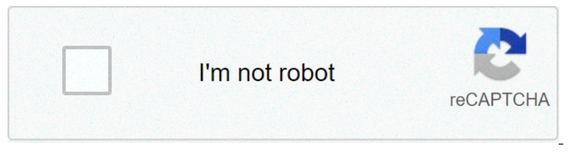

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Colles vs smith fracture

Smith fracture: Extra-articular fracture of the distal radius with associated palmar (volar) angulation of the distal fracture fragment. Also called Goyrand fracture or reverse Colles fracture. Smith fracture History of the Smith fracture 1832 – Jean-Gaspar-Blaise Goyrand noted that a fracture of the distal end of the forearm could be displaced palmarly as well as dorsally Les fractures de l'extrémité inférieure du radius peuvent avoir lieu dans différens points de la longueur de cette extrémité. Elles ont, en général, une direction oblique de haut en bas, et de la face dorsale à la face palmaire. J'ai cependant sous les yeux deux pièces pathologiques qui me présentent cette fracture avec une direction opposée Goyrand JGB, 1832; 3: 664 The fractures of the lower extremity of the radius can occur at different points along the length of this extremity. They trace, in general, an oblique direction from superior to inferior, and from the dorsal to the palmar face. However I have beneath my eyes two pathological specimens that present this fracture in the opposite direction… Goyrand JGB, 1832; 3: 664 1847 – Robert William Smith described the characteristics of Colles fracture in his book – A Treatize on Fractures in the Vicinity of Joints and on Certain Forms of Accidents and Congenital Dislocations. In this tome Smith also described the variation of wrist fracture whereby the distal fragment is displaced in a volarwards (as previously noted by Goyrand). Smith Original description and Drawing This is an injury of exceedingly rare occurrence, and one which presents characters closely resembling those of dislocation of the carpus forwards. It generally occurs in consequence of a fall upon the back of the hand, and the situation of the fracture is from half an inch to an inch above the articulation; it is accompanied by great deformity, the principal features of which are a dorsal and a palmar tumour, and a striking projection of the head of the ulna at the posterior and inner part of the forearm; the dorsal tumour occupies the entire breadth of the forearm, but is most conspicuous internally, where it is constituted by the lower extremity of the ulna displaced backwards; from this point, the inferior outline of the tumour passes obliquely upwards and outwards, corresponding in the latter direction of the lower end of the superior fragment of the radius. Immediately below the dorsal swelling there is a well marked sulcus, deepest internally below the head of the ulna, directed nearly transversely, but ascending a little as it approaches the radial border of the forearm.Smith, 1847: 162 Smith fracture 1847 Associated Persons Alternative names Goyrand fractureSmith–Goyrand fractureReverse Colles fracture References Historical references Review references the names behind the name O SlideShare utiliza cookies para otimizar a funcionalidade e o desempenho do site, assim como para apresentar publicidade mais relevante aos nossos usuários. Se você continuar a navegar o site, você aceita o uso de cookies. Leia nosso Contrato do Usuário e nossa Política de Privacidade. O SlideShare utiliza cookies para otimizar a funcionalidade e o desempenho do site, assim como para apresentar publicidade mais relevante aos nossos usuários. Se você continuar a utilizar o site, você aceita o uso de cookies. Leia nossa Política de Privacidade e nosso Contrato do Usuário para obter mais detalhes. Facebook Twitter Linkedin Pinterest Distal radius fractures are one of the most common types of bone fractures. They occur at the end of the radius bone near the wrist. Depending on the angle of the break, distal radius fractures can be classified into two types: Colles or Smith. Falls are the main cause of distal radius fractures. They may also occur during trauma from a vehicle accident or sports injury. Treatment varies but may include a sling or cast and sometimes surgery in the case of an unstable or displaced fracture. The radius is one of two forearm bones and is located on the thumb side. The part of the radius connected to the wrist joint is called the distal radius. When the radius breaks near the wrist, it is called a distal radius fracture. The break usually happens due to falling on an outstretched or flexed hand. It can also happen in a car accident, a bike accident, a skiing accident or another sports activity. A distal radius fracture can be isolated, which means no other fractures are involved. It can also occur along with a fracture of the distal ulna (the forearm bone on the small finger side). In these cases, the injury is called a distal radius and ulna fracture. Depending on the angle of the distal radius as it breaks, the fracture is called a Colles or Smith fracture. A Colles fracture may result