Splint or plaster cylinder for first patellar dislocation

Report by Martin Thomas, Research Fellow
Search checked by Paul Wallman, Specialist Registrar

Clinical scenario
A 20 year old woman presents to the emergency department having suffered her first lateral patellar dislocation one hour before. She has managed to reduce it herself. You know that surgery offers no advantage over conservative management, but wonder what is the best approach to initial immobilisation.

Three part question
In [patients with primary patellar dislocation] is [a plaster cylinder, a posterior (cricket pad) splint or bandaging] better at [reducing symptoms and preventing redislocation]?

Search strategy
Medline 1966 to 6/99 using the OVID interface. ({exp patella OR patella$.mp} AND {exp dislocations OR dislocate$.mp OR dislocation$.mp}) AND {exp emergency treatment OR exp treatment failure OR exp treatment outcome OR treatment$.mp} AND maximally sensitive RCT filter LIMIT to human and english.

Search outcome
Seventy nine papers were found of which 75 were irrelevant and three of insufficient quality for inclusion. The remaining paper is shown in table 5.

Comment
The best evidence in this area is weak. Bandaging and bracing seem to give the worst outcome, while there is no significant difference in redislocation rate between plaster and posterior (cricket pad) splinting. The better range of movement found after posterior splinting suggest this is the best treatment overall. A well designed randomised controlled trial is required to further investigate this question.

Clinical bottom line
Posterior (cricket pad) splinting offers the best overall outcome after primary patellar dislocation.

Table 5

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maenpaa and Lehto, Finland, 1997</td>
<td>100 patients with primary patella dislocation</td>
<td>Retrospective cohort</td>
<td>Redislocation incidence</td>
<td>Significantly higher (p&lt;0.05) in bandage group</td>
<td>Not randomised</td>
</tr>
<tr>
<td>plaster cylinder (60) v posterior splint (17) v bandage and brace (23)</td>
<td>Late problems</td>
<td>No significant difference</td>
<td>Significantly better (p&lt;0.05) in posterior splint group</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Range of movement</td>
<td></td>
<td></td>
<td>Immobilisation times vary between groups</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Small numbers in splint and bandage groups</td>
<td></td>
</tr>
</tbody>
</table>


The BMA library supplied the papers.