only encompassing the thumb (Figure 17). An elastic bandage is applied (Figure 18). The splint is formed with the thumb extended and wrist in neutral position as it dries (Figure 19). A neurovascular check should be done after splinting.

**Post-Splinting Instructions**

The patient should be instructed to keep the splint dry and to not remove it, and to return if increased pain, numbness, tingling or color changes occur.

The patient should be given a sling and instructed to keep the hand elevated. Sling range-of-motion instructions should be given to avoid a stiff elbow or shoulder. Have the patient remove the arm from the sling several times a day to flex, extend and pronate the elbow. The patient also should perform gentle shoulder range-of-motion exercises. Within the first day of immobilization, chondrocyte activity changes, signaling the beginning of degeneration. The second day brings a noticeable decrease in proteoglycans, which contribute to the stiffness of cartilage. By the third day, degenerative changes are seen in chondrocytes in the areas of contact between articular surfaces, and by the fourth day, there is a marked decrease in proteoglycan content. As the tissue contracts and reorganizes, it becomes denser and, usually within a week, results in restricted range of motion.

The patient should be instructed to follow up with a primary care provider or orthopedic specialist as soon as possible, in no longer than one week.

Complications from splinting include neurovascular injuries from splints that are too tight and dermal injuries from sharp edges, pressure points or burns. Several studies have shown that the risk of thermal injury is significant when the dip water temperature is too hot (greater than 50°C). Complications also can arise from the noncompliant patient who wears the splint too long without appropriate follow-up. These complications can include infection from underlying wounds, malunion and atrophy.

**Discussion**

The splinting methods described here are for initial immobilization. The patient should have close follow-up by the appropriate health care provider. No two fractures are alike, and splinting may have to be modified for each individual situation. Moreover, other injuries often accompany a fracture, such as foreign bodies, lacerations and other bone and tendon injuries. Following these basics should deliver a good outcome for the patient.

**References**