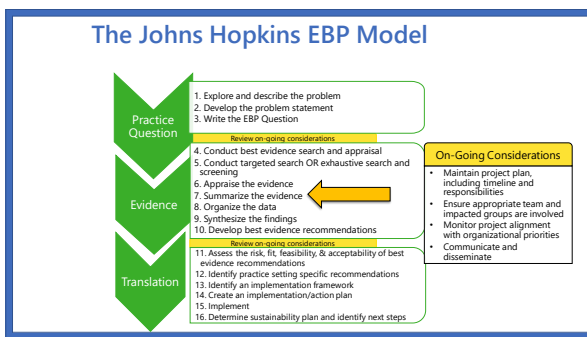




Objectives

- Discuss the difference "between summarizing and synthesizing" literature
- Describe strategies to organize information from the evidence
- Explain the significance of the summary and synthesis steps in the overall context of a value-added EBP project
- State the process and purpose of establishing best-evidence recommendations based on the type of evidence the team has collected

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[illegible][illegible]

Evidence Summary

[illegible]

Evidence Summary

Definition and Concepts The process of collating essential information from articles or reports into a central location.



Evidence Summary

Definition and Concepts

The process of collating essential information from articles or reports into a central location.

Does

- Extract information, just as it is described in the source material
- Provide information that is succinct and actionable

Doesn't

- Include drawing personal conclusions or opinions
- Reference the reader back to the source material
- Copy/paste from the source material

Evidence Summary: Goal

To provide enough information for the team to assess each article and its findings without having to go to the source material, while being succinct enough that the data is digestible and actionable



The Process: Provide pertinent information from each individual piece of evidence in a central location

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Evidence Summary

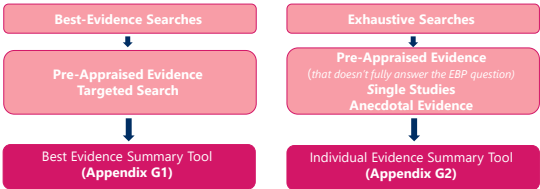
2

Ideally, this is conducted by two independent team members who then confer to ensure all relevant information has been accurately entered *(like the evidence appraisal)*

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Evidence Summary

The **type of evidence** identified will decide the **EBP tool** used.



Evidence Summary Tools

Best Evidence Summary Tool (Appendix G1)

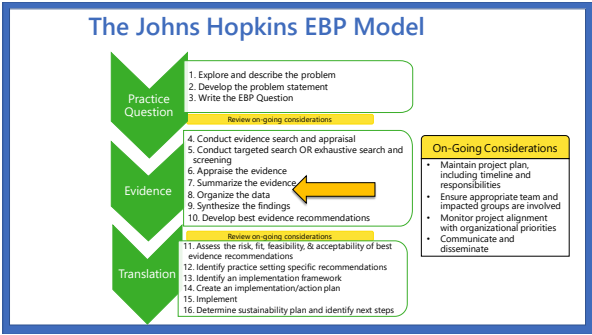
Individual Evidence Summary Tool (Appendix G2)

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Data Organization

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Data Organization

Definition and Concepts | The organization or preparation of collated data. Involves sorting information into groups, clusters, or visual representations to help interpretation.

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Data Organization

Definition and Concepts | The organization or preparation of collated data. Involves sorting information into groups, clusters, or visual representations to help interpretation.

Lumping

Splitting

Data Visualization

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Data Organization

Definition and Concepts

The organization or preparation of collated data. Involves sorting information into groups, clusters, or visual representations to help interpretation.

Lumping

Splitting

Data Visualization

Sorted by
level of support for decision-making

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Data Visualization Example - Matrix

Data Organization

Population Included	Patients	Visitors	Staff
Liu et al., 2019	X	X	
Martinez and Young, 2020	X		X
Patel et al., 2021	X	X	
Johnson, 2020		X	
Baptiste et al., 2021		X	X

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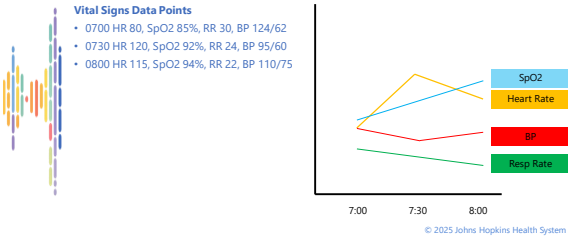
Data Visualization Example – 2 x 2 Table