from direct impact to the palm, like if you use your hands to break up a fall and land on the palms. The side view of a wrist after a Colles fracture is sometimes compared to the shape of a fork facing down. There is a distinct "bump" in the wrist similar to the neck of the fork. It happens because the broken end of the distal radius shifts up toward the back of the hand. A Smith fracture is the less common of the two. It may result from an impact to the back of the wrist, such as falling on a bent wrist. The end of the distal radius typically shifts down toward the palm side in this type of fracture. This usually makes for a distinct drop in the wrist where the longer part of the radius ends. Immediate pain with tenderness when touched Bruising and swelling around the wrist Deformity — the wrist being in an odd position Decisions on how to treat a distal radius fracture may depend on many factors, including: Fracture displacement (whether the broken bones shifted) Comminution (whether there are fractures in multiple places) Joint involvement Associated ulna fracture and injury to the median nerve Whether it is the dominant hand Your occupation and activity level In any case, the immediate fracture treatment is the application of a splint for comfort and pain control. If the fracture is displaced, it is reduced (put back into the correct position) before it is placed in a splint. Fracture reduction is performed under local anesthesia, which means only the painful area is numbed. Nonsurgical Treatment If the distal radius fracture is in a good position, a splint or cast is applied. It often serves as a final treatment until the bone heals. Usually a cast will remain on for up to six weeks. Then you will be given a removable wrist splint to wear for comfort and support. Once the cast is removed, you can start physical therapy to regain proper wrist function and strength. X-rays may be taken at three weeks and then at six weeks if the fracture was reduced or thought to be unstable. They may be taken less often if the fracture was not reduced and thought to be stable. A displaced fracture needs to be corrected first. Once it is anatomically aligned, a plaster splint or cast is applied. The reduction (closed reduction) is usually performed with local anesthesia. Your orthopaedic surgeon will evaluate the fracture and decide whether you will need surgery or if the fracture can be treated with a cast for six weeks. Surgery for Distal Radius Fractures This option is usually for fractures that are considered unstable or can't be treated with a cast. Surgery is typically performed through an incision over the volar aspect of your wrist (where you feel your pulse). This allows full access to the break. The pieces are put together and held in place with one or more plates and screws. In certain cases, a second incision is required on the back side of your wrist to re-establish the anatomy. Plates and screws will be used to hold the pieces in place. If there are multiple bone pieces, fixation with plates and screws may not be possible. In these cases, an external fixator with or without additional wires may be used to secure the fracture. With an external fixator, most of the hardware remains outside of the body. After the surgery, a splint will be placed for two weeks until your first follow-up visit. At that time, the splint will be removed and exchanged with a removable wrist splint. You will have to wear it for four weeks. You will start your physical therapy to regain wrist function and strength after your first clinic visit. Six weeks after your surgery, you may stop wearing the removable splint. You should continue the exercises prescribed by your surgeon and therapist. Early motion is key to achieving the best recovery after surgery. CHARLES REITMAN, ... MICHAEL H. HEGGENESS, in Osteoporosis (Third Edition), 2008Colles' fracture of the distal radius is the most common fracture of the upper extremity. There are two peaks of incidence that occur, a pediatric group and a geriatric group, with females predominating in the elderly [1]. A dorsally displaced fracture of the distal radius commonly results from a fall onto the outstretched hand. In the majority of cases, this injury can be managed by closed reduction by manipulation and immobilization in a cast. It is important that the original length of the radius be restored, as well as the normal, slightly palmar angulation to its distal articular surface.Should either objective be incompletely realized by closed reduction, either open reduction and internal fixation pins, with screws or a plate and screws (Figures 65-1 and 65-2), or, more commonly, application of an external fixation device may be indicated. Such devices, consisting of transfixing pins in the metacarpals and the radial shaft, may allow maintenance of this reduction (Figure 65-3). Although