

of the effusion may be distressing, but from the sixth, seventh, or eighth day, when this height is reached, the pain rapidly subsides. The pain is ordinarily felt in the joint that is inflamed, but it may be "reflected" to some other joint supplied by the same nerve trunks. This curious phenomenon is most frequently noticed in hip-joint inflammation, in which disease the pain may be referred to the knee of the affected side. The intimate relations and anastomoses of the sciatic, obturator, and anterior crural nerves seem to furnish the best explanation of this. When the synovitis becomes purulent, or is so from the first, pain is a more prominent symptom and much more severe than it is in simple synovitis. The pain is severe in serofibrinous synovitis; these are the cases of joint disease in which pain, and not swelling, is the prominent symptom, in which no pus can be found, and in which ankylosis is most rapid and unexpected. If it goes on to destruction of the joint structures and to osteitis, the pain becomes extreme, and the patient is waked from sleep at night by the muscular jerks (starting pains), which press the inflamed and ulcerated joint surfaces together. Even in simple synovitis the pain is worse at night.

Tenderness.—Along with the pain goes tenderness in most cases, as one would expect from the inflamed condition of the synovial sac and the irritable state of the articular nerves. In purulent synovitis the tenderness is generally greater than in the serous variety. The ordinary tenderness is the pain felt on deep pressure and manipulation of the inflamed joint. There is a spot in each joint where tenderness is apt to be especially marked. In the knee it is over the inner condyle, about a finger's breadth inside of the inner border of the patella; in the ankle-joint, in front of the outer malleolus; in the hip, in front of the great trochanter. The pain meantime is by no means localized, but there is a bruised, helpless feeling extending to the whole joint. Certain cases, however, are characterized by severe local pain and tenderness in some one spot.

Swelling.—In simple serous synovitis intra-articular swelling begins on the first, second, third, or fourth day. It is of two kinds—effusion into the joint and effusion around the joint. In simple synovitis the infiltration into the periarticular tissues is slight, but if pus appears the skin becomes red and boggy. The same is true of the synovitis associated with acute rheumatism, where the peri-articular infiltration makes a shapeless and puffy joint; whereas intra-articular distention betrays itself by a characteristic shape in each superficial joint, dependent upon the elasticity of each synovial sac. This intra-articular distention varies from a small effusion up to a condition in which the skin is shiny, tense, and pale, and the venous return from the lower segment of the limb may be impeded. The capacity of the sac of the knee-joint, when extremely distended, is some six or seven ounces; in average cases of simple synovitis it holds about four ounces. The average capacity of the shoulder-joint sac is three ounces. But in the deeper joints swelling may not be so readily discoverable. The common state of affairs in both hip- and shoulder-joints acutely inflamed is a general enlargement of the joint, without the clearly articular shape which is to be seen, for instance, in the knee and elbow.

Redness and Heat.—Redness is not regularly present in simple synovitis. The pyæmic and the gouty or rheumatic forms of synovitis are apt to be attended by a blush, which is generally quite marked in the two latter affections. In the case of the deeper joints redness as well as heat is ordinarily absent. In superficial joints more or less local heat about the inflamed joint is present. If the synovitis is purulent, the local rise of heat is as great as in any acute purulent inflammation.

Position.—When in a state of acute inflammation a fairly constant abnormal position is assumed by each joint; the semiflexion of the knee in knee-joint synovitis will serve well enough as a type. The hip is flexed and adducted or abducted, the ankle is slightly extended, the arm is carried at the side, the elbow is flexed at about a right

angle, and the wrist drops slightly and is somewhat flexed. Fixation of the muscles holding the joint is present at the same time, and the abnormal position is firmly maintained by them when manipulation of the joint is attempted. At first this muscular guard seems to be purely voluntary, and is only excited by the pain which movement causes, but in time it becomes involuntary, until in chronic joint disease it may be present in cases in which movement causes no pain at all. This is apparently due to the fact that in that position the joint is more comfortable than in any other.^{3,4,5,6,7}

