




## Texas Tech MedCast Podcast Episode Fact Sheet

Podcast Series	Reynolds Geriatrics Series • USMLE Step 1 Prep
Episode Title	<i>Doc, The Kids Are Tiring Me Out!</i>
Personnel	 <p style="text-align: right;"><b>Group 5</b></p> <p>Front: Idean Nikrooyan, Clark Kholeif, Sara Moaghddam</p> <p>Back: Hai Le, Clayton Adams, Arafat Hashwami, Margaret Brown, Stewart Walther, Jessica Baima, Rupa Patel, Robert Castanos</p>
Recording Date	May 4, 2009
USMLE Question Number: 45 Pg #: 31	<p>45. A 75-year-old man has had increasing shortness of breath with exertion during the past 2 weeks. He has a 25-year history hypertension well controlled with diuretics. Two months ago, serum urea nitrogen and creatinine concentrations were within the reference ranges. His pulse is 98/min, respirations are 19/min, and blood pressure is 180/100 mm Hg. The lungs are dull to percussion at the bases, and crackles are heard one-third of the way up bilaterally. Cardiac examination shows increased jugular venous pressure, an S3 gallop, and no murmur. There is 3+ pitting edema of the lower extremities.</p> <p>Serum studies show:</p> <ul style="list-style-type: none"> <li>Na<sup>+</sup> 126 mEq/L</li> <li>K<sup>+</sup> 5.4 mEq/L</li> <li>Cl<sup>-</sup> 108 mEq/L</li> <li>HCO<sub>3</sub><sup>-</sup> 16 mEq/L</li> <li>Urea nitrogen 75 mg/dL</li> <li>Creatinine 3 mg/dL</li> </ul> <p>This patient most likely has which of the following types of acid-base disturbance?</p> <p>(A) Metabolic acidosis (B) Metabolic alkalosis</p>





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	(C) Respiratory acidosis (D) Respiratory alkalosis
<p>Learning Objectives</p> <p><i>The listener should be able to:</i></p>	<ol style="list-style-type: none"> <li>1. Define <i>acidosis</i> and <i>alkalosis</i> and their lab values</li> <li>2. List the possible causes of renal failure and its consequences</li> <li>3. Decide which diagnosis is most likely and understand the reason</li> </ol>
<p>Key Teaching Points</p>	<p><b><i>Two forms of renal failure</i></b></p> <ol style="list-style-type: none"> <li>1. Acute renal failure – often due to acute tubular necrosis</li> <li>2. Chronic renal failure – due to hypertension and diabetes</li> </ol> <p><b><i>S3 heart sound is the first cardiac sign of heart failure</i></b></p> <p><b><i>Consequences of renal failure:</i></b></p> <ol style="list-style-type: none"> <li>1. Clinical syndrome marked by increase BUN and creatinine</li> <li>2. Anemia</li> <li>3. Renal osteodystrophy (failure of active vitamin D production)</li> <li>4. Hyperkalemia, which can lead to cardiac arrhythmias</li> <li>5. Chronic pyelonephritis</li> <li>6. Metabolic acidosis due to decrease acid secretion and decrease generation of bicarbonate</li> <li>7. Sodium and water excess – CHF and pulmonary edema</li> <li>8. Hypertension</li> <li>9. Pericarditis</li> </ol>
<p>USMLE Test source:</p>	<p><a href="http://download.usmle.org/2009step1.pdf">http://download.usmle.org/2009step1.pdf</a></p>
<p>References</p>	<ol style="list-style-type: none"> <li>1. Andreoli, Thomas E., Carpenter, Charles C. J., Griggs, Robert C., and Ivor Benjamin. Andreoli and Carpenter's Cecil Essentials of Medicine. 7th. Saunders, 2007.</li> <li>2. Critical Care Study Guide Text and Review (2002) by Gerald J. Criner and Gilbert E. D'Alonzo, Chapter: Metabolic Disturbances, Acid-base, Electrolytes, page 491.</li> <li>3. Le T, Bhushan V: First Aid for the USMLE Step 1: 2009. New York: McGraw-Hill Medical, 2009; 448</li> </ol>

