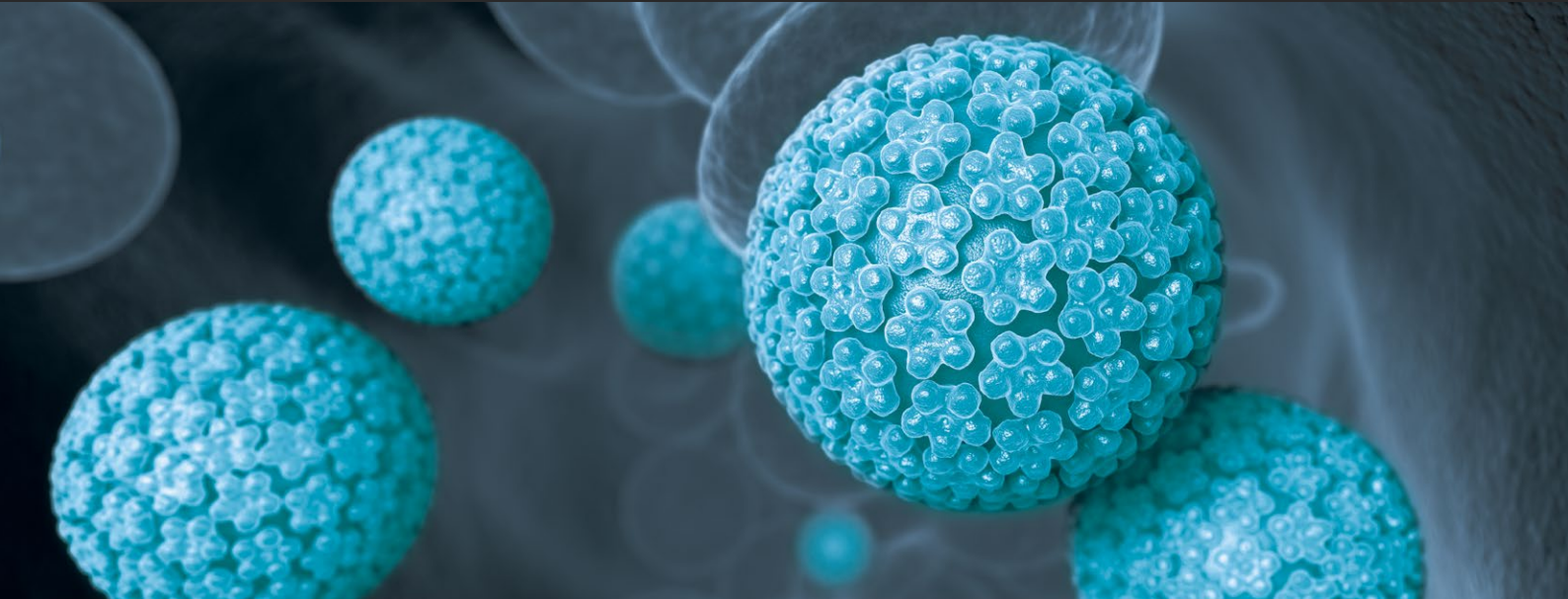


Human Papillomavirus (HPV) risk and challenges

HPV RESEARCH IS A MAJOR DRIVER IN CHANGING CLINICAL PRACTICE

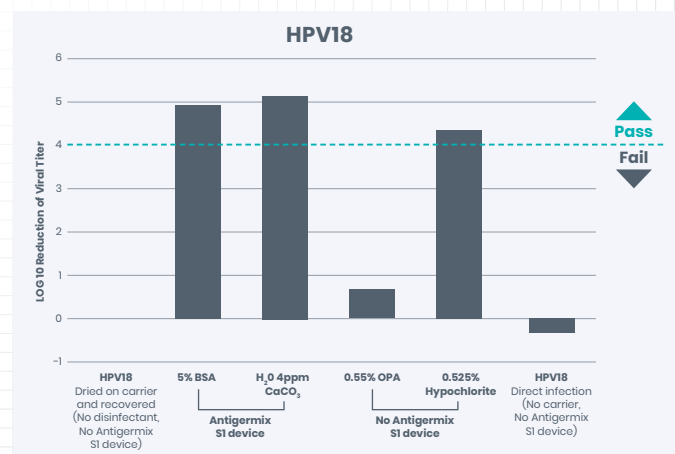
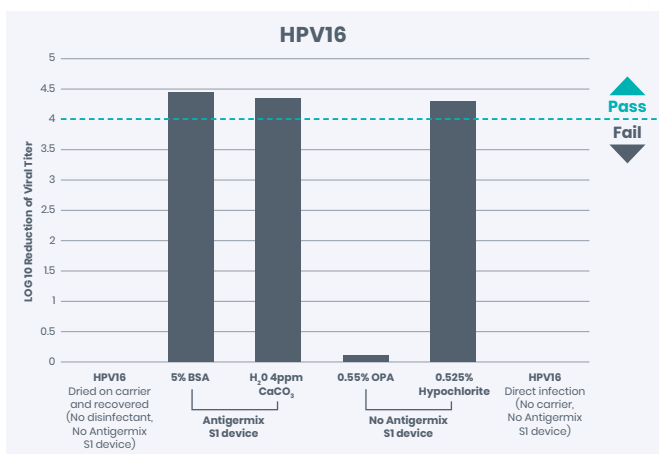


Published research papers show ultrasound probes are a potential source of HPV transmission, posing a new challenge for infection prevention.

Research reveals that virtually all cervical cancers (more than 99%) are caused by high-risk Human Papillomaviruses (HPV16 and HPV18). HPV is a highly resistant virus; more so than other non-enveloped viruses previously tested.^{1,3}

Published test results showed that commonly used clinical disinfectants, including those used as sterilants in medical and dental healthcare facilities, have no effect on HPV16 and HPV18.

Results suggest that healthcare facilities using endocavity ultrasound probes need to strongly consider disinfection methods that are effective against native HPV - adopting new technologies such as UV-C HLD.²



Published test results prove that UVC radiation as an effective disinfectant method to inactivate human papillomaviruses (HPV16 and HPV18), whereas OPA showed minimal efficacy.¹⁻²

