

MOVE TO INFOEXPET

Learning Services

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Strategic Literature Searching

An information literate person knows when and why they need information, where to find it, and how to evaluate, use and communicate it in an ethical manner (CILIP, 2004).

This set of skills and behaviours can be applied to any situation throughout life.

How can this be applied to my research at university and when I am employed?

- A need for information what is my research question?
- The resources available what resources are best suited to my enquiry?
- How to find information how will I formulate my search strategy?
- The need to evaluate search results how do I critically analyse the information retrieved?
- How to focus and refine searches how can I find the most useful results?
- Ethics and responsibility of use how do I avoid plagiarism?
- How to communicate or share your findings how should I present my findings?
- How to manage your findings how can I store and retrieve my results and search strategies?

Information literacy skills are required to effectively perform evidence-based health care by locating reliable evidence to inform clinical decision making which will assist in the delivery of the highest standards of care possible. These skills will assist you in life-long learning and enhance your employability skills.

Where do I start?

- 1. Write the research question down (clarify with tutor or lecturer if necessary).
- 2. In your own words describe what the assignment is about.
- 3. What are the main topics, themes or concepts?
- 4. What are the keywords? (Main concepts or themes that you use to search for books, journal articles or websites on a specific topic).
- 5. Consider alternative terms that describe your main themes or concepts. (e.g. drug use & substance misuse) or e.g. (old, older, aged, elder & geriatric)
- 6. Do information resources need to be very up to date e.g. the last 5 years only?
- 7. Do they have to be UK based only?
- 8. Keep a record of your search strategies including key search terms and results. Also record databases or resources searched.
- 9. Use bibliographic software such as RefWorks to manage your reference list. www.edgehill.ac.uk/ls/research/refworks/

Consider information sources you have available to you:

- Colleagues
- Tutors
- Subject Librarians at university and NHS libraries
- Library Catalogue http://library.edgehill.ac.uk/
- Library Subject Pages www.edgehill.ac.uk/ls/subject/health/

Consider research in the literature review:

- Have you searched a wide range of literature?
- Is the review balanced and not biased?
- Have you critically appraised the literature and identified any strengths or weaknesses in the research?

Formulating your research question:

Finding the right information in the most efficient manner is key to successful evidence-based decision making. Knowing what key components to use in your **search strategy** will help you develop that efficiency. It all begins with the question. A clinical research question can be developed using several frameworks. Which framework to use will depend on the type of enquiry you have. You can also adapt a framework.

There are 4 main aspects of a research topic to consider and the specific focus of these may be categorised depending on whether the research relates to clinical treatment, service management, policy, education or involves a particular methodology.

- 1. The **situation:** patient/client, population group, problem, condition, setting, perspective, context or location.
- 2. The **actions:** intervention, exposure, including time factors.
- 3. The **results**: in relation to benefits or improvements, risk or safety, cost, efficiency or quality.
- 4. If a **comparison** is sought.

Sample frameworks that you can use:

- PICO
 - www.eshare.edgehill.ac.uk/id/document/12505,
 http://learntech.physiol.ox.ac.uk/cochrane_tutorial/cochlibd0e84.php
- ECLIPSE
 http://implementationcentral.com/ebponline/?page_id=213
- EPICOT (extended version of PICO framework)
 www.ncbi.nlm.nih.gov/pmc/articles/PMC1602035/table/tbl1/

The following linked document contains an outline and explanation of

The literature search process: Guidance for NHS researchers and includes references to frameworks for creating a clinical question.

www.workforce.southcentral.nhs.uk/pdf/Lit search protocols 2013 .pdf

Creating a Search Strategy:

For each concept of your research question you will need to think about which keywords could be used to search for information. Brainstorm for synonyms, alternative terminology and spellings for each of your ideas or concepts. Use your background reading to assist with this. Review relevant literature, subscription database thesaurus, subject dictionary or key texts for help with key words or search terms.

SEARCH TIPS

Truncation:

- * This symbol will find any ending of a word
- e.g. child* will find child, childhood, children etc.

Wildcard Characters:

- ? This symbol is used to replace any single character,
- ? This symbol cannot be used to begin a word.
- e.g. wom?n will find woman and women

Phrase Searching:

- "quotation marks" placed around two words of more will ensure they appear together in search results.
- e.g "risk assessment" retrieves more focused search results.

This PICO clinical question can be broken down into key concepts and a search strategy created that can be implemented in multiple information sources.

