TITLE: **Application of a Novel, Biomimetic Tactile Evaluation System to quantify/qualify desired product feel**

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MEETING: American Academy of Dermatology

DATE, LOCATION: February 16-20, 2018 in San Diego, California

Abstract:
The feel of a cosmetic skincare cream or lotion on the skin during and after application is an important source of delight (or dissatisfaction) for consumers and can impact their desire to keep using a product, enabling other more chronic benefits. Product feel is often evaluated via consumer studies or sensory panels. Humans have a variety of tactile afferents in their skin that enable the sensing of attributes like stiffness, texture, smoothness, and temperature. In addition, humans have developed a variety of movements to explore and identify materials as well as highly sophisticated neural computations to process the acquired information. Historical attempts at measuring feel instrumentally have often used equipment that measures individual attributes like compression, friction, and bending. Often it is difficult to correlate these instrumental measures to human perception.

The new BioTac Toccare™ from SynTouch combines human-like perception with the resolution and repeatability of an instrument and quantifies touch in fifteen dimensions. SynTouch has used a biomimetic process, combining multi-modal sensors, fingertip mechanics, exploratory movements, and neurally inspired signal processing algorithms to replicate the human perception of touch. P&G has collaborated with SynTouch to apply the BioTac Toccare™ to the evaluation of materials and product feel. To our knowledge, this is the first time the system has been used to qualify, quantify and differentiate the feel of several cosmetic skincare creams and lotions, and correlate these measures to consumer-preferred feel standards of excellence. The method confirms the unique feel profile of a new skincare formulation which in blind tests has been shown to be preferred vs regular skin creams.