



Evidence-based / Evidence-informed Practice

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Introduction

Occupational therapy should be underpinned by evidence-based practice. This is reflected in the required competencies of occupational therapists stated within the Health and Care Professions Council's *standards of proficiency for occupational therapists* (Health and Care Professions Council 2013) and the College of Occupational Therapists' *Code of Ethics and Professional Conduct* (College of Occupational Therapists 2015 pp32-35) and *Professional Standards for Occupational Therapy Practice* (College of Occupational Therapists 2011).

A systematic review of published research identified that whilst occupational therapists generally held positive attitudes towards evidence-based practice, there were barriers to implementation (Upton et al 2014). These included workload and time pressures, organisational barriers, and perceived lack of training, knowledge, skills and personal motivation. This briefing provides guidance on some of the key elements of evidence-based practice and the resources available from the College to support occupational therapy staff.

1. More than research

Evidence-based practice (EBP) has its origins in medicine, but it has evolved as a concept which fully recognises that it is not 'just research' (Sackett et al 2000). EBP takes into account the integration of the best available research evidence, together with the practitioner's clinical expertise and the service user's values and goals, as represented in the model below (Figure 1).



Figure 1



Links between evidenced-based, evidence-informed and values-based practice

The term *evidence-informed practice* is now increasingly being used within health and social care. Whilst various models of evidence-informed practice exist, they tend to conceptualise clinical expertise as being informed by the best available research, as well as contextual factors such as: service user preferences and actions; clinical state and circumstances; and, sometimes, healthcare resources. Such models therefore share common theoretical features with models of evidence-based practice, particularly in terms of the integration of best evidence with the service user context. However, it has been suggested that evidence-informed practice is perhaps a more appropriate term for such processes of integrating evidence and contextual factors, particularly as the amount of valid evidence available can vary and its use can be inexact (Shlonsky and Mildon 2014).

Values-based practice is an approach to working with complex and conflicting values in healthcare (Fulford 2008, Warwick Medical School 2013) that supports balanced decision making between clinicians and service users (Peile and Fulford 2015). It has been identified that this approach is complimentary to, and can be used in partnership with, evidence-based practice to inform clinical decision making and to promote care that is both science-based and person-centred (Fulford 2008, Peile and Fulford 2015).

For clarity, and in recognition of the terminology used within much of the reference material, this briefing will predominantly use the term evidence-based practice.

2. Making sense of the evidence

If a therapist uses their clinical experience and well-thought through reasoning (enhanced by the routine use of standardised assessments and outcome measures) and affords due consideration to the individual perspectives of service users, they would be addressing two of the key components of evidence-based practice outlined in Figure 1. It is research evidence, and its application, which is often viewed as the stumbling point. This section will therefore focus on this aspect of evidence-based practice.

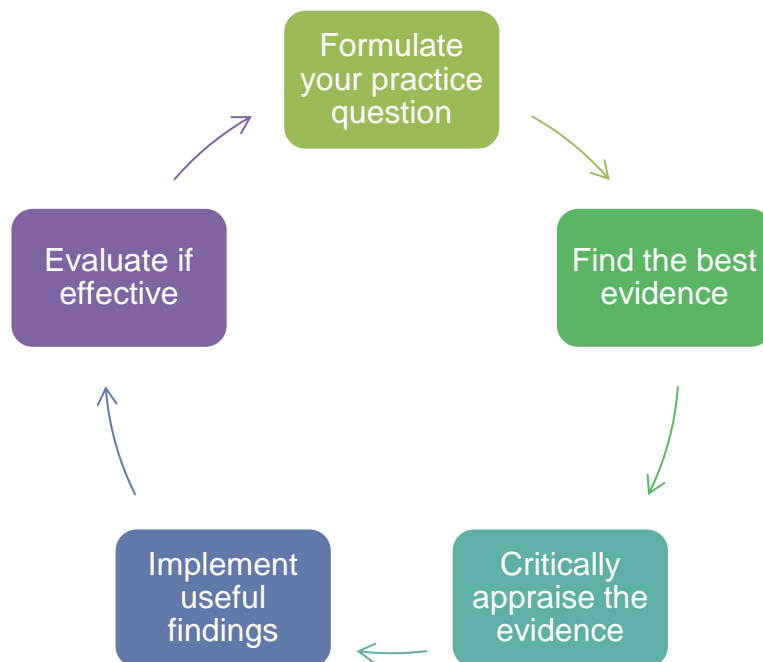
The Health and Care Professions Council (HCPC) requires that occupational therapists should 'be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process' (Health and Care Professions Council 2013 p13) whilst COT's *Code of Ethics and Professional Conduct* requires that you are able 'to access and understand and critically evaluate research and its outcomes, incorporating it into your practice where appropriate' (College of Occupational Therapists 2015 p37). It is therefore important to consider how you can meet these standards.