"In people with a <u>prior history of stroke</u>, is <u>blood pressure reduction</u> more effective than <u>no treatment</u> in <u>preventing future stroke events</u>?"

Patient, Population	Intervention	Comparison	Outcome
"history of stroke"	"blood pressure	"no treatment"	"prevent future stroke
AN	reduction" A	ND AN	events"
OR	OR	OR	OR
"previous stroke"	"hypertension	"treatment outcomes"	"cerebrovascular
	reduction"		accident prevention"
OR			OR
"cerebrovascular			"CVA prevention"
accident history"			
OR			
"CVA history"			

Keywords and phrases can then be combined to create a number of different search strategies which can be typed into a database to find journal articles.

Tips!

Remember, searching is an iterative process and you will have to retry in alternative databases, modify and apply limits to find the results you require.

Search on outcomes last. This may not be necessary if the articles cover this outcome.

Boolean Operators

Words such as **AND**, **OR** and **NOT**, used to combine search terms or keywords, either broaden or narrow the retrieval results of a search. Named after a system of logical thought developed by an English mathematician, George Boole.

Combining terms - When searching bibliographical databases such as MEDLINE you will need to use OR/AND to put your search together:

OR – to combine keywords for similar concepts (i.e. terms in the *same* column) use OR e.g. blood pressure OR hypertension.

AND – to combine keywords for different concepts (i.e. terms in *separate* columns) use AND, e.g. stroke AND blood pressure reduction

Saving Search Strategies:

Let's do a search in CINAHL Complete and save the search strategy for printing, storing online and use it to keep up-to-date with the latest publications for a chosen search query.

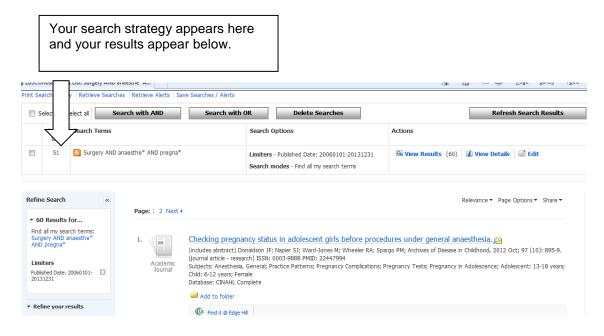
Use your own search query or try the following:

Surgery and anaesthe* and pregna*

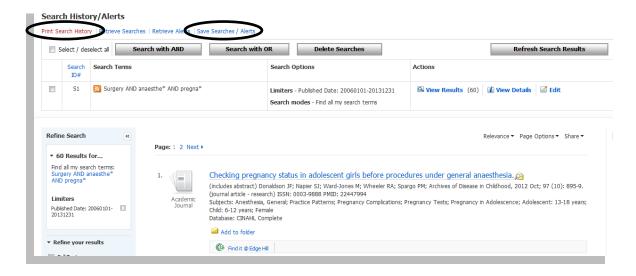
Search for the 'CINAHL Complete' database on the library catalogue.

http://library.edgehill.ac.uk

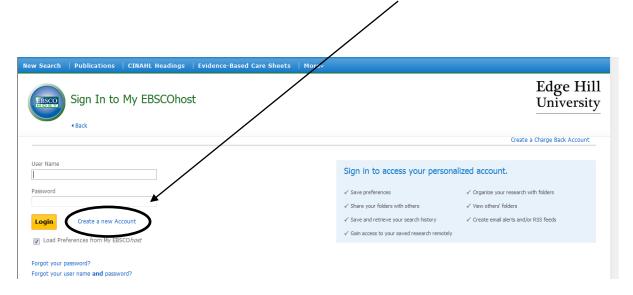
Run the search query above or use your own search query in the advanced search screen. Select a date range before running the search.



Print or Save your Search Strategy



To save your search online you will need to sign up for an EBSCO account. Follow the instructions for creating a new account by clicking here.



Once you have access to your account you will see your saved searches. You can save the search permanently and login when you use the database again to re-run your search.

Alternatively you can create an **alert** by clicking here and be notified when new articles are added to the database. You can choose to be notified daily, weekly, bi-monthly or monthly via email.



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Critical Appraisal

Critical appraisal of a journal article:

A number of check-lists are available to assist you with the critical appraisal of a journal article describing a piece of research.

The questions vary for different types of research studies but all boil down to four main issues:

- What is this paper about?
- Do I trust it?
- · What did they find?
- Is it relevant to me?