Hypernova Chronos is leading the way in High Level Disinfection (HLD) as the only system proven to kill native human papillomavirus (HPV) both in vitro and in clinical use.^{1,2}

Disinfection Device	Proven to Kill native HPV in vitro	Proven to Kill native HPV in clinical use ²	Chemical Free	Automated Validation System	HLD Disinfection Time
Antigermix ASI	YES	YES	YES	YES	90 sec
Chronos	YES	YES	YES	YES	90 sec
Trophon EPR	YES	No	NO (35% H ₂ O ₂ chemistry)	NO (Chemical Indicator)	7 min
Trophon 2	?	?	NO (35% H ₂ O ₂ chemistry)	NO (Chemical Indicator)	7 min
Wipe System	Some	NO	NO (various chemistry)	NO	30 sec to 4 min
Soaking System	NO	NO	NO (various chemistry)	NO (Test strips)	7 min to 12 min

References: **1.** Meyers J, Ryndock E, Conway MJ, Meyers C, Robison R. Susceptibility of high-risk human papillomavirus type 16 to clinical disinfectants. *J Antimicrob Chemother.* 2014;69(6):1546–50. **2.** Meyers C, Milici J, Robison R (2017) UVC radiation as an effective disinfectant method to inactivate human papillomaviruses. *PLoS ONE* 12 (10): e0187377. **3.** Maxime Pichon, Karine Lebaill-Carval, Geneviève Billaud, Bruno Lina, Pascal Gaucherand and Yahia Mekki (2019) Decontamination of Intravaginal Probes Infected by Human Papillomavirus (HPV) Using UV-C Decontamination System. *J. Clin. Med.* 8, 1776; doi:10.3390/jcm8111776.