Muscular Atrophy.—Atrophy of the muscles controlling an inflamed joint begins early and may be very marked, even in a simple acute synovitis. The character of the joint disease seems to matter but little in the production of this phenomenon. Traumatic or simple, acute or chronic, serous or purulent synovitis, all show muscular atrophy, and the more acute the disease, the faster the wasting goes on. That this is something more than the mere atrophy of disuse is shown by the facts that it begins so sharply and so early, that it is greater in the diseased limb than in the well one, even when the patient has been in bed from the first, and that the muscles, although atrophied, are not soft and flabby, but tense. Valtat⁸ injected the joints of guinea-pigs and dogs with irritant solutions, mustard-oil and ammonia, and found that muscular atrophy came on quickly. In one case, in eight days there had been a loss of thirty-two per cent. by weight in the anterior thigh muscles, and twenty-four per cent. in the anterior calf muscles; in another case it reached forty-four per cent., and in all cases the extensors wasted more rapidly than the flexors. He attributes much influence in the matter to the amount of pain present.

Paralysis.—Valtat also calls attention, in this connection, to the paralysis of the muscles of the affected limb often accompanying acute joint disease, the loss of power already mentioned, and also a diminution of faradic excitability after severe muscular wasting. Such a paralysis, to a greater or less degree, seems to precede the wasting of the muscles.

General Condition.—The general condition of a patient with simple acute synovitis suffers but little. The rise of temperature, if any, is slight, unless a rheumatic condition exists, and only with the advent of pus does the temperature rise to any extent. A sudden chill, an increase of pain, a tendency to fever, all make one suspect the formation of pus, and when that has once come the general condition may become really serious. Gonorrhœal, rheumatic, and pyæmic synovitis are accompanied by fever and the other symptoms of the affections which they represent.

VARIETIES.—Considered in relation to cause, acute synovitis may be divided into two classes, traumatic and non-traumatic.

Traumatic synovitis results from a sprain, a blow, or a wrench to a joint, or from an intra-articular fracture, and is characterized as a simple serous synovitis. Often a simple synovitis may arise without an obvious trauma, and such cases may be classed as traumatic, assuming that they arise from overuse or some similar cause; but such cases are more usually, without sufficient evidence, classed as rheumatic. It would seem better to restrict the use of the latter term to those cases which occur in connection with other rheumatic manifestations.

Traumatic purulent synovitis is likely to result from penetrating wounds of the joints, where micro-organisms are introduced by the penetrating instrument. In a day or so after the infliction of the wound swelling, pain, and malposition come on, and the joint is found to be distended with a seropurulent or purulent effusion.

Among traumatic causes must be mentioned a very important class of cases in which some mechanical imperfection of the joint is the cause of the attack. This is especially to be observed in the knee. A semilunar cartilage may be torn loose and cause one or a series of attacks. An hypertrophied synovial fringe may be present and by being caught in the joint may cause

an effusion. Or a foreign body may act as an irritant cause.

The most frequent of the non-traumatic forms of acute synovitis is the rheumatic, classed by Schuchardt as a hæmatogenous infection. *Rheumatic synovitis* is in the lighter cases serous or serofibrinous, while in the severer ones it is fibrinous. Purulent synovitis is very rarely observed. It is generally polyarticular and the swelling involves the parts about the joint as well as the synovial membrane. Even the apparently monarticular form is apt to be preceded by pain in other joints. It shows a strong tendency to become subacute or chronic, and in the severer grades is likely to result in a distinct loss of mobility.

Gonorrhœal synovitis, known as "gonorrhœal rheumatism," follows no definite type, being monarticular or periarticular.⁹ It occurs in the later stages of the gonorrhœa and affects most often the knee, then the ankle, foot, wrist, etc., in the order named. The effusion if serous is thick. It may be seropurulent or purulent, and is at times colored with blood. In the severer cases the changes do not differ essentially from those which occur in pyæmia, the striking feature being the large amount of granulation tissue formed.

Impairment of motion and ankylosis are greatly to be feared. The affection is due apparently to the gonococcus. This may be found present in the joint effusion, it may be absent, a mixed infection with pyogenic organisms may exist, or pyogenic organisms may be present alone. The most notable feature of the affection is its obstinate and intractable character.

