

## Phase I Clinical Trials: Hypothesis Testing

Faculty Presenter

**Keith Flaherty, MD**, Massachusetts General Hospital Cancer Center, Boston, MA, USA

### Scholar Summary

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Dr Flaherty highlighted the importance of shifting traditional dose-finding phase I trials to more effective biomarker-driven studies. By testing relevant translational hypotheses, he explained how each well-planned study will in and of itself lead to further studies. He emphasized that the hypotheses that should be tested in the phase I setting will help the investigator develop a deeper understanding of a drug's functional and molecular characteristics, will delve into understanding the desired (and undesired) biological and clinical effects, and explore how the clinical effects may differ from the preclinical data. He shared insight into the series of hypotheses tested in his development of drugs for treating BRAF-mutated melanoma and how these led to the ultimate FDA approvals of drugs such as vemurafenib.

What made this discussion stand out from others on this topic was the manner in which Dr Flaherty gave personal examples from his own career and also how conversational and interactive his talk was. No slides, no chalk. He allowed us to drive the discussion with our own questions, comments, and concerns about writing trials and grants.

A few of the high yield topics that our group brought to the table included topics unique to phase I trialist that are often not discussed in a traditional fellowship curriculum – how to best utilize opportunities to be a consultant or scientific advisory board member for pharmaceutical companies to get 'a seat at the table', how to ensure compliance with institutional guidelines and agreements while doing so, and how to optimize the mentor-mentee relationship in drug development.

Dr Flaherty's session was insightful and the information he shared with us was invaluable as it spanned topics that are typically not covered in traditional training curricula.