Hand disorders

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Hand Anatomy

Anterior View

- Flexor digitorum profundus
- Flexor digitorum superficialis
- Lumbricales attached to flexor digitorum profundus tendons
- Flexor pollicis brevis
- Abductor pollicis brevis
- Flexor retinaculum
- Radius
- Ulna

Metacarpal Bones
- Hamate
- Triquetrum
- Pisiform
- Lunate

Carpal Bones
- Trapezoid
- Trapezium
- Capitate
- Scaphoid

Distal
Middle
Proximal
Phalanges

8. Handle
7. Can’t
6. They
5. That
4. Positions
3. Try
2. Lovers
1. Some

Hamate
Capitate
Trapezoid
Trapezium
Pisiform
Triquetrum
Lunate
Scaphoid
Clinical assessment

## HISTORY

**Pain is usually felt in the palm or in the finger joints. A poorly defined ache may be referred from the neck, shoulder or mediastinum.**

**Swelling may be localized, or may occur in many joints simultaneously.**

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It is important to establish whether the swelling followed an injury, whether it appeared rapidly (probably a haematoma or a haemarthrosis) or slowly (soft tissue inflammation or a joint effusion), whether it is painful (acute inflammation, infection) whether it is constant or comes and goes and, most importantly, whether it is increasing in size.

**Deformity can appear suddenly (due to tendon rupture) or slowly (suggesting bone or joint pathology).**

**Loss of function**

**Sensory symptoms and motor weakness provide clues to neurological disorders affecting the lower cervical nerve roots and their peripheral extensions.**
## Examination

**LOOK**

-- The skin may be scarred, altered in colour, dry or moist, and hairy or smooth. Wasting and deformity, and the presence of any lumps, should be noted. The resting posture of the hand and fingers is an important clue to nerve or tendon damage. Swelling may be in the subcutaneous tissue, in a tendon sheath or in a joint.

**FEEL**

-- The temperature and texture of the skin are noted. Swelling or thickening may be in the subcutaneous tissue, a tendon sheath, a joint or one of the bones. If a nodule is felt, the underlying tendon should be moved by flexing the finger to discover if the nodule is attached to that tendon. Tenderness should be accurately localized to one of these structures.

**MOVE**

-- *Passive movements* should be tested first, to see whether the joints are ‘movable’ before you ask the patient to move them actively.

-- The range of movement for each digit is recorded (begin proximally (MCP) and end distally (DIP))

-- Active movements reflect, simultaneously, the state of the joints, the integrity of the tendons and motor nerve function in each digit.
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-- Ask the patient to place both hands with palms facing upwards and the fingers extended, then to curl the fingers into full flexion; a ‘lagging finger’ is immediately obvious.

-- MCP flexion and IP extension are activated by the intrinsic muscles (lumbricals and interossei). This is tested by asking the patient to extend the fingers with the MCP joints flexed (the ‘duckbill’ position).

-- The interossei also motivate finger abduction and adduction (fingers together and then spread widely apart). Active power can be roughly gauged by having the patient abduct the fingers while the examiner presses against the spread-out index and little fingers, trying to force them back to the neutral position. **A better way** is to ask the patient to spread the fingers of both hands to the maximum; the examiner then grasps the patient’s hands, pushes them towards each other and forces the two little fingers against each other; the weaker (non-dominant) side will normally give way first, but if the difference in one or other hand is marked it signifies true abductor weakness, a sign of ulnar nerve or T1 root dysfunction.
Con...

** Thumb movements: comprising the combined mobility of both the first carpometacarpal (CMC) and the first MCP joint

- Extension (sideways movement in the plane of the palm).
- Abduction (upward movement at right angles to the palm).
- Adduction (pressing against the palm).
- Flexion (sideways movement across the palm).
- Opposition (touching the tips of the fingers).

Weakness of abduction (tested simply by pressing against the abducted thumb of each hand) is a cardinal feature of median nerve dysfunction. In advanced cases there will also be obvious wasting of the thenar eminence.
Testing for musculo-tendinous function

-- *Flexor digitorum profundus* is tested by simply immobilizing the PIP joint and then asking the patient to bend the tip of the finger.

-- *Flexor digitorum superficialis* is more complicated. The FDP must first be inactivated, otherwise one cannot tell which of the two tendons is flexing the PIP joint. This is done by grasping all the fingers, except the one being examined, and holding them firmly in full extension; because the profundus tendons share a common muscle belly, this manoeuvre automatically prevents all the profundus tendons from participating in finger flexion. The patient is then asked to flex the isolated finger which is being examined; this movement must be activated by flexor digitorum superficialis.

