Search outcome
Twelve papers were found of which nine were irrelevant; the remaining papers are shown in table 3.

Comment
The three trials all investigated different non-steroidal agents. No studies have been done to compare the relative merits of these drugs. Furthermore no trials comparing topical and oral preparations appear to have been done.

Clinical bottom line
Non-steroidal anti-inflammatory agents are effective topical analgesics for traumatic cornal abrasions and do not appear to affect time to healing. However the lack of trials comparing oral and topical analgesia together with the cost of these preparations must be considered before these preparations are introduced.

Wound cleaning methods
Report by Sandy Thompson, Medical Student
Search checked by Fiona Lecky, Specialist Registrar

Clinical scenario
A patient presents to the emergency department with a laceration to the right forearm. The wound will need cleaning and then closing. There appear to be many different cleaning solutions available—you wonder which is best.

Three part question
[In patients with lacerations] is [wound toilet with iodine solution or sterile saline more effective than wound toilet with tap water] at [reducing rate of infection]?

Search strategy
Medline 1966 to 10/98 using the OVID interface. ([(exp "wounds and injuries" OR exp wounds, penetrating OR laceration$ ti,ab,-b,rw,sh OR wound$ ti,ab, rw,sh OR cut$ ti,ab,-b,rw,sh] AND [exp iodine OR exp iodine compounds OR exp povidone-iodine OR iodine$ ti,ab, rw,sh OR exp sodium chloride OR saline.ti,ab, rw,sh OR anti-infective agents, local OR antiseptic$ ti,ab, rw,sh] AND [clean$ ti,ab, rw,sh OR exp decontamination OR exp sterilisation OR exp disinfection OR decontaminate$ ti,ab, rw,sh OR exp irrigation OR lavage, ti,ab, rw,sh]) AND maximally sensitive RCT filter LIMIT to human and english).

Search outcome
Altogether 179 papers were found of which 174 were irrelevant or of insufficient quality for inclusion; the remaining papers are shown in table 4.

Table 4

<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>Roberts et al, 1985, UK*</td>
<td>418 patients with hand lacerations All wounds cleaned with savodil. Experimental group sprayed with povidone-iodine</td>
<td>Randomised clinical trial</td>
<td>Infection rate</td>
<td>4.6% (povidone-iodine) v 5.3% (control) (NS) 35.5% (povidone-iodine) v 41.2% (control) (NS)</td>
<td>Poor randomisation. No control; 96 lost to follow up</td>
</tr>
<tr>
<td>Gravett et al, 1987, USA*</td>
<td>500 emergency department patients with lacerations requiring sutures All wounds irrigated with normal saline. Experimental group irrigated and scrubbed with 1% povidone-iodine</td>
<td>Randomised clinical trial</td>
<td>Infection rate</td>
<td>15.4% (control) v 5.47% (povidone-iodine)</td>
<td>No control. 105 patients lost to follow up and 122 followed up by phone only High control infection rate</td>
</tr>
<tr>
<td>Dire and Welsh, 1990, USA*</td>
<td>531 patients with minor, uncomplicated soft tissue lacerations requiring suturing Treated with either irrigation with normal saline, 1% povidone-iodine or F-68 (Shur-Clen)</td>
<td>Clinical trial</td>
<td>Infection rates</td>
<td>6.9% (normal saline) v 4.3% (povidone-iodine) (F-68). NS</td>
<td>Not randomised</td>
</tr>
<tr>
<td>Lammers et al, 1990, USA*</td>
<td>35 patients with 37 heavily contaminated wounds requiring debridement Randomised to soaking for 10 min with either 1% povidone-iodine solution, normal saline or covering for 10 min with a dry dressing</td>
<td>PRCT</td>
<td>Change in bacterial counts</td>
<td>No change povidone-iodine group or control. Increase in saline group Small numbers</td>
<td></td>
</tr>
<tr>
<td>Angeras et al, 1992, Sweden*</td>
<td>617 patients with recent wounds requiring suture Randomised to cleaning with sterile saline or tap water</td>
<td>PRCT</td>
<td>Infection rates</td>
<td>10.3% (saline) v 5.4% (tap water) (p&lt;0.05)</td>
<td>Randomisation method not stated</td>
</tr>
</tbody>
</table>

PRCT=prospective randomised controlled trial.
Comment
It is striking that the infection rate remains 5–10% whatever the intervention. In this case the cheapest and most easily obtained solution should be used.

Clinical bottom line
Tap water is a safe and effective solution for cleaning recent wounds requiring closure and is the treatment of choice.