Data Organization

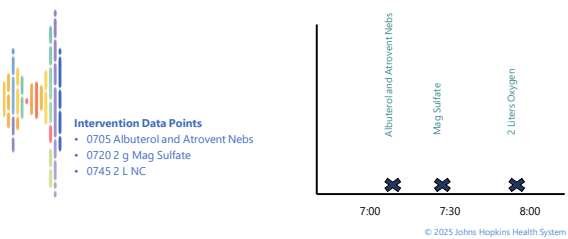
	Healthcare Students	Post-Licensure Healthcare Workers
Positive Effect	Henry and Williams, 2023 Rosenblum et al., 2020 Hawkins et al., 2021	Watson and Allameel, 2019
No Effect or Negative Effect	Cox, 2020	Johnson et al., 2019 Tschudin and Orem, 2018 Taylor et al., 2017 Baker and Chappell, 2022 Abrons, 2020 Steinbrook et al., 2023

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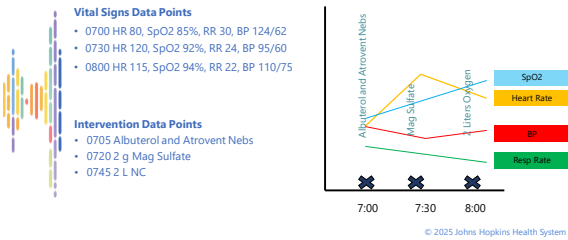
Data Organization: Clinical Example



Data Organization: Clinical Example



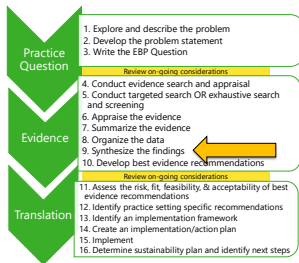
Data Organization: Clinical Example





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- On-Going Considerations**
- Maintain project plan, including timeline and responsibilities
 - Ensure appropriate team and impacted groups are involved
 - Monitor project alignment with organizational priorities
 - Communicate and disseminate

Evidence Synthesis



Definition and Concepts

The process of combining two or more elements to create a new understanding with the whole being greater than the sum of its parts

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Evidence Synthesis: Goal

Evidence is synthesized at each level and then used to generate recommendations.



The Process: combining two or more elements to create a new idea or understanding, with the whole being greater than the sum of its parts.

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Summary vs Synthesis



Summarize

- List
- Outline
- Recap
- Sum Up
- Reiterate
- Review
- Inventory

VS

Synthesize

- Incorporate
- Integrate
- Unify
- Create
- Blend
- Build



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Summary vs Synthesis



Summarize

- List
- Outline
- Recap
- Sum Up
- Reiterate
- Review
- Inventory



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Summary vs Synthesis



Synthesize

- Incorporate
- Integrate
- Unify
- Create
- Blend
- Build

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Summary vs Synthesis



Summarize

Blood pressure	84/60
White blood cell count	25,000
Lactate	4.0
Temperature	39.2 po
Urine culture	positive

Summary vs Synthesis



Summarize

Blood pressure	84/60
White blood cell count	25,000
Lactate	4.0
Temperature	39.2 po
Urine culture	positive

Summarize

urosepsis

Methods to facilitate **evidence analysis** and **synthesis**

Using the individual evidence summary the EBP team should:

- Note patterns and themes
- Cluster
- Count
- Discern common and unusual patterns
- Compare and contrast
- Explore inconsistencies

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Examples of Evidence Synthesis

Summary

Evidence #1: Hamm (2021) found that nurse education workshops that were only 1 day long were more intellectually superficial.

Evidence #2: Prast (2023) noted that nurses reported being less satisfied with 1-day workshops.

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Examples of Evidence Synthesis

Summary

Evidence #1: Hamm (2021) found that nurse education workshops that were only 1 day long were more intellectually superficial.

Evidence #2: Prast (2023) noted that nurses reported being less satisfied with 1-day workshops.

Synthesis

Synthesis: Nurse educators should avoid short workshops and aim for longer workshop that nurses perceive as more substantial.

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Evidence Summary & Synthesis Example



Summary

- Evidence #1: Smith (2021) found that including family in patient education during discharge decreases readmission rates by 17%.
- Evidence #2: Jones (2020) noted that when patient families were in involved in the discharge process, patient medication compliance increased by 12%.
- Evidence #3: Jackson (2023) observed an increase in a patient's ability to recall discharge instruction when a spouse or partner was present during discharge education sessions.

