Investigating your clinical question

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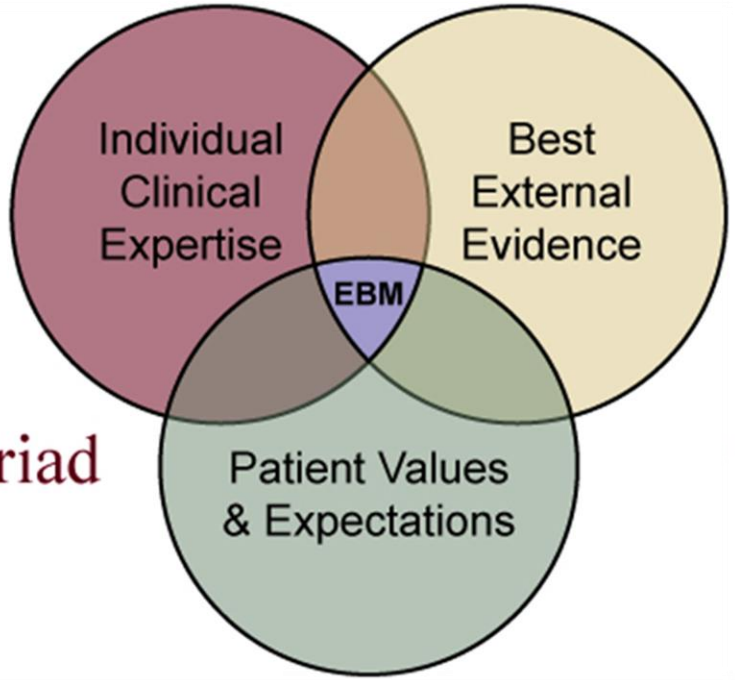
What Is EBP?



The EBM Triad

Figure 1. Levels of evidence

What guides your practice?

- Professional Standards & Guidelines?
- National Guidelines Clearinghouse (www.guideline.gov)
- Mosby's
- Hospital policies
- Unit based SOPs?
- ??

Create a PICO question to guide your clinical inquiry

- P-population, patient, problem
- I-intervention, prognostic factor, exposure
- C-Comparison
- O-outcome (may be disease or patient oriented)
- T-timing or type

- (PICOs serves as a GPS while searching the literature)

Why use PICO format?

- Helps you form a focused question that will return relevant results
- Assists you in brainstorming keywords for your search
- Helps you retrieve a manageable amount of results
- Guide clinical research
- Saves time!

(Use the GPS, much easier that maps)

Practice

Your carpool friend has been talking about how they use the “Buzzy©” in the peds ED to decrease pain and anxiety for injections and finger sticks. You wonder, would this work for you in the dialysis unit accessing adult patients AV fistulas?

Think about above scenario, what are the

- Population
- Intervention
- Comparator group
- Outcome?

PICO

- P-adult dialysis patients
- I-use of “Buzzy©”
- C-not using the “Buzzy©”
- O-decrease anxiety and pain during AV fistula access

Put it all together:

- In the adult dialysis patient does using the “Buzzy©” when accessing the AV fistula decrease pain and anxiety?

Practice

- Your old college room mate tells you they use aromatherapy of ginger essential oils with their cancer patients prior to administering chemo to decrease nausea, and that the practice is evidence based. You wonder, would that work for your pediatric post-op tonsillectomy patients?
- P
- I
- C
- O

PICO

- P-pediatric post-op tonsillectomy patients
- I-aromatherapy with ginger essential oils
- C-no aromatherapy
- O-decrease post-operative nausea

Put it all together:

