**Appendix 1: Search Strategy**

**Database: Ovid MEDLINE(R) Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) <1946 to Present>  
Search Strategy:**--------------------------------------------------------------------------------  
1     Hyperbaric Oxygenation/ (11161)  
2     hyperbaric oxygen\*.tw,kw. (9302)  
3     hyperbaric chamber.tw,kw. (677)  
4     (HBO2 or HBOT).tw,kw. (1772)  
5     or/1-4 (14196)  
6     exp Surgical Procedures, Operative/ (2869442)  
7     (surger\* or surgical or operation or operative or transplant\*).tw,kw. (2241231)  
8     perioperative period/ or intraoperative period/ or postoperative period/ or preoperative period/ (62450)  
9     (perioperative\* or peri-operative\*).tw,kw. (86066)  
10     (preoperative\* or pre-operative\*).tw,kw. (278853)  
11     (intraoperative\* or intra-operative\*).tw,kw. (127337)  
12     exp Postoperative Complications/ (495757)  
13     (postoperative\* or post-operative\* or postsurg\* or post-surg\*).tw,kw. (545788)  
14     su.fs. (1833136)  
15     or/6-14 (4380106)  
16     5 and 15 (3973)  
17     randomized controlled trial.pt. (462867)  
18     controlled clinical trial.pt. (92461)  
19     randomi?ed.ab. (495994)  
20     placebo.ab. (189808)  
21     clinical trials as topic.sh. (183938)  
22     randomly.ab. (292750)  
23     trial.ti. (183807)  
24     or/17-23 (1188338)  
25     16 and 24 (377)  
26     animals/ not humans/ (4434741)  
**27     25 not 26 (264)**

**Database: Embase Classic+Embase <1947 to 2018 June 27>  
Search Strategy:**--------------------------------------------------------------------------------  
1     hyperbaric oxygen therapy/ (1304)  
2     hyperbaric oxygen/ or hyperbaric chamber/ (17251)  
3     hyperbaric oxygen\*.tw. (12171)  
4     hyperbaric chamber.tw. (938)  
5     (HBO2 or HBOT).tw. (2530)  
6     or/1-5 (21112)  
7     surgery/ or exp abdominal surgery/ or ambulatory surgery/ or breast surgery/ or exp cardiovascular surgery/ or exp ear nose throat surgery/ or elective surgery/ or emergency surgery/ or exp endocrine surgery/ or general surgery/ or geriatric surgery/ or exp "head and neck surgery"/ or intraoperative period/ or major surgery/ or minimally invasive surgery/ or exp neurosurgery/ or exp orthopedic surgery/ or exp pelvis surgery/ or perioperative period/ or plastic surgery/ or postoperative period/ or preoperative period/ or reoperation/ or second look surgery/ or exp thorax surgery/ or exp transplantation/ or exp urologic surgery/ (3753951)  
8     (surger\* or surgical or operative or operation$ or transplant\*).tw. (3337819)  
9     surgical patient/ or surgical patient$.tw. (59280)  
10     (perioperative\* or peri-operative\*).tw. (124867)  
11     (preoperative\* or pre-operative\*).tw. (397813)  
12     (intraoperative\* or intra-operative\*).tw. (179919)  
13     (postoperative\* or post-operative\* or postsurg\* or post-surg\*).tw. (775893)  
14     exp \*postoperative complication/ (171720)  
15     su.fs. (1994415)  
16     or/7-15 (5561303)  
17     6 and 16 (6601)  
18     crossover-procedure/ or double-blind procedure/ or randomized controlled trial/ or single-blind procedure/ or (random\* or factorial\* or crossover\* or cross over\* or placebo\* or (doubl\* adj blind\*) or (singl\* adj blind\*) or assign\* or allocat\* or volunteer\*).tw. (2049808)  
19     17 and 18 (643)  
20     (animals/ or animal experiment/ or animal model/) not humans/ (3600534)  
**21     19 not 20 (458)**

