High Level disinfection of using Hydrogen Peroxide Vapour for non-luman USG probes

*TSUI YC (1), WONG WY (2)(3), YIU CH (2), LAU SW (1), LAM HS (1), YEUNG SP (3), WONG TC (4)*

(1) Infection Control Team, Our Lady of Maryknoll Hospital, (2) Out-patient Department, Our Lady of Maryknoll Hospital, (3) Central Nursing Division, Our Lady of Maryknoll Hospital, (4) Hospital Chief Executive, Our Lady of Maryknoll Hospital

Keywords:
Hydrogen Peroxide Vapor
Chlorine dioxide wiping system
High level disinfection
Vaginal USG probe
Trabsrectal USG probe

**Introduction**
Using condom as barrier protection and T-spray for disinfection on vaginal probe are the common traditional practice. However, two independent cross-sectional studies by S T Christine Ma et al. showed that 7.5% of surveillance samples on vaginal probes were Human papillomavirus DNA positive. Either staff did not fully comply with disinfection procedures or the disinfection procedures did not remove all the Human papillomavirus DNA. One of the approved high level disinfection method for vaginal and transrectal USG probes is the chlorine dioxide manual wiping system. But the study by A. Hernández et al. revealed the importance of the proper mechanical action paid by the operator to ensure the mycobactericidal activity of chlorine dioxide.

**Objectives**
High Level disinfection of using Hydrogen Peroxide Vapor (HPV) for vaginal and transrectal USG probes

**Methodology**
1. Stop using T-spray for disinfection
2. Introduce Hygrogen Peroxide Vapor for high level disinfection on vaginal probes
3. Get approval from HAHO Disinfectant/Sterilant Assessment Committee for using HPV disinfection on transrectal USG probes

**Result**
1. Cost effectiveness: Certain manpower and PPE such as face shield, disposable
gown and gloves are necessary for manual wiping system. But on the other hand, less manpower and less PPE items are required for using HPV disinfection. 2. Staff satisfaction survey: Easy to operate and more confidence on using HPV for high level disinfection. 3. Effectiveness of disinfection: Reduce human error, and the effectiveness can be demonstrated by the chemical indicator.