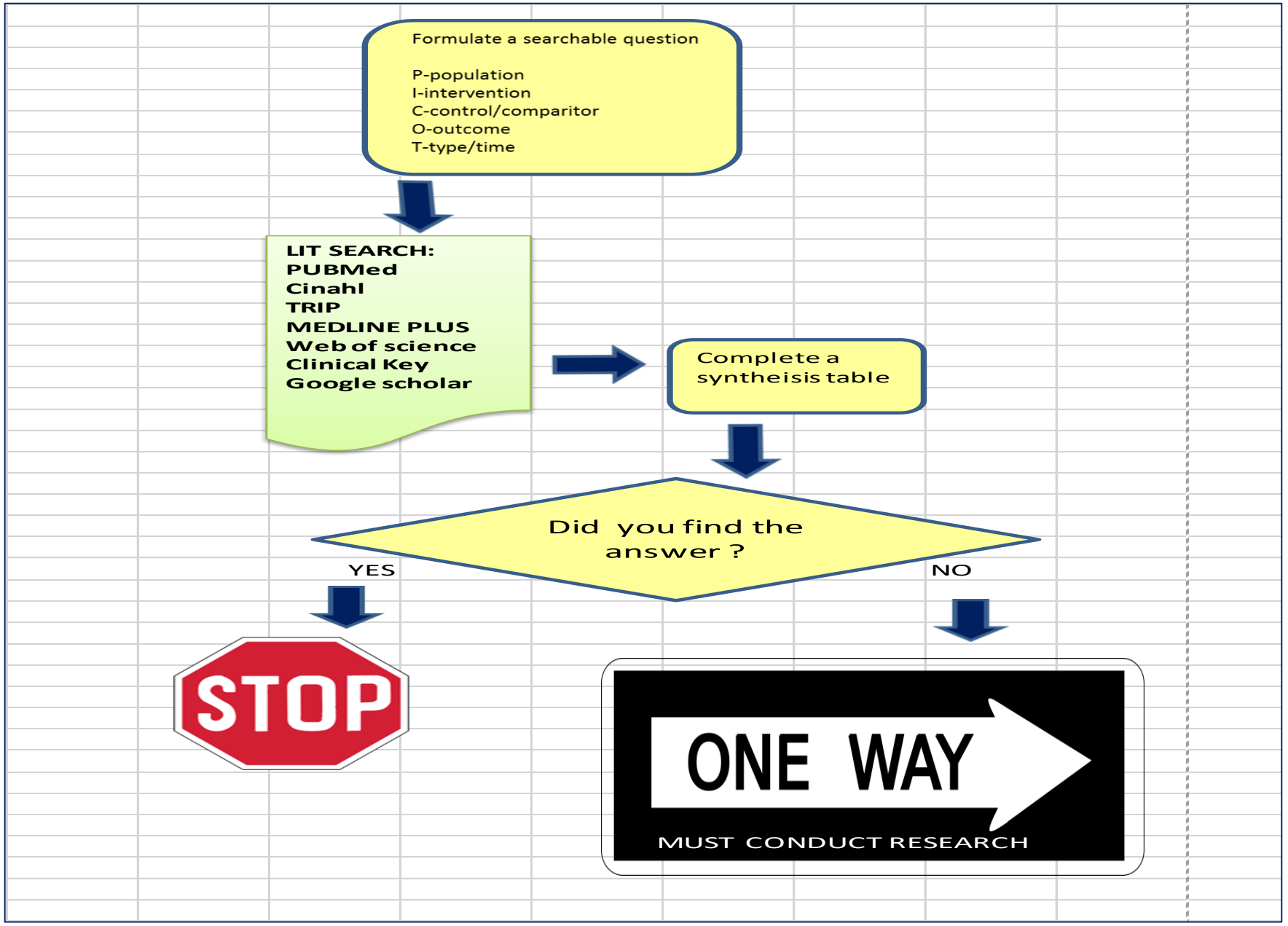
In the pediatric post-op tonsillectomy patient will aromatherapy with ginger essential oils decrease post-op nausea?

Types of PICO?

- foreground question and the type of study (methodology)

Therapy	Clinical questions focused on treatment options
Diagnosis	Clinical questions focusing on identification of a disorder
Prognosis	Clinical questions focusing on likelihood of developing or the progression of disease
Etiology/harm	Clinical questions focusing on negative impact from a treatment/intervention/exposure