Synovitis in Acute Infectious Diseases.—Synovitis from hæmatogenous infection may occur in various other acute infectious diseases. The type of such inflammations is to be found in pyæmia.

The diseases in which synovitis thus develops are the following: Scarlet fever, measles, variola, varicella, typhoid fever, pneumonia, diphtheria, dysentery, cerebrospinal meningitis, pertussis, glanders, pyæmia and septicæmia. It is also occasionally encountered in other infectious diseases. The varieties may be the serous, the serofibrinous, or the purulent.

The cause is to be attributed to the organisms which give rise to the original disease, and one finds most often a mixed infection with pyogenic cocci; but the bacteriological findings are uncertain, the fluid may be sterile, it may contain the specific organisms of the original disease, or it may contain pyogenic organisms.¹⁰

The nature of such cases is most often serious, and joint destruction may be rapid and extensive in the purulent forms. General intoxication is likely to be present, and metastatic foci in other organs may coexist. Especial attention has been paid to the pneumococcus joint infection which occurs at times in pneumonia.¹¹

Synovitis from Immediate Infection.—The form of synovitis resulting from penetrating wounds has been classed here as traumatic and mentioned above. Areas of infection in the neighborhood of the joint may, however, cause a joint inflammation, most often of purulent character. The most common form of this is to be found in acute infectious osteomyelitis existing in the ends of the long bones and reaching the joint. Such an infection results in an acute destructive purulent synovitis, an example of which is to be found in many if not most cases of the so-called "acute arthritis of infants." In these cases a very severe purulent joint affection appears in young babies,—an affection which is characterized by rapid and destructive progress and severe general infection.

Among other causes of infection by contiguity may be mentioned all the cases of synovitis which occur when phlegmon and abscesses develop near a joint or when erysipelas passes over it. Acute periostitis and acute and chronic osteitis occurring near a joint are other causes of joint infection.

Syphilitic Synovitis.—Simple serous synovitis may accompany the secondary stage of syphilis. The more characteristic syphilitic lesions are chronic. Acute synovitis is rare in hereditary syphilis.¹²

*Synovitis in Hæmophilia*¹³ is rather a chronic than an acute affair; but acute swelling, pain, and disability occur in connection with trauma, and as an accompaniment of the chronic process existing in the joint. There may be extensive intra- or extra-articular hemorrhage in connection with this.

Intermittent synovitis, which is an affection characterized by a succession of acute attacks of synovitis (of the knee) is an affection the pathology and etiology of which are very imperfectly understood, and for which no satisfactory treatment has been formulated. Periodicity is a marked feature of the attacks.¹⁴

Gouty Synovitis.—Gouty synovitis is the local manifestation of the general disease. It is a serous synovitis, ordinarily of the great toe joint, with considerable peri-articular infiltration and redness of the skin. It tends to involve other joints in succession. There is a chronic structural change in the joint, which is merely interrupted by these attacks of acute synovitis.

Similar acute attacks occur in other forms of chronic synovitis.

Catamenial Synovitis.—A synovitis is described as occurring in girls and women in connection with menstrual irregularity or uterine trouble. It is usually bilateral and painless.¹⁵

DIAGNOSIS.—The swelling produced by the distended capsule is the most characteristic sign; it is irregular in outline, bulging, and fluctuating, where the joint is superficial. In the ankle-joint the swelling is not very clearly marked, but it ordinarily is chiefly anterior and the capsule bulges out in front of the malleoli. In the knee the patella is lifted by the effusion and floats. In examining for this the knee should be fully extended and the muscles relaxed, the fingers of both hands should encircle the limb firmly in front, above, and below the patella, thus confining the effusion to the space directly under the patella and over the intercondyloid depression on the femur. The forefinger of one hand then lightly but sharply presses on the patella, which can be felt to descend and hit the femur. This matter of fully extending the leg and confining the effusion under the patella is of much importance, as otherwise a small effusion may escape detection. Acute synovitis of the hip is a rather obscure affection, and in children the diagnosis from beginning hip disease is not always possible. In cases with much effusion in adults, however, swelling may be found in the groin above Poupard's ligament and behind the great trochanter. In the hip there is generally limitation of motion and the leg may be flexed and abducted. In the case of the shoulder the whole joint is larger than usual, without any definite outline; and if the distention is great, the axilla may be more shallow than is normal, and the depression beneath the acromion behind is lost. In the elbow there is bulging of the sac behind on each side of the triceps tendon. The wrist, when inflamed, shows an encircling swelling. The positions assumed by the various joints, when inflamed, have been given above, but simple position is of little service in differentiating synovitis from other joint and bone affections, and the same is true of muscular atrophy.

