Building a search in PubMed

Example: effect of traffic-related air pollution on blood pressure

Gather separate concepts:
1. Blood pressure, hypertension
2. Vehicle exhaust, diesel exhaust, vehicle emissions, traffic, etc.

Search 1: blood pressure OR hypertension

Search 2: exhaust OR emissions OR pollution OR diesel

Search 3: vehicle* OR traffic

HISTORY – click on Advanced Search from the PubMed home page. Combine your previous searches, #1 AND #2 AND #3, or combine a previous search with new keywords.
Search History is located below the Search Builder, on the Advanced Search page.

FILTERS – (select filters to limit results, such as publication dates (last 5 or 10 years, or custom range), English language, Humans, articles concerning particular age groups: child, adolescent, adult etc., specific research study types, for example, comparative study, or randomized controlled trials). Click *Show additional filters* to display more filter options.

Use **SEARCH BUILDER** (Advanced Search screen) to search for words in specific fields of the citation/abstract, such as words in title, words in title/abstract, or particular Medical Subject Heading (MeSH) terms.

Notes about Connectors (OR, AND, NOT)

> Use "OR" when searching synonyms or alternative terms. Articles containing **any** of the ORed words will appear in the search results.
> (wine OR chocolate) AND cardiovascular effects

> Terms connected with "AND" must **all** show up in each article retrieved.

> "NOT" will remove articles containing particular terms.
> (hiv AND cancer) NOT children – eliminates articles discussing children, including articles that discuss both adults and children.

> You can combine terms into one search statement successfully by placing the terms in parentheses that you want to process first:
> Blood pressure AND (vehicle* OR traffic) AND (emissions OR particulates OR exhaust)

MeSH Database – Use the MeSH Database to locate appropriate Medical Subject Headings (MeSH) and then to narrow your search focus.

Example: Use MeSH to do a search on indoor air pollution and asthma in children
1. Look up indoor air pollution in MeSH to find the appropriate MeSH heading for this concept. Click the entry to see the definition and subheadings for further narrowing the topic.
2. Check the box next to the 'adverse effects' subheading
3. Click on the 'Send To' arrow and select 'Send to Search Box'
4. Look up asthma in MeSH. May add focusing subheadings, such as 'prevention & control' or 'epidemiology'. Add to search box.

5. Click "Search PubMed" to view the results.

   MeSH is useful for searching effectively for countries or regions ex. Georgia (the country), Africa South of the Sahara, for articles discussing any country within that region, and for searching for articles about specific population or ethnic groups.

   note: Use of MeSH terms excludes most current (not yet indexed) or unindexed citations.

For comprehensive search, use both subject headings and text words (keywords)

Advanced tip: Type in search field [tags] to qualify your terms: pesticide drift[tw] AND environmental exposure[mh] (finds articles where pesticide drift appears as textwords (title, abstract, or MeSH term) and where environmental exposure is a MeSH term. Title=[ti], Author=[au], title/abstract=[tiab] etc. Find complete list of search field tags in PubMed Help.

Special PubMed search filters: CLINICAL QUERIES and TOPIC-SPECIFIC QUERIES
– find under PubMed Tools on PubMed home page

Clinical Queries
Searching **Clinical Queries** will help locate the best research articles for therapy, diagnosis, etiology or prognosis searches, or search for systematic reviews.

Topic-Specific Queries includes health services research filters for concepts such as health care quality, or health care costs, or comparative effectiveness research.

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