Critical appraisal check-lists are available from:

CASP (Critical Appraisal Skills Programme)

http://www.casp-uk.net/

CEBM (Centre for Evidence-Based Medicine)

http://www.cebm.net/critical-appraisal/

How to read a paper (BMJ series)

http://www.bmj.com/about-bmj/resources-readers/publications/how-read-paper

BestBETs

http://www.bestbets.org/links/BET-CA-worksheets.php

All information resources, particularly electronic resources, must be evaluated before you use them for academic purposes.

The internet provides a vast amount of information, which may be of value for your studies. In theory anyone can publish anything on the internet so there are important issues about the quality and quantity of the material published.

Refer to 'Online Research' on your subject web pages on the Learning Services website. www.edgehill.ac.uk/ls/subject/health/useful-websites/ Whenever you are searching the internet take time to evaluate any results.

Remember to use the following criteria (otherwise known as the CRAAP test*):

Currency: The timeliness of the information.

- When was the information published or posted?
- Has the information been revised or updated?
- Does your topic require current information, or will older sources work as well?
- Are the links functional?

Relevance: The importance of the information for your needs.

- Does the information relate to your topic or answer your question?
- Who is the intended audience?
- Is the information at an appropriate level (i.e. not too elementary or advanced for your needs)?
- Have you looked at a variety of sources before determining this is one you will use?
- Would you be comfortable citing this source in your research paper?

Authority: The source of the information.

- Who is the author/publisher/source/sponsor?
- What are the author's credentials or organizational affiliations?
- Is the author qualified to write on the topic?
- Is there contact information, such as a publisher or email address?
- Does the URL reveal anything about the author or source?
- Examples: .com .edu .gov .org .net

Accuracy: The reliability, truthfulness and correctness of the content.

- Where does the information come from?
- Is the information supported by evidence?
- Has the information been reviewed or refereed?
- Can you verify any of the information in another source or from personal knowledge?
- Does the language or tone seem unbiased and free of emotion?
- Are there spelling, grammar or typographical errors?

Purpose: The reason the information exists.

- What is the purpose of the information? Is it to inform, teach, sell, entertain or persuade?
- Do the authors/sponsors make their intentions or purposes clear?
- Is the information fact, opinion or propaganda?
- Does the point of view appear objective and impartial?
- Are there political, ideological, cultural, religious, institutional or personal biases?

How do I use the Internet more effectively for Academic Research?

<u>Virtual Training Suite</u> - <u>http://www.vtstutorials.co.uk/</u>

Online tutorials for university subjects including: health and social care.

^{*}Modified version of CRAAP Test created by Meriam Library at California State University, Chico.

Section 3

Evidence-Based Research

What is Evidence-Based Practice?

Evidence-based practice challenges the traditional approaches towards medical practice as characterised by Faith Based Medicine (what we believe to be true) and Authority Based Medicine (what we are told is true by seniors).

EBP = current best practice + professional expertise & experience + patient's preference.

Five steps to Evidence Based Practice

The five steps to EBP are often defined as:

- 1. Ask answerable questions
- 2. Search for the evidence
- 3. Appraise the evidence
- 4. Apply the evidence
- 5. Evaluate

Evidence-based practice requires the healthcare practitioner to acquire and develop skills in locating the evidence to support the decision making process.

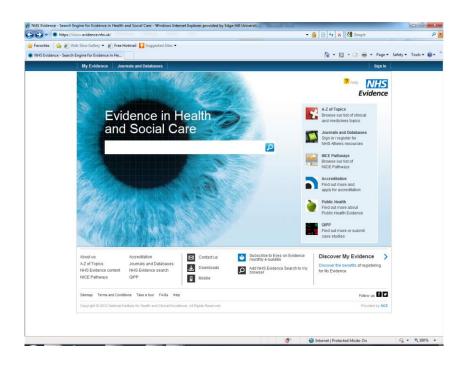
Where do you start looking for evidence?



NHS Evidence is a service that provides fast access to authoritative health and social care evidence and best practice through a web-based portal. In one place, you can simultaneously search over 250,000 resources from hundreds of trustworthy and accredited sources including The Cochrane Library, NICE and Royal Colleges.

Have a go at searching for your keywords in this resource, and have a look out for reports, patient information and NICE guidelines which can all be search for and come back in the results.

www.evidence.nhs.uk



^{*}Once you leave Edge Hill you will not have access to the Universities resources, but NHS staff members can access this resource which covers lots of the key databases for health and is accessed by an Athens account which you can apply for as staff.

