**Protocol edits for Literature Search section:**

The search strategy will be designed and carried out with the support of a health sciences librarian using subject headings, field searching, Boolean operators and limits (as appropriate). Electronic database searches will be performed in PubMed, EMBASE, CINAHL, and The Cochrane Central Register of Controlled Trials (CENTRAL). Grey literature will be collected by:

* Consulting the Canadian Prehospital Evidence Based Practice Project Database
* Connecting with emergency medical service groups collecting and synthesizing evidence in countries with a similar health care environment to Canada
* Searching online clinical trial registries from countries with a similar health care environment to Canada
* Searching Google using relevant keywords, limiting to specific top level domains (e.g. .gov, .org, .ca, .uk, .au). Additional limits (e.g. file types, number of pages screened) may be applied based on volume of retrieval.

Keywords will include:

‘Dextrose’, ‘D50’, ‘D10’, ‘Hypoglycemia’, ‘Emergency Medical Services’

We will not restrict our electronic database search strategies by language or by date. For the complete search strategy, please see Appendix A. Reference list from all included studies and review articles fitting the PICO will be screened for studies fitting the inclusion criteria. Two independent reviewers will follow standard protocol for title and abstract review with third party adjudication where required. Inter-rater agreement will be assessed with a Kappa calculation. Covidence systematic review software will be used to perform screening and text review.

**PubMed**

("Glucose"[Mesh] OR dextros\*[tiab] OR D10[tiab] OR D10W[tiab] OR D50\*[tiab]) AND ("Hypoglycemia"[Mesh] OR hypoglyc\*[tiab]) AND ("Emergency Medical Services"[MeSH] OR "Emergency Medical Technicians"[MeSH] OR emergency medical service\*[tiab] OR paramedic\*[tiab] OR emergency medical technician\*[tiab] OR prehospital[tiab] OR pre-hospital[tiab] OR out of hospital[tiab] OR first responder\*[tiab] OR emergency responder\*[tiab] OR ambulance\*[tiab] OR preclinical\*[tiab])

|  |  |  |
| --- | --- | --- |
| **Search** | **Query** | **Items found** |
| #23 | Search ((((((("Glucose"[Mesh]) OR dextros\*[tiab]) OR D10[tiab]) OR D10W[tiab]) OR D50\*[tiab])) AND (("Hypoglycemia"[Mesh]) OR hypoglyc\*[tiab])) AND (((((((((((("Emergency Medical Services"[MeSH]) OR "Emergency Medical Technicians"[MeSH]) OR emergency medical service\*[tiab]) OR paramedic\*[tiab]) OR emergency medical technician\*[tiab]) OR prehospital[tiab]) OR pre-hospital[tiab]) OR out of hospital[tiab]) OR first responder\*[tiab]) OR emergency responder\*[tiab]) OR ambulance\*[tiab]) OR preclinical\*[tiab]) | 222 |
| #22 | Search ((((((((((("Emergency Medical Services"[MeSH]) OR "Emergency Medical Technicians"[MeSH]) OR emergency medical service\*[tiab]) OR paramedic\*[tiab]) OR emergency medical technician\*[tiab]) OR prehospital[tiab]) OR pre-hospital[tiab]) OR out of hospital[tiab]) OR first responder\*[tiab]) OR emergency responder\*[tiab]) OR ambulance\*[tiab]) OR preclinical\*[tiab] | 241359 |
| #21 | Search preclinical\*[tiab] | 87375 |
| #20 | Search ambulance\*[tiab] | 9915 |
| #19 | Search emergency responder\*[tiab] | 384 |
| #18 | Search first responder\*[tiab] | 1913 |
| #17 | Search out of hospital[tiab] | 9043 |
| #16 | Search pre-hospital[tiab] | 4105 |
| #15 | Search prehospital[tiab] | 11394 |
| #14 | Search emergency medical technician\*[tiab] | 1040 |
| #13 | Search paramedic\*[tiab] | 7636 |
| #12 | Search emergency medical service\*[tiab] | 8588 |
| #11 | Search "Emergency Medical Technicians"[MeSH] | 5581 |
| #10 | Search "Emergency Medical Services"[MeSH] | 130959 |
| #9 | Search ("Hypoglycemia"[Mesh]) OR hypoglyc\*[tiab] | 61985 |
| #8 | Search hypoglyc\*[tiab] | 54806 |
| #7 | Search "Hypoglycemia"[Mesh] | 27343 |
| #6 | Search (((("Glucose"[Mesh]) OR dextros\*[tiab]) OR D10[tiab]) OR D10W[tiab]) OR D50\*[tiab] | 303803 |
| #5 | Search D50\*[tiab] | 1051 |
| #4 | Search D10W[tiab] | 20 |
| #3 | Search D10[tiab] | 2107 |
| #2 | Search dextros\*[tiab] | 12166 |
| #1 | Search "Glucose"[Mesh] | 291592 |