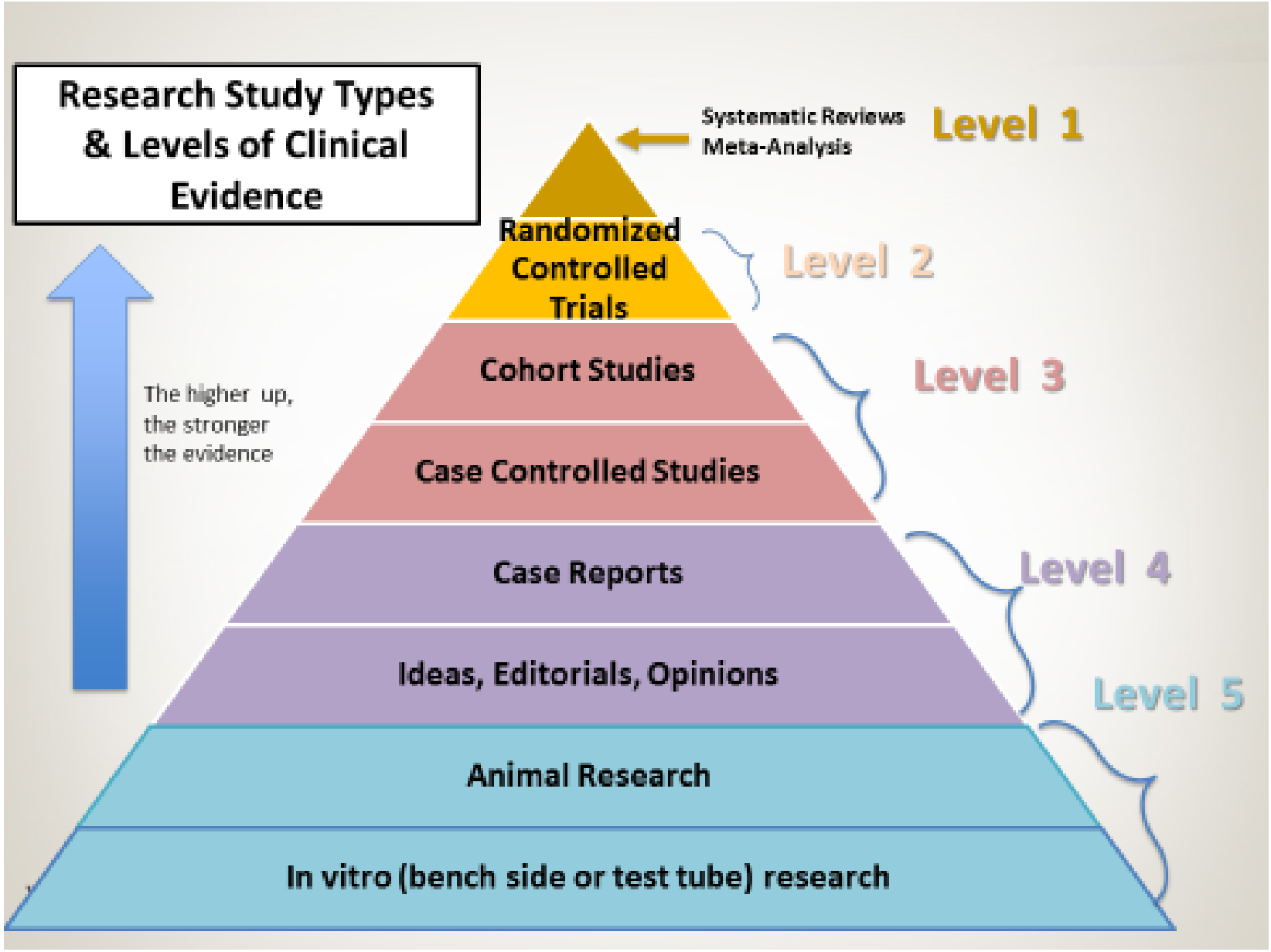
Map


Formulate a searchable question
P-population
I-intervention
C-control/comparitor
O-outcome
T-type/time
LIT SEARCH:
PUBMed
Cinahl
TRIP
MEDLINE PLUS
Web of science
Clinical Key
Google scholar
Complete a syntheisis table
Did you find the answer ?
YES
NO
STOP
ONE WAY
MUST CONDUCT RESEARCH

