Why You Need Embase® and Ovid MEDLINE®

Embase has added MEDLINE records to Embase so that it has at least the same coverage as MEDLINE, plus the additional Embase unique records.

The pale blue box on the left represents the records which are unique to Embase, the center box represents the records that are common to both databases (about 40% to 60%) and the box on the right represents the added records sourced in MEDLINE, which would not usually be available in Embase.

The records in Embase that offer the same content as MEDLINE come from two sources, as indicated in the blue boxes on the right above. They are the Embase sourced records which are the “overlap” with MEDLINE—these are indexed by Embase indexers—and have Elsevier in the Copyright section. Added are the MEDLINE records which have been automatically re-indexed with Emtree terms, with MEDLINE as the source in the Copyright.

The MeSH terms in these added MEDLINE records are automatically reindexed into Emtree, so that they may easily be searched inside the database. But these terms are merely changed, the record is not reindexed, so no new terms are added.
Example of transforming MEDLINE (MeSH) indexing into Embase (Emtree terms):

Code to the below:

Red = Identical subjects  
Blue = Subject divided or changed by the transformation  
Green = Subheadings which have become subjects

**MEDLINE MeSH Indexing:**

- Aged  
- Aged, 80 and over  
- Analysis of Variance  
- Attitude to Health  
- *Breathing Exercises / ae [Adverse Effects]  
- Clinical Nursing Research  
- *Coronary Artery Bypass / ae [Adverse Effects]  
- Cross-Over Studies  
- Cryotherapy / is [Instrumentation]  
- *Cryotherapy / mt [Methods]  
- Cryotherapy / px [Psychology]  
- Female  
- Humans  
- Male  
- Middle Aged  
- Ontario  
- Pain Measurement  
- Pain, Postoperative / di [Diagnosis]  
- Pain, Postoperative / et [Etiology]  
- *Pain, Postoperative / pc [Prevention & Control]  
- Pain, Postoperative / px [Psychology]  
- Postoperative Care / mt [Methods]

**Becomes in Emtree:**

- aged  
- analysis of variance  
- attitude to health  
- *breathing exercise / ae [Adverse Drug Reaction]  
- Canada  
- clinical nursing research  
- *coronary artery bypass graft / ae [Adverse Drug Reaction]  
- crossover procedure  
- *cryotherapy  
- female  
- human  
- instrumentation  
- male  
- methodology  
- middle aged  
- pain assessment  
- postoperative care  
- *postoperative pain / di [Diagnosis]  
- *postoperative pain / et [Etiology]  
- *postoperative pain / pc [Prevention]  
- psychological aspect

**So why do I still need Medline?**

Because MeSH is different and two databases are still better than one.

For every MEDLINE MeSH term, there is an equivalent Emtree term in Embase. But just because a term is available it doesn’t mean that the subject headings, which are used to describe an individual article, will be equivalent in the two databases. The indexing in each database reflects the database policy and the opinions of the indexer. So these two databases may display different policies and opinions for any example publication.
Because more subheadings are available in MEDLINE, and the subheadings are different in each database, because they are used in different ways and in for different purposes in each database.
Subheadings are used in different ways in these two databases:

- In Embase subheadings are only available for drugs and diseases and after 1988, or in some cases later
- In MEDLINE subheadings have been available for most subjects since 1966

If you use a subject/subheading combination, you will end up with more specific search results.

Some subheadings are the same: the adverse effects (/ae) subheading, for example. Approximately 16 subheadings are the same, but years of coverage are different.

Some are available in one database but not another. 93 subheadings are unique and are only available in either Embase or MEDLINE. Common examples would be the routes of drug administration subheadings in Embase that are not available in MEDLINE.

Some use the same subheading code, but are very different in each database. 17 subheadings fall into the category. PO is poisoning in MEDLINE but Oral Drug Administration in Embase. Ci in Embase is the subheading for intracisternal drug administration, while in MEDLINE ci means chemically induced.

So, if you like subheadings because you appreciate that they give you a precise result, you would want to use them in each database separately.

Note that for the MEDLINE records that are added to Embase, where subheadings are not available in Emtree, an equivalent Emtree subject term is added to the record. This has two effects, it breaks the subject/subheading combination and elevates the subheading to a subject level. Therefore it makes the indexing less specific.

**Because the fields, limits and subject structures are different.**
Which is a good thing; if Embase and MEDLINE were identical, what would be the point? If you are doing a drug search, you need to have access to Embase. If I only had access to Embase, and I wanted to search for a new drug, I would need to include the Emtree term (often the International Non-proprietary Name) and the keywords and synonyms for the drug, to bring in the MEDLINE records (that don’t contain the Emtree term). Using keywords decreases the precision of the search. See the reindexed MeSH terms above for an example.
Note that only Embase gives me access back into the development trial and phases for a drug, to provide much better coverage as you can see above.

If you are interested in other topics though, you may be better off searching MEDLINE and Embase separately to use the power of the indexing from each database in turn. You can bring the results together in My Projects, or in Reference Management software.

**Example**

Sometimes treatment with radiation changes perceived sensation, deadening touch, changing taste and in some cases changing the perception of pain. Radiotherapy/ and sensation/ found together in a record does not indicate that they are connected. But Radiotherapy/ae and sensation/re (MeSH) together in a record tells a stronger story, since each subject now has roles. These are the adverse effects of radiotherapy, the changes in sensation caused by radiation.

**Using Embase 1980 to 2010 Week 33**

**Search Strategy:**

<table>
<thead>
<tr>
<th>Number</th>
<th>Search</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>exp RADIOTHERAPY</td>
<td>256,092</td>
</tr>
<tr>
<td>2</td>
<td>exp SENSATION</td>
<td>11,560</td>
</tr>
<tr>
<td>3</td>
<td>exp radiation response</td>
<td>35,769</td>
</tr>
</tbody>
</table>
Using Ovid MEDLINE(R) 1950 to August Week 2 2010

Search Strategy:

<table>
<thead>
<tr>
<th>Number</th>
<th>Search</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>exp Radiotherapy/ae [Adverse Effects]</td>
<td>23,258</td>
</tr>
<tr>
<td>2</td>
<td>exp Sensation/re [Radiation Effects]</td>
<td>500</td>
</tr>
<tr>
<td>3</td>
<td>1 and 2</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>limit 3 to yr=&quot;1980 - 2010&quot;</td>
<td>39</td>
</tr>
<tr>
<td>5</td>
<td>limit 4 to human</td>
<td>37</td>
</tr>
</tbody>
</table>

All the records in the MEDLINE are also in Embase, so why the big difference in the result? Because most of the records in the Example 1 result are from the Embase database, and the Embase indexers selected different subjects to describe the content. And in Embase we don’t have the possibility of choosing a subject/subheading combination, so we have to substitute additional subjects (radiation response in this case).