**Embase**

('glucose'/de OR dextros\*:ab,ti OR d10:ab,ti OR d10w:ab,ti OR d50\*:ab,ti) AND ('hypoglycemia'/exp OR hypoglyc\*:ab,ti) AND ('rescue personnel'/exp OR 'emergency health service'/exp OR 'emergency medical service':ab,ti OR 'emergency medical services':ab,ti OR paramedic\*:ab,ti OR 'emergency medical technician':ab,ti OR 'emergency medical technicians':ab,ti OR prehospital:ab,ti OR 'pre hospital':ab,ti OR 'out of hospital':ab,ti OR 'first responder':ab,ti OR 'first responders':ab,ti OR 'emergency responder':ab,ti OR 'emergency responders':ab,ti OR ambulance\*:ab,ti OR preclinical\*:ab,ti)

|  |  |  |
| --- | --- | --- |
| **No.** | **Query** | **Results** |
| #27 | #6 AND #9 AND #26 | 452 |
| #26 | #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 | 270275 |
| #25 | preclinical\*:ab,ti | 129706 |
| #24 | ambulance\*:ab,ti | 14613 |
| #23 | 'emergency responders':ab,ti | 404 |
| #22 | 'emergency responder':ab,ti | 45 |
| #21 | 'first responders':ab,ti | 2032 |
| #20 | 'first responder':ab,ti | 721 |
| #19 | 'out of hospital':ab,ti | 14774 |
| #18 | 'pre hospital':ab,ti | 7109 |
| #17 | prehospital:ab,ti | 14965 |
| #16 | 'emergency medical technicians':ab,ti | 912 |
| #15 | 'emergency medical technician':ab,ti | 360 |
| #14 | paramedic\*:ab,ti | 10894 |
| #13 | 'emergency medical services':ab,ti | 8033 |
| #12 | 'emergency medical service':ab,ti | 3085 |
| #11 | 'emergency health service'/exp | 95989 |
| #10 | 'rescue personnel'/exp | 7396 |
| #9 | #7 OR #8 | 109333 |
| #8 | hypoglyc\*:ab,ti | 82345 |
| #7 | 'hypoglycemia'/exp | 79331 |
| #6 | #1 OR #2 OR #3 OR #4 OR #5 | 415691 |
| #5 | d50\*:ab,ti | 1486 |
| #4 | d10w:ab,ti | 31 |
| #3 | d10:ab,ti | 2668 |
| #2 | dextros\*:ab,ti | 13997 |
| #1 | 'glucose'/de | 404770 |

**CINAHL**

((MH "Glucose") OR AB dextros\* OR TI dextros\* OR AB D10\* OR TI D10\* OR AB D50\* OR TI D50\*) AND ((MH "Hypoglycemia+") OR AB hypoglyc\* OR TI hypoglyc\*)) AND ((MH "Emergency Medical Services+") OR (MH "Emergency Medical Technicians") OR AB paramedic\* OR TI paramedic\* OR AB emergency medical service\* OR TI emergency medical service\* OR AB emergency medical technician\* OR TI emergency medical technician\* OR AB prehospital OR TI prehospital OR AB pre-hospital OR TI pre-hospital OR AB out of hospital OR TI out of hospital OR AB first responder\* OR TI first responder\* OR AB emergency responder\* OR TI emergency responder\* OR AB ambulance\* OR TI ambulance\* OR AB preclinical\* OR TI preclinical\*)

|  |  |  |
| --- | --- | --- |
| **#** | **Query** | **Results** |
| S22 | S5 AND S8 AND S21 | 70 |
| S21 | S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 | 141,421 |
| S20 | AB preclinical\* OR TI preclinical\* | 11,776 |
| S19 | AB ambulance\* OR TI ambulance\* | 5,436 |
| S18 | AB emergency responder\* OR TI emergency responder\* | 946 |
| S17 | AB first responder\* OR TI first responder\* | 2,748 |
| S16 | AB out of hospital OR TI out of hospital | 27,497 |
| S15 | AB pre-hospital OR TI pre-hospital | 2,005 |
| S14 | AB prehospital OR TI prehospital | 6,299 |
| S13 | AB emergency medical technician\* OR TI emergency medical technician\* | 652 |
| S12 | AB paramedic\* OR TI paramedic\* | 4,659 |
| S11 | AB emergency medical service\* OR TI emergency medical service\* | 7,972 |
| S10 | (MH "Emergency Medical Technicians") | 10,630 |
| S9 | (MH "Emergency Medical Services+") | 90,127 |
| S8 | S6 OR S7 | 15,069 |
| S7 | AB hypoglyc\* OR TI hypoglyc\* | 11,747 |
| S6 | (MH "Hypoglycemia+") | 8,364 |
| S5 | S1 OR S2 OR S3 OR S4 | 10,257 |
| S4 | AB D50\* OR TI D50\* | 93 |
| S3 | AB D10\* OR TI D10\* | 185 |
| S2 | AB dextros\* OR TI dextros\* | 1,263 |
| S1 | (MH "Glucose") | 9,095 |

**Cochrane CENTRAL**

**ID Search Hits**

#1 MeSH descriptor: [Glucose] explode all trees 17303

#2 (dextros\*):ti,ab,kw 1866

#3 (D10\*):ti,ab,kw 243

#4 (D50\*):ti,ab,kw 98

#5 #1 OR #2 OR #3 OR #4 19116

#6 MeSH descriptor: [Hypoglycemia] explode all trees 2010

#7 (hypoglyc\*):ti,ab,kw 16658

#8 #6 OR #7 16660

#9 MeSH descriptor: [Emergency Medical Services] explode all trees 3587

#10 MeSH descriptor: [Emergency Medical Technicians] explode all trees 161

#11 (emergency medical service$):ti,ab,kw 1900

#12 (paramedic$):ti,ab,kw 428

#13 (emergency medical technician$):ti,ab,kw 51

#14 (prehospital):ti,ab,kw 1537

#15 (pre-hospital):ti,ab,kw 563

#16 (out of hospital):ti,ab,kw 14203

#17 (first responder\*):ti,ab,kw 4192

#18 (emergency responder\*):ti,ab,kw 270

#19 (ambulance\*):ti,ab,kw 823

#20 preclinical\*:ab,ti,kw 7412

#21 #9 OR #10 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 30323

#22 #5 AND #8 AND #21 70 ( 3 reviews , 67 trials)