Other sources to search for Evidence Based research on the library catalogue:

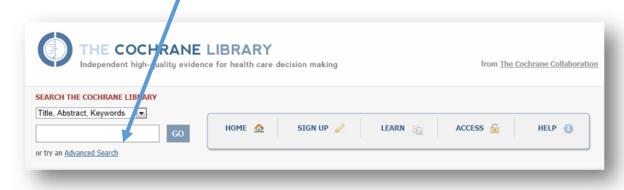
- 1. Royal Marsden Hospital Manual
- 2. The Cochrane Library
- 3. **CINAHL** (explore the search options in the Advanced search screen)

Let's have a refresher on The Cochrane Library:

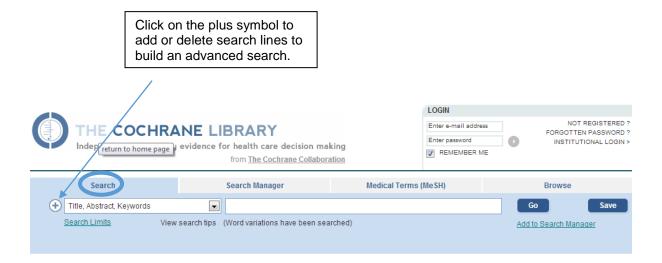
The Cochrane Library is a database of systematic reviews of research and information about controlled clinical trials, providing comprehensive coverage on the interventions of health care. It provides information on complete reviews as well as reviews currently undertaken. Because the Cochrane Library commissions its own research, it can make the full text of this research immediately available to you. You therefore have instant access to lots of evidence based research.

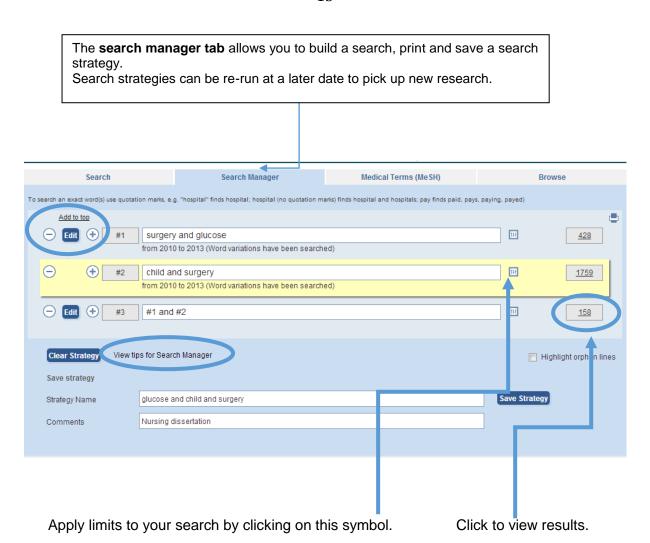
A quick and clear guide to conducting an effective search in The Cochrane Library. http://youtu.be/DrQhH0xmlYg

- Search the Library Catalogue for Cochrane Library
- Select Advanced Search



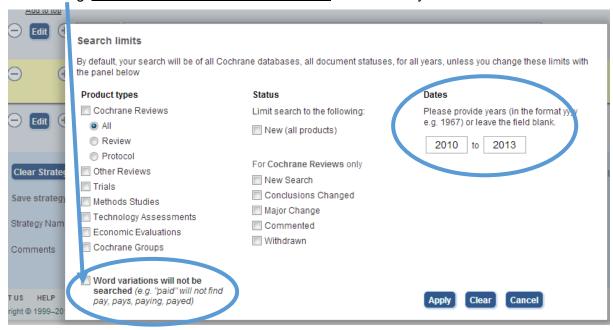
The 'Search' tab provides a quick search option and the ability to create advanced searches by searching across selected fields and adding search lines.





Applying limits:

Deselecting 'Word variations will not be searched' will broaden your search results.



