Helicobacter pylori infection in humans is one of the most widespread infections today, and its cure prevents peptic ulcer recurrence (11). Besides chronic gastritis and peptic ulcer disease, H. pylori infection is strongly associated with gastric cancer and cancer of mucosa-associated lymphoid tissue (2, 3, 6) and is diagnosed by culturing of gastric biopsy specimens. Non-invasive tests like the urea breath test and tests based on serology may be an alternative for assessing H. pylori infection (1, 4, 8). Serology tests can be based on either the detection of H. pylori antigens in the feces of patients or anti-H. pylori antibodies in the patients’ blood or saliva (8, 9). The exact role of serology in the management of H. pylori infection has still to be defined, although there is evidence that, used as a screening procedure, it can reduce endoscopy cost and workload (10, 13).

The sera of 142 Helicobacter pylori-positive and 32 H. pylori-negative patients were assessed by a desktop test (QuickVue), an enzyme-linked immunosorbent assay (ELISA) (HM-CAP), and a solid-phase, two-step chemiluminescent enzyme immunoassay (Immulite). These tests yielded sensitivities of 97, 97, and 91% and specificities of 97, 94, and 100%, respectively. In conclusion, the desktop test and the ELISA are more sensitive than the chemiluminescent enzyme immunoassay (P < 0.05). The chemiluminescent enzyme immunoassay has the advantage that it is fully automated.

<table>
<thead>
<tr>
<th>Test used</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Positive predictive value</th>
<th>Negative predictive value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>97 (138/142)</td>
<td>97 (31/32)</td>
<td>99 (138/139)</td>
<td>89 (31/35)</td>
</tr>
<tr>
<td>ELISA</td>
<td>97 (138/142)</td>
<td>94 (30/32)</td>
<td>99 (138/140)</td>
<td>88 (30/34)</td>
</tr>
<tr>
<td>Two-step solid phase</td>
<td>91 (129/142)</td>
<td>100 (32/32)</td>
<td>100 (129/129)</td>
<td>71 (32/45)</td>
</tr>
</tbody>
</table>

* Values are shown as percentages (number of samples correctly identified/total number of samples).
saline at 4°C and used for bacteriological culturing. The other four specimens were fixed in 10% formalin for histopathological examination. Cultures were prepared by smearing biopsy specimens on the surface of horse blood agar plates (7% defibrinated horse blood Columbia agar base; Oxoid CM 331; Unipath, Basingstoke, England) and horse blood agar plates containing Skirrow supplement (Unipath). H. pylori organisms were identified on the basis of typical colony morphology; characteristic appearance on Gram staining; and positive urease, oxidase, and catalase tests. H. pylori infection was present if either culture and histopathological assessment or only histopathology assessment was positive. Controls were 32 noninfected patients. They had H. pylori-negative cultures and normal histopathology of multiple gastric biopsy specimens for at least 4 years prior to serological testing. Blood was drawn from the H. pylori-positive patients and from the H. pylori-negative controls by venous puncture. After clotting, serum was stored at −70°C in small aliquots. Sera were assessed by the three different serology tests according to the manufacturers’ protocols. The results obtained with the three different tests with the sera from 142 H. pylori-positive patients and 32 H. pylori-negative patients are presented in Table 1. The sensitivities of the QuickVue, the HM-CAP, and the Immulite tests were 97, 97, and 91%, respectively (Table 1) (P < 0.05). The three tests had specificities of 97, 94, and 100%, respectively (not significant). The positive predictive values of the three tests were 99, 99, and 100%, respectively. The negative predictive values of the tests were 89, 88, and 71%, respectively (differences not significant). The sensitivity values of the ELISA and the desktop test were in the same range as those reported by others (4, 5).

In conclusion, the three serology tests are sensitive and specific tests to assess H. pylori infection. The desktop test and the ELISA are more sensitive than the chemiluminescence enzyme immunoassay, but the QuickVue desktop test provides only qualitative results. However, the desktop test has the advantage of obtaining results within minutes. The ELISA HM-CAP and the chemiluminescence enzyme immunoassay Immulite are both quantitative, but the latter test has the advantage that sample handling, reading, and interpretation are fully automated. The design of the Immulite test, i.e., accurate quantification by using internal controls and a wide dynamic range in output values, makes it potentially suitable to assess H. pylori eradication by comparison of the patient’s pretreatment serum with the posttreatment serum.

REFERENCES
10a. van der Ende, A., R. W. van der Hulst, P. Roorda, G. N. Tytgat, and J.

