NUR3202C
Database Searching

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NUS Medical Library
Why and How Do You Search?

Source: https://www.dreamstime.com/stock-photo-evidence-based-practice-diagram-image85702235
Learning Objectives

After this session, you should be able to:

1. Formulate a search strategy
2. Choose appropriate databases
3. Conduct searches in:
   i. PubMed
   ii. CINAHL
Identifying Key Concepts

Do teenagers with type 1 diabetes who receive phone reminders maintain lower blood sugars than those who do not?

Tip!
A good question is focused and answerable.
Identifying Key Concepts

- Teenagers with type 1 diabetes
- Phone reminders
- Lower blood sugars
Is That How You Search?

Teenagers with type 1 diabetes phone reminders lower blood sugars

Why are there so few results?

Why are the articles biased?
BOOLEAN Operators

**OR** retrieves records containing either one or both terms *within one concept* → more results
*E.g. obese OR overweight*

**AND** retrieves records containing both terms *across concepts* → fewer results
*E.g. childhood AND obesity*

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**Tip!**

*Use Boolean operators in UPPERCASE.*
Connecting Key Concepts

Teenagers with type 1 diabetes

AND

Phone reminders

AND

Lower blood sugars
Connecting Key Concepts

Teenagers AND Type 1 diabetes

AND

Phone

AND

Blood sugars
Elaborating Search Strategy

Teenagers OR adolescents AND Type 1 diabetes OR insulin-dependent diabetes AND Phone AND Blood sugars OR blood glucose
Nesting (  )

Used to combine concepts in a prescribed order in a search statement:

(Teenagers OR adolescents) AND (Type 1 diabetes OR insulin-dependent diabetes)
Elaborating Search Strategy

(Teenagers OR adolescents) AND (Type 1 diabetes OR insulin-dependent diabetes) AND Phone AND (Blood sugars OR blood glucose)

Teenagers with type 1 diabetes phone reminders lower blood sugars
⇒ 14,000 in Google Scholar / 0 in PubMed

(Teenagers OR adolescents) AND (Type 1 diabetes OR insulin-dependent diabetes) AND Phone AND (Blood sugars OR blood glucose)
⇒ 32,700 in Google Scholar / 48 in PubMed
Strategies for Finding Evidence

1. Clinical Queries
2. Advanced/comprehensive search
   - Keywords
   - Subject heading
   - Filters
   - Types of study design
Clinical Queries

Why start here?

• It uses evidence-based algorithms/filters when doing searches
• Helps you find the highest level of evidence for a clinical question
Subject Heading

Advanced/comprehensive search:
- Keywords
- Subject heading
- Filters
- Types of study design

Human indexers read articles in MEDLINE and assign standardised terms called MESH

“**Myocardial infarction**” is the designated subject heading for the concept of ‘heart attack’.
Search using Subject Headings and Keywords

- Keywords (added by author)
- MeSH terms (added by indexer)

OR

All articles on that concept
Comparing Keyword and MeSH Searches

Keyword

MeSH

Less precise, but current

Precise, but slightly dated
Which of the following is correct?

A. I can perform the most comprehensive search using MeSH terms alone.
B. I can find the latest articles using keywords alone.
C. I must use a combination of MeSH terms and keywords in every search.
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Database Content Coverage

PubMed

Clinical & medical topics

CINahl

Nursing, Alternative Medicine & Allied Health
Database Time Coverage

PubMed: 1946 - present
CINAHL: 1937 - present
Subject Heading

- Databases **with** subject heading indexing:
  - Pubmed, Cochrane (MeSH)
  - CINAHL (CINAHL headings)
  - Embase (EmTree)
  - PsycINFO (Thesaurus of Psychological Index Terms)

- Databases **without** subject heading indexing:
  - Scopus
  - Web of Science
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PubMed Clinical Queries

Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use PubMed directly.

(Teenagers OR adolescents) AND (Type 1 diabetes OR insulin-dependent diabetes) AND Phone AND (Blood sugars OR blood glucose)

Clinical Study Categories

Category: Therapy
Scope: Broad

Systematic Reviews

Results: 1 of 1

Medical Genetics

Topic: All

Results: 0 of 0
This column displays citations pertaining to topics in medical genetics. See more filter information.

Results: 5 of 26


Automated overnight closed-loop control using a proportional-integral-derivative algorithm with insulin feedback in children and adolescents with type 1 diabetes at diabetes camp.
See how PubMed executes your search, and refer to MeSH terms from here.
Anatomy of a PubMed Abstract

Look for MeSH terms

Find similar articles

Access full-text
### Anatomy of a PubMed Abstract

**MeSH terms**

- Adolescent
- Blood Glucose Self-Monitoring/methods*
- Child
- Diabetes Mellitus, Type 1/blood*
- Female
- Humans
- Male
- Mobile Applications*
- Patient Compliance*
- Retrospective Studies

> ‘*’ denotes Major Topic

**Tip!** Refer to MeSH terms from here.
Searching MeSH Terms
Diabetes Mellitus, Type 1

A subtype of DIABETES MELLITUS that is characterized by INSULIN deficiency. It is manifested by the sudden onset of severe HYPERGLYCEMIA, rapid progression to DIABETIC KETOACIDOSIS, and DEATH unless treated with insulin. The disease may occur at any age, but is most common in childhood or adolescence.


