

The Power of OR: Pro Tips for Expanding Your Search Results

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Nursing Research Day



Building a good search strategy

- Simplifies your clinical question
- Gives your search direction
 - “Garbage in, garbage out” principle of databases
- Helps you identify key concepts & phrases
 - Consider alternative terms/synonyms for the concepts represented in your search

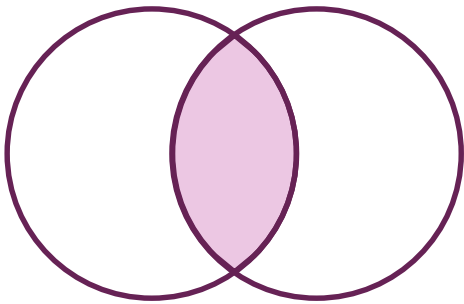


Tips for keyword searches

- Brainstorm related words and synonyms used to describe your concepts
 - Sometimes half the battle is finding the “right” words!
 - Use what you have already found to find more terms (“keyword mining”)
- Keep an open mind. Ask yourself:
 - Can a related or more general-themed article help answer your question?
 - If you can’t find research within the last 5-10 years, could an older article help?
 - If no pediatric studies – would research on adults be helpful at all?
- Familiarize yourself with Boolean operators (AND/OR/NOT)
 - Today we’re just focusing on keyword searches. Familiarizing yourself with databases’ controlled vocabularies can take your search the next level.

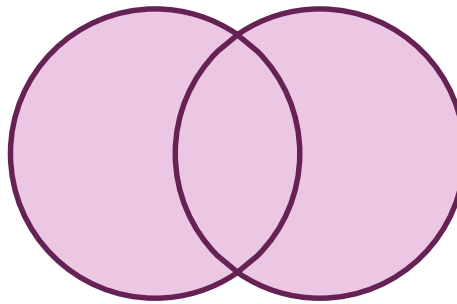
Boolean operators: AND/OR/NOT

Broaden or narrow your search by stating a relationship between your search terms



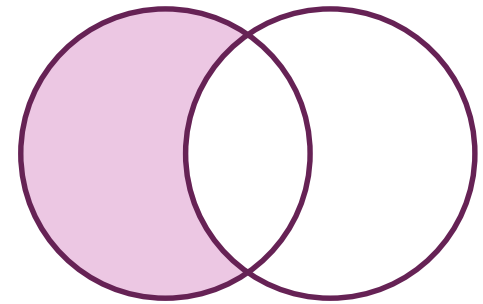
AND retrieves results with BOTH terms.
ALL search terms must be present in the results

Vaccines **AND** Whooping Cough



OR retrieves results with ANY/EITHER term.
TIP: OR is helpful when searching with **synonyms**

Whooping cough **OR** Pertussis



NOT retrieves just ONE term.
Helpful when you need to exclude items.

(Whooping cough **OR** Pertussis)
NOT
Vaccines

"OR is MORE"

Keyword Synonyms & Other Possibilities

Acronyms and full spelling	<p>CLABSI OR central line-associated bloodstream infection OR catheter related infections</p> <p>PICC line OR peripherally inserted central catheter OR peripheral catheterization</p>
Medical jargon vs. layman's terms	<p>Pertussis OR Whooping cough</p> <p>Hypertension OR High blood pressure</p> <p>Varicella OR Chickenpox</p>
Drug Names (generic vs. trade)	<p>Sudafed OR Pseudoephedrine</p> <p>Aleve OR Naproxen</p>
U.S. vs U.K. spelling	<p>Pediatric OR Paediatric</p> <p>Behavior OR Behaviour</p> <p>Immunization OR Immunisation</p>
General synonyms	<p>Teaching materials = Educational materials, teaching tool, teaching aid, information sheet, pamphlet, leaflet, video, etc.</p>

Example: Synonyms for “Bullying in the workplace”

Keywords	Controlled vocabulary (Pubmed)	Controlled vocabulary (CINAHL)
<ul style="list-style-type: none"> • Bullying • Harassment • Incivility • Lateral violence • Horizontal violence • Aggression • Verbal abuse • Hostility • Toxic • Nurse, peer, coworker, staff, employee • Prevention • Intervention • Work, workplace, hospital, unit, etc. 	<ul style="list-style-type: none"> • Bullying • Nurses • Nursing Staff, Hospital • Personnel, Hospital • Employee Grievances • Employee Discipline • Occupational Health • Work Environment/<i>psychology</i>* 	<ul style="list-style-type: none"> • Bullying • Interpersonal relations • Verbal Abuse • Registered Nurses – <i>Psychosocial factors</i>* • Nursing Staff, Hospital • Work • Work Environment

* Denotes a subheading

Am J Crit Care. 2016 Jan;25(1):12-20. doi: 10.4037/ajcc2016190.

