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Determining A Non-Contact Method For Testing Skin Elasticity And Density

The measurement of skin elasticity can be used to determine whether or not skin tissue is healthy, however, current methods of measurement rely on physical touch. Furthermore, these methods are imprecise. The purpose of this experiment then is to find a non-contact method of measuring skin elasticity that can differentiate between different layers of epithelial tissue. This could be accomplished by creating a device that can project air at a constant rate and pressure. A piezoelectric valve could be used to regulate bursts of air at approximately 400 hertz directed at a tissue sample. The refraction of a laser aimed at the excited tissue could then be used to judge skin elasticity. This will theoretically lead to more accurate testing and thus further the understanding of diseases that affect the epithelial tissue.