Further education

Difficulty
Intermediate

View the Video ★★★★★
Rated 0.0 from 0 votes
### Understanding Confidence Intervals

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<table>
<thead>
<tr>
<th>EBM Stage</th>
<th>Duration</th>
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<tbody>
<tr>
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<td>&lt;5 mins</td>
<td>Introductory</td>
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**Key Concepts addressed**

- 2.3g Statistical significance is not the same as importance
- 2.3c Average measures of effects can be misleading
Learning Resources Database

Find Resources...

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- Relevancy

Display as:
- List
Contemporary EBP workshop for clinicians

This workshop focuses on integrating Shared Decision Making (SDM) training and Evidence-Based Practice (EBP) training through providing video demonstration (to model the skills) followed by teaching how to interpret and communicate research evidence and decision aids.

Rated 0.0 from 0 votes

This Bundle is by Loai Albarqouni, last edited on 2 November 2019.

Target Audience
Further education, Researchers, Self-directed learning

EBM Stage
1 - Asking focused questions
3 - Appraising evidence
4 - Decision making

A contemporary EBP workshop for clinicians with a focus on pre-appraised evidence and shared decision-making

This is a booklet of a half-day EBP workshop for clinicians with a focus on pre-appraised evidence and shared decision-making.

Rated 0.0 from 0 votes

Interpretation of Research Evidence

These are two videos explaining key elements on how to interpret research evidence. These materials have been presented in a half-day EBP workshop for clinicians with a focus on pre-appraised evidence and shared decision-making.

Rated 0.0 from 0 votes
Using TeachingEBHC.org to help in developing a postgraduate subject in Evidence-Based Practice

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In groups (3-4)

Discuss

• How you teach EBM/EBHC concepts
• Useful resources to aid your teaching
• Are these resource/s currently on the TEBHC site?
  • If yes,
    • has it been rated?
    • does it/do they have a lessons posted with them?
  • If no:
    • Submit a resource!
Teaching Tip: Understanding Regression to the mean in preparation for teaching EBM

**Format**
Lessons, Texts

**Language/s**
English

**Target Audience**
Schools, Further education

**EBM Stage**
0 - Why EBM?

**Duration**
5-15 mins

**Difficulty**
Introductory

Rated 5.0 from 2 votes
Understanding *Regression to the mean* in preparation for teaching EBM

**Background**  
I am responsible for teaching medical students about Evidence Based Medicine. One of the challenges is to explain, early in the program, the several reasons that evidence for treatments (interventions) needs controlled studies. I deal with the need for randomisation in a separate occasion.

**The problem**  
When I put up a slide showing the placebo arm of a trial (holding back data for the intervention arm, for the moment), which shows improvement with time, and ask the students to explain this, the notion of *placebo effect*, is quickly suggested: it seems to be well inured into our culture, and many students – even very early on – understand it well. However *regression-to-the-mean*¹ seems to be very non-intuitive in comparison.² It has been defined as the tendency for extreme measurements to be closer to the mean when repeated.³ It may be a greater effect than the placebo effect.³

**The educational solution**  
In my session, which students are studying osteoarthritis (OA) as a weekly case in a problem-based learning (PBL) program, I discuss arthroscopy as a treatment option, widely practiced in our area. The example of a regression to the mean effect is from a randomised controlled trial of arthroscopic lavage and debridement for knee OA. To illustrate this effect, I hand out to the students a pair of dice to each PBL group (~8-9 students in each, ~12 groups), together with a laminated picture of an arthroscope. On a signal they throw the dice, and we record the score for each Group on the whiteboard. We had already set the pain level as ≥10 (dice score range 2-12), describing this pain as ‘unbearable – please do something, doctor’. Those scoring ≥10 are invited to ‘arthroscopy their dice’, using the laminated sheet. This can be hilarious (I demonstrate how to do it with a grunt, and this is usually
Teaching Tip: Understanding Regression to the mean in preparation for teaching EBM

Format
Lessons, Texts

Language/s
English

Target Audience
Schools, Further education

EBM Stage
0 - Why EBM?

Duration
5 - 6 mins

Difficulty
Introductory

Rated 5.0 from 2 votes

View the Lesson
Suggest a learning resource

If you know of a good teaching resource for EBHC, please use this form to tell us about it. If you are unsure what we are looking for, please consult the Help section. If it meets our inclusion criteria, we’ll add it to the Database.

About you

Your Name*

Name

Your Email*

Email
In groups (3-4)

Discuss

• How you teach EBM/EBHC concepts
• Useful resources to aid your teaching
• Are these resource/s currently on the TEBHC site?
  • If yes:
    • has it been rated?
    • does it/do they have a lessons posted with them?
  • If no:
    • Suggest a resource!
Feedback

• on the site design / layout

• on coverage
  – e.g. Pedagogical approaches? (learner-centred vs didactic)

• on the resources
A final question for you

• How can we encourage more people to use it?
  – How can we encourage more rating / commenting?

• Please join the EBHC-Teachers Jiscmail list
  – https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=EBHC-TEACHERS
Sample user archetype

Busy Lizzie
Lizzie is a senior mental health nurse who wants to use a 1.5 hour CPD session to develop her team’s critical appraisal skills.

She wants to find helpful slide sets to prepare her presentation and good papers to work from.
Sample user archetype

**Desperate Dan**
Dan is a clinical lecturer with responsibility for undergraduate teaching in epidemiology for medical students.

The first lecture is tomorrow and he wants to find some really snappy visuals he can use to inspire his students.