**Database: EBM Reviews - Cochrane Central Register of Controlled Trials <May 2018>  
Search Strategy:**--------------------------------------------------------------------------------  
1     Hyperbaric Oxygenation/ (331)  
2     hyperbaric oxygen\*.tw,kw. (870)  
3     hyperbaric chamber.tw,kw. (79)  
4     (HBO2 or HBOT).tw,kw. (179)  
5     or/1-4 (941)  
6     exp Surgical Procedures, Operative/ (105067)  
7     (surger\* or surgical or operation or operative or transplant\*).tw,kw. (171396)  
8     perioperative period/ or intraoperative period/ or postoperative period/ or preoperative period/ (4801)  
9     (perioperative\* or peri-operative\*).tw,kw. (12788)  
10     (preoperative\* or pre-operative\*).tw,kw. (27964)  
11     (intraoperative\* or intra-operative\*).tw,kw. (16144)  
12     exp Postoperative Complications/ (34131)  
13     (postoperative\* or post-operative\* or postsurg\* or post-surg\*).tw,kw. (79020)  
14     su.fs. (52213)  
15     or/6-14 (236423)  
**16     5 and 15 (148)**

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| **#** | **Query** | **Results** |
| **S26** | **S13 AND S25** | **230** |
| S25 | S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 | 1,352,736 |
| S24 | TX clinic\* n1 trial\* | 321,800 |
| S23 | PT Clinical trial | 87,036 |
| S22 | (MH "Clinical Trials+") | 247,431 |
| S21 | ( TX ( (singl\* n1 blind\*) or (singl\* n1 mask\*) ) ) OR ( TX ( (doubl\* n1 blind\*) or (doubl\* n1 mask\*) ) ) OR ( TX ( (tripl\* n1 blind\*) or (tripl\* n1 mask\*) ) ) OR ( TX ( (trebl\* n1 blind\*) or (trebl\* n1 mask\*) ) ) | 997,012 |
| S20 | TX placebo\* | 103,261 |
| S19 | (MH "Placebos") | 10,976 |
| S18 | TX allocat\* random\* | 1,044 |
| S17 | TX placebo\* | 103,261 |
| S16 | (MH "Placebos") | 10,976 |
| S15 | TX randomi\* control\* trial\* | 208,937 |
| S14 | (MH "Random Assignment") | 49,751 |
| S13 | S5 AND S12 | 661 |
| S12 | S6 OR S7 OR S8 OR S9 OR S10 OR S11 | 711,326 |
| S11 | TI ( (postoperative\* or post-operative\* or postsurg\* or post-surg\*) ) OR AB ( (postoperative\* or post-operative\* or postsurg\* or post-surg\*) ) | 85,703 |
| S10 | (MH "Postoperative Complications+") | 89,564 |
| S9 | TI ( (perioperative\* or peri-operative\*) ) OR AB ( (perioperative\* or peri-operative\*) ) OR TI ( (preoperative\* or pre-operative\*) ) OR AB ( (preoperative\* or pre-operative\*) ) OR TI ( (intraoperative\* or intra-operative\*) ) OR AB ( (intraoperative\* or intra-operative\*) ) | 76,167 |
| S8 | (MH "Intraoperative Care+") OR (MH "Perioperative Care+") OR (MH "Preoperative Period+") OR (MH "Postoperative Period") | 56,890 |
| S7 | TI ( (surger\* or surgical or operation or operative or transplant\*)) OR AB ( (surger\* or surgical or operation or operative or transplant\*)) | 342,042 |
| S6 | (MH "Surgery, Operative+")or (MH "Surgical Patients") | 521,512 |
| S5 | S1 OR S2 OR S3 OR S4 | 2,395 |
| S4 | TI ( (HBO2 or HBOT) ) OR AB ( (HBO2 or HBOT) ) | 289 |
| S3 | TI hyperbaric chamber\* OR AB hyperbaric chamber\* | 92 |
| S2 | TI hyperbaric oxygen\* OR AB hyperbaric oxygen\* | 1,418 |
| S1 | (MH "Hyperbaric Oxygenation") | 1,990 |