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Evidence Summary & Synthesis Example



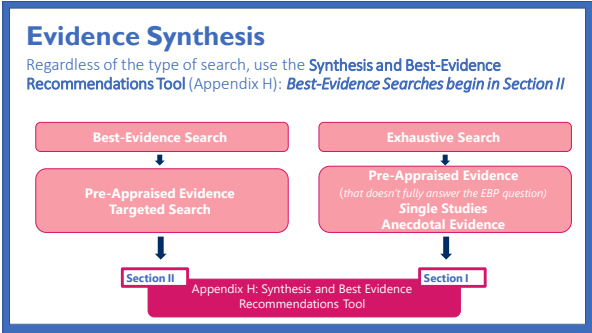
Summary

- Evidence #1: Smith (2021) found that including family in patient education during discharge decreases readmission rates by 17%.
- Evidence #2: Jones (2020) noted that when patient families were in involved in the discharge process, patient medication compliance increased by 12%.
- Evidence #3: Jackson (2023) observed an increase in a patient's ability to recall discharge instruction when a spouse or partner was present during discharge education sessions.

Synthesis

Including a patient's family or support system during discharge education has a positive effect on patient outcomes including readmission and medication adherence.

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Appendix H

Appendix H Summary, Synthesis, & Best Evidence Recommendation Tool	
Purpose: This tool guides the EBP team through the process of synthesizing the pertinent findings from the Best Evidence or Individual Evidence Summary (Appendix G) or (G) to create an overall picture of the body of the evidence related to the EBP question. The team analyzes the data in each category of support for decision-making, as well as any additional organizational approaches that bring further insights.	
Section I: Findings from the Individual Evidence Summary Synthesized Findings with Article Number(s) (This is not a simple restating of information from each individual evidence summary—see instructions)	
Support for Decision-Making Strong Number of sources = _____	
Moderate Number of sources = _____	
Limited Number of sources = _____	
Further Synthesis Based on Additional Organization and Analysis (OPTIONAL)	

Appendix H

- Record the **reference** for each statement in the evidence synthesis
- If there are multiple sources to support each statement, **this is a good sign**

Appendix H Summary, Synthesis, & Best Evidence Recommendation Tool	
Purpose: This tool guides the EBP team through the process of synthesizing the pertinent findings from the Best Evidence or Individual Evidence Summary (Appendix G) or (G) to create an overall picture of the body of the evidence related to the EBP question. The team analyzes the data in each category of support for decision-making, as well as any additional organizational approaches that bring further insights.	
Section I: Findings from the Individual Evidence Summary Synthesized Findings with Article Number(s) (This is not a simple restating of information from each individual evidence summary—see instructions)	
Support for Decision-Making Strong Number of sources = _____	
Moderate Number of sources = _____	
Limited Number of sources = _____	
Further Synthesis Based on Additional Organization and Analysis (OPTIONAL)	

Appendix H

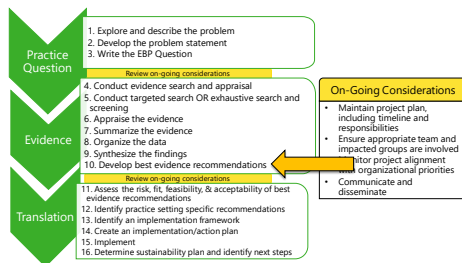
Among hospitalized adult patients, what are best practices regarding maintaining peripheral IV catheters?

Section I: Findings from the Individual Evidence Summary	
Synthesized Findings with Article Number(s) (This is not a simple restating of information from each individual evidence summary—see instructions)	
Support for Decision-Making Strong There is no difference in rates of infection or infiltration among adult patients who have their IV catheter changed based on a predetermined schedule as compared to those who only have the catheter changed when indicated within the site is inspected regularly (1, 4, 7). Number of sources = 6	
Moderate Assessing for patency prior to use of the IV catheter via aspiration is a reliable measure of functionality (5, 8). IV catheters should be assessed every 2-4 hours (6, 9). Hand hygiene before and after contact with an IV catheter positively impacts infection rates (11, 12). Regular inspection may or may not improve infection rates (11, 9). Number of sources = 6	
Limited IV catheters should be assessed every shift (10). Regular inspection improves infection rates (10). Number of sources = 1	
Further Synthesis Based on Additional Organization and Analysis (OPTIONAL)	



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Best Evidence Recommendations



Definition and Concepts

Best-evidence recommendations are succinct statements, drawn from the synthesized evidence, that answer the practice question