Firstly, it is useful to remind yourself that evidence-based practice is not in itself a single entity or, necessarily, a linear one. Bannigan (2007) identified five stages:

- Formulating a clear, clinical question.
- Finding the best evidence in the literature to answer the question.
- Critically appraising that evidence for its clinical usefulness and validity.
- Implementing useful findings in practice.
- Evaluating the effectiveness of the new way of working.



These stages can usefully be seen within a cyclical process:



Like all things that appear complex, breaking down 'evidence-based practice' into smaller bite-sized pieces makes it feel more manageable.

A. Formulate your practice question

Be clear about the topic for which you require evidence, its purpose and why it is important. Thinking of it in terms of a practice question can help to make the identification of the appropriate evidence less complicated.

Using the PICO methodology (Richardson et al 1995) can assist in drilling down the specific area of practice you really need to examine:

- The **P**atient (service user), **P**opulation or **P**roblem/circumstance.
- The **I**ntervention under investigation or action.
- The **C**omparison, which is an alternative intervention or action.
- The desired **O**utcome.

This approach can be helpful and provide you with the basic terms you will need in your search for evidence.

B. Find the best evidence

The main sources of research evidence are best found via a thorough literature search.

Identify the search terms: search terms can include the service user group or problem (e.g. older adults, stroke); the intervention (e.g. constraint induced movement therapy); and the outcomes (e.g. occupational engagement). In order to find the widest range of literature on the topic, alternative terms should be suggested for each of these concepts (e.g. older people, older persons, elderly). It is also important to



consider whether there may be variations in spelling, such as between English and American words (e.g. paediatric/pediatric). Most librarians will be able to offer help with identifying and combining search terms.

Search the databases: your search terms are used to interrogate one or more databases. Some databases are free to the internet user, such as PUBMED, OTseeker and the Cochrane database. Others, which can only be accessed by subscribers, include Allied and Complementary Medicine (AMED), Cumulative Index to Nursing and Allied Health Literature (CINAHL), PSYCINFO and Social Policy and Practice. OTDBASE is a specialist subscription database of abstracts from occupational therapy journals. An NHS or university librarian will advise on what databases are available to you. To carry out an exhaustive search, it is necessary to cover as many relevant databases as possible.

Select papers and obtain the literature: a database search may bring up thousands of references so it is important to have clear inclusion/exclusion criteria for selecting papers to review. Important considerations when setting such criteria can include: the relevance of the paper to the question, the type of research, and the quality of the research. For example, the decision may be taken to only include reports of randomised controlled trials (RCT) or systematic reviews that include at least one RCT, or to exclude studies that occurred before a certain year.

Some databases give online access to full text journal articles while others provide only an abstract. Selected papers can be obtained from a specialist library or via interlibrary loans. A librarian can advise.

Information can also be found in grey literature and professional magazines (such as OTnews). Whilst these can provide valuable perspectives and examples of practice, they are not usually research-based and have not been peer reviewed. They cannot, therefore, be assumed to offer robust evidence and you would need to be very cautious about the context in which you use any information from these publications. Similar care would need to be employed when considering whether to use general information obtained from websites (as opposed to peer reviewed ejournals available on a website).

C. Critically appraise the evidence

Once you have tracked down relevant articles, you will need to appraise the evidence. Published research in professional journals will, in the main, have been peer reviewed, but you still need to critically review the strengths and limitations of the evidence and consider whether the findings can be generalised to your area of practice. Critical appraisal can provide an excellent continuing professional development activity either alone, or with colleagues in a journal club.

Frameworks for critically appraising different types of research are available. For example, the following websites provide guidance information and templates/tools to help structure your appraisal:

- The Critical Appraisals Skills Programme (CASP)
<http://www.casp-uk.net/>
- McMaster University's Occupational Therapy Evidence-Based Practice Research Group
<http://srs-mcmaster.ca/research/evidence-based-practice-research-group>
- Centre for Evidence-based Medicine
<http://www.cebm.net/index.aspx?o=1157>

When considering different types of evidence, practitioners need to be aware that research designs vary in terms of their robustness and the risk of error and bias in their results. Various hierarchies of evidence are available and these traditionally reflect the highest levels of evidence as systematic reviews and randomised controlled trials. In terms of the nature of occupational therapy research and evidence, sources of information and evidence accessed will often need to be as inclusive as possible.

