Application of Plasma Circulating HPV DNA Testing to Management of Cervical Intraepithelial Neoplasia

The human papilloma virus (HPV) causes several cancers. In patients with HPV-related cancer, HPV DNA has been shown to circulate in the patient’s bloodstream (cHPVDNA). The goal of this project is to understand the use of cHPVDNA as a blood-based biomarker for Cervical Intraepithelial Neoplasia (CIN) and elucidate cHPVDNA’s effectiveness for CIN detection. Cervical cancer develops in a stepwise fashion through CIN1,2,3 with CIN 1 lesions being the least likely to progress to cancer and CIN 2-3 lesions being more precancerous, heightening the importance of early detection. cHPVDNA has been detected in the plasma of patients with CIN, proving potential as a biomarker. In the future, we hope to develop a blood-based test for cervical precancer and improve women’s access to cancer screenings.