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Quertle: The Conceptual Relationships Alternative Search Engine for PubMed

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ELECTRONIC RESOURCES REVIEWS

Quertle: The Conceptual Relationships Alternative Search Engine for PubMed. Quertle, 2505 Anthem Village Drive, Suite E-170, Henderson, NV 89052; 303.495.5364; <http://www.quertle.info>; email, info@quertle.com. Free website, funded by targeted educational and research-oriented ads.

Quertle is a website that is a relatively new third-party tool for interacting with PubMed. This search engine describes itself as a "relationship-driven biomedical search" tool that is "designed by biomedical professionals for biomedical professionals." The two doctoral-degreed researchers who created Quertle (the name is derived from the word query) are Jeff Saffer and Vicki Burnett, both biomedical informatics researchers who wanted a search engine that would be able to pinpoint the most relevant citations for their research. Their first beta version came out in May 2009, and the current version 2 became available in November 2009. Quertle now includes all of PubMed, TOXLINE, National Institutes of Health REPORTER (a database of grant applications), full-text articles from PubMed Central and BioMed Central, news items from FierceMarkets, and scientific whitepapers and research posters that have been submitted directly to Quertle.

Quertle describes its niche as finding highly relevant results in context, not just retrieving long lists of documents. The creators have built their own database of more than 250 million relationships, based on sentence diagrams of subject-verb-object relations. For example, "caffeine migraine" as searched on Quertle will find both terms in a relationship such as "caffeine treats migraines," rather than the usual search of PubMed where the documents will merely contain both search terms somewhere in the records. Search results on Quertle are presented in two tabs, one with the more focused relationships group citations and one with the keywords results.

Quertle searching works particularly well for queries that do not have a Medical Subject Headings (MeSH) equivalent in PubMed. A search for "chronic eosinophilic pneumonia" reveals that the MeSH term is the broader "Pulmonary Eosinophilia." A search for "chronic eosinophilic pneumonia" on Quertle gives a result of 198 under the Relationships tab and 511 under the Keyword Results tab. A similar search on PubMed gives 887 results, many of which are not at all on target. Using the quotes on PubMed to make the search a phrase ("Chronic Eosinophilic Pneumonia") gives a more manageable 304 results.

Quertle has an advanced ontology of biological, medical, and chemical terms. It also understands capitalization, so it can tell the difference between NO (nitric oxide) and no (as opposed to yes). AIDS (the disease) is not confused with aids (the verb form). That said, Quertle does not support complex Boolean queries using "OR" and "AND" logic. However, the "AND" logic can be handled by narrowing the search results using the "Also Contains" filter. The "OR" logic is not normally needed, because Quertle automatically adds synonyms to the search query, including automatic truncation, verb forms, and even English/American variations.

One unique feature of this search engine is the Power Terms, which represent broad classes of entities. For example, using the Power Term "\$Chemicals" will easily add to a search a predefined list of all chemicals, drugs, or antibodies used as drugs (for example, \$Chemicals T-Helper Cells). There are about forty Power Terms, varying from "\$Adverse-Effects" to "\$WhatAll" (which is defined as including "Any protein, gene, functional class, cell object, disease, chemical, organism, or virus"). Power Terms seem to be the closest equivalent to the Explore feature in PubMed with MeSH that is used to include entire hierarchies of controlled vocabulary headings. A list of all the

Quertle Power Terms is available on the website, although the individual keywords in each category are not disclosed due to the extreme length of most of these lists. Quertle will add new Power Terms upon suggestion by its users.

The display and design of the search engine are attractively laid out. Authors and Journals each have convenient separate search boxes. Search terms are automatically highlighted within the search results, including any concepts that were retrieved by using Power Terms. The initial highlighted keywords will be the most relevant relationships within each document, with up to five subject-verb-object relationships displayed for each record. The complete abstract can be displayed by clicking on the Show Abstract link. Any search results can easily be focused by using the Applied Filters column on the left side of the citations list, which includes the following choices: Also Containing, Published Within, Publication Type, and Key Concepts (with entries for any keywords retrieved using Power Terms, as well as from the full-text articles, abstracts, or MeSH terms).

Citations are displayed ten per page, with indented sponsored ads appearing about every fourth citation. The choices for display of citations include the PubMed record, the abstract only, or possibly the entire portable document format (PDF) file by using Pubget. Quertle recently integrated Pubget, which can be easily activated to apply the journal subscriptions licensed by the user's institution.

This search engine is free, due to the sponsoring ads. Advertisers do not get any special ranking of records in the search results. Quertle is meant to appeal to the biomedical researcher, physician, or scientist, with its focused retrieval of highly relevant citations rather than the long lists often retrieved by PubMed. The added value of the Power Terms and the proper capitalization for best results are sure to bring scientists back to this database again and again.

Librarians may be less impressed, due to the lack of direct MeSH terms searching capability and no use of Boolean logic. The use of relationships among the search terms is something new and a bit mysterious. The lack of autofilling of the search box was missed by this reviewer, but this is scheduled as a new feature in 2011. The recent additions of Pubget for PDFs, link resolver capabilities using Internet protocol (IP) ranges, and a new export feature offering RIS or metadata object description schema (MODS) formats for bibliographic software will please librarians. Quertle has announced that it will be exhibiting at MLA '11 in Minneapolis in May 2011, so be sure to visit their booth for more information.

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