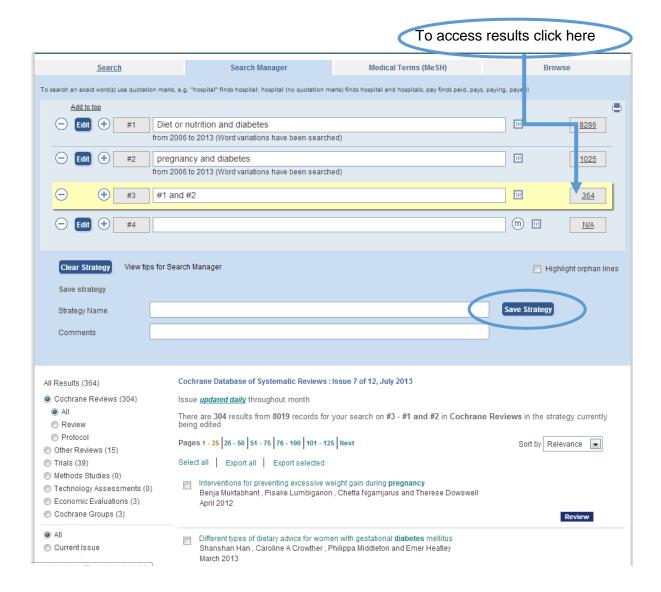
Create a search of your choice or try the following in the Search Manager tab. How can diet and exercise assist pregnant women with diabetes?

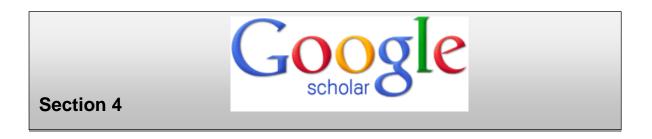
Search 1: Diet or nutrition and diabetes

Search 2: pregnancy and diabetes

- Limit to reviews only published between 2009 and 2013
- How many results does this give you?
- Click on a **Record** to view one of the reviews

Search Strategy combining the results of two searches in search #3.





Google Scholar is a freely available online search tool designed to search scholarly literature across all subjects. http://scholar.google.com



From one place, you can search across many sources: articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites.

It can give some very useful results for a review of past research, but is not explicit about which bibliographic databases and journals it searches, so for a comprehensive review you would need to search the important ones for your subject individually as well, or the publishers' own websites which will contain the most up-to-date research and a full back-catalogue of past academic work.

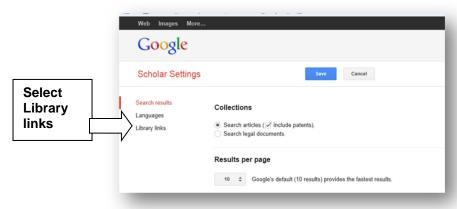
Access your subject databases here:

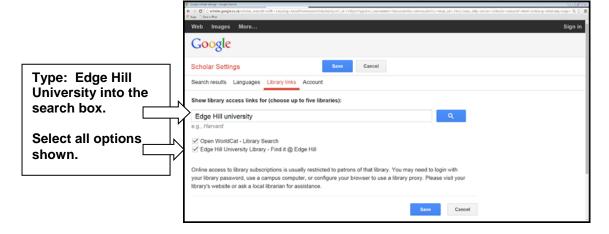
http://www.edgehill.ac.uk/ls/subject/social-work/resources/

You can only access the full-text results on Google Scholar if EHU has paid a subscription for the item.

To ensure that you receive a link next to items EHU subscribes to, you need to save the university name in Google Scholar settings.







Search Google Scholar and you will see the **Find it @ Edge Hill** link. Use this link to access Full Text.

The ketogenic **diet** in **children**, adolescents and young adults with refractory epilepsy: an Italian multicentric experience



G Coppola, P Veggiotti, R Cusmai, S Bertoli... - Epilepsy research, 2002 - Elsevier

... Now, despite advances in both pharmacotherapy and **surgery** of epilepsy (Magrath et al., 2000), in Europe there is a resurgence in the use of the ketogenic **diet**, because many **children** continue to have difficult-to-control seizures. ...

Cited by 87 Related articles All 11 versions Cite Save

Section 5

Grey Literature

"Grey Literature includes: government reports, committee reports, academic papers, theses, bibliographies, conference papers and abstracts, discussion papers, newsletters, PowerPoint presentations, conference proceedings, program evaluation reports, standards/best practice documents, technical specifications and standards, and working papers" (Alberani et al: 1990).

Why use Grey Literature in research?

It can be invaluable to your research: it is part of the overall evidence base and functions as an alternative source that may be used to overcome possible bias presented by published information.

It is generally not peer-reviewed so it is important to critically appraise it prior to use.

Sources of Grey Literature information:

Databases: The library subscribes to a large number of databases. In addition to journal articles and books, many of the databases also index certain types of grey literature (e.g. conference proceedings, clinical trials, dissertations, etc. e.g. CINAHL MEDLINE, Maternity and Infant Care). Tip! Use Advanced Search.

Government Reports: Access reports via whichever government department has commissioned the report.