-- **There are two exceptions to this rule:** *first*, the little finger sometimes has no independent flexor digitorum superficialis; *second*, the index finger often has a separate flexor profundus which cannot be inactivated by the usual mass action manoeuvre. Instead, for these two fingers flexor superficialis is tested by asking the patient to pinch hard with the DIP joint in full extension and the PIP joint in full flexion; this position can be maintained only if the superficialis tendon is active and intact.

-- The long extensors are tested by asking the patient to extend the MCP joints.

-- *Flexor pollicis longus* is tested by immobilizing the thumb MCP joint and asking the patient to bend the single IP joint.
** Grip strength
Grip strength is assessed by asking the patient to squeeze the examiner’s fingers; it may be diminished because of muscle weakness, tendon damage, finger stiffness or wrist instability

** Neurological assessment
If symptoms such as numbness, tingling or weakness exist – and in all cases of trauma – a full neurological examination of the upper limbs should be carried out, testing power, reflexes and sensation. Further refinement is achieved by testing two-point discrimination, sensitivity to heat and cold, stereognosis and fine pressure.

** Functional tests
--There are several types of grip, which can be tested by giving the patient a variety of tasks to perform: picking up a pin (precision grip), holding a sheet of paper (pinch), holding a key (sideways pinch), holding a pen (chuck grip), holding a bag handle (hook grip), holding a glass (span) and gripping a hammer handle (power grip).
-- Stereognosis is evaluated using Moberg’s pickup test – asking the patient to pick up and identify, with eyes closed, a number of objects from the desk-top; the procedure is timed and the affected hand is compared with the ‘good’ hand.
-- Each finger has its special task: the thumb and index finger are used for pinch, but the index finger is also a sensory organ; slight loss of movement matters little but if sensation is abnormal the patient may not want to use the finger at all. The middle finger controls the position of objects in the palm. The ring and little fingers are used essentially for power grip.
Congenital variations

The hand and foot are much the most common sites of congenital deformities of the locomotor system; the incidence is about 1:1000 live births. Early recognition is important, and definitive treatment should be timed to fit in with the functional demands of the child. There are seven types of malformation:

■■ Failure of formation: total or partial absence of parts may be transverse (‘congenital amputations’) or axial (missing rays).

■■ Failure of differentiation: fingers may be partly or wholly joined together (syndactyly). This may be corrected by separating the fingers and repairing the defects with skin grafts.

■■ Duplication: polydactyly (extra digits) is the most common hand malformation. The extra finger should be amputated, if only for cosmetic reasons.

■■ Under-growth: the thumb can be very small or even absent.

■■ Over-growth: a giant finger is unsightly, but attempts at operative reduction are fraught with complications.

■■ Constriction bands: these have the appearance of an elastic band constricting the finger. In the worst cases this may lead to amputation.

■■ Generalized malformations: the hand may be involved in generalized disorders such as Marfan’s syndrome (‘spider hands’) or achondroplasia (‘trident hand’).
(a) Transverse failure.
(b) Radial club-hand and absent thumb.
(c) Constriction rings.
(d) Camptodactyly.
(e) Clinodactyly of both little fingers

**Camptodactyly** is a medical condition that causes one or more fingers to be permanently bent. It involves fixed flexion deformity of the proximal interphalangeal joints.

**Clinodactyly** is a medical term describing the curvature of a digit (a finger or toe) in the plane of the palm.

**Constriction rings** is a congenital disorder with unknown cause. It is a malformation due to intrauterine bands or rings that give deep grooves in, most commonly, distal extremities like fingers and toes.
Acquired deformities

** Skin contracture**

Cuts and burns of the palmar skin are liable to heal with contracture; this may cause puckering of the palm or fixed flexion of the fingers. Surgical incisions should never cross flexor creases. Established contractures may require excision of the scar and Z-plasty of the overlying skin.

** Dupuytren’s contracture**

-- This is a nodular hypertrophy and contracture of the palmar aponeurosis. The condition is familial, but there is a higher than usual incidence in people with diabetes and acquired immunodeficiency syndrome (AIDS) and in patients with epilepsy receiving phenytoin therapy. Smoking and heavy alcohol consumption are also risk factors.

