

# W27: Beyond the headlines: Mastering the art of interpreting intervention trial results without being misled

Workshop Chair: Melanie Morin, Canada 20 September 2025 14:00 - 15:30

Start	End	Topic	Speakers
14:00	14:05	Introduction and opening remarks	Melanie Morin
14:05	14:25	Why are our observations not enough: RCT 101	Adrian Wagg
14:25	14:40	Significant but meaningless? Understanding the clinical meaning of study results	Melanie Morin
14:40	15:00	How (not) to interpret the results of an RCT – interactive overview of common mistakes and misinterpretations seen in RCT result interpretation	Malgorzata (Gosia) Starzec-Proserpio
15:00	15:15	Evidence -Based Health Care: Accepting Uncertainty and Improving Decision-Making	Kari Tikkinen
15:15	15:30	Questions	All

#### Description

# **Background information**

Healthcare professionals are increasingly expected to adhere to the principles of evidence-based medicine and implement evidence-informed practices. This shift has led to a surge in published research trials and greater engagement with research among clinicians. While this trend is largely positive, it also presents significant challenges. A high volume of published studies does not always correlate with high quality, and it is not uncommon to encounter research trials with inaccurately interpreted results that do not align with the study design and data obtained. In today's fast-paced world, where attention is often focused solely on the conclusions of abstracts, this poses a significant risk of disseminating misleading information.

These challenges are also evident at scientific meetings such as ICS, which have seen a growing attendance of clinicians. However, many lack the methodological skills needed to critically evaluate research findings, engage in meaningful discussions, or accurately interpret the research presented. It is not uncommon for clinicians to misinterpret findings, further complicating their ability to integrate evidence into practice. Similar challenges extend to clinician-researchers and early-career researchers presenting their work, who may misinterpret their own results or draw conclusions that are inconsistent with their study design and findings, ultimately contributing to the spread of misinformation.

Moreover, the growing engagement with research has extended to social media, where professionals frequently share and discuss new findings. While social media provides a valuable platform for disseminating science, it also introduces risks. Both intentional and unintentional misinformation can spread rapidly, undermining the integrity of shared knowledge and potentially harming clinical practice.

As healthcare professionals increasingly engage with research—whether by reading studies, attending conferences, or analyzing their own data—they often encounter challenges in analyzing and interpreting the results of interventional trials. This underscores the urgent need to support them in navigating the complexities of research interpretation.

However, many professionals struggle to find accessible sources of knowledge. They are often no longer in formal university education, lack the time for lengthy methodological courses or extensive reading, and frequently disengage from resources they perceive as irrelevant to their daily practice—either too basic or overly advanced.

Conference workshops, like the one proposed, provide a unique opportunity to address these challenges in a format that is practical, engaging, digestible, and easy to access.

## Key learning points

In this workshop participants will:

- Acquire foundational knowledge of randomized controlled trial design and its role in research and clinical practice.
- Gain insights into the different questions that randomized controlled trials can address and how these influence their design and choice of comparator.
- Develop competence in judging the clinical relevance of trial results.
- Understand the most common mistakes and pitfalls in interpreting trial results.
- Develop awareness of reporting traps, such as the phenomenon of SPIN.
- Increase their comfort with accepting research-related uncertainty.

#### Take home messages

This workshop, led by a panel of international experts, addresses the pressing need to enhance the understanding of randomized controlled trial results and design. The workshop focuses on common pitfalls and misinterpretations, offering healthcare professionals and researchers valuable insights to enhance their understanding of trial results and critical thinking skills

By equipping attendees with the tools to evaluate interventional research more effectively, they will be better prepared to identify common flaws in study conclusions and hold researchers accountable for the quality of their work.

Ultimately, through an interactive, engaging, and easy-to-follow format, this workshop will empower participants to integrate high-quality evidence into clinical practice, engage in meaningful and informed discussions about research, and foster a culture of evidence-informed decision-making.

#### **Additional References**

Rushton A, Calvert M, Wright C, Freemantle N. Physiotherapy trials for the 21st century: time to raise the bar? J R Soc Med. Nov 2011;104(11):437-41. doi:10.1258/jrsm.2011.110109

Smaldino PE, McElreath R. The natural selection of bad science. Royal Society Open Science. 2016;3(9):160384. doi:10.1098/rsos.160384

Aspinall SL, Nim C, Hartvigsen J, et al. Waste not, want not: call to action for spinal manipulative therapy researchers. Chiropr Man Therap. May 14 2024;32(1):16. doi:10.1186/s12998-024-00539-y

Kamper SJ. Linking Evidence to Practice series. J Orthop Sports Phys Ther.

