ing ever been pregnant or caused a preg-
nancy (odds ratio of 1.9), having a penis
longer than 180 mm (odds ratio of 1.9) and
having an annual household income of
less than $20,000 (odds ratio of 1.8).

Those condom use variables that inde-
pendently increased the likelihood of con-
don breakage included using the rear-
entry position for intercourse (odds ratio of
2.7), the occurrence of penile constric-
tion with condom bunching (odds ratio of
3.1) and having the condom slide along
the shaft of the penis (odds ratio of 1.9).
The sole variable that reduced the likeli-
hood of polyurethane breakage was ex-
periencing stretching of the condom (odds
ratio of 0.4).

Complaints and Preferences
In their responses to a list of potential prob-
lems, male partners cited discomfort sig-
ificantly less often with the polyurethane
condom than with the latex condom (15%
of uses vs. 23%, p <0.0001). The greater like-
lihood of discomfort with the latex con-
dom was largely because men complained
more often that it constricted the penis; such
a complaint was made in 17% of uses of
the latex condoms, compared with just
7% of uses of the polyurethane condoms.

The female participants reported dis-
comfort slightly more often than did the men—in 18% of instances in which the
polyurethane condom was used and in
23% of uses of the latex condom. Women
most commonly specified irritation (8%
of polyurethane condoms and 10% of latex
condoms) and burning (8% with each type of
condom).

After completing use of a set of condoms,
study participants were asked whether
they had experienced any problems, and
were requested to rate the severity of these
problems. Moderate or severe problems
that men encountered more often with
the polyurethane condom than with the latex
condom included loose fit (21% vs. 1%),
slippage (19% vs. 11%), breakage (15% vs.
3%), stretching out of shape (14% vs. 8%) and
having to avoid vigorous intercourse to
prevent the condom from breaking or
slipping (13% vs. 4%).

On the other hand, study participants re-
ported several problems more frequently
with the latex condoms than with the poly-
urethane condoms, such as lessened
stimulation (41% vs. 26%), constriction
of the penis (15% vs. 6%) and too tight of a fit
(31% vs. 12%). The women’s responses on
these items were similar to those given by
the men. Women also noted insufficient lu-
brication more often with latex condoms
than with polyurethane condoms (27% vs.
21%), although men noted lubrication prob-
lems with nearly the same frequency for the
two types of condoms (23% vs. 20%).

After using both types of condoms, par-
ticipants were provided with a list of con-
dom and lubricant attributes and were
asked to specify whether they preferred
one condom over the other in that specific
attribute, or whether they had no pre-
ference. Participants, both men and
women, were as likely to express an over-
all preference for one condom as for the
other—47% of men and women said they
preferred the polyurethane condom over-
all, while 44–45% preferred the latex con-
dom overall (Table 6).

However, the polyurethane condom
was preferred over the latex condom in
several categories. For example, 51% of
men preferred the sensitivity of the poly-
urethane condom over that of the latex
condom, whereas 28% of men pre-
ferred the latex condom’s sensitivity; com-
parable proportions among women were 47%
and 25%, respectively. While the ma-

majority expressed no preference for the lub-
ricant’s odor (62%), the remaining men
who had a preference favored the odor of
the polyurethane condom’s lubricant over
that of the latex condom (24% vs. 14%, re-
spectively); women also indicated a slight
preference for the odor of lubricant in the
polyurethane condom over the odor of
that used in the latex condom (19% and
14%, respectively).

Similarly, the majority of respondents
(60–63%) expressed no preference for either
condom’s lubricant in terms of messiness,
but 23% of both men and women thought
the polyurethane condom’s lubricant was
less messy, compared with 14–17% who
perceived the latex condom’s lubricant to
be less so. Men specified a preference for
the latex condom’s fit over that of the
polyurethane condom (43% vs. 33%).

Discussion
This case-control study had many
strengths, including high rates of compli-
ance and continuation and the enrollment
of couples, instead of individuals (which
allowed for collection of more complete
data on condom performance and accept-
ability than would have been possible oth-
erwise). In addition, we employed a com-

munity-based recruitment strategy rather
than a conventional clinic-based one to
obtain an ethnically and economically di-
verse population that was representative
of typical U.S. condom users.

Moreover, the study was unique, in that
half of the participating couples were cur-
rently using the condom as their sole
means of protection from pregnancy, while
the other half were relying on a nonbarri-

er method, and were asked to continue
their method use while participating in the
study. Typically, studies of condom break-
age and slippage limit enrollment to

Table 5. Odds ratios from stepwise logistic re-
gression on the likelihood of breakage of the
polyurethane condom

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds ratio</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of a backup method</td>
<td>1.6</td>
<td>0.08</td>
</tr>
<tr>
<td>History of condom breakage with study partner</td>
<td>3.8</td>
<td>0.0001</td>
</tr>
<tr>
<td>Use of rear entry position</td>
<td>2.7</td>
<td>0.0004</td>
</tr>
<tr>
<td>Relationship &lt;6 months</td>
<td>2.4</td>
<td>0.01</td>
</tr>
<tr>
<td>Penile constriction with condom bunching</td>
<td>3.1</td>
<td>0.01</td>
</tr>
<tr>
<td>History of pregnancy</td>
<td>1.9</td>
<td>0.03</td>
</tr>
<tr>
<td>Condom stretching</td>
<td>0.4</td>
<td>0.03</td>
</tr>
<tr>
<td>Penis length &gt;180 mm</td>
<td>1.9</td>
<td>0.04</td>
</tr>
<tr>
<td>Annual income &lt;$20,000</td>
<td>1.8</td>
<td>0.06</td>
</tr>
<tr>
<td>Condom sliding along shaft of penis</td>
<td>1.9</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Note: Data refer to 63 breaks among 949 uses. All cases with missing
values are excluded.

Table 6. Percentage distribution of condom users, by condom preference, according to con-
dom and lubricant characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Polyurethane</td>
<td>Latex</td>
<td>No preference</td>
</tr>
<tr>
<td>Condom attractiveness</td>
<td>26</td>
<td>26</td>
<td>48</td>
</tr>
<tr>
<td>Fit</td>
<td>33</td>
<td>43</td>
<td>23</td>
</tr>
<tr>
<td>Ease of unrolling</td>
<td>31</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>51</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>Overall preference</td>
<td>47</td>
<td>44</td>
<td>9</td>
</tr>
<tr>
<td>Lubricant Amount</td>
<td>29</td>
<td>28</td>
<td>43</td>
</tr>
<tr>
<td>Persistence</td>
<td>27</td>
<td>27</td>
<td>46</td>
</tr>
<tr>
<td>Odor</td>
<td>24</td>
<td>14</td>
<td>63</td>
</tr>
<tr>
<td>Slipperiness</td>
<td>31</td>
<td>32</td>
<td>37</td>
</tr>
<tr>
<td>Less messiness</td>
<td>23</td>
<td>14</td>
<td>63</td>
</tr>
<tr>
<td>Overall preference</td>
<td>40</td>
<td>34</td>
<td>26</td>
</tr>
</tbody>
</table>

Note: na=not applicable.