PubMed search builder options
Subheadings:

- analysis
- anatomy and histology
- blood
- cerebrospinal fluid
- chemically induced
- classification
- complications
- congenital
- diagnosis
- diagnostic imaging
- diet therapy
- drug therapy
- economics
- embryology
- enzymology
- epidemiology
- ethnology
- etiology
- genetics
- history
- immunology
- metabolism
- microbiology
- mortality
- nursing
- organization and administration
- parasitology
- pathology
- physiology
- physiopathology
- prevention and control
- psychology
- radiotherapy
- rehabilitation
- statistics and numerical data
- surgery
- therapy
- transmission
- urine
- veterinary
- virology

Restrict to MeSH Major Topic.
Do not include MeSH terms found below this term in the MeSH hierarchy.
By default, databases search for MeSH terms below in the hierarchy, i.e. “automatic explosion”.
Introducing Entry Terms

Type 1 diabetes

Entry Terms:
- Diabetes Mellitus, Brittle
- Brittle Diabetes Mellitus
- Diabetes Mellitus, Insulin-Dependent
- Diabetes Mellitus, Insulin Dependent
- Insulin-Dependent Diabetes Mellitus
- Diabetes Mellitus, Juvenile-Onset
- Diabetes Mellitus, Juvenile Onset
- Juvenile-Onset Diabetes Mellitus
- Diabetes Mellitus, Ketonis-Prone
- Diabetes Mellitus, Ketonis Prone
- Ketonis-Prone Diabetes Mellitus
- Juvenile-Onset Diabetes
- Diabetes, Juvenile-Onset
- Juvenile Onset Diabetes
- Diabetes Mellitus, Type I
- Diabetes Mellitus, Sudden-Onset
- Diabetes Mellitus, Sudden Onset
- Mellitus, Sudden-Onset Diabetes
- Sudden-Onset Diabetes Mellitus
- Type 1 Diabetes Mellitus
- Diabetes Mellitus, Insulin-Dependent, 1
- Insulin-Dependent Diabetes Mellitus 1
- Insulin Dependent Diabetes Mellitus 1
- Type 1 Diabetes
- Diabetes, Type 1
- IDDM
- Diabetes, Autoimmune
- Autoimmune Diabetes

Tip!

Borrow your keywords from Entry Terms.
Search History

Click on number to see results in PubMed

Click to add search strategy to Builder
PubMed Advanced Search Builder

By default, search is executed in “All Fields”

Click on “Add to history” to remain in Advanced Search Builder

Click on “Search” to go to PubMed results page
Reviewing PubMed Search

Sort by:
- Most Recent
- Best Match
- Citation manager

Choose Destination:
- File
- Collections
- Clipboard
- E-mail
- Order
- My Bibliography

Generate a file for use with external citation management software.

Number to send:
- 200

Switch to our new best match sort order

Search results:
Items: 1 to 20 of 48

1. A Mobile App for Synchronizing Glucometer Data: Impact on Adherence and Glycemic Control Among Youths With Type 1 Diabetes in Routine Care
   - Clements MA, Staggs VS.
   - PMID: 28745097 Free PMC Article
   - Similar articles
Refining PubMed Search

Search results

Items: 1 to 20 of 49

1. Using mobile phones to measure adolescent diabetes adherence.

2. The role of mobile phones in adolescent T1DM: a review of the literature.

3. Self-management of diabetes in children and young adults using technology and smartphone applications.
Refining PubMed Search

Explore filters to refine your search.
Steps to Conduct Your Search

1. Identify key concepts of your question
2. Always search for MeSH terms first
3. If there are no MeSH terms, use keywords
4. Combine MeSH terms and keywords for a complete search
5. Use “AND” or “OR” to either narrow or widen your search
6. Filter your results last (e.g. language; article type; age)
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     i. PubMed
     ii. CINAHL
Click on “Suggest Subject Terms” to search CINAHL Headings
Searching CINAHL Headings

Click on “Scope” to review definitions
Combining CINAHL Headings and Keywords

<table>
<thead>
<tr>
<th>Search ID#</th>
<th>Search Terms</th>
<th>Search Options</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>S3</td>
<td>AB type 1 diabetes</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (10,194)</td>
</tr>
<tr>
<td>S2</td>
<td>TI type 1 diabetes</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (8,446)</td>
</tr>
<tr>
<td>S1</td>
<td>(MH &quot;Diabetes Mellitus, Type 1&quot;)</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (19,269)</td>
</tr>
</tbody>
</table>
Searching CINAHL Headings

- Check box to view subheadings.
- Click linked term for tree view.
- Explode (+)
- Major Concept
- Scope

- Include All Subheadings
- Or select one or more subheadings to restrict your search

- Adolescence
  - Classification/CL
  - Education/ED
  - Ethical Issues/EI
  - Evaluation/EV
  - History/HI
  - Legislation And Jurisprudence/LJ
  - Organizations/OG
  - Psychosocial Factors/PF