the results of these treatments are generally good, mild to moderate residual pain, stiffness of the wrist and fingers, osteoarthritic changes, causalgia, and diminished function are described in up to 31% of patients [2].FIGURE 65-1. The majority of Colles' fractures of the distal radius can be managed by simple plaster cast immobilization. In the example shown here, the cast was obviously inadequate to keep the fracture fragments in alignment. AP (A) and lateral (B) x-ray images demonstrate the comminuted fracture of the distal radius with shortening and loss of alignment. This fracture was managed by surgical intervention. Open reduction and internal fixation from a small (case) approach restored the length and alignment of this fracture as shown in postoperative AP (C) and lateral (D) x-ray images.FIGURE 65-2. This very severe distal radius fracture resulted from a fall onto an outstretched hand. (A) Maintenance of length and restoration of joint congruity was accomplished by the application of an external fixator through the use of percutaneous pins as shown in the postoperative AP (B) and lateral (C) x-ray images.FIGURE 65-3. Lateral and PA views of a Colles' fracture of the wrist. This fracture has been stabilized by the use of an external fixation device that allows control of the fracture fragments with ongoing distraction forces.Lonnie R. Mercier M.D., in Practical Orthopedics (Sixth Edition), 2008Several common injuries occur in the region of the wrist joint: Colles' fracture, fracture of the distal portion of the radius in children, epiphyseal fractures of the distal aspect of the radius, and fractures of the scaphoid. Treatment of all these injuries is very similar.Colles' fracture is the most common injury of the wrist. It usually results from a fall on an outstretched hand. The force of the fall fractures the distal portion of the radius and displaces it into the typical "silver-fork" position. In addition to the dorsal angulation, there is shortening and radial deviation of the distal fragment (Fig. 7-37). There is usually an associated injury to the ulnar styloid or ulnar collateral ligament of the wrist. The fracture can usually be reduced under local anesthesia if reduction is performed within a few hours. If more time passes, a general anesthetic may be necessary, because the local anesthetic may not diffuse through the clotted hematoma after several hours have passed. The tip of the ulna should also be injected.With the assistant grasping the forearm for countertraction, the surgeon grasps the hand of the affected wrist (Fig. 7-38). The thumb of the surgeon's other hand is placed over the distal fragment, and the wrist is hyperextended to break up any impaction. Traction and countertraction are then applied, and by using the thumb for pressure on the distal fragment, the rotation is corrected, and the dorsal cortex of the distal fragment is forced onto the dorsal cortex of the proximal fragment (see Chapter 2). Ulnar and volar pressure over the distal fragment will then correct the radial and dorsal angulation. The radial styloid is palpated to determine whether the length has been restored. With the assistant maintaining volar and ulnar tension on the hand, a well-molded cast is applied with the wrist slightly pronated. The cast is well molded over the dorsal and radial aspects of the distal fragments and the volar aspect of the proximal fragment to keep the dorsal soft tissue tight. A short arm cast is usually sufficient. Excessive volar flexion of the wrist should be avoided and is unnecessary if the cast is properly applied and molded. Excessive flexion of the wrist may cause median nerve compression. The base of the thumb may be included to the IP joint to help prevent radial collapse.An alternative method of treatment is to use the method of traction previously described for forearm fractures. After anesthesia has been obtained, the fracture is disimpacted, and the patient's index finger and thumb are placed in the finger traps. A counterweight is placed on the upper part of the arm, and the fracture is manipulated. A properly molded cast is then applied with the forearm in slight pronation. Roentgenograms are then repeated.If the reduction is satisfactory, the wrist is elevated, and ice is applied for 48 to 72 hours. Active motion of the fingers is encouraged, and the roentgenogram is repeated in 7 to 10 days. The fracture is immobilized for approximately 6 weeks.After the cast is removed, some temporary stiffness should be expected for several weeks. This usually subsides gradually as the activity level is increased. A temporary splint that is removed several times a day for exercise is frequently helpful in the transition period between cast removal and full use of the extremity.Occasionally, some loss of reduction may occur in a week or two after the swelling subsides