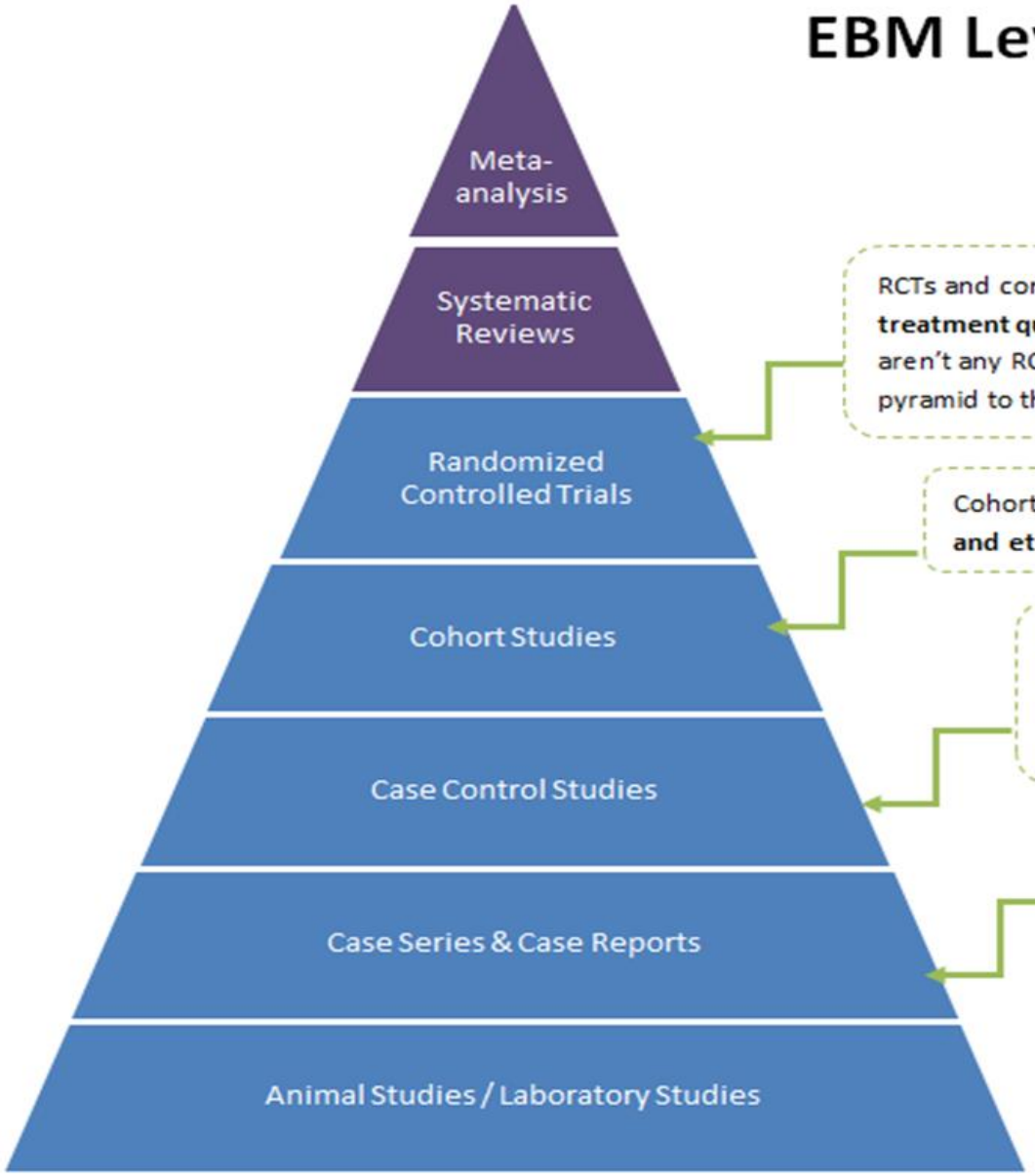
Searching is half the fun: life is much more manageable when thought of as a scavenger hunt as opposed to a surprise party.

–JIMMY BUFFETT

Levels of evidence



EBM Levels of Evidence Pyramid



RCTs and controlled clinical trials help to answer **treatment questions and diagnosis questions.** If there aren't any RCTs or controlled clinical trials, move down the pyramid to the next best option.

