How much is vitamin C interfering with your urinalysis results?

Chemstrip® urine test strips virtually eliminate vitamin C interference on blood and glucose pads.
Ascorbic acid (vitamin C) in urine is more common than you think. That’s a problem.

Chemstrip™ urine test strips are impregnated with iodate to prevent false-negative blood and glucose results.

Vitamin C is part of a balanced diet. It occurs naturally in oranges and other fruits, vegetables, and herbs. It’s also used widely in the food and beverage industry as a preservative and discoloration inhibitor, appearing in foods ranging from cereal and chips to pastrami and soup. In fact, the global production of ascorbic acid has increased 50% since 1980—reflecting both rapidly-growing commercial demand and individual consumption worldwide.

Vitamin C from everyday foods can wind up in your patients’ urine.

One study found that every fifth patient had enough vitamin C in their urine to potentially miss a diagnosis of blood or glucose in urine. Vitamin C in urine can produce false-negative urinalysis results by interfering with the blood and glucose pads on common urine test strips.

False-negatives can lead to potentially dangerous and costly missed diagnoses. That’s an even bigger problem.

Serious, progressive illnesses such as diabetes mellitus, glomerulonephritis, and bladder tumors could go undetected if using a urine test strip with vitamin C interference. Missed diagnoses can be costly for patient and provider alike, delaying proper treatment and burdening your practice and patient with stress, inconvenience, unnecessary expense, and time-consuming, unbillable re-tests.
Ask for Chemstrip urine test strips by name to avoid interference from vitamin C—because accurate diagnosis can mean more timely, effective treatment.

Only Chemstrip urine test strips from Roche Diagnostics are protected against vitamin C interference and the possibility of false-negative blood and glucose results. That's because they're designed with an iodate impregnated mesh layer which oxidizes ascorbic acid and removes the interference.

Other manufacturers' strips do not have this iodate-impregnated mesh layer. Some manufacturers even offer a test pad to detect ascorbic acid levels in urine samples. But the problem with these tests is that a positive result on the vitamin C detection pad requires the patient to go home, avoid vitamin C, and return for retesting 2 or even 3 days later! Prevent the interference altogether with Chemstrip urine test strips.

**Chemstrip urine test strips outperform the competition**

With up to 400 mg/L* ascorbic acid present in urine, only Chemstrip urine test strips properly detect clinically relevant concentrations of 50 mg/dL glucose.  

<table>
<thead>
<tr>
<th>Test</th>
<th>Glucose 50 mg/dL</th>
<th>Ascorbic Acid (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0 100 200 400 1000</td>
</tr>
<tr>
<td>Roche Chemstrip 10 MD</td>
<td></td>
<td>100 50 50 50 0</td>
</tr>
<tr>
<td>Bayer Multistix 10SG (from Siemens)</td>
<td></td>
<td>0 0 0 0 0</td>
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<tr>
<td>Macherey &amp; Nagel Medi-Test Combi 10 SGL</td>
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<td>50 50 0 0 0</td>
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<td>Arkray, Inc. Aution 10 EA</td>
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<td>0 0 0 0 0</td>
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<td>YD Diagnostics Uriscan 10 SGL</td>
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Chemstrip urine test strips detect glucose in the presence of up to 400 mg/L ascorbic acid, demonstrating strength against vitamin C interference at higher hemoglobin concentrations.  

<table>
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<tr>
<th>Test</th>
<th>Hemoglobin 0.03 mg/dL=10Ery/µL</th>
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*400 mg/L is typical of ascorbic acid concentration in urine after consuming 1–3 glasses of orange juice or taking 250–500 mg of supplemental vitamin C.  

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*Diazonium salt impregnated mesh for improved sensitivity

**Double layered for improved resolution and sensitivity

Impregnated with iodate to eliminate Vitamin C interference

Plastic carrier

Absorbent pad layer

Reagent pad layer

Mesh laminate

Specific Gravity

Leukocytes

Nitrite

Protein

Glucose

Ketones

Urobilinogen

Bilirubin

Blood

Compensation Pad

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*P*
Chemstrip urine test strips provide correct results by virtually eliminating vitamin C interference in glucose and blood testing.\textsuperscript{4,5}

Correct results mean fewer repeat analyses and more convenience for your patients, and that can help your bottom line. They also help lessen seasonal and dietary concerns and, most important, contribute to earlier diagnosis.

**Ask for Chemstrip urine test strips by name!**

Virtually eliminate misdiagnosis due to vitamin C interference: choose Chemstrip urine test strips for your patients' urinalyses. Call 1-800-852-8766 or your local distributor to purchase Chemstrip urine testing products.

For more information anytime, visit online at www.poc.roche.com.

References