



Pediatric and Adolescent Quarterly Update

3rd Quarter 2015

Common Pediatric Hand Injuries (Part 1)

by Lee G. Phillips M.D.

Fractures

Fractures of the hand may occur in children due to crush injuries or during sports from falls, twisting, or direct blows to the hand or wrist. If the finger, wrist, or forearm is not in normal alignment, or if there is a skin wound leading to the fracture, the child should be brought immediately to an emergency room. Not all fractures will look crooked or have major loss of mobility. If there is significant bruising or swelling, an x-ray is the only way to know for sure if a bone is broken.

Children are not just small adults. Their bones have a different consistency and quality and because they are still growing, their injuries need different evaluation and treatment. In children with a growth plate fracture, immediate diagnosis is important so that if the bone is displaced and needs to be realigned, it can be reset while the fracture is still pliable. Children are able to "remodel" (the specific process of bone resorption and formation) a broken bone after it heals and as the child grows. Certain breaks may not have to be re-aligned perfectly because of this ability to remodel with growth. Younger children have greater potential for remodeling and fractures with angulation in the same direction as joint motion (bending and straightening) also have greater potential to remodel. Fractures that are rotated or twisted, or angled out to the side also need to be realigned more precisely as they have less potential to remodel. Fractures that disrupt the surface of a joint usually need to be realigned as precisely as possible, though, and may need surgery to do so.



Broken fingers, hands, and wrists are mostly commonly treated in children with casting or splinting. If the broken bone is not lined up, the bone may need to be "set" or "reduced" with a manual manipulation by a physician. In more severe fractures, surgery may be needed to reset the fracture and pins, rods, or a metal plate and screws may be placed in order to keep the bone in proper position while it is healing. Children heal quickly with many fractures healing in as little as one to two months.

Fingertip Injuries

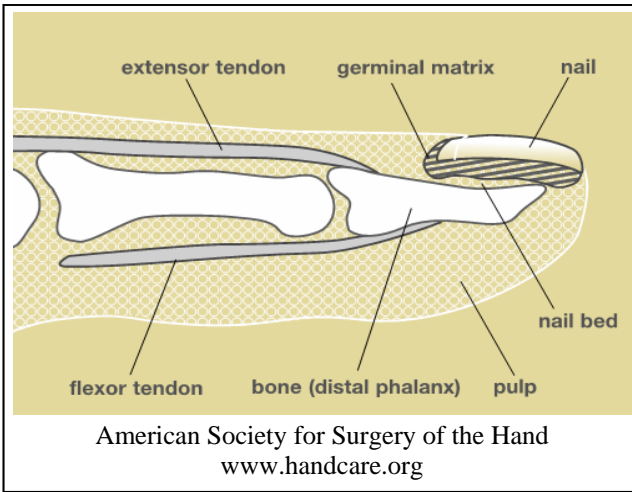
Fingertip injuries are one of the more common injuries in the pediatric hand, particularly in younger children. The fingertips are exposed in many of your child's activities with the tips of longer fingers injured more often because they are last to escape from harm's way. They can be crushed, such as by a closing door or a heavy object, and they can be cut with a knife or other sharp surface. Injury can include damage to skin and soft tissue, bone (distal phalanx), or to the nail and nailbed. The full extent of the injury may not be evident until adequate anesthesia is given and the finger is examined with magnification. Antibiotics and/or a tetanus shot may be provided in order to prevent infection and X-rays are recommended to look for associated fractures that may require treatment.



**Children's Orthopaedic
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It is often possible to treat these injuries with simple dressings and immobilization, even if there is a little bit of bone exposed at the tip. For larger skin defects, the amputated tissue is sometimes reattached, as frequently some of it survives and the rest acts as a biologic dressing. Fractures of the bone in the tip of the finger are common and usually do not affect the strength of the bone. Repair of the soft tissue, such as the nail bed, usually re-aligns and stabilizes these bone fragments. Fractures closer to the joint may require a splint or even a temporary metal pin to hold the bone fragments in proper position.

The nailbed is repaired if it is injured and, if the injury is sharp, a normal nail is likely. However, if there is more severe crushing of the nail bed, then there is a greater likelihood of nail bed scarring and subsequent deformity of the nail. It takes 3 or more months for a nail to grow from the cuticle to the end of the finger.

To schedule an appointment with our Pediatric Hand Specialist, Dr. Lee Phillips, please call our office.



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