-- Clinical features
The patient – usually a middle-aged man – complains of a nodular thickening in the palm. Gradually this progresses distally to involve the ring or little finger. Pain is unusual. Often both hands are involved. The palm is puckered, nodular and thick. If the subcutaneous cords extend into the fingers, they may produce flexion deformities at the MCP and PIP joints. Sometimes the dorsal knuckle pads are thickened.

Contractures at (a) the palmar crease and (b) the proximal interphalangeal joint
** Diagnosis

Dupuytren’s contracture must be distinguished from skin contracture (where a previous laceration is usually obvious) and tendon contracture (where the ‘cord’ moves on passive flexion of the finger).

** Treatment

--If the deformity is static and there is no loss of function, no treatment is needed. If the condition is marked, operative treatment may be called for. The aim is reasonable, not complete correction, but there is still a risk of recurrence or extension.

--If the disease is extensive, the affected area is approached through a Z-shaped incision that does not cross directly over a skin crease; after carefully freeing the nerves and blood vessels, the thickened part of the fascia is excised. Following operative correction the hand is splinted for a few days and then active movement is encouraged, but night splinting for a few months may reduce recurrence. An alternative to surgery is the injection of a drug, collagenase, to dissolve the cord.
Neuromuscular disorders

1) Ulnar ‘claw-hand’ (intrinsic-minus deformity)

*Ulnar nerve lesions* characteristically cause hyperextension at the MCP joints and flexion at the IP joints. This is due to paralysis of the intrinsic muscles which normally activate MCP flexion and IP extension.

2) Shortening of intrinsic muscles (intrinsic-plus deformity)

Intrinsic muscle shortening produces flexion at the MCP joints with extension of the IP joints and adduction of the thumb. The main causes are muscle scarring or shortening after trauma or infection. Moderate contracture can be treated by releasing the intrinsic muscles where they cross the MCP joints.

3) Ischaemic contracture of the forearm muscles

This follows circulatory insufficiency due to injuries at or below the elbow. There is shortening of the long flexors; the fingers are held in flexion and can be straightened only when the wrist is flexed. Sometimes the picture is complicated by associated damage to the ulnar or median nerve (or both). If disability is marked, some improvement may be obtained by releasing the shortened muscles at their origin above the elbow, or else by excising the dead muscles and restoring finger movement with tendon transfers.
Tendon lesions

1) ‘Mallet’ finger (Baseball finger)

** The patient suddenly cannot straighten the terminal joint, but passive movement is normal. This is due to injury at the attachment of the extensor tendon to the terminal phalanx.

** If the fingertip is forcibly bent during active extension, the extensor tendon may rupture or a flake of bone may be avulsed from the base of the distal phalanx. This sometimes occurs when the finger is stubbed when making a bed or catching a ball.

** A pure soft-tissue injury can be treated by splinting the distal joint continuously in extension for 8 weeks and then at night only for another 4 weeks. If there is a large flake of bone, a shorter term of splintage will usually suffice.
2) **Ruptured extensor pollicis longus**
The long thumb extensor may rupture after fraying where it crosses the wrist (e.g. after a Colles’ fracture, or in rheumatoid arthritis). Direct repair is unsatisfactory and a tendon transfer is needed.

3) **Dropped fingers**
The patient is unable to hold the fingers in extension at the MCP joints. The cause usually lies not at the MCP joint but at the wrist, where the extensor tendons have ruptured (typically rheumatoid arthritis). If only one finger is affected, direct repair may be possible; otherwise the distal portion of the tendon can be attached to an adjacent finger extensor.

4) **Boutonnière**
This is a flexion deformity of the PIP joint, due to interruption of the central slip of the extensor tendon caused by trauma or RA.

5) **Swan-neck deformity**
It is due to imbalance of extensor versus flexor action in the finger, and is oftenseen in rheumatoid arthritis.
Trigger finger

** This common condition presents as an intermittent ‘deformity’, usually of the ring or middle finger, sometimes of the thumb. The patient complains that, when the hand is clenched then opened, the finger gets stuck in flexion; with little more effort, it suddenly snaps into full extension.

** The usual cause is thickening of the fibrous tendon sheath: the flexor tendon becomes temporarily trapped at the entrance to its sheath and then, on forced extension, it passes the constriction with a snap.

** A similar entrapment may occur due to a bulky tenosynovitis (e.g. in rheumatic disorders). A tender nodule or thickened tendon can usually be felt at the distal palmar crease. The condition is more common in diabetes.