- Department of Health <u>www.gov.uk/government/publications</u>
- Official Documents <u>www.official-documents.gov.uk/</u>
 This site contains a full listing of Command Papers and House of Commons Papers (HCPs) from 17 May 2005 to the present. A selection of papers published before 17 May 2005 can be accessed via a link on this site.

Dissertations/Theses:

- <u>Index to Theses with Abstracts</u> (access via the library catalogue). A comprehensive listing of theses with abstracts accepted for higher degrees by universities in Great Britain and Ireland since 1716. Now includes links to the full text where available.
- <u>UKPubMED Central</u> (access via the library catalogue). Additional content including biological patents, clinical guidelines, PhD theses and research reports. Use the advanced search screen.

Current NHS Research:

 UK Clinical Research Network Portfolio <u>www.crncc.nihr.ac.uk/about_us/processes/portfolio</u>
 The NIHR Clinical Research Network Portfolio is part of the UK Clinical Research Network Portfolio, which comprises the network current research portfolios for England, Northern Ireland, Scotland and Wales.

 The National Research Register (NRR) Archive <u>www.nihr.ac.uk/Pages/NRRArchive.aspx</u>
 The NRR is the predecessor of the UK Clinical Research Network Portfolio
 The archived database contains a comprehensive record of publicly-supported health
 research projects from early 2000 up to and including September 2007.

Other Sources of Grey Literature:

 NHS Evidence www.evidence.nhs.uk/

- NHS Evidence Health Information Resources www.library.nhs.uk/
- Social Care Online www.scie-socialcareonline.org.uk/
- Childlink www.childlink.co.uk/
- OpenGrey: System for Information on Grey Literature in Europe.
 www.opengrey.eu/
- National Institute for Clinical Excellence (NICE) www.nice.org.uk/
- COPAC: search over 70 UK and Irish academic, national & specialist library catalogues.

http://copac.ac.uk/

Section 6

Managing Information

During your research you will have to deal with a large volume of information.

It is worthwhile developing an effective information management strategy which will save both time and frustration.

Managing referencing details:

Accurately record details to reference your information sources.

Refer to the guide for Harvard Referencing available on the Learning Services web pages. www.edgehill.ac.uk/ls/assignment-help/help-with-referencing/

The guide will assist you in determining the relevant referencing details required for different formats of information. By recording your references correctly you will be able to find the information again with minimum effort.

RefWorks Flow:

RefWorks Flow is a web-based bibliographic management tool that allows you to create a database of references. References can be added manually or imported from electronic journal collections and other sources. You can easily produce formatted bibliographies in the referencing style of your choice, including: Harvard, APA and MHRA. An add-in to Word enables you to add citations to your paper or essay as you write it.

Access further information, tutorials and guides via the library catalogue.

Copyright:

The ethical use of information sources is an essential academic skill and one that continues throughout your life when dealing with information usage.

This website gives advice and guidance on what can and cannot be copied under English law and under license. http://library.leeds.ac.uk/copyright

Managing database searches:

When using online databases make use of electronic folders on the search screen to store searches. The contents of the folder can be saved or emailed to your email account.

Alternatively, you can set up an account.

Online databases and e-Book providers also allow you to set up accounts to store your saved searches.

Look for links on the database search screen such as:

- Log in / create account
- Sign in
- My Workspace
- My Research

Email alerts:

Another useful way of keeping abreast of up and coming information, is to set up an email alert. Most databases that house journals allow you to do this.

You can set it up with your key word strategy and as soon as anything is published on that topic, an email is sent to your email account outlining the abstract of the journal in relation to any research you may be doing.

Further Help

LS provides as part of its academic writing and information skills service: 1 to 1 support for undergraduate and postgraduate research proposals, dissertations and literature reviews. To get the most out of this service its best to come to see us as early as possible in the research process. The service seeks to enable students to produce written work that is focused on a specific, feasible topic as well as being structured and clearly written and demonstrates use of appropriate academic sources. To book a one to one or for any skills query, visit the Ask desk, 1st floor, University Library, Ormskirk.

Ring 01695 584214 or email inclusiveservices@edgehill.ac.uk



Ask your questions online, anytime, anywhere! http://askus.edgehill.ac.uk/

Libraries at NHS Placement Sites – Students who attend placements at NHS sites will be able to access on-site NHS libraries. These libraries contain materials for NHS staff and access to resources via the NHS website www.evidence.nhs.uk. You have 24/7 access anywhere to electronic resources online via NHS Evidence and will be required to use your Athens account login details which are emailed to you in the first few weeks of starting university.