It is important to remember not only that synovitis is made evident by effusion, but also by swelling of the synovial membrane, and in the more superficial joints the latter is easily detected. In the knee-joint, for instance, by palpating the parts at the sides of the patella where the synovial membrane lies over the bone, much information may be obtained by contrasting the affected with the sound joint. The inflamed membrane feels thick and masks the clear outline of the bone.

Synovitis is to be distinguished from osteitis, bursitis, articular neuralgia, and hysterical joint disease. A diagnosis of acute synovitis in children should be made with very great care, for they are not prone to have acute synovitis, and are prone to have chronic osteitis. Typical bone disease begins with stiffness of the joint and pain—the latter especially at night, interrupting sleep; wasting of the muscles of the limb, and effusion are not

necessarily present. There is generally some constitutional disturbance and the course is slow.

In children, however, the bone disease may have escaped attention and a supposed fall may be the first thing to call attention to the fact that a child limps. A very considerable number of cases of hip disease, for example, come to out-patient clinics with a history of the trouble having dated from a fall a few days previously, when it is obvious that the disease must have existed for weeks at least.

From bursitis, synovitis is distinguished by the different location of the swelling, the less degree of joint stiffness and pain, except when manipulation bears directly on the inflamed bursa, and the absence of muscular atrophy. In the case of deep bursæ the differential diagnosis may not be easy at first. Bursitis, however, rarely begins without cause; it is associated oftener with mechanical irritation, as the names "housemaid's knee," "miner's elbow," etc., show. At the same time it should be remembered that bursæ often communicate with joints, and that synovitis and bursitis may exist together during an acute synovial inflammation. The bursæ, when inflamed, form in their way as characteristic a swelling in each joint as does the joint capsule itself when distended by intra-articular effusion.

Articular neuralgia is said to exist apart from joint disease.¹⁶ Local symptoms are absent and the condition is too vague and too little known to deserve more than mention.

Hysteria simulates chronic oftener than acute joint disease, yet sometimes, following a fall or an overexertion, sensations closely simulating the symptoms of an acute synovitis may be complained of. Ordinarily the diagnosis is easily enough made by the absence of heat, swelling, and localized tenderness, and by the general make-up of the patient, but some cases offer much difficulty, as muscular wasting and rigidity may be present.

Pyæmic, gouty, and rheumatic synovitis are to be distinguished from each other by the presence of the constitutional affections of which they are merely the symptoms, while gonorrhœal synovitis often offers some little trouble from the fact that the patient is anxious to conceal his urethral discharge. Rheumatoid arthritis belongs rather to the class of chronic joint diseases, and would hardly be confounded with acute synovitis.

As to the diagnosis of dry synovitis, few rules can be formulated. Its acuteness, severe pain, and the absence of marked swelling are its leading characteristics. To diagnose it from osteitis would be sometimes impossible, but ordinarily its more acute course will establish its identity. At best it must remain an obscure affection.

PROGNOSIS.—The prognosis in simple serous synovitis of traumatic origin in adults is good, if the general condition of the individual affected be even fair. Suppuration is not common, except from wounds; and when it occurs, there is generally some evident cause for it, such as infection by tapping, a broken-down constitution, etc. Under effective treatment a complete restoration of the joint is the rule. From the sixth to the eighth day the effusion will ordinarily begin to subside, and its absorption is much aided by pressure and rest. The third possibility, in a simple synovitis, is that it may become chronic. In some cases the swelling does not subside much, but the pain goes away, and, although the joint remains swollen, the patient may go to business and use the leg to a moderate extent; but he has dropsy of the joint, chronic serous synovitis, or an irritability may remain after the absorption of the fluid, and succeeding light attacks may follow one another, each leaving the joint worse than it was before. Cases like this are apt to eventuate in chronic joint disease.

