Navigation Guide Systematic Review Methodology

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People want to know

“it is hard to open up a discussion if you do not have good information to give back - it is a disservice to the patient and a [waste] of [precious] time"

“We can’t put the burden on pregnant women, we need societal change"

“I’m just wondering if any of the levels are alarmingly high?”


Added by: Christie Hurrell
Pearls Before Swine
by Stephan Pastis

I don't think you should be a poll-taker, rat. I think you ask questions in a biased way.

Fine. I'll ask my question in a totally neutral way.

Do you three approve of the direction of the economy?

They do not.
Program on Reproductive Health and the Environment

SCIENCE

DECISION
Navigation Guide: A rulebook for “moving from knowing to doing”

1. Specify Study Question
   Is human environmental exposure to a chemical a reproductive health risk?

2. Select Evidence

3. Rate Quality & Strength of the Evidence:
   Strength of Evidence in Non-Human Systems

   - Sufficient
   - Limited
   - Inadequate

   Evidence of lack of toxicity

   (Strength of human & non-human evidence are combined into 1 of 5 possible strength of evidence summary statements)

   No Recommendation needed

4. Grade Strength of Recommendation:
   Strength of Evidence (from Step 3 above)

   Exposure

   - High
   - Medium
   - Lower

   Is a Less Toxic Alternative Available?
   Patient Values and Preferences
   Strong or Discretionary Recommendation

   S = Strong Recommendation
   D = Discretionary Recommendation
   - denotes "we recommend"
   - denotes "we suggest"

1. High Exposure =
   - Exposure at any level that occurs during critical or sensitive windows of development or during other periods of heightened vulnerability (i.e., nutritional deficiencies, chronic disease/immunosuppressed state, etc.);
   - Exposure at high level for any duration;
   - Exposure of moderate or low level for long (chronic) duration

2. Medium Exposure =
   - Exposure at moderate level for short or intermittent duration

3. Lower Exposure =
   - Exposure at low level for short or intermittent duration
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Navigation Guide Work Group
Navigation Guide: A rulebook for “moving from knowing to doing”

An Evidence-Based Medicine Methodology To Bridge The Gap Between Clinical And Environmental Health Sciences

ABSTRACT Physicians and other clinicians could help educate patients about hazardous environmental exposures, especially to substances that could affect their reproductive health. But the relevant scientific evidence is voluminous, of variable quality, and largely unfamiliar to health professionals caring for people of childbearing age. To bridge this gap between clinical and environmental health, we created a methodology to...
The Navigation Guide—Evidence-Based Medicine Meets Environmental Health: Integration of Animal and Human Evidence for PFOA Effects on Fetal Growth
Juleen Lam,1 Erica Koustas,1 Patrice Sutton,2 Paula I. Johnson,2 Dylan S. Atchley,2 Saunak Sen,3 Karen A. Robinson,4,5,6 Daniel A. Axelrad,7 and Tracey J. Woodruff2

The Navigation Guide—Evidence-Based Medicine Meets Environmental Health: Systematic Review of Human Evidence for PFOA Effects on Fetal Growth
Paula I. Johnson,1 Patrice Sutton,1 Dylan S. Atchley,1 Erica Koustas,2 Juleen Lam,2 Saunak Sen,3 Karen A. Robinson,4,5,6 Daniel A. Axelrad,7 and Tracey J. Woodruff1

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The Navigation Guide Systematic Review Methodology: A Rigorous and Transparent Method for Translating Environmental Health Science into Better Health Outcomes
Tracey J. Woodruff and Patrice Sutton

Systematic Review and Evidence Integration for Literature-Based Environmental Health Science Assessments
Andrew A. Rooney, Abe L. Boyles, Mary S. Wolfe, John R. Bucher, and Kristina A. Thayer
Review of EPA’s Integrated Risk Information System (IRIS) Process

“…systematic-review standards provide an approach that would substantially strengthen the IRIS process…” NAS 2014

“EPA should consistently use a more systematic approach to evaluating the literature ……….” NAS 2014
The Verdict

• The method works
• Continues to evolve as we learn and with changes in evidence stream
• Aids in translating our findings to clinical and health related fields
• BUT – need $$ and training
Conclusion: Need new and robust rules for evidence-based decision-making in the 21st century
Thank you!