Low Cost Haptic Force Needle Insertion Simulator
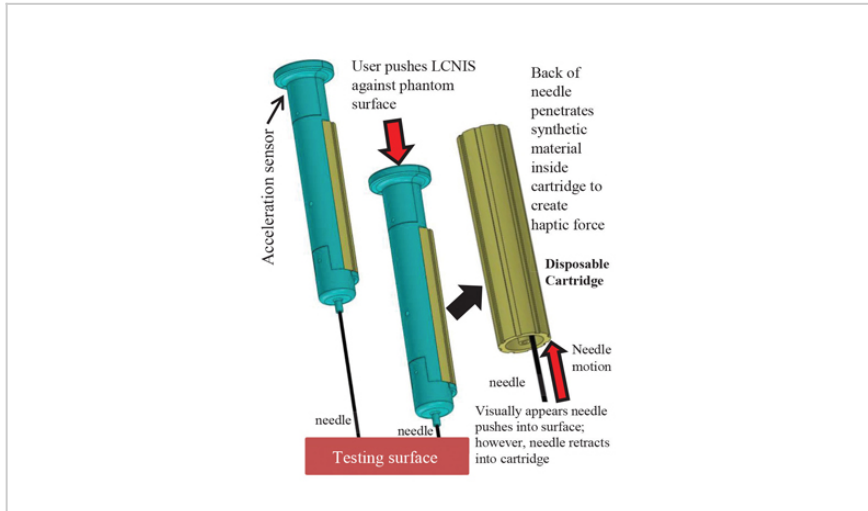
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LCNIS system

Technology Summary

Low Cost Haptic Force Needle Insertion Simulator (LCNIS) allows users to effectively train for steady hand motion upon instrument insertion, which is a critical skill for numerous medical procedures. Other training devices exist including mannequins and inexpensive homemade devices. However, these other systems are all expensive in terms of time because they require an expert doctor to be present to provide qualitative feedback and assessment. The competitive products lack the key features of the LCNIS device: fully autonomous quantitative feedback provided and diverse patient anatomies trained.

Application & Market Utility

Steady instrument insertion is a critical skill for doctors in numerous fields (anesthesiology, general medicine, surgery, etc.) and therefore is a skill that is taught during medical training. The "Low Cost Haptic Force Needle Insertion Simulator" (LCNIS) is a low cost device to train medical personnel in steady instrument insertion.

Next Steps

Seeking research collaboration and licensing opportunities.