Understanding the Hierarchy of Scientific Evidence

An example on sports supplements

Hierarchy of scientific evidence

- Meta-analysis & scientific reviews
- Controlled trials
- Cohort studies
- Case control studies
- Cross sectional studies
- Case reports, Case studies
- Ideas, expert opinion, editorials, anecdote

Evidence matrix for performance supplements

General
- e.g. Does supplement X work? How does it work, what is the best protocol? What type of events might it best work for?

Specific
- e.g. Will the supplement X protocol improve the performance in 400m swimming race? Will it improve marathon performance?

Very specific
- e.g. Will the supplement X enhance performance of my marathon in hot and humid conditions when I am also taking caffeine? Can I use supplement X for both the morning heats and evening finals of my 400m swim?

Preliminary ideas / hypotheses
- e.g. What is supplement X? How can it be used to alter metabolism? How might that be useful to a sports competition or training program? Is there any basis for thinking it might work?

Reference: by Burke and Peeling IJSNEM 2018

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