2. **Medication Errors in Cardiopulmonary Arrest and Code-Related Situations.**

Flannery AH¹, Parli SE².

⊕ **Author information**

Abstract

PubMed/MEDLINE (1966-November 2014) was searched to identify relevant published studies on the overall frequency, types, and examples of medication errors during medical emergencies involving **cardiopulmonary resuscitation** and related situations, and the breakdown by type of error. The overall frequency of medication errors during medical emergencies, specifically situations related to resuscitation, is highly variable. Medication errors during such emergencies, particularly **cardiopulmonary resuscitation** and surrounding events, are not well characterized in the literature but may be more frequent than previously thought. Depending on whether research methods included database mining, simulation, or prospective observation of clinical practice, reported occurrence of medication errors during **cardiopulmonary resuscitation** and surrounding events has ranged from less than 1% to 50%. Because of the chaos of the resuscitation environment, errors in prescribing, dosing, preparing, labeling, and administering drugs are prone to occur. System-based strategies, such as infusion pump policies and **code cart management**, as well as personal strategies exist to minimize medication errors during emergency situations.

PMID: 26724288 DOI: 10.4037/ajcc2016190

[Indexed for MEDLINE] **Free full text**

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Intensive Crit Care Nurs. 2018 Feb;44:40-44. doi: 10.1016/j.iccn.2017.09.003. Epub 2017 Oct 10.

20. **A "Neurological Emergency Trolley" reduces turnaround time for high-risk medications in a general intensive care unit.**

Alzenberg H¹, Newman P², Harris GA³, Cranston M³, Boyd JG⁴.

⊕ **Author information**

Abstract

OBJECTIVES: To reduce medication turnaround times during neurological emergencies, a multidisciplinary team developed a neurological emergency **crash trolley** in our intensive care unit. This trolley includes phenytoin, hypertonic saline and mannitol, as well as other equipment. The aim of this study was to assess whether the cart reduced turnaround times for these medications.

RESEARCH METHODOLOGY/DESIGN: In this retrospective cohort study, medication delivery times for two year epochs before and after its implementation were compared. Eligible patients were identified from our intensive care unit screening log. Adults who required emergent use of phenytoin, hypertonic saline or mannitol while in the intensive care unit were included. Groups were compared with nonparametric analyses.

SETTING: 33-bed general medical-surgical intensive care unit in an academic teaching hospital.

MAIN OUTCOME MEASURES: Time to medication administration.

RESULTS: In the pre-intervention group, there were 43 patients with 66 events. In the post-intervention group, there were 45 patients with 80 events. The median medication turnaround time was significantly reduced after implementation of the neurological emergency trolley (25 vs. 10minutes, p=0.003). There was no statistically significant difference in intensive care or 30-day survival between the two cohorts.

CONCLUSION: The implementation of a novel neurological **emergency crash trolley** in our intensive care unit reduced medication turnaround times.

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KEYWORDS: **Crash cart**, **Crash trolley**, **Emergency trolley**, Hypertonic saline; Intracranial pressure; Mannitol; Medication safety; Medication turnaround time; Neurocritical care; Status epilepticus

More use cases for OR...

Initial search: Crash cart

Other options:

- Crash trolley
- Cardiac arrest cart
- Code cart
- Emergency trolley
- Resuscitation cart/trolley
- Resuscitation AND cart
- Resuscitation equipment?

