Purpose

To determine the best way to search for altitude hypoxia in Medline.

Problem

- Librarians at the USAF School of Aerospace Medicine are often asked to search for materials related to altitude hypoxia and associated health conditions.
- There is no MeSH term for altitude hypoxia; the term maps to anoxia.
- Hypoxia and anoxia are related, but not interchangeable terms.
- Using the MeSH heading “anoxia” when searching for articles on altitude hypoxia made accurate searching difficult.
- Many articles about altitude hypoxia were given the MeSH tag “anoxia.”

Definitions

Hypoxia – decrease in oxygen supply rather than a complete absence of oxygen

Anoxia - an absence of oxygen supply to an organ’s tissues

Findings

<table>
<thead>
<tr>
<th>Most used MeSH term [majr]</th>
<th>Altitude (69 times)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd most used MeSH term [majr]</td>
<td>Anoxia (65 times)</td>
</tr>
<tr>
<td>3rd most used MeSH term [majr]</td>
<td>Altitude Sickness (38 times)</td>
</tr>
<tr>
<td>Most used MeSH term w/ sub</td>
<td>Anoxia/physiopathology (20 times)</td>
</tr>
<tr>
<td>2nd most used MeSH term w/ sub</td>
<td>Anoxia/metabolism (17 times)</td>
</tr>
<tr>
<td>3rd most used MeSH term w/ sub</td>
<td>Altitude Sickness/physiopathology (7 times)</td>
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</tbody>
</table>

Conclusions

- Anoxia and hypoxia, while related, are not interchangeable terms. There seem to be a lot of inaccuracies in how articles are tagged in Medline, even though Medline recommends using anoxia as your MeSH term when searching for hypoxia related articles.
- Relying upon the MeSH terms in Medline to return comprehensive results will lead to missing citations.
- Keyword searching is more accurate when looking for articles related to “altitude hypoxia.” Mixing keywords and MeSH headings further improves search accuracy.

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