Draper-Rodi J, Vaucher P, Hohenschurz-Schmidt D, Morin C, Thomson OP. 4 M's to make sense of evidence – Avoiding the propagation of mistakes, misinterpretation, misrepresentation and misinformation. International Journal of Osteopathic Medicine. 2022/06/01/2022;44:29-35. doi:https://doi.org/10.1016/j.ijosm.2022.04.007

Jonas WB. Building an evidence house: challenges and solutions to research in complementary and alternative medicine. Forsch Komplementarmed Klass Naturheilkd. Jun 2005;12(3):159-67. doi:10.1159/000085412

Bhide A, Shah PS, Acharya G. A simplified guide to randomized controlled trials. Acta Obstet Gynecol Scand. Apr 2018;97(4):380-387. doi:10.1111/aogs.13309

Bland JM, Altman DG. Comparisons against baseline within randomised groups are often used and can be highly misleading. Trials. 2011 Dec 22;12:264. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3286439/

Bland JM, Altman DG. Best (but oft forgotten) practices: testing for treatment effects in randomized trials by separate analyses of changes from baseline in each group is a misleading approach. Am J Clin Nutr. 2015 Nov;102(5):991-4. https://www.sciencedirect.com/science/article/pii/S000291652313735X?via%3Dihub

Sainani K. Misleading comparisons: the fallacy of comparing statistical significance. PM R. 2010 Jun;2(6):559-62. https://onlinelibrary.wiley.com/doi/10.1016/j.pmrj.2010.04.016

Thorpe KE, Zwarenstein M, Oxman AD, Treweek S, Furberg CD, Altman DG, Tunis S, Bergel E, Harvey I, Magid DJ, Chalkidou K. A pragmatic-explanatory continuum indicator summary (PRECIS): a tool to help trial designers. J Clin Epidemiol. 2009 May;62(5):464-75.

Cook CE, O'Connell NE, Hall T, et al. Benefits and Threats to Using Social Media for Presenting and Implementing Evidence. J Orthop Sports Phys Ther. Jan 2018;48(1):3-7. doi:10.2519/jospt.2018.0601

## Aims of Workshop

Clinicians encounter a constant stream of new studies and must regularly update their knowledge to provide effective care. However, interpreting trial results, assessing their trustworthiness, and applying them effectively in practice can be challenging—particularly due to common mistakes in analysis, misinterpretation of findings, and the spread of misinformation, often amplified by social media. This workshop is designed to equip clinicians and early-career researchers with practical tools to critically analyze the results of clinical trials. Through engaging discussions and interactive activities, participants will strengthen their ability to evaluate evidence critically and integrate reliable findings into clinical practice.

#### **Educational Objectives**

This workshop addresses an urgent need to improve the ability of healthcare professionals and researchers to critically appraise and interpret randomized controlled trial results - a skill that is increasingly essential in today's world dominated by misinformation.

The workshop's outline is carefully designed to address the most pressing issues, including common misinterpretations of findings and reporting traps. These topics are not only timely but also of practical relevance to clinicians and early-career researchers navigating the complexities of a rapidly growing body of research evidence. Participants will gain foundational knowledge of randomized controlled trial design, practical tools for evaluating trial results, and critical thinking skills to accurately assess study conclusions.

The international faculty's diverse expertise ensures a well-rounded approach to teaching, bridging the gap between theoretical knowledge and its application in clinical and research contexts. Attendees will actively engage through interactive discussions and real-life examples, ensuring a practical and engaging learning experience. The accessible format is tailored to the needs of busy professionals, fostering a culture of evidence-informed decision-making and empowering participants in their interactions with research, both during and beyond the conference.

The workshop's content directly translates into clinical practice by enabling participants to make informed decisions based on accurately interpreted evidence. They will be better prepared to critically evaluate published studies, integrate reliable findings into patient care, and disregard irrelevant or poorly conducted research. Moreover, this workshop will support attendees in engaging in meaningful discussions with colleagues, researchers, and stakeholders.

# **Learning Objectives**

- 1. To provide a brief overview of the role of randomized controlled trials in clinical practice and why they are essential for evidence-based decision-making;
- 2. To review the most common mistakes in analyzing trial results;
- 3. To equip clinicians and clinical researchers with skills to identify misinterpretations of published trial results and recognize signs of misinformation, often propagated through social media.

## **Target Audience**

Urology, Urogynaecology and Female & Functional Urology, Bowel Dysfunction, Conservative Management

## **Advanced/Basic**

Basic

## **Suggested Learning before Workshop Attendance**

- Bhide A, Shah PS, Acharya G. A simplified guide to randomized controlled trials. Acta Obstet Gynecol Scand. 2018 Apr;97(4):380-387. doi: 10.1111/aogs.13309.
- Draper-Rodi J, Vaucher P, Hohenschurz-Schmidt D, Morin C, Thomson OP. 4 M's to make sense of evidence Avoiding the propagation of mistakes, misinterpretation, misrepresentation and misinformation. International Journal of Osteopathic Medicine. 2022/06/01/ 2022;44:29-35. doi:https://doi.org/10.1016/j.ijosm.2022.04.007
- Jonas WB. Building an evidence house: challenges and solutions to research in complementary and alternative medicine. Forsch Komplementarmed Klass Naturheilkd. Jun 2005;12(3):159-67. doi:10.1159/000085412
- Aspinall, S.L., Nim, C., Hartvigsen, J. et al. Waste not, want not: call to action for spinal manipulative therapy researchers. Chiropr Man Therap 32, 16 (2024). https://doi.org/10.1186/s12998-024-00539-y