The final stages of appraising the evidence involve asking if the findings answer the clinical question and using clinical judgement to decide if they are likely to be clinically important.



D. Implement useful findings

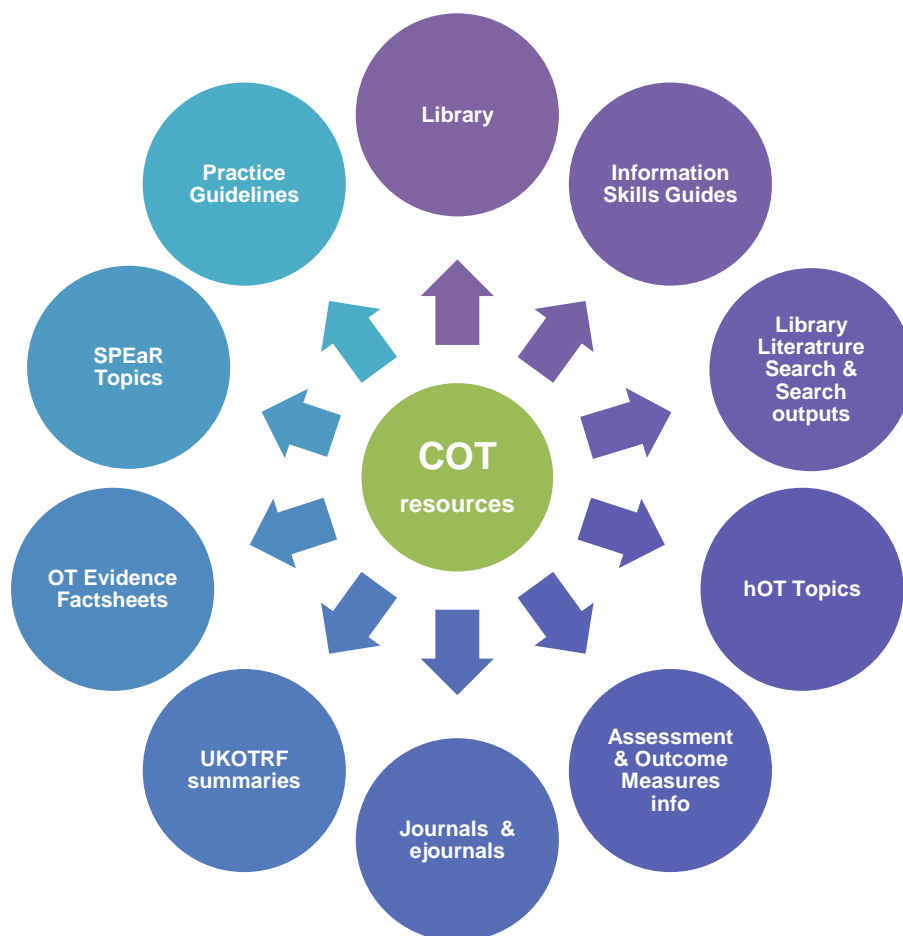
A review of the evidence may lead to identification of findings that support your current practice. Alternatively, it could lead you to consider whether you need to make changes to your practice. A decision to make any changes should ideally be based on a body of evidence, and not made in isolation from your own expertise and experience, the individual service user's needs and the environment in which you practice. Risks and benefits need to be considered, and any decision should be made in consultation with/with the support of managers, service users, multidisciplinary team members and commissioners, as appropriate.

E. Evaluate if effective

If you find evidence that is both robust and meaningful, and you have determined the potential benefits and risks of implementing change to your area of practice, then don't forget to evaluate the impact of that change to close the loop. Very much like the occupational therapy process, this may need to lead to 're-assessment' of the situation and so the cycle begins again.

3. COT Evidence-based practice resources

COT has a number of resources to support evidence-based practice, available to members of the British Association of Occupational Therapists (BAOT).





COT Library

When it comes to searching for the evidence, there is a lot of useful information on the Library and Publications pages of the BAOT/COT website: <http://www.cot.co.uk/cot-library/cot-library> .

The COT library houses a unique specialist collection of materials and resources to support the work and study of BAOT members, including reference books/ebooks, journals/ejournals and donated PhD theses as well as offering access to a range of databases (further information on databases and theses is provided in Section 4 of this document).

The COT library team can support members in tracking down what information is available on a particular topic, and obtain copies of articles through their document supply service.

Information Skills guides: the library team have produced a number of information skills guides, including guides to literature searching and using particular databases. These can be accessed at: <https://www.cot.co.uk/cot-library/information-skills>.

