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The nociceptor biologist's explanation for why we don't have more consistently effective pain therapies

Abstract: Neuroscientists have been under increasing pressure because of the perceived failure to solve big clinical problems in the field, despite a considerable amount of time and money spent. This is particularly true of pain, a problem that has received even more attention recently because of the opioid crisis. There are, of course, many reasons for the failure to translate breakthroughs made at the bench into more effective therapies. Dr. Gold will discuss a number of these in the context of his own research on the peripheral mechanisms of pain focusing on the complexity of the problem as illustrated by the myriad of changes observed in a single population of sensory neurons at a single point in time in response to a relatively limited inflammatory insult. Alterations in a variety of ion channels and calcium regulatory proteins all contribute to the increase pain associated with the inflammatory insult. Dr. Gold will end with a discussion of strategies to address barriers to translation he is currently implementing.