Cohort Studies help to answer **prognosis questions and etiology/harm questions.**

When you cannot find a cohort study to answer your **prognosis** or **etiology/ harm question**, look for a Case Control Study.

When you cannot find a cohort study or a case control study to answer your **prognosis** or **etiology / harm question**, look for a Case Series or Case Report.

Differences in review articles

Type of Review	Search Strategies	Inclusion Criteria	Data Analysis
Literature review	√		
Systematic review	√	√	
Meta-analysis	√	√	√

Differences in projects

Research	Evidence Based Practice	Quality Improvement
Generates new knowledge	Uses BEST AVAILABLE clinical evidence (from research, clinical expert opinion, etc.) to guide practice and make patient care decisions based on patient preference and individual clinicians expertise	Monitoring and evaluating quality & appropriateness of current care based on EBP and research completed methodically focusing on systems at a specific location
Provides general foundation for EBP and QI	Provides ability to continually improve pt care	Provides site-specific ability to best instill and continually evaluate these research based EBP practices
STARTS with a burning clinical question leading to rigorous literature search, critical appraisal and synthesizing findings to identify knowledge GAPS, through using measurable variables (VAS, blood pressure readings, etc.) to describe, explain, predict, and/or control the phenomena OR to develop meaning, discovery or understanding of a phenomena	STARTS with a burning clinical question leading to rigorous literature search, critical appraisal and synthesizing findings to identify best available evidence, evaluates if evidence warrants a practice change AND evaluates if change made if resulting product was what was expected AND if change can be sustained	STARTS with systematic method for improving outcomes and/or processes based upon continuous quality improvement & management focusing on site specific systems-NOT intended for generalizable knowledge or production of best evidence

Synthesize the literature

Example Table for summarizing the evidence

Authors	Sample	Variables of interest	Study design	Statistical results (p value, odds ratio)	Results	Summary/Limitations
Inal S., & Kelleci M (2012).	120 patients ages 6-12 years old	Pre-child anxiety and pain scale& observer reports, procedural pain with FACES, self report and parent observer	RCT Buzzy versus nothing for pain relief in blood draws	The experimental group showed significantly lower pain (P<.001) and anxiety (P,.001) compared to the control group, no difference in success of blood specimen collection procedure	Buzzy was an effective way to reduce pain and anxiety in pediatric patients	Study was not double-blind, to correct the research bias from this knowledge, the pain and anxiety levels were assessed by the children and their parents. Placebo effects were not controlled for, parents, observers and children were informed of hypothesis prior .
Baxter AL, Cohen LL, & Von Baeyer C. (2012).	81 patients ages 4-18 years old	Parent assessed pain scores, pt self assessed pain scores (CAPS), observed distress behaviors	RTC Buzzy versus standard of care (primarily vapcoolant spray, EMLA)	The parent report child pain showed significance for pain relief with the Buzzy (P<.05) and ages younger than 10 reported a higher mean self report of pain than those ages 10 to 17 years old (P=.018)	Buzzy pain relief was equal/better than standard of care methods, & demonstrated an inverse relationship between age and pain perception Odds of successful blood draw was 3 times higher w/Buzzy group	Buzzy required NO wait time -vs-EMLA wait time 15 minutes. Was not blinded-device could be seen & heard, could not control for the placebo affect with a sham device. Second limitation small sample sizes and minor random differences in the randomized groups.

Synthesis of findings

1. The Buzzy® time to effectiveness greatly reduces wait time to needle stick compared to EMLA and amethocaine. Arguably this in itself could decrease anxiety in the pediatric patient.
2. Safe to use in lidocaine allergy patients
3. Pain relief with use of Buzzy ®through stimulation of the inhibitory pain pathway, AND the device may offer an additional pain relief as a distraction for the pediatric patient by focusing on the Buzzy, which looks similar to a toy, the pediatric patient is less concerned about the pain associated with the needle stick.

Where you able to answer your PICO?

- Yes-EBP project is next step for you

- No- must complete a research project-yay my favorite

references

- Graham, Ian D., et al. "Lost in knowledge translation: time for a map?." *Journal of continuing education in the health professions* 26.1 (2006): 13-24.
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Questions?

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