Literature Searches and Literature Search outputs: the library team can carry out literature searches for BAOT members: <http://www.cot.co.uk/cot-library/library-literature-search> (please note, this service is not available to those who are undertaking award-bearing courses who should refer to their university library). The results of some previous literature searches carried out by COT library staff are available on the *literature search outputs* page: <https://www.cot.co.uk/cot-library/literature-search-outputs>.

hOT Topics: an extensive collection of hOT Topics are available. These provide a useful starting point and overview of key readings related to a particular subject, including articles, books and selected websites. They cover a variety of subjects, ranging from areas of practice (e.g. vocational rehabilitation; palliative care), specific conditions (e.g. autism spectrum disorder) and other topics of interest (e.g. risk management): <http://www.cot.co.uk/hot-topics/hot-topics>.

Assessments and Outcome Measures library pages: the Assessment and Outcomes Measures web pages are another useful library resource for supporting evidence-based practice. They provide information about selecting and using assessments/outcomes measures and will signpost you to some key resources. Access them at: <https://www.cot.co.uk/cot-library/assessments-and-outcome-measures>.

Journals and ejournals: in addition to the journals held in the COT library, a wealth of electronic journals are available to BAOT members via the Library and Publications tab of the BAOT/COT website. This member benefit widens your exposure to international research and evidence. Ejournals available include:

- British Journal of Occupational Therapy (BJOT), the official journal of the College of Occupational Therapists.
- American Journal of Occupational Therapy.
- Australian Occupational Therapy Journal.
- Canadian Journal of Occupational Therapy.
- An extensive range of other health and social care journals, including occupational therapy specific titles.

All ejournals can be accessed at: <http://www.cot.co.uk/journals-ejournals/journals-ejournals>. This web page also contains information about signing up for Table of Contents (TOC) alerts (or you can sign up to TOC alerts via individual journal websites). TOC email alerts enable you to keep up to date with new journal articles being published as soon as they become available online. When you receive a TOC alert a useful starting point can be to review the abstracts and key messages to see if an article may provide details of evidence which is relevant to your area of practice.



UKOTRF Projects: Summaries of Key Findings

The United Kingdom Occupational Therapy Research Foundation (UKOTRF) is a division of the College of Occupational Therapists. UKOTRF supports research that will build the evidence-base for occupational therapy and increase research capacity within the profession. It has a role in raising awareness of the valuable contribution of occupation to people's health and wellbeing.

A summary of the key findings for each completed UKOTRF funded project (including, where known, journal publication references) can be accessed at: <https://www.cot.co.uk/uk-ot-research-foundation-ukotrf/funded-project-outputs-0>

All funded projects are required to provide a final project report, a hard copy of which will be placed in the COT library for reference by members six months after the project has been signed off by COT.

Occupational Therapy Evidence Fact Sheets

Occupational therapy evidence factsheets provide concise information about a particular topic (e.g. developmental coordination disorder, falls management, hand therapy, reablement). The target audience is commissioners. The factsheets provide key facts, examples of key benefits/cost benefits and related reference points: <http://www.cot.co.uk/occupational-therapy-evidence-fact-sheets>.

Practice guidelines

COT has published a number of practice guidelines in conjunction with COT specialist sections. Practice guidelines outline the nature and level of intervention that is considered best practice for specific conditions in specific populations. COT received NICE Accreditation in January 2013 (valid for five years) for the process it uses to produce its practice guidelines.

The use of a robust process, which draws on available evidence to develop recommendations for practice, ensures that the practice guidelines are a good hallmark to demonstrate and implement evidence-based practice.

Practice guidelines available include the following:

- Hand and wrist orthoses for adults with rheumatological conditions (2015).
- Occupational therapy in the prevention and management of falls in adults (2015).
- Splinting for the prevention and correction of contractures in adults with neurological dysfunction (2015).
- Occupational therapists' use of occupation focused practice in secure hospitals (2012).
- Occupational therapy for adults undergoing total hip replacement (2012).

All guidelines published since 2011 are supported by a quick reference guide, audit tool and continuing professional development session.

If there is a guideline relevant to your service, then it is recommended that you carry out an audit against the recommendations and identify any action you might need to take.

Access the guidelines at: <http://www.cot.co.uk/practice-guidelines/cot-practice-guidelines>.

SPEaR Topics (*Supporting Practice: Evidence and Resources*)

There are numerous SPEaR topics available on the COT website. The SPEaR topics are an online signposting resource and include topics related to particular conditions (e.g. dementia), areas of practice (e.g. housing) and topics relevant to occupational therapy practice (e.g. age friendly environments, public health). There are also SPEaR topics on *Outcomes* and on *Research and evidence-informed practice*.