** Infantile trigger thumb (‘snapping thumb’) is usually misdiagnosed as a ‘dislocating thumb’; sometimes it goes completely undiagnosed and the child grows up with the thumb permanently bent or the distal phalanx under-developed.
### Treatment

**The condition often improves spontaneously, so there is no urgency about treatment. However, if it persists, or is particularly annoying, it can usually be cured by an injection of corticosteroid carefully placed at the entrance of the tendon sheath.**

**Refractory cases need operation: the fibrous sheath is incised, allowing the tendon to move freely. In the case of the thumb, take particular care to avoid injuring the digital nerve, which runs close to the sheath.**

**For children treatment can be deferred until the child is 3 years old, as spontaneous recovery is quite common.**
Carpal tunnel syndrome

** This is the commonest and best known of all the nerve entrapment syndromes. In the normal carpal tunnel there is barely room for all the tendons and the median nerve; consequently, any swelling is likely to result in compression and ischaemia of the nerve.

** The syndrome is common in women at the menopause, in rheumatoid arthritis, in pregnancy and in myxoedema (hypothyroidism). The usual age group is 40–50 years.

## Clinical features

The history is most helpful in making the diagnosis. Pain and paraesthesia occur in the distribution of the median nerve in the hand. Night after night the patient is woken with burning pain, tingling and numbness.

** Patients tend to seek relief by hanging the arm over the side of the bed or shaking the arm; however, merely changing the position of the wrist will usually help.
** Early on there is little to see, but there are two helpful tests: sensory symptoms can often be reproduced by percussing over the median nerve (Tinel’s sign) or by holding the wrist fully flexed for a minute (Phalen’s test).

** In late cases there is wasting of the thenar muscles, weakness of thumb abduction and sensory dulling in the median nerve territory.

** Electrodiagnostic tests, which show slowing of nerve conduction across the wrist, are reserved for those with atypical symptoms.

** Radicular symptoms of cervical spondylosis may confuse the diagnosis and may coincide with carpal tunnel syndrome.
## Treatment

** Light splints that prevent wrist flexion can help those with night pain or with pregnancy-related symptoms. Steroid injection into the carpal canal, likewise, provides temporary relief.

** Open surgical division of the transverse carpal ligament usually provides a quick and simple cure; this can usually be done under local anaesthesia. The incision should be kept to the ulnar side of the thenar crease so as to avoid accidental injury to the palmar cutaneous (sensory) and thenar motor branches of the median nerve. Endoscopic carpal tunnel release offers an alternative with slightly quicker postoperative rehabilitation.
Acute infections of the hand

• Pathology
Acute inflammation and suppuration in small closed compartments may cause an increase in pressure to levels at which the local blood supply is threatened. In neglected cases tissue necrosis is an imminent risk. Even if this does not occur, the patient may end up with a stiff and useless hand unless the infection is rapidly brought under control.

• Clinical features
Usually there is a history of trauma, but it may have been so trivial as to pass unnoticed. A thorn prick can be as dangerous as a cut. Within a day or two, the finger (or hand) becomes painful and tensely swollen. The patient may feel ill and feverish and the pain becomes throbbing. There is obvious redness and tension in the tissues, and exquisite tenderness over the site of infection. Finger movements may be markedly restricted.

• Principles of treatment
1) Antibiotics
2) Rest and elevation
3) Drainage
4) Splintage “always with the joints in the position of safe immobilization”
   -- wrist slightly extended, the MCP joints in 70-degrees flexion,
   the IP joints extended and the thumb in abduction.
5) Physiotherapy
16.9 Incisions for infection The incisions for surgical drainage are illustrated here: (a) pulp space (directly over the abscess); (b) nailfold (it may also be necessary to excise the edge of the nail); (c) tendon sheath (two incisions, one distal and one proximal); (d) web space; (e) thenar space; (f) midpalmar space.
Tendonitis and Tenosynovitis

** The two most common problems associated with hand and wrist tendons include tendonitis and tenosynovitis.

-- **Tendonitis**: is inflammation of the tendon, a thick, tough cord of tissue that connects muscles to bones.

-- **Tenosynovitis**: is inflammation of the lining of the tendon sheaths that enclose the tendons. The tendon sheath usually is the part that becomes inflamed, but both the sheath and the tendon can become inflamed simultaneously.

**Tendonitis**

### We will talk mainly about wrist tendonitis

When a sudden injury causes a sprain, or repetitive motions cause the tendon to rub against the bone, inflammation can result.

