Urine protein electrophoresis and immunofixation have been around for many years, so this update isn’t a news flash about new technology. It’s about ordering the best tests for diagnosing and monitoring urine protein abnormalities, particularly monoclonal gammopathies.

### A GUIDE TO ORDERING URINE ELECTROPHORESIS AND IMMUNOFIXATION TESTS

<table>
<thead>
<tr>
<th>Clinical Applications</th>
<th>Recommended Tests</th>
<th>Test Components</th>
<th>Comments</th>
</tr>
</thead>
</table>
- Urine immunofixation.  
- Interpretation of urine electrophoresis and immunofixation patterns.  
- Identification of monoclonal proteins, if present.  
- Urine total protein with 24-hour collections. | This is the best electrophoresis test to screen for monoclonal proteins in the urine.  
- Immunofixation is more sensitive than routine electrophoresis and it identifies the monoclonal protein.  
- Immunofixation may be ordered along with the urine electrophoresis scan with a 24-hour specimen to quantify excretion of a monoclonal protein. |
| Screen for monoclonal proteins in both the serum and the urine. (Bence-Jones Proteins and intact monoclonal proteins) | Immunofixation, Urine/Serum (Random) Test Code IEPSUR<br>Immunofixation, Urine/Serum (24-hour urine collection) Test Code IEPSUQ | - Urine and serum electrophoresis.  
- Urine and serum immunofixation.  
- Interpretation of urine and serum electrophoresis and immunofixation patterns.  
- Identification of monoclonal proteins, if present.  
- Urine total protein with 24-hour collections. | This is the best electrophoresis test to screen for monoclonal proteins in both the serum and the urine.  
- Immunofixation is more sensitive than routine electrophoresis and it identifies the monoclonal protein.  
- This test may be ordered along with the urine electrophoresis scan with a 24-hour specimen to quantify excretion of a monoclonal protein. |
| Monitor excretion of a known monoclonal protein in the urine. | Electrophoresis, Scan, Urine (24-hour urine collection) Test Code SCANUQ | - Densitometer scan of urine electrophoresis pattern when there is sufficient proteinuria for the scan to detect proteins.  
- Percentages of the various fractions.  
- Urine Total Protein for quantitative test. | The urine electrophoresis scan is best combined with a 24-hour urine electrophoresis to monitor excretion of a known monoclonal protein in the urine.  
- The scan requires sufficient excretion of the monoclonal protein to be detected on electrophoresis.  
- This test has limited value when ordered with a random urine sample. |
| Distinguish between the various types of proteinuria | Electrophoresis, Urine (Random) Test Code PELPUR<br>Electrophoresis, Urine (24-hour urine collection) Test Code PELPUQ | - Urine Electrophoresis  
- Interpretation of pattern.  
- Urine Total Protein for 24-hour collection. | This test has limited value. In cases where the patient has increased protein excretion, it may be used to distinguish between the various types of proteinuria (i.e., glomerular, tubular, mixed, etc.).  
- Although it may detect monoclonal proteins if there is sufficient excretion, it is not an adequate screening method for monoclonal gammapathies.  
- A 24-hour collection may be combined with the Urine Electrophoresis Scan to monitor known monoclonal proteins in the urine, if there is sufficient excretion. |