Each phase of research has opportunities to go astray. Here are some of the ones that Johns Hopkins Medicine investigators are taught to avoid.

**REVIEWING THE LITERATURE, GENERATING A HYPOTHESIS**

**POTENTIAL PITFALLS AT EVERY STAGE**

Too much trust in previously published research with poor methods or weak evidence.

Lack of positive and negative controls, sample sizes that are too small or not representative, collaborations that are difficult to manage.

Poor understanding of statistics; leaving out data that don’t support a conclusion; straining to turn a small result into a major conclusion.

Journals that favor exciting results over incremental discoveries; papers published without the technical details or primary data needed to reproduce the work.