NOVA SOUTHEASTERN UNIVERSITY
Office of Research and Technology Transfer

Deterring Abuse of Pharmaceutical Compounds and Alcohol

Technology:

Commonly abused medications include opioids and central nervous system stimulants. These are often prescribed in oral tablet or capsule form that can be crushed or dissolved; this allows for delivery of higher doses in a shorter time than intended. A number of physical and chemical barriers that would minimize abuse, but not change the release profile of the drug in the stomach, have been invented by NSU researchers. As an example, one composition includes the abusable pharmaceutical compound, a water-soluble superabsorbent polymer and a plastic agent; this composition can be formulated into tablets or capsules. The polymer reacts with added water to form a gel that releases the drug in a controlled manner and the plastic agent allows the formulation to be broken into larger pieces. These physical changes minimize drug dissolution into an aqueous phase that could be injected or smoked, and drug pulverization that could be snorted or ingested.

Opportunity:

Opioid dependence affects nearly 5 million people in the US. The FDA has recognized this public health issue and is seeking action by industry. In April 2015, the FDA released final guidelines for testing formulations entitled “Abuse-Deterrent Opioids-Evaluation and Labeling; Guidance for Industry” to aid in the manufacture of abuse-deterrent drugs.

Nova Southeastern University is seeking to develop collaborative partnerships and licensing opportunities for this technology portfolio.

Inventors: Drs. Hossein Omidian, Srinath Muppalaneni, David Mastropietro, Yogesh Joshi. Dr. Omidian previously worked as a Principal Scientist at Kos Pharmaceuticals, Inc. and Abbott Laboratories, heading product development of gastric retention drug delivery systems. Dr. Omidian is with the College of Pharmacy.

Contact: Gary Margules, Sc.D., Vice President for Research and Technology Transfer
margules@nova.edu or Matthew Hastings at (954) 262-7509.

Patent Status: Patent portfolio includes US Provisional Patent Application 62/244637 filed 21 Oct, 2015 and International Patent Application PCT/US14/54863 filed 9 Sept, 2014.