Wrist tendonitis is not necessarily confined to a single tendon or part of the wrist. There are several tendons that surround the wrist joint that can become injured or inflamed.

**symptoms**

- Patient experience pain (not particularly severe) and stiffness in the wrist, especially after wake up in morning.
- Mild swelling may be visible
- Decrease the range of motion in patient hand
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Causes as mentioned such as sudden injury or repetitive motions and many other causes can cause tendonitis like:

- poorly positioned joints or bones
- weak wrist posture
- arthritis
- diabetes
- age and/or flexibility

## Treatment
- splints and compression to give the overworked tendon time to rest and heal
- acetaminophen and NSAIDs
- corticosteroid injections to control inflammation
- occupational therapy to fix functional behaviors that lead to tendonitis
Tenosynovitis (Tendon-sheath infection)

** Suppurative tenosynovitis is uncommon but dangerous. The affected digit is painful and swollen; it is held bent, is very tender and the patient will not move it or permit it to be moved. Unless treatment is swift and effective, there is a risk of tendon necrosis and the patient may end up with a useless finger.

** Treatment

-- treatment must be started as soon as the diagnosis is suspected. The hand is splinted and elevated and antibiotics are administered intravenously –initially a broad-spectrum penicillin or a systemic cephalosporin, to be modified if necessary once the organism has been cultured and tested for antibiotic sensitivity.

-- If there is no improvement after 24 hours, surgical drainage is essential. Two incisions are needed, one at the proximal end of the sheath and one at the distal end; using a fine catheter, the sheath is then irrigated with saline or Ringer’s lactate solution. At the end of the operation (After 2 days), the hand is swathed in absorbent dressings and splinted in the position of safe immobilization.
Specific types of infection

- **Paronychia**
  Infection under the nailfold is common. The area is swollen, red and tender. At the first sign of infection, antibiotic treatment alone may be effective. If pus is present, it can often be released simply by lifting the nailfold from the nail; otherwise the nailfold must be incised.

- **Pulp-space infection (felon)**
  Pulp-space infection (usually due to a prick or splinter) causes throbbing pain. The fingertip is swollen, red and acutely tender. Antibiotic treatment is started immediately. However, if pus has formed, it must be released through a small incision over the site of maximal tenderness.

- **Deep fascial space infection**
  Infection from a web space or from an infected tendon sheath may spread to either of the deep fascial spaces of the palm. The palm is ballooned, so its normal concavity is lost. There is extensive tenderness and the whole hand is held still. For drainage, an incision is made directly over the abscess.

- **Joint infection**
  Any of the joints may be infected, either directly by a penetrating injury on injection, or indirectly from adjacent structures. At the onset, the clinical features may be hard to distinguish from those of acute gout. **Joint aspiration will provide the answer.** Intravenous antibiotics are administered and the hand is splinted. If symptoms and signs do not improve within 24 hours, open drainage is needed.
Special common fractures

- **Scaphoid fractures**

  - The scaphoid bone is the most commonly fractured wrist bone. X-rays are indicated if there is post-traumatic wrist pain with 'anatomical snuff box' tenderness.
  - Fractures are often quite obvious, but sometimes multiple views – and examination on multiple occasions – are needed to detect an undisplaced crack.
  - Scaphoid fractures account for almost 75% of all carpal fractures.
  - The usual mechanism is a fall on the hand with wrist extended.
  - The blood supply of the scaphoid diminishes proximally. This accounts for the fact that 1% of distal-third fractures, 20% of middle-third fractures and 40% of proximal fractures result in non-union or avascular necrosis of the proximal fragment.
  - There may be slight fullness in the anatomical snuffbox; precisely localized tenderness in the same place is an important diagnostic sign.
  - The fracture may not be seen in the first few days after the injury. Two weeks later, the break is usually much clearer, due to bone resorption at the fracture site and slight displacement of fragments.
  - If the x-ray looks normal but the clinical features are suggestive of a fracture, the patient must not be discharged. The diagnosis has to be confirmed one way or another. The usual advice is to return for a second x-ray 2 weeks later. Meanwhile, the wrist is immobilized in a cast extending from the upper forearm to just short of the metacarpophalangeal joints of the fingers, but incorporating the proximal phalanx of the thumb; the wrist is held dorsiflexed and the thumb forwards in the ‘glassholding’ position (the so-called scaphoid plaster).
Colles’ Fracture
- Distal radius extra-articular fracture with dorsal displacement of the distal fragment.
- The fracture is most commonly caused by people falling onto a hard surface and breaking their fall with outstretched hand, falling with wrists flexed would lead to a Smith's fracture.
- Risk factors include osteoporosis. Originally it was described in elderly and/or post-menopausal women.
- Displaced fractures produce a distinctive dorsal tilt just above the wrist – the so-called ‘dinner-fork deformity’.