SPEaR topics direct members towards some key information on a particular topic by providing links to relevant web sites or documents. Links are usually to information that is freely accessible and in the public domain, or to professional journals accessible via the COT ejournal collection.

All topics can be accessed via: <https://www.cot.co.uk/supporting-practice/evidence-and-resources>.

4. Sources of evidence

There are many sources of evidence available. The information below provides examples of some of those commonly used, although it is by no means intended to be a definitive list.

BMJ Clinical Evidence

A database of high-quality, rigorously developed systematic overviews assessing the benefits and harms of treatments, and a suite of evidence-based medicine (EBM) resources and training materials:

<http://clinicalevidence.bmj.com>

Cochrane Library

The Cochrane Library includes the following databases:

- Cochrane Database of Systematic Reviews (CDSR).
- Database of Abstracts of Reviews of Effects (DARE).
- Cochrane Central Register of Controlled Trials (CENTRAL).
- Health Technology Assessment Database (HTA).
- NHS Economic Evaluation Database (EED).
- Cochrane Methodology Register (CMR).

Available at: <http://www.thecochranelibrary.com>

COT Library and Information Service

The COT Library provides access for members to the principal allied health databases. These include the following databases for which COT holds a subscription:

- AMED (Allied and Complementary Medicine).
- CINAHL (Cumulative Index to Nursing and Allied Health Literature).
- HMIC (Health Management Information Consortium).
- MEDLINE (the U.S. National Library of Medicine's digital archive of life sciences journal literature.).
- PSYCINFO (psychology and related disciplines).
- Social Policy and Practice (social policy, public health, social services, and mental and community health).
- OTDBASE – (international occupational therapy journal literature).
- OTSearch (the catalogue and database of the American Occupational Therapy Association).

Members would need to visit the library to access these databases. However, COT librarians would be able to use the subscription databases, in addition to databases that are publically available on the internet such as the Cochrane Library and OTSeeker, to carry out literature searches for members. Please refer to section 3 of this document for more information regarding literature searches.

In addition to providing access to principal databases, the COT library houses an extensive collection of over 7000 reference books, holds print copies of over 50 key occupational therapy / occupational therapy relevant journals and has a collection of over 650 unpublished UK Master's and doctoral theses and reports. Find out more: <http://www.cot.co.uk/cot-library/cot-library>.



Europe PubMed Central

A free online digital archive of full-text, peer reviewed research publications, based on PubMed Central:
<http://europepmc.org>.

Evidence-Based Occupational Therapy web portal

The Evidence-Based Occupational Therapy web portal is funded by the Canadian Occupational Therapy Association and McMaster University and is endorsed by the World Federation of Occupational Therapists. It provides strategies, knowledge and resources to aid occupational therapists in finding out about and using evidence: <http://www.otevidence.info>.

National Elf Service

The National Elf Service is a collection of evidence-based websites, owned and managed by Minervation Ltd, which aim to help busy health and social care professionals keep up to date with the latest research. It is intended that the sites will present high quality research, critically appraise it, and ask subject experts to summarise it in simple and clear blogs. There are numerous 'elf' sites, including the: Commissioning Elf Learning Disabilities Elf, Mental Elf, and Musculoskeletal Elf.

Find out more and access the separate Elf websites at: <http://www.nationalelfservice.net/>.

NICE Evidence Search

NICE Evidence Search provides free access to a health and social care information web portal that allows users to search multiple sources simultaneously and gives access to specialist collections covering a wide range of conditions, topics and health populations. This includes the Quality, Innovation, Productivity and Prevention (QIPP) resource: <https://www.evidence.nhs.uk>.

OTseeker

OTseeker is a database of abstracts of systematic reviews and randomised controlled trials relevant to occupational therapy. The validity and interpretability of the trials has, in most cases, been critically appraised: <http://www.otseeker.com>.

Occupational Therapy Critically Appraised Topics (CATS)

CATS gives access to short summaries of evidence on particular topics or clinical questions:
<http://www.otcats.com>.

Social Care Online

A product of the Social Care Institute for Excellence, this website is a free database of social care information and research. It includes listings of research briefings, reports, government documents, journal articles, events and websites. Available at: <http://www.scie-socialcareonline.org.uk>.

Trip Database

The Trip Database is a gateway to evidence-based healthcare resources, updated monthly:
<http://www.tripdatabase.com>.



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All websites in the references were accessed on 02.09.15 unless otherwise indicated.

Need further information or advice?

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