in the cast. This is particularly true if there is comminution of the dorsal cortex. In the elderly patient, this position should be accepted rather than attempting to remanipulate the fragments to improve the roentgenographic appearance. This would only lead to more swelling, stiffness, and loss of function. Accepting the minor cosmetic deformity caused by the slight malunion is preferable in the older patient. If this occurs in younger patients (especially radial shortening), remanipulation with pinning or the application of an external fixator is indicated.This fracture has often been called the reverse Colles' fracture (Fig. 7-39). One form of this fracture may be considered as such. The type that does not involve the articular surface may be treated by traction, manipulation, and casting in supination. Treatment in supination is important. "Cocking up" the wrist (the reverse of the Colles' treatment) will frequently not hold the reduction. One type of Smith's fracture has an articular component that results in volar subluxation of the carpal bones. This injury often requires open reduction with internal fixation for satisfactory results.This is an oblique fracture that is essentially the reverse of the intraarticular Smith's fracture. The injury involves an oblique dorsal rim fracture–dislocation through the articular surface of the distal portion of the radius. Because this fracture involves the joint surface, accurate reduction is necessary, and open reduction is often required.In children and adolescents, a fracture may occur through the distal radial epiphysis. If it is displaced or angulated over 15 to 20 degrees, it is reduced in the same manner as Colles' fracture and immobilized in a well molded cast for 5 weeks. Reontgenograms should always be repeated at 7 to 10 days to be certain that loss of position has not occurred. If the fracture is undisplaced, the diagnosis may be difficult. It should be kept in mind, however, that sprains of the wrist are very rare in children because the epiphyseal plate is weaker than the surrounding ligamentous structures, and trauma will usually produce an epiphyseal fracture rather than a ligamentous sprain. Clinical tenderness over the epiphysis is highly suggestive of a fracture, and a short arm cast should be applied to these injuries for 2 weeks even though the roentgenographic findings may be normal. If a healing callus is present at the end of 2 weeks, the cast is continued for an additional 2 weeks. If no callus is present, the cast is removed, and the "sprain" has had excellent treatment. Fractures of the distal portion of the radius also occur in children approximately 2.5 cm above the wrist joint. They are treated in the same manner as Colles' fracture. Undisplaced or so-called torus fractures also occur in this area (Fig. 7-40). No displacement occurs with this injury, but it should be immobilized in a short arm cast for 3 weeks.The scaphoid is the carpal bone that is most prone to fracture (Fig. 7-41). This injury also occurs as the result of a fall on the outstretched hand. The blood supply to this bone frequently enters the distal portion. Consequently, fractures that occur through the midportion of the bone may lead to avascular necrosis of the proximal fragment. This complication almost always occurs in more proximal fractures. Nonunion is also more frequent following this injury. These fractures are important because a delay in the diagnosis can contribute to the risk of nonunion.The diagnosis is sometimes difficult. It should be suspected, however, in any patient with a history of a "sprained wrist" who has persistent swelling and pain in the wrist. Clinically, tenderness and swelling in the anatomic snuffbox are characteristic findings.Initial roentgenographic findings are often normal because there may be little or no displacement of the fracture fragments. The fracture usually becomes visible in 2 to 4 weeks, however, as decalcification around the fracture line occurs.Whenever this injury is suspected by history and physical examination, even if the radiograph looks normal, a short arm cast including the thumb should be applied. The roentgenogram is repeated in 2 to 3 weeks. If a fracture line becomes visible confirming the diagnosis, the immobilization is continued until complete healing has occurred, which may take 2 to 3 months. If pain persists but the roentgenogram remains normal, MRI, computed tomographic (CT), or bone scanning is indicated.The type and length of immobilization used in the treatment of the acute nondisplaced navicular fracture is controversial, but a short arm thumb spica cast for 8 to 12 weeks is usually recommended. Failure of the fracture line to fill in by this time may indicate the need for surgery.Displaced or angulated fractures often require open reduction and internal fixation and should be