Total search results

Crash cart = 57 results

Synonyms w/ OR = 254

Search Example:

- In young children (P), do **distraction techniques** (I/C) during **immunization** administration using **toys** result in **lower pain scores** (O) when compared to no intervention?
 - Comparison: Toys versus no intervention

Concept #1		Concept #2		Concept #3, etc.
Distraction*	AND	vaccine	AND	Anxiety/Anxious
OR		OR		OR
Distraction technique		vaccination		Distress
OR		OR		OR
Distraction method		immunization		Fear
OR		OR		OR
Diversion*		injection		Discomfort
OR		OR		
Diversion technique		needle		
OR		OR		
Diversion therapy		shot?		
OR		OR		
Type of distraction (toy, app, iPad, music, etc.)		Vaccines[mesh]		
OR		OR		
Psychological interventions?		Immunization[mesh]		
OR		OR		
Play and Playthings[mesh]		Injections[mesh]		
		OR		
		Needles[mesh]		

**Total search results
= 111**

Other ideas to try?:

- Pain
- Pain management/reduction
- Procedural pain
- Infant, toddler, child?
- Preneedle?
- Relaxation/Calming

Use the Advanced Search Builder

By adding keyword synonyms we increased our # of results from 4 to 441. That's a lot to go through.

Adding "pain score" (with AND) brings the # to a more manageable 25 results.

Builder

All Fields

AND

All Fields

Search or [Add to history](#)

To "AND" two search strings, click Add. Clicking the search # will let you choose AND/OR/NOT

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#53	Add	Search (pain score*) AND ((distraction*) AND ((vaccin* OR immunization* OR immunisation* OR injection* OR needle*)))	25	13:57:54
#52	Add	Search (distraction*) AND ((vaccin* OR immunization* OR immunisation* OR injection* OR needle*))	441	13:55:45
#51	Add	Search (vaccin* OR immunization* OR immunisation* OR injection* OR needle*)	124818	13:55:08
#50	Add	Search (distraction*) AND vaccin*		13:54:27
#49	Add	Search distraction*		13:54:01
#48	Add	Search (distraction) AND (technique OR method)		13:53:55
#47	Add	Search (distraction technique) AND vaccine	4	13:52:41
#46	Add	Search vaccine	316908	13:52:38
#45	Add	Search distraction technique	2965	13:52:29

☐ [Do clowns attenuate pain and anxiety undergoing botulinum toxin injections in children?](#)

1. Houx L, Dubois A, Brochard S, Pons C.
Ann Phys Rehabil Med. 2019 Jan 29. pii: S1877-0657(19)30011-9. doi: 10.1016/j.rehab.2018.12.004. [Epub ahead of print]
PMID: 30708069
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☐ [Pain Experience in a US Children's Hospital: A Pilot Study of the Implementation of a System-Wide Protocol to Eliminate Pain Medication](#)

2. Postier AC, Eull D, Schulz C, Fitzgerald M, Symall M.
Hosp Pediatr. 2018 Sep;8(9):515-523. doi: 10.1542/hpeds.2018-0001.
PMID: 30076160
[Similar articles](#)

☐ [Nitrous oxide analgesia for bone marrow aspiration in children: a patient blinded study.](#)

3. Kuivalainen AM, Ebeling F, Poikonen E, Rosenberger J, Scand J Pain. 2015 Apr 1;7(1):28-34. doi: 10.1016/j.sjpain.2015.03.001.
PMID: 25911602
[Similar articles](#)

☐ [Effects of Thermomechanical Stimulation during Pediatric Patients: A Randomized Controlled Trial](#)

4. Redfern RE, Chen JT, Sibrel S.
J Pediatr Nurs. 2018 Jan - Feb;38:1-7. doi: 10.1016/j.pedn.2017.12.001.
PMID: 29167074
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☐ [Featured Article: The ABCDs of Pain Management: A Double-Blind Randomized Controlled Trial Examining the Impact of a Brief Educational Video on Infants' and Toddlers' Pain Scores and Parent Soothing Behavior.](#)

5. Riddell RP, O'Neill MC, Campbell L, Taddio A, Greenberg S, Garfield H.
J Pediatr Psychol. 2018 Apr 1;43(3):224-233. doi: 10.1093/jpepsy/jsx122.
PMID: 29145589
[Similar articles](#)

☐ [Distraction Kits for Pain Management of Children Undergoing Painful Procedures in the Emergency Department: A Pilot Study.](#)

6. Ballard A, Le May S, Khadra C, Lachance Fiola J, Charette S, Charest MC, Gagnon H, Bailey B, Villeneuve E, Tsimicalis A.
Pain Manag Nurs. 2017 Dec;18(6):418-426. doi: 10.1016/j.pmn.2017.08.001. Epub 2017 Sep 29.
PMID: 28965702
[Similar articles](#)

Ann Phys Rehabil Med. 2019 Jan 29. pii: S1877-0657(19)30011-9. doi: 10.1016/j.rehab.2018.12.004. [Epub ahead of print]

Do clowns attenuate pain and anxiety undergoing botulinum toxin injections in children?

