The guideline addresses the treatment of isolated supracondylar fractures of the humerus in children who have not yet reached skeletal maturity. It is not intended for use in pediatric patients who have additional coexisting injuries that require formal surgical intervention or other life-threatening conditions that take precedence over the treatment of the supracondylar fracture of the humerus. Of the 14 recommendations included in the guideline, two are supported by fair quality evidence (graded as moderate), two by poor quality evidence (graded as weak), eight are inconclusive (inconclusive or insufficient evidence), and two are based on the consensus of the workgroup (Table 1). The two consensus statements recognize that the conditions in question could result in loss of life or limb; thus, in the absence of reliable data, the recommendations are based on clinical opinion.

In the absence of strong evidence, it is particularly important that physicians thoroughly discuss available treatments and applicable procedures with the patient’s parents or guardians. The clinician’s experience with conservative management and his or her surgical experience and skills increase the probability of identifying patients who will benefit from specific treatment options.

**Recommendation rationales**

The workgroup defined patients with “acute” fractures as those patients who were seen for treatment within 14 days of injury. Because no single fracture classification system has perfect inter- and intrapatient reliability or can take into account additional clinical factors such as mechanism of injury, time and duration since injury, soft tissue damage and swelling, and/or presence of neurovascular compromise, the guideline uses the Gartland classification system simply as a point of reference. Although the Gartland classification system also applies only to extension fractures, all recommendations that address a displaced fracture refer to both extension and flexion fractures.

The first recommendation addresses Gartland Type I or non-displaced pediatric supracondylar humerus fractures. Nonsurgical immobilization of these fractures is common practice.

The second recommendation covers Gartland Type II and III fractures, as well as the less common flexion-type pediatric supracondylar fracture. Although surgical treatment introduces the risk of infection, the improved critical outcomes—combined with the decreased risk of limb-threatening ischemic injury—outweigh the risk. Because pin configuration and the potential complications related to instability and iatrogenic ulnar nerve injury are recognized concerns, the third and fourth recommendations cover pin stabilization. Critical outcomes investigated were iatrogenic ulnar nerve injury, loss of reduction, malunion, and reoperation rate. Although the group sought to see if there was a difference in ulnar nerve injury rates related to the technique of pin placement (percutaneous vs. open medial), no existing adequate data addressed the issue. The timing of treatment for displaced pediatric supracondylar humerus fractures is an important practical concern addressed in the fifth recommendation. The advisability of urgent/emergent treatment is often weighed against the availability of a surgeon, access to an operating room, and the relative safety of anesthesia. In developing this recommendation, the workgroup identified the following critical outcomes: compartment syndrome, cubitus varus, need for open reduction, operative time, reoperation/loss of reduction, Baumann’s angle, and malunion.

The sixth recommendation recognizes that a percentage of these fractures cannot be reduced using a closed technique. In these more challenging cases, the surgeon may need to perform an open reduction. The studies included in the guideline, however, only weakly support this recommendation.

The seventh recommendation is based on expert opinion because the displaced pediatric supracondylar fracture with reduced perfusion...