referred.Although simple, uncomplicated ligamentous injuries of the wrist do occur, there are a number of conditions that are often misdiagnosed as sprains. Failure to appreciate and properly treat these disorders can lead to permanent disability and chronic pain. Among the more common injuries presenting as "sprains" are the following:1Fractures of the navicular (usually caused by a fall)2Undisplaced epiphyseal fractures of the distal portion of the radius in children3Fracture of the hook of the hamate (often occurring when a baseball bat handle strikes the palm)4Avulsion fractures of the triquetrum, an injury that may signify serious ligamentous disruption (Fig. 7-42)5Carpal instability, frequently manifested by scapholunate dissociation, a separation of lunate from the scaphoid that may require surgery6Subluxation of the distal ulna (usually resulting from complete ligamentous rupture between the ulna and its attachments to the radius and carpal bones)Careful clinical palpation usually reveals the site of injury. Routine wrist roentgenograms are always performed, and special views are added as indicated.The true simple sprain is well treated by light immobilization for 10 to 14 days followed by reevaluation and further testing as indicated. Elastic wraps or "light braces" are inadequate. Patients with more serious fractures or ligamentous disruptions should be referred.David J. Slutsky MD, in Fractures and Injuries of the Distal Radius and Carpus, 2009One study of 109 Colles' fractures treated with closed reduction and casting determined that the most important factor for predicting ulnar wrist pain was incongruity of the distal radioulnar joint as a result of residual dorsal angulation of the radius.30 Other studies have found that an increase in the ulnar variance was the most important radiological parameter affecting outcome.31 Ulnocarpal impingement and distal radioulnar joint incongruency are related to the amount of radial shortening and are a common cause of ulnar-sided wrist pain.32 In young patients, distal radioulnar joint instability is another cause for residual pain after a distal radius fracture. Lindau and coworkers33 could not correlate this instability with any specific radiographic parameter, however.Augusto Sarmiento, Loren L. Latta, in Atlas of Orthoses and Assistive Devices (Fifth Edition), 2019Functional casting and bracing of Colles fractures was first developed upon recognition of the high frequency of redislocation of fragments after closed reduction.15,18 This observation, having been made previously by others, led to studies that concluded that the traditionally recommended position of pronation of the forearm was contributing to the complication. The contraction of the brachioradialis muscle—the only muscle with attachment to the distal radial fracture—was being encouraged by the position of pronation, because this muscle functions as a flexor of the elbow when the forearm is in pronation. Electromyographic studies confirmed the clinical and anatomical observation.18 Other muscular structures overlying the facture site can be deforming forces, but not to the extent of the brachioradialis muscle. This is only briefly addressed here because the method has not been widely used in the orthopedic community.Loss of reduction of Colles fractures is observed primarily in comminuted fractures, especially in those with an associated initial dislocation of the radioulnar joint. Even after adequate reduction of the radial fracture and the dislocation, recurrence of the deformity takes place. These fractures are best managed surgically, preferably using plates and screws. Fractures in which the angle of inclination of the most radial fragment is rather vertical are also prone to experience recurrence of displacement as the brachioradialis exerts an opposed force.After the initial reduction of the displaced Colles fracture, an above-the-elbow cast holding the forearm in a relaxed position of supination is the best means of initial stabilization. It provides greater comfort during the most acute period, facilitates finger motion, permits better radiologic evaluation of the reduction, and ensures greater stability of the radioulnar joint. A few days later the above-the-elbow cast can be replaced with a Munster-type cast that allows almost complete flexion and extension of the elbow but prevents pronation and supination of the forearm (Fig. 17.7).Clinical research has been conducted to determine the efficacy of stabilization of the forearm in relaxed pronation–supination and the fractures most likely to benefit from such protocol. We observed that extraarticular Colles fractures that do not show initial displacement do well in most instances regardless of the method of stabilization. Intraarticular fractures without radioulnar dislocation do best when stabilized in supination. (Fig. 