HACKETTSTOWN REGIONAL MEDICAL CENTER
LABORATORY POLICY MANUAL
BODY FLUID pH

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Cross Referenced: | **Origin: Urinalysis**
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PRINCIPLE:
The pH of a body fluid has a diagnostic values depending on which body fluid is being tested. pH paper is impregnated with an indicator dye. After a sample of unknown pH is applied to the paper the color changes in response to the change in hydrogen ion concentration, that can give a range of colors from light yellow through dark blue.

SPECIMEN REQUIREMENTS:
Specimens are submitted to the laboratory in a clean container, a plain red top blood tube is recommended since exposure to air may effect pH results. The sample may be obtained from and "EVAC" bottle. Syringes are also acceptable if capped and the needle has been removed.
Specimens are viable for 1 hour from collection time, and need to be delivered to the laboratory as soon as possible. Specimen in vacutainer tubes with anticoagulant are not to be used since the anticoagulant may effect the pH.

REAGENTS AND SUPPLIES:
ColorpHast[tm] pH- Indicator Strips – Stable at Room temperature for 2 years from receipt.
Chekstix urine control
Saline

PROCEDURE:
1. Using a ColorpHast[tm] pH- Indicator Strip, dip the strip into the fluid.
2. Wait for the strip to stop changing color
3. Compare the color, while the strip is still wet, to the color guide on the package.
4. Report out the corresponding number.
5. Strip must be read within 10 minutes.

QUALITY CONTROL:
QC is run each day testing is performed and documented in the on the Urine QC document sheet.
Use the Chekstix urine control and saline.
Chekstix acceptable values are 9.0 or 9.5
Saline acceptable values are 6.5 or 6.8

REPORTING RESULTS:
No normal ranges are reported, since the value of the result depends on the fluid and the patients condition. The ColorpHast[tm] pH- Indicator Strips read from 6.5-10.0. If the color is higher or lower then this the results are reported as <6.5 or >10.0 respectively.
Peritoneal Fluid: Ascetics fluid with a pH of < 7.3 is highly suggestive of Spontaneous Bacterial Peritonitis (SBP) in alcoholics with cirrhosis and a pH of <7.15 may indicate a poorer prognosis in cirrhotic patients.
Pleural Fluid: A pH of <7.3 is suggestive of the occurrence of an inflammatory or infiltrative process. A pH of <7.3 is also consistently seen in association with one of the following diagnosis: empyema, malignant disorder, collagen diseases, tuberculosis, esophageal rupture, or hemothorax.
A pH of 7.3-7.4 usually indicates a benign condition and resolves spontaneously.
Pericardial Fluid: A pH of < 7.1 is associated with connective tissue diseases and bacterial infection.
And pH of 7.2-7.4 is associated with neoplasms, idiopathic disorders and tuberculosis or uremic pericarditis. A pH of > 7.4 is associtated with post cardiotomy states and hypothyroidism

REFERENCE:
Body Fluids. Carl Kjeldsburg and Joseph Knight. 1993. pp. 186-187, 238

ColorpHast[tm] pH- Indicator Strips, package Cat# 9583