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Director Approval _____ **Date**_____

UCSF Medical Center **Clinical Laboratories**	**Point of Care Testing**

pH PAPER: DETERMINATION OF VAGINAL,OCULAR, OR GASTRIC pH

PURPOSE

To determine normal pH in vaginal, ocular, or gastric fluid.

Vaginal/Amniotic Fluid: pH determination is used as a screening system in detecting rupture of the amniotic membrane in pregnant women. Rupture of the amniotic membrane can result in leakage of small volumes of amniotic fluid into the upper vagina. The presence of amniotic fluid tends to elevate the pH, and detection of a pH increase using pH paper may assist in determining the presence of amniotic fluid.

Ocular pH: pH determination is also used for ocular purposes when flushing the eye after a chemical splash. Using a pH indicator dye has been shown to assist in determining the presence of acidic or base conditions, which are harmful to the eye; helping to determine when the ocular fluid is at a normal pH.

Gastric Fluid: pH determination is used to help determine correct placement of naso-grastric tubes in adult and pediatric patients.

PRINCIPLE

pH paper is a test strip used for the determination of pH. In the presence of fluid with normal pH (7.0), the paper will turn a yellow-green color. In the presence of acidic fluids, the paper will range from red to orange in color; and in the presence of alkaline fluids, the paper will range from green to blue in color. The colors correlate to a pH range of 1 to 12 and indicate the pH of the specimen (gastric, vaginal or ocular fluid). The pH of gastric fluid is normally acidic. The pH of the upper vagina is also normally acidic, while amniotic fluid has a neutral pH. Normal ocular fluid should be near a pH of 7.0 (neutral).

PERSONNEL

- Licensed Medical Physicians
- Licensed Nurse Practitioners
- Licensed Registered Nurses

REAGENTS, EQUIPMENT AND MATERIALS

- pH paper (Hydrion 1 to 12 paper or equivalent)
- pH Color Card
- Sterile Gloves

STORAGE

pH paper must be stored in its container, at room temperature. Avoid excessive heat.

QUALITY CONTROL

The Clinical Laboratory will complete all Quality Control. New orders will be QC'd prior to distribution to POCT sites. Once QC'd, pH rolls will be marked with a two year outdate.

QC results for each new order will be available on line in the POCT Manual, under the "QC Results" section.

SPECIMEN

The paper may be applied directly to pooled ocular fluid, vaginal fluid, or gastric fluid.

TEST PROCEDURE

Vaginal Testing

- Using two patient identifiers, verify patient identification, and explain procedure to patient and/or family.
- Remove one to two inches of pH paper from the holder for each test. DO NOT allow it to come into contact with any liquid or other substance, which might affect pH.
- Using a vaginal speculum, part the labia exposing the cervix and carefully insert the paper into the vagina. Do not allow the pH paper to come into contact with vaginal tissue during entry.
- Allow first and only contact to the test paper to occur with upper vaginal tissue (posterior vaginal fornix and external cervical os).
- Observe for immediate color change.
- Record the pH value, corresponding to the color change, in the patient's chart.

Ocular Testing

- Using two patient identifiers, verify patient identification and explain procedure to patient and/or family.
- Remove one to two inches of pH paper from the holder for each test.
- With care, apply the tip of the paper to pooled ocular fluid. Avoid direct contact with eye tissue.
- Observe for immediate color change.
- Record the pH value, corresponding to the color change, in the patient's chart.
- Repeat test as needed.

Gastric Testing

- Using two patient identifiers, verify patient identification. If appropriate, explain procedure to patient and/or family.
- Remove one to two inches of pH paper from the holder for each test.
- Apply the tip of the paper to aspirated gastric fluid. Avoid contact with fluids other than that being tested.
- Observe for immediate color change.
- Record the pH value, corresponding to the color change, in the patient's chart.

INTERPRETATION OF RESULTS

- The color of the pH paper after use should be compared to the sample colors on the pH paper container. pH results should be reported as numeric values as measured against the pH color chart.

Color	Approximate pH value
Red	1
Red	2
Orange-Red	3
Orange	4
Orange	5
Light-Orange	6
Yellow-Green	7
Light Green	8
Green	9
Blue-Green	10
Blue	11
Blue-black	12

- For vaginal fluid, a pH greater than 6 suggests the presence of amniotic fluid, and the possible rupture of membranes. See LIMITATIONS below.

PROCEDURE NOTES

- Do not use pH paper that does not have "QC'd" and the date printed on the product label.

- Following contact with the vagina, eye or gastric fluid, the pH paper should be considered potentially infectious and standard precautions appropriate for microbiological hazards must be observed.
- Do not reuse paper.

LIMITATIONS

- pH paper, used in the detection of vaginal, ocular or gastric pH, is intended for use by qualified medical and nursing staff and is intended as an aid to professional treatment.
- pH paper can only indicate a pH value and should be used only as a monitoring tool.
- Antibiotic therapy or infections of the vagina can lead to elevated vaginal pH resulting in a false interpretation of determining the presence of amniotic fluid. Where doubt exists, standard microbiological testing should be employed to exclude infection.
- pH testing cannot distinguish amniotic fluid from urine. In instances where there is the possibility of urine contamination and/or where the patient has received antibiotic therapy, "fern" testing may be of value to verify the presence of amniotic fluid.

RESULTS AND REPORTING

- Record the numeric pH value on the patient's medical record chart.

RECORDS MAINTENANCE

- Patient Records are stored in their Medical Record Charts indefinitely.
- Quality Control logs are stored in the Clinical Laboratory for at least 3 years.

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