17.8).Ludwig Ombregt MD, in A System of Orthopaedic Medicine (Third Edition), 2013After a mal-united Colles' fracture, shortening of the radius may be responsible for an irreversible limitation of supination only, with the end-feel of a bony block.15,16 The movement may be painful in recent cases but should become painless in due course.A dorsal dislocation of the ulna also presents with a block to supination and a visible dorsoulnar prominence. The mechanism for dorsal subluxation and dislocation is extreme pronation and extension, which pull the ulnar head out through the dorsal capsule. Triangular fibrocartilage complex avulsion and attenuation of the palmar radioulnar ligament will allow this dislocation.17Roland D. Chapurlat, Harry K. Genant, in Endocrinology: Adult and Pediatric (Seventh Edition), 2016Wrist fractures, also called distal forearm fractures or Colles fractures, are very common. The incidence of wrist fracture is hard to calculate because only a minority of patients is hospitalized. A Norwegian study showed that it was the most common fracture responsible for admission to a local university hospital.32 Incidence varies among different ethnic groups. Wrist fracture risk is lower in black individuals than in white individuals.33The pattern of incidence of wrist fracture is different from that of hip or vertebral fractures. The age-adjusted female-to-male ratio is 4:1, with a linear increase in incidence in women from 40 to 60 years of age, followed by a plateau.35 In men, the incidence is almost constant between 20 and 80 years of age. Wrist fractures are not associated with an increase in mortality and are usually thought to be free of long-term poor outcome.36 Other data, however, suggest that half of the patients do not report good functional status at 6 months because of complications such as type 1 complex regional pain syndrome, neuropathies, and posttraumatic osteoarthritis.37Wrist fractures must be considered as an important predictor of subsequent vertebral and hip fractures. Indeed, it has been shown that men and women with distal forearm fractures have on average a twofold increase in the risk for sustaining a hip fracture.38 Previous wrist fractures are also significant predictors of overall osteoporotic fractures, with a doubled risk. In younger women, the predictive value of a previous wrist fracture for subsequent osteoporotic fractures seems even more important, with a relative risk of 2.67 (1.02 to 6.94) for women 40 to 49 years of age. This predictive value is of the same magnitude as that provided by a 1-SD decrease in BMD measured by bone densitometry.39 Thus, the occurrence of a wrist fracture after a low- energy trauma in an early postmenopausal woman is suggestive of bone fragility and should trigger appropriate investigation, such as BMD measurement.Anne M.B. Moscony, Tracy Shank, in Fundamentals of Hand Therapy (Second Edition), 2014Distal forearm or wrist fractures usually (47%) result from impact to the outstretched hand and wrist during falls (Fig. 25-6). This mode of injury is sometimes referred to as a fall on out-stretched hand (FOOSH). Distal forearm fractures account for approximately 44% of upper extremity fractures11 and 15% of all fractures in adults in the United States.10 The likelihood of falls resulting in a distal radius fracture is greatest in two groups. The first group consists of those between the ages of 5 and 14 years who sustain a high-energy, sports-related fall. Increased participation in sports (such as, soccer, rugby, and snowboarding) seems to be correlated with this relatively high incidence of wrist fractures. The second group consists of seniors who sustain a low-energy fall and have resultant fracture(s) due to osteoporotic bone. The incidence of distal forearm/wrist fractures is expected to increase by 50% over the next 20 years due to the growth of the elderly population.12There are several types of distal forearm fractures. A Colles' fracture is the most common type; and is also one of the most common fractures seen in the human body.10,11 It is defined as a complete fracture of the distal radius with dorsal displacement of the distal fragment and radius shortening (Fig. 25-7 A). It is usually extra-articular, minimally displaced, and stable—meaning the fracture will stay reduced when placed in a cast or a fracture brace. The majority of these fractures occur in postmenopausal women with osteoporotic bone.12 See Table 25-1 for a list of common forearm fractures and their clinical features.Therapists should be aware that the label "Colles fracture" is frequently applied to more complex types of dorsally-displaced forearm fractures that may require more than reduction with casting to restore anatomic alignment.Smith's fracture is a complete fracture of the distal radius with volar displacement of the distal fragment (see Fig. 25-7 