

Walking the Walk: Translation of Scientific Findings into Clinical Practice

September 14 and 15, 2017

State of the Science

Chicago, IL

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Session Objectives

At the conclusion of this presentation, participants will be able to:

- Define knowledge translation
- Explain the phases of the knowledge-to-action framework
- Describe the rationale and evidence regarding the importance of amount, intensity, and variability of locomotor practice
- Explain how these training parameters can be applied during clinical physical therapy sessions
- Describe specific strategies to facilitate translation of evidence into clinical practice, including use of the Knowledge-to-Action Framework, audit and feedback, and leadership support.

Key Points

Introduction to Knowledge Translation

Overview of High Intensity Training

Translation into Clinical Practice

K2A Plan Development

Video



*17 years or more for evidence to be used in practice (Morris et al, 2011)

Impact on Healthcare

- An estimated \$200B in research is wasted
 - part of this is attributed to research findings not being translated into practice, programs, policy
- 17 years or more for evidence to be used in practice (Morris et al, 2011)

Gaps in US Healthcare



FIGURE S-2 Schematic of the health care system today.

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Lack of Translation

Consistent evidence of failure to translate research findings into clinical practice

- 30-45% patients do not get treatments of proven effectiveness
- 20-25% patients get care that is not needed or potentially harmful

(McGlynn et al, 2003; Grol R, 2001; Schuster, McGlynn, Brook, 1998;)

Knowledge Translation (KT)

*“the dynamic and iterative **process** that includes the **synthesis, dissemination, exchange and ethically sound application** of knowledge to improve health, provide more effective health services and products, and strengthen the health care system.”*

-Canadian Institutes of Health Research

KT Terminology



Four Categories of KT

End of grant KT/ Dissemination

The researcher develops and implements a plan for making knowledge users aware of the knowledge generated through a research project

KT / Implementation Science

The study of how to promote uptake of research/knowledge in decision making

Integrated KT research

Research approaches that engage potential knowledge-users as partners in the research process. *requires a collaborative or participatory approach to research that is action oriented and is solutions and impact focused.*

KT / Implementation Practice

Promoting/facilitating the uptake of research/knowledge in decision making.

KT Research vs Practice

- KT Research (Implementation Research)
 - Gaps in decision making
 - Knowledge synthesis and distillation
 - Determinants of knowledge/research use
 - Effectiveness of KT Strategies

- KT Practice
 - Implementing evidence
 - Reducing know-do gaps
 - Evaluation of the impact of evidence
 - *Requires unique skill set*

Straus, Tetroe, and Graham, 2013

K2A Cycle: A Planned Action Model

- Based on a concept analysis of 31 planned action theories
 - Developed to help make sense of the black box known as 'knowledge translation' or 'implementation'
 - Holistic view of the phenomenon by integrating the concepts of knowledge creation and application or action
 - Other theories can apply at each stage of the action cycle (e.g. psychological, sociological, organizational, educational theories, etc)
- Graham ID et al. Lost in knowledge translation: time for a map. JCEPH 2006, (1):13-24

K2A framework

- Ranked the 13th most frequently cited medical education articles in past 40 years (Azar 2015)
- Identified as the most frequently cited implementation framework since 1990 (Skolarus et al 2017)
- The focus of a citation analysis and systematic review (Field et al 2014)

K2A framework

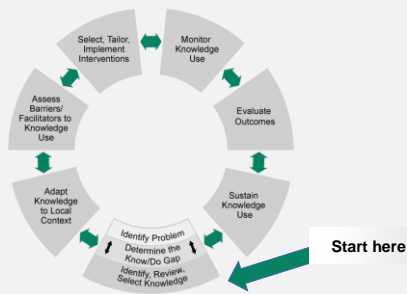
The **knowledge creation funnel** conveys the idea that knowledge needs to be increasingly distilled before it is ready for application

- **Knowledge Inquiry:** First generation knowledge (e.g., broad base primary studies or information)
- **Knowledge Synthesis:** Methodologies for determining what is known in a given area or field and what the knowledge gaps are (e.g., Systematic reviews) – 2nd generation knowledge
- **Knowledge Tools/Products:** Refined knowledge for decision-making (e.g., guidelines, decision aids, algorithms)- 3rd generation knowledge



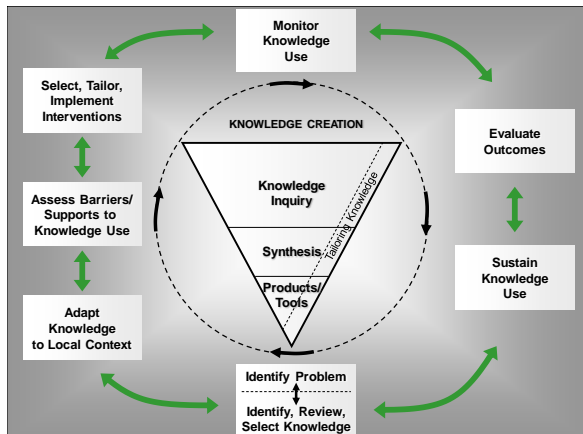
Source: Graham ID et al. JCHEP 2006;26:13-24.

Action Cycle Phases



The K2A Cycle





The K2A in rehabilitation:

- ~6% of all K2A citations
- 136 articles cited K2A
- 31 articles used K2A to guide project
- 22 published KT projects
- 2 implemented a CPG

Other KT frameworks also used:

- Hudon et al (2014) identified 8 PT KT studies that used an explicit framework

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