Houx L¹, Dubois A², Brochard S³, Pons C⁴.

Author information

Abstract

OBJECTIVE: Botulinum toxin injection (BTI) is the primary treatment for spasticity in children. Anxiety and pain are important concerns to address to attenuate the discomfort of BTI. The aim of this study was to compare the effectiveness of medical clowns and usual distractions, both added to nitrous oxide (N₂O) and analgesic cream, on pain and anxiety during BTI sessions in children.

METHODS: The primary outcome was pain evaluated by the Face, Legs, Activity, Cry, Consolability (FLACC) scale. Secondary criteria were pain rated on a Visual Analog Scale (VAS) by the child and parent, anxiety rated on a VAS before and during BTIs by the child and parent(s), rating of the success of the sessions on a 4-point Likert scale by the physician and parent(s), and rating of the benefits of the distraction by the parent(s). Non-parametric tests were used for between-group comparisons.

RESULTS: Baseline group characteristics of the clown and control groups did not differ. During 88 BTI sessions (40 with clown distraction and 48 with control distraction) in 59 children (35 boys; 52 with cerebral palsy, 12 with moderate to severe cognitive disorders), median maximal FLACC score was 2.5 (interquartile range [IQR]: 1-4) in the clown group and 3 (IQR: 1-4.3) in the control group. VAS self-reported pain score was 2.5 (IQR: 0-5) and 3 (IQR: 1-6.3) in the clown and control groups (P=0.56), and VAS proxy-reported pain score was 2.5 (IQR: 0.3-3.4) and 3 (IQR: 1-4.5) (P=0.25). After BTI sessions, the 2 groups did not differ in VAS self- and proxy-reported anxiety (P=0.83 and P=0.81). Physician and parent ratings of the success of sessions were similar between the groups (P=0.89 and P=0.11). Parent ratings of the perceived benefits of distraction were higher in the clown than control group (P=0.004).

CONCLUSIONS: Although clown distraction was particularly appreciated by parents, it did not significantly reduce pain or anxiety in children, as compared with usual distraction.

TRIAL REGISTRATION: ClinicalTrials.gov ID: [NCT03149263](#).

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KEYWORDS: Anxiety; Botulinum toxin injections; Children; Clown; Motor disabilities; Pain



Distraction Kits for Pain Management of Children Undergoing Painful Procedures in the Emergency Department: A Pilot Study.

Ballard A¹, Le May S², Khadra C³, Lachance Fiola J¹, Charette S⁴, Charest MC⁴, Gagnon H⁴, Bailey B⁵, Villeneuve E⁶, Tsimicalis A⁷.

Author information

Abstract

To assess the feasibility, usefulness, and acceptability of using distraction kits, tailored to age, for procedural pain management of young children visiting the emergency department and requiring a needle-related procedure. A pre-experimental design was piloted. A kit, tailored to age (infants-toddlers: 3 months-2 years; preschoolers: 3-5 years), was provided to parents before their child's needle-related procedure. Data was collected to assess feasibility, usefulness, and acceptability of the kits by parents and nurses using the Face, Legs, Activity, Cry, Consolability scale. A total of 70 children underwent a procedure. Addition of the kit to the preprocedure, 7 children (10%) were deemed to have required less analgesia, 4.8 ± 3.4 mg/kg of morphine. They also reported less pain and improving the procedure and a variety of other factors.

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[Indexed for MEDLINE]



Publication type, MeSH terms

Publication type

[Research Support, Non-U.S. Gov't](#)

MeSH terms

[Child](#)

[Child, Preschool](#)

[Emergency Service, Hospital/organization & administration](#)

[Female](#)

[Humans](#)

[Infant](#)

[Male](#)

[Pain Management/instrumentation*](#)

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[Pain, Procedural/therapy](#)

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[Pediatrics/methods*](#)

[Pilot Projects](#)

[Play and Playthings/psychology*](#)

[Quebec](#)

[Surveys and Questionnaires](#)

When MeSH terms have been assigned, they will be listed at the bottom of the record

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 - Highlight recommended: Search Pubmed AND CINAHL
 - Other options:
 - For psych/child development topics: PsycINFO
 - For validated tools and instruments: HAPI (Health and Psychosocial Instruments)
 - For quick reference: Clinical Key for Nursing, Dynamed Plus

Questions?

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