B). This is the second most common distal radius fracture. A Smith fracture is frequently unstable and requires some type of internal fixation to hold the displaced distal fragment in correct alignment for healing.In Hand Rehabilitation (Second Edition), 20057.You are treating a patient who sustained a Colles fracture 4 months ago. The following is noted during the re-evaluation:Range-of-motion assessmentActive (degrees)Passive (degrees)MCP0/700/75PIP0/850/90DIP0/550/60(Note: Wrist is at neutral during active and passive measures.)When the fist is fully flexed in the available range of motion and the wrist is passively flexed to 25 degrees, tension is felt in the digits as they pull into extension and are unable to maintain their flexed position. What might cause this patient to experience this tension?A.Flexor tightness distal to the wristB.Flexor tightness proximal to the wristC.Joint capsular tightnessD.Extensor tightness distal to the wristE.Extensor tightness proximal to the wristHeidi C. Shors MD, Mark E. Baratz MD, in Fractures and Injuries of the Distal Radius and Carpus, 2009Mikkelsen and colleagues8 used "chronic ulnar wrist pain after Colles' fracture" as the indication for the Sauvé-Kapandji procedure. George and associates6 stated that "severe and persistent pain in the DRUJ" was the primary indication for the Sauvé-Kapandji procedure. Ulnar-sided wrist pain after distal radius fracture can be the result of a variety of conditions, including DRUJ arthritis, DRUJ instability, and ulnocarpal abutment, all of which are conditions that may be caused or compounded by a malunion of the distal radius. It is our practice to define the pathology and try to restore normal anatomy before proceeding to the Sauvé-Kapandji procedure. For example, ulnar-sided pain in a patient with a malunion of the distal radius, with no arthritis of DRUJ, is offered a corrective osteotomy of the radius. A patient with mild instability of the DRUJ and a radius in at least a neutral palmer tilt is offered an ulnar-shortening osteotomy. If the DRUJ is unstable and there is no arthritis, we will first offer a ligament reconstruction for the DRUJ. Our indications for the Sauvé-Kapandji procedure after distal radius fracture are very specific: (1) active, high-demand patient with DRUJ arthritis and (2) failed ulnar shortening or ligament reconstruction for DRUJ instability.The Sauvé-Kapandji procedure can be performed after all fractures are healed and nonoperative treatment has failed. As a general rule, it takes about 6 months before we abandon therapy or injections and proceed to the Sauvé-Kapandji procedure.Co-Author Adam Prawer, in Fracture Management for Primary Care (Third Edition), 2012Smith's fracture of the distal radius, sometimes referred to as the reverse Colles' fracture, is an uncommon and usually unstable fracture in which the distal radial fragment is displaced volarly and proximally (the so-called garden spade deformity). The cause of injury is usually a direct blow to the dorsum of the wrist. Less commonly, cyclists may sustain this fracture if they are thrown over the handlebars. During examination, the patient demonstrates fullness at the volar aspect of the wrist caused by volar displacement of the distal fracture fragment and has a dorsal prominence at the distal end of the proximal fragment. Extension of the wrist accentuates the deformity. Radiographs show a fracture of the distal radius, usually cortex to cortex through the metaphysis, with volar displacement of the distal radial fragment (Fig. 6-7). The fracture may be extraarticular or intraarticular or may be part of a fracture dislocation of the wrist.Most Smith's fractures should be referred to an orthopedic surgeon, but a primary care provider skilled in fracture reduction techniques may attempt closed reduction if the fracture is extraarticular (Frykman type I or II). The anesthesia and distraction techniques (finger traps or countertraction) are the same as described for a Colles' fracture. While maintaining traction, the fingers of both hands support the proximal forearm fragment. The thumbs are placed on the volar aspect of the wrist and are used to push the distal fragment dorsally. The patient is placed in a single or double sugar-tong splint with the elbow flexed to 90 degrees, the forearm in neutral pronation–supination, and the wrist in slight extension. Postreduction radiographs are taken, and the same criteria for acceptable reduction as with the Colles' fracture are used. Severe comminution, intraarticular extension, and inability to maintain the reduction by closed means are indications for orthopedic referral. The same close follow-up with serial examinations, repeat radiographs, and regular cast changes as outlined earlier in the treatment of reduced Colles' fractures should be used in the management of Smith's fractures.