Materials Required But Not Provided
Spectrophotometer capable of absorbance readings at 510 nm. Accurate pipetting devices. Constant temperature block or bath (37°C). Interval timer Cuvets Test Tubes Mixer (Vortex type)

Specimen Collection and Preparation
Serum: Remove specimen from clot promptly to prevent hemolysis. Do not use fluoride or ammonium heparinate to collect sample.2

Sample Stability: Creatinine values have a reported stability of one day at 2-8°C, and several months when frozen (-20°C) and protected from evaporation and contamination. Store urine at 2-8°C.2

Interfering Substances: No interference was observed by ascorbic acid up to 200 mg/dL, hemoglobin up to 500 mg/dL, bilirubin-conjugate up to 32 mg/dL, and bilirubin-free up to 40 mg/dL. An extensive list of drugs or other agents interfering with creatinine methodologies has been reported by Young et al.1

Manual Procedure
1. Pipet into cuvettes labeled Blank (B1), K (Calibrator), and S (Specimen) the following volumes (μL).

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<tr>
<th></th>
<th>B1</th>
<th>Std</th>
<th>S</th>
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<tr>
<td>Reagent 1</td>
<td>270</td>
<td>270</td>
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2. Mix, incubate for 5 min @ 37 °C, read absorbance A1, then:
3. add 90μL of Reagent 2 (R2), mix and incubate for 5 min @ 37 °C
4. read absorbance A2.

Quality Control: Two (2) levels of control material with known Creatinine levels determined by this method, should be analyzed each day of testing.

Results
Values are derived by comparing the absorbance change (E) of the specimen (S) with that of a standard (Std) and subtracting the (Bl) reading from both with samples and standard identically treated.

Creatinine (mg/dL) = \[
\frac{[(A_{Std}(2) - A_{Std}(1) \times K) - (A_{Bl}(2) - A_{Bl}(1) \times K)] - (A_{S}(2) - A_{S}(1) \times K) - (A_{Bl}(2) - A_{Bl}(1) \times K)]}{K} \]

K : 276/366 = 0.754

Expected Values4
Normal Range: Male (serum): 0.9 - 1.5 mg/dL Male (urine): 1000 - 2000 mg/24hrs. Female (serum): 0.7 - 1.4 mg/dL Female (urine): 600 - 1500 mg/24hrs.

This range should serve only as a guideline. It is recommended that each laboratory establish its own range of expected values, since differences exist between instruments, laboratories and local populations.