Purpose

To create a set of recommendations that can be translated to the team's practice setting and serve as a guide for other teams with similar clinical questions

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Best-Evidence Recommendations

Do not take into account the team's setting (yet)

Recommendations are grouped into:

High
Certainty

Reasonable
Certainty

Reasonable
to Low
Certainty

Low
Certainty

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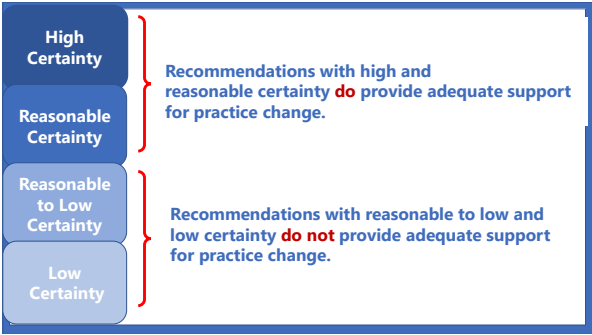
High Certainty	- Robust, well-documented, consistent & persuasive - Based on evidence that provides STRONG support for decision-making
Reasonable Certainty	
Reasonable to Low Certainty	
Low Certainty	

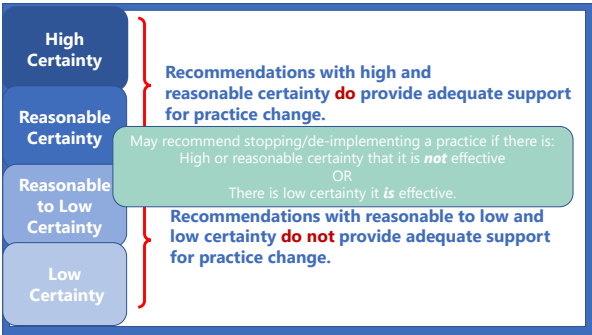
High Certainty	- Robust, well-documented, consistent & persuasive - Based on evidence that provides STRONG support for decision-making
Reasonable Certainty	- Good, mostly compelling, consistent evidence - Based mostly on evidence that provides MODERATE to STRONG support for decision-making
Reasonable to Low Certainty	
Low Certainty	

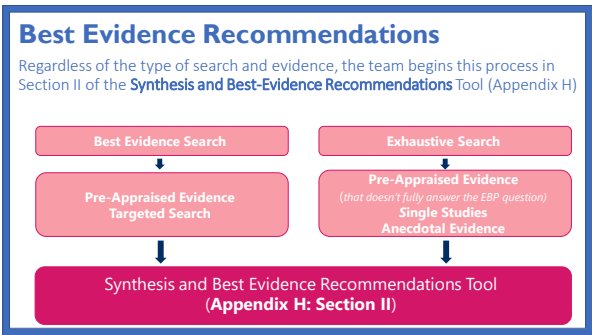
High Certainty	• Robust, well-documented, consistent & persuasive • Based on evidence that provides STRONG support for decision-making
Reasonable Certainty	• Good, mostly compelling, consistent evidence • Based mostly on evidence that provides MODERATE to STRONG support for decision-making
Reasonable to Low Certainty	• Good but conflicting evidence, inconsistent results • Based mostly on evidence that provides MODERATE support for decision-making
Low Certainty	

High Certainty	• Robust, well-documented, consistent & persuasive • Based on evidence that provides STRONG support for decision-making
Reasonable Certainty	• Good, mostly compelling, consistent evidence • Based mostly on evidence that provides MODERATE to STRONG support for decision-making
Reasonable to Low Certainty	• Good but conflicting evidence, inconsistent results • Based mostly on evidence that provides MODERATE support for decision-making
Low Certainty	• Little to no evidence, information is minimal/inconsistent • Based on evidence that provides LIMITED support for decision-making.

High Certainty	Recommendations with high and reasonable certainty do provide adequate support for practice change.
Reasonable Certainty	
Reasonable to Low Certainty	
Low Certainty	