## Complications
- complex regional pain syndrome which is very common and occurs as a result of the trauma. High doses of vitamin C as well as exercise can help in the prevention of this syndrome.
- Circulatory impairment
- Nerve injury → median nerve
- Rupture of the extensor pollicis longus tendon can occur several weeks after the fracture.

## Treatment
- Undisplaced fractures → dorsal splint is applied for 1–2 days until the swelling has resolved, then the cast is completed (for 4 wks)
- Displaced fractures → reduction under anaesthesia → dorsal plaster slab is applied
• **Smith’s Fracture**
  - Reversed colles’, in this injury the distal fragment is displaced anteriorly (palmer ascpet).
  - Treatment is reduction and fixation. The forearm can be immobilized in a cast for 6 weeks.

• **Galeazzi Fracture**
  - Fracture at the distal part of the radius causing its shortening with dislocation of the distal radioulnar joint.
  - You manage the fracture by first reducing the radius and then reducing the radioulnar joint.
  - Can cause injury to the ulnar nerve.
  - Prominence or tenderness over the lower end of the ulna is the striking feature

• **Fracture of the Radial Styloid Process**
  - Also called “Chauffeur’s fracture”
  - The injury is typically caused by compression of the scaphoid bone of the hand against the styloid process. The fracture line is transverse.
  - Treatment is often open reduction and internal fixation
Pulp and fingertip injuries

- **In full-thickness wounds without bone exposure**, the best results come with simple non-adherent dressings. These are changed every few days until the wound has re-epithelialized. This might take a few weeks but the alternatives of skin grafts or skin flaps invite cold intolerance and poor sensory recovery.

- **If bone is exposed and length of the digit is important for the individual patient**, then an advancement flap or neurovascular island flap should be considered.

- **If not(length of the digit)**, primary cover can be achieved by shortening the bone and tailoring the skin flaps (‘terminalization’).

- **In young children**, the fingertips recover extraordinarily well from injury and they should always be treated with dressings rather than grafts or terminalization.

- **Thumb** length should never be sacrificed lightly. Sophisticated techniques such as a free microsurgical toe transfer or metacarpal lengthening may be suitable when the injury leaves the thumb too short for proper function.
Rheumatoid arthritis

** The hand, more than any other part of the body, is where rheumatoid arthritis displays its story. Early on, there is synovitis of the proximal joints and tendon sheaths; later, joint and tendon erosions prepare the ground for mechanical derangement; in the final stage, joint instability and tendon rupture cause progressive deformity and loss of function.

** Clinical features

-- Pain and stiffness of the fingers are early symptoms; often the wrist also is affected. Examination may show swelling of the MCP and PIP joints; both hands are affected, more or less symmetrically. Joint mobility and grip strength are diminished.

-- As the disease progresses, deformities begin to appear (and are increasingly difficult to correct). **In the late stage** one sees the characteristic ulnar deviation of the fingers and subluxation of the MCP joints, often associated with swan-neck or boutonnière deformities. When these abnormalities become fixed, functional loss may be so severe.

** X-rays

During the initial stages, x-rays show only soft tissue swelling and osteoporosis around the joints. Later there is narrowing of the joint spaces and small periarticular erosions appear. In the last stage, articular destruction may be marked, with joint deformity and dislocation.

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Osteoarthritis

** Osteoarthritis of the DIP joints is very common in postmenopausal women and is usually a manifestation of polyarticular osteoarthritis. It often starts with pain in one or two fingers; the distal joints become swollen and tender, the condition usually spreading to all the fingers of both hands.

** On examination, there is bony thickening around the DIP joints (Heberden’s nodes) and some restriction of movement. Not infrequently, some of the PIP joints are involved (Bouchard’s nodes) and the CMC joint of the thumb may show similar changes.

** Treatment is symptomatic

## The distinction from rheumatoid arthritis is very important. In both conditions, the finger joints are swollen and stiff. However, whereas rheumatoid arthritis affects the proximal joints (particularly the MCP joints), osteoarthritis affects mainly the terminal IP joints.
Thank you