Search Term: Adolescence

Search Database
Combining Concepts

<table>
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<th>Actions</th>
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</thead>
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<tr>
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<td>S13 OR S14 OR S15</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (37.791)</td>
</tr>
<tr>
<td>S15</td>
<td>AB blood glucose OR blood sugar</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (14.585)</td>
</tr>
<tr>
<td>S14</td>
<td>TI blood glucose OR blood sugar</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (3.335)</td>
</tr>
<tr>
<td>S13</td>
<td>(MH &quot;Blood Glucose&quot;)</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (28.075)</td>
</tr>
<tr>
<td>S12</td>
<td>S9 OR S10 OR S11</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (11.662)</td>
</tr>
<tr>
<td>S11</td>
<td>AB phone</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (7.261)</td>
</tr>
<tr>
<td>S10</td>
<td>TI phone</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (2.193)</td>
</tr>
<tr>
<td>S9</td>
<td>(MH &quot;Cellular Phone++&quot;)</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (3.852)</td>
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<tr>
<td>S8</td>
<td>S5 OR S6 OR S7</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (436.516)</td>
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<tr>
<td>S7</td>
<td>AB teenagers OR adolescents</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (66.381)</td>
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<td>S6</td>
<td>TI teenagers OR adolescents</td>
<td>Search modes - Boolean/Phrase</td>
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<td>Search modes - Boolean/Phrase</td>
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<td>S1 OR S2 OR S3</td>
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<td>View Results (23.152)</td>
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Refining CINAHL Search

1. A systematic review of effect of information technology mobile phone on blood glucose management in children with type 1 diabetes mellitus.

2. Automated Overnight Closed-Loop Control Using a Derivative Algorithm with Insulin Feedback in Children with Type 1 Diabetes at Diabetes Camp.

3. Effect of mobile phone short text messages on glycaemic control in children with type 1 diabetes.
A systematic review of effect of information technology based on network and mobile phone on blood glucose management in children and adolescents with type 1 diabetes mellitus.

Objective: To evaluate the effect of modern information technology such as network and mobile phone on blood glucose management in children and adolescents with type 1 diabetes mellitus. Methods: Randomized controlled trials (RCT) of network and mobile phone effect on blood glucose management in children and adolescents with type 1 diabetes mellitus were retrieved among Cochrane Library, Joanna Briggs Institute Library, PubMed, Embase, CBMdisc, CNKI, Wanfang data and other databases. The quality of the literature was evaluated using Cochrane handbook 5.1.0, and meta-analyses was performed using Revman 5.3. Results: A total of 14 RCTs were included, of which 13 were in English and 1 was in Chinese. Network, mobile phone and other information technology cannot help type 1 diabetes children and adolescents to control the blood glucose effectively [WMD=0.095% CI (-0.22, 0.22); P = 0.12]. In which the network has no effect on blood glucose control of type 1 diabetes children and adolescents [WMD=0; 0.95% CI (-0.11, 0.29); P = 0.36], while the mobile phone could decrease the control of blood glucose in type 1 diabetes children and adolescents [WMD= -0.18, 95% CI (-0.32, -0.04); P = 0.01]. The application of modern information technology such as network and mobile phone cannot reduce the use of insulin [WMD = 0.06, 95% CI (-0.06, 0.19); P = 0.32]. Conclusions: The network and mobile phone did not contribute to the effective self-management of children and adolescents with type 1 diabetes mellitus. However, since the heterogeneity of the outcome index was large, the quality of the literature was not good, and the sample size is small, there still need more reasonable design, union objective outcome of a large sample, and high-quality RCTs, in order to obtain a more reliable evidence.
Clinical Queries in CINAHL

<table>
<thead>
<tr>
<th>Search History/Alerts</th>
<th>Search History</th>
<th>Retrieve Searches</th>
<th>Retrieve Alerts</th>
<th>Save Searches / Alerts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select / deselect all</td>
<td>Search with AND</td>
<td>Search with OR</td>
<td>Delete Searches</td>
<td>Refresh Search Results</td>
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</table>

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<tr>
<td>S17</td>
<td>S4 AND S8 AND S12 AND S16</td>
<td>Search modes - Boolean/Phrase</td>
<td>View Results (19)</td>
</tr>
</tbody>
</table>

Limit your results

- Full Text
- Abstract Available
- Author
- English Language
- Research Article
- Search Only Pre-CINAHL
- CE Module
- **Clinical Queries**

References Available
- Published Date
  - Month
  - Year
  - - Month
  - Year

- Peer Reviewed
- Exclude Pre-CINAHL
- Exclude MEDLINE records
- Evidence-Based Practice
- Human
- First Author is Nurse

Exit
List of Resources

- **Database Coverage Guide** (Cochrane, Embase, PubMed, CINAHL, PsycINFO, Scopus)
- **PubMed Handout** (A quick reference guide)
Contact Us

Medical Library
Walk in: Level 5, MD6
Telephone : 65162046
Email: mdlib@nus.edu.sg
URL: www.lib.nus.edu.sg
Any Questions?

Please submit online feedback at:
https://tinyurl.com/NUR3202C-2018

We value your feedback 😊