Best Evidence Recommendations

Appendix A: Best Evidence Recommendations	
The recommendations below are based on: - Pre-appraised evidence identified in a best evidence search. (Based on each recommendation in the corresponding evidence category in the table below based on the confidence/quality rated in the clinical practice guidelines, evidence summary, or literature review with a systematic approach.) - Evidence appraised by the BSR team from a targeted search to supplement the pre-appraised evidence (single studies with internal study design). (Based on any additional or altered recommendations in the pre-appraised evidence in the corresponding evidence category in the table below based on the confidence/quality rated in the clinical practice guidelines, evidence summary, or literature review with a systematic approach.) - Evidence appraised by the BSR team from an exhaustive search (single studies, anecdotal evidence, and/or pre-appraised evidence that does not fully address the BSR question). (Based on each recommendation in the table below based on the team's analysis and synthesis of information in Section I.)	
Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making).	
Reasonable certainty recommendations (Sound, mostly compelling, consistent evidence, based mostly on evidence that provides moderate to strong support for decision-making).	
Characteristics of the Recommendation(s)	Recommendation(s) Lacking Adequate Evidence
Reasonable to low certainty recommendations (Mixed but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making).	
Low certainty recommendations (Little to no evidence, information is minimal, inconsistent and/or based mostly on evidence that provides limited support for decision-making).	



Best Evidence Recommendations

Pre-Appraised Evidence

Appendix B: Best Evidence Recommendations	
The recommendations below are based on: - Pre-appraised evidence identified in a best evidence search. (Based on each recommendation in the corresponding evidence category in the table below based on the confidence/quality rated in the clinical practice guidelines, evidence summary, or literature review with a systematic approach.) - Evidence appraised by the BSR team from a targeted search to supplement the pre-appraised evidence (single studies with a formal study design). (Based on any additional or altered recommendations in the pre-appraised evidence in the corresponding evidence category in the table below based on the confidence/quality rated in the clinical practice guidelines, evidence summary, or literature review with a systematic approach.) - Evidence appraised by the BSR team from an exhaustive search (single studies, anecdotal evidence, and/or pre-appraised evidence that does not fully address the BSR question). (Based on each recommendation in the table below based on the team's analysis and synthesis of information in Section I.)	
Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making).	
Reasonable certainty recommendations (Sound, mostly compelling, consistent evidence, based mostly on evidence that provides moderate to strong support for decision-making).	
Characteristics of the Recommendation(s)	Recommendation(s) Lacking Adequate Evidence
Reasonable to low certainty recommendations (Mixed but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making).	
Low certainty recommendations (Little to no evidence, information is minimal, inconsistent and/or based mostly on evidence that provides limited support for decision-making).	



Best Evidence Recommendations

Pre-Appraised Evidence

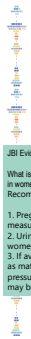
JB1 Evidence Summary: Pre-eclampsia Screening (Whitehorn, 2024)

What is the best available evidence regarding screening for pre-eclampsia in women?

Recommendations:

- Pregnant women should have their blood pressure measured and recorded at each antenatal visit (**Grade A**).
- Urinalysis for protein should be offered to pregnant women at each antenatal visit (**Grade B**).
- If available, algorithms that consider multiple factors such as maternal characteristics and history, mean arterial pressure, biochemical markers, uterine artery pulsatility index may be considered for all pregnant women (**Grade B**).

Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making).	
Reasonable certainty recommendations (Sound, mostly compelling, consistent evidence, based mostly on evidence that provides moderate to strong support for decision-making).	
Characteristics of the Recommendation(s)	Recommendation(s) Lacking Adequate Evidence
Reasonable to low certainty recommendations (Mixed but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making).	
Low certainty recommendations (Little to no evidence, information is minimal, inconsistent and/or based mostly on evidence that provides limited support for decision-making).	



Best Evidence Recommendations

Pre-Appraised Evidence

Targeted Search

Exhaustive Search

JBI Evidence Summary: Pre-eclampsia Screening (Whitehorn, 2024)

What is the best available evidence regarding screening for pre-eclampsia in women?

Recommendations:

- Pregnant women should have their blood pressure measured and recorded at each antenatal visit (**Grade A**).
- Urine analysis for protein should be offered to pregnant women at each antenatal visit (**Grade B**).
- If available, algorithms that consider multiple factors such as maternal characteristics and history, mean arterial pressure, biochemical markers, uterine artery pulsatility index, may be considered for all pregnant women (**Grade B**).

Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making)	1) Pregnant women should have their blood pressure measured and recorded at each antenatal visit
Useful certainty recommendations (I, mostly compelling, consistent evidence, based mostly on evidence that provides moderate support for decision-making)	2) Urine analysis for protein should be offered to pregnant women at each antenatal visit
Useful to low certainty recommendations (Useful but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making)	3) If available, algorithms that consider multiple factors such as maternal characteristics and history, mean arterial pressure, biochemical markers, uterine artery pulsatility index may be considered for all pregnant women
Recommendation(s) Lacking Adequate Evidence	

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Best Evidence Recommendations

Pre-Appraised Evidence

Targeted Search

Exhaustive Search

Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making)	1) Pregnant women should have their blood pressure measured and recorded at each antenatal visit
Useful certainty recommendations (I, mostly compelling, consistent evidence, based mostly on evidence that provides moderate support for decision-making)	2) Urine analysis for protein should be offered to pregnant women at each antenatal visit
Useful to low certainty recommendations (Useful but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making)	3) If available, algorithms that consider multiple factors such as maternal characteristics and history, mean arterial pressure, biochemical markers, uterine artery pulsatility index, may be considered for all pregnant women
Recommendation(s) Lacking Adequate Evidence	



Best Evidence Recommendations

Pre-Appraised Evidence

Targeted Search

Exhaustive Search

Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making)	1) Pregnant women should have their blood pressure measured and recorded at each antenatal visit
Useful certainty recommendations (I, mostly compelling, consistent evidence, based mostly on evidence that provides moderate support for decision-making)	2) Urine analysis for protein should be offered to pregnant women at each antenatal visit
Useful to low certainty recommendations (Useful but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making)	3) If available, algorithms that consider multiple factors such as maternal characteristics and history, mean arterial pressure, biochemical markers, uterine artery pulsatility index, may be considered for all pregnant women
Recommendation(s) Lacking Adequate Evidence	



Appendix H

Among hospitalized adult patients, what are best practices regarding maintaining peripheral IV catheters?

Section I: Findings from the Individual Evidence Summary	
Support for Decision-Making	Synthesized Findings with Article Number(s) (This is not a simple restating of information from each individual evidence summary—see instructions.)
Strong Number of sources = 6	There is no difference in rates of infection or infiltration among adult patients who have their IV catheter changed based on a predetermined schedule as compared to those who only have the catheter changed when indicated when the site is inspected regularly (1, 4, 7). Hand hygiene before and after contact with an IV catheter has been shown to positively impact infection rates (1, 2, 8).
Moderate Number of sources = 6	Assessing for patency prior to use of the IV catheter via aspiration is a reliable measure of functionality (5, 6). IV catheters should be assessed every 2-4 hours (6, 9). Hand hygiene before and after contact with an IV catheter positively impacts infection rates (11, 12). Regular inspection may or may not improve infection rates (11, 9).
Limited Number of sources = 1	IV catheters should be assessed every shift (10). Regular inspection improves infection rates (10).
Further Synthesis Based on Additional Organization and Analysis (OPTIONAL)	



Best Evidence Recommendations

Exhaustive Search

Among hospitalized adult patients, what are best practices regarding maintaining peripheral IV catheters?

Evidence appraised by the EBP team from an exhaustive search (single studies, anecdotal evidence, and pre-organized evidence that does not fully address the EBP question) * Record each recommendation in the table below based on the team's analysis and synthesis of information in Section I.	
Characteristics of the Recommendation(s)	Best Evidence Recommendation(s)
High certainty recommendations (Robust, well-documented, consistent & persuasive, based mostly on evidence that provides strong support for decision-making)	Rotate IV sites when indicated, not by a predetermined schedule. Inspect IV site at each shift change. Perform hand hygiene before and after contact with the IV catheter.
Reasonable certainty recommendations (Good, mostly compelling, consistent evidence, based mostly on evidence that provides moderate to strong support for decision-making)	The catheter should be assessed for patency via aspiration before each situation.
Characteristics of the Recommendation(s)	Recommendation(s) Lacking Adequate Evidence
Reasonable to low certainty recommendations (Good but conflicting evidence, inconsistent results, based mostly on evidence that provides moderate support for decision-making)	The IV catheter site should undergo regular inspection. Assessment should occur every 2 hours, every 4 hours or every shift.
Low certainty recommendations (Little to no evidence, information is minimal, inconsistent and/or based mostly on evidence that provides limited support for decision-making)	



Summary

Summarize	Organize	Synthesize	Recommendations
-----------	----------	------------	-----------------



Summary



Summarize	Organize	Synthesize	Recommendations
			

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Summary



Summarize	Organize	Synthesize	Recommendations
			

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Summary



Summarize	Organize	Synthesize	Recommendations
			

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Summary

- **Summary** is the process of collating data from the appraised evidence to allow for interpretation
- **Organization** is the process of sorting information to aid interpretation
- **Synthesis** is the process of creating meaning from information
- Best-Evidence recommendations turns information into instructions

Questions?
