

# Institute of Cytology & Preventive Oncology (ICPO), Noida

## Cancerous Lesion Visualizing Device - Magnivisualiser

**Product//Process:** Magnivisualiser

**Application/Uses:** It is used for visualizing precancerous lesion of uterine cervix. It magnifies and illuminates the cervix to see lesion at very early stage. It is extremely useful for that Primary Health Centre where no electricity is available.

**Salient Technical Features:** This instrument, working on AC/DC power source, has two parts. First is lighthouse having mercury reflector on one side and condenser on the other side fitted with a white light source (5500-6500K). Second is the magnifying glass having adjustable magnification. The PVC grip is provided to hold the instrument. The sensitivity of magnivisualizer (57%) was lower compared to that of cytology (75.3%) for low grade dysplasia. On the other hand the sensitivity of higher grade dysplasia and CIS/early invasive were comparable for magnivisualizer (95% for both the modalities). The false positive rate for cytology was 1.0% as against 5.7% for acetic acid application visualized with magnivisualizers.



**Scale of Development:** This instrument has been developed up to pilot scale.

**Status of Commercialization:** An Indian patent has been filed (Application no. 320/DEL/2000). This technology is being commercialized.

## Human Papilloma Virus Testing Method

**Process/Process:** Dry paper smear method for rapid testing of human papilloma virus (HPV).

**Application/Uses:** Paper smear can be employed for collection of almost all types of cytologic specimens for molecular analysis such as blood, cervical scrape/smear,

fine needle aspirates, ascitic fluid, urine, sputum, amniotic fluid, semen, biopsy imprints and all cultured specimens. The samples can be stored in dry form at room temperature for 10-12 years.

**Salient Technical Features:** The HPV has been identified as a pathogen associated with the development of the cancer of uterine cervix. Up to 98% cervical cancer cases are found to be positive with HPV. Among 100 types of HPV identified, about 20 types were associated with cervical cancer. The major 'high risk' types are HPV 16 & HPV 18 type and infection of these 'high risk' HPVs leads to a high rate of progression of dysplastic lesions to invasive cancer. Conventionally, the test used for identification of cervical abnormalities (HPV) is Pap test, generally employed for diagnosis of cytomorphological changes in early cervical lesions. But Pap test is not fully reliable. Dry paper smear method is simple, rapid, safe and most convenient for collection, storage and transport of cervical scrapes/ smears and biopsies at room temperature and allow detection of HPV DNA or other gene sequences by a simple PCR method.

**Scale of Development:** This method has been developed up to laboratory scale.

**Status of Commercialization:** Technology commercialization is being explored.