In acute synovitis which is caused by displaced cartilages, by hypertrophied fringes, or by foreign bodies, the disease is likely to recur. Rheumatic synovitis, on the other hand, has a tendency to become subacute or chronic and to leave stiff joints. The occurrence of suppuration in either rheumatic or simple synovitis is a serious mat-

ter, and, although prompt treatment will, in most cases, be efficient, a much more doubtful prognosis will have to be given, especially if the suppuration should have come on without apparent cause. The prognosis must depend on the treatment, and the prompt making of a free incision improves the outlook greatly. However, in purulent synovitis of any severity some impairment of motion is to be feared. The occurrence of a joint affection in pyæmia does not make very much difference in the outlook, for the prognosis depends wholly upon the general character of the disease, whether mild or malignant. If it is mild, in from five to ten days the joint symptoms improve, and a complete restoration of the joint is not impossible.¹⁷ On the other hand, the destruction may go on to any extent, preceding a fatal termination. In general, however, it is not common to find complete restoration of joint function after purulent synovitis, although it may take place. The synovitis which occurs after the exanthemata is said to tend toward recovery after a few days. At the same time, bearing in mind how often chronic joint disease follows these exanthemata,¹⁸ the physician should be careful not to give an unreservedly favorable prognosis. The synovitis which develops in typhoid fever is generally purulent and more grave. Gouty synovitis, when left alone, lasts for a week or ten days; efficient treatment will generally shorten its course to three or four days. Gonorrhœal synovitis is at best a slow affair; it is characterized by a slow course, with a tendency to relapse and to become chronic. Recovery does not ordinarily take place in a less time than a month or six weeks, and ankylosis is common.

The occurrence of synovitis as a complication in chronic osteitis is merely an incident in the course of a long disease.

TREATMENT.—The most important points in the treatment are: to put the joint at rest and to keep it at rest; and, secondly, in the severe cases, to put the joint at rest in good position, so that if ankylosis should take place, as useful a limb as possible may be obtained. The knee, for example, should be put up very slightly flexed, the elbow at a right angle, with the thumb upward, the hip very slightly flexed on the trunk and neither adducted nor abducted, the ankle at a right angle, the wrist in the line of the arm, and the shoulder with the arm at the side. The splint that offers the most definite and absolute support to the two segments of the limb is to be chosen. Ordinary wooden and tin splints, accurately padded and firmly applied, are generally the most serviceable, except in the ankle, where in severe cases carved wooden side-splints often will not answer, and wet millboard or plaster of Paris must be applied; and in the hip, where bed-extension and a long outside splint, as in fractured thigh, will be most serviceable. Millboard splints are applied according to the directions of Gamgee.¹⁹ The joint is wound by rollers of sheet-wadding until one or two layers cover it everywhere; then wet millboard is shaped to the joint and bandaged on by cotton rollers, applied with firm, even compression, which may be considerable if the method is properly applied. Plaster-of-Paris splints are made by the application of crinoline-gauze bandages impregnated with finely divided plaster. The limb is first wound in sheet-wadding or gauze, and then the plaster rollers are applied. The method does not give in all cases certain, definite support.

The problem of getting a limb into good position for the application of a splint is not always an easy one. The knee, for example, is apt to be more flexed than is desirable, especially in a case of some days' duration; and, if easy manipulation fails to bring it into correct position, recourse must be had to manipulation under ether, or to extension by weight and pulley, before a ham-splint can be applied. The former of the two methods should be chosen in most cases of acute synovitis. Once obtained, this good position is easily kept. It is not generally practicable to apply extension to the wrist or the ankle. The plan of putting up the limb in whatever position it happens to be, and waiting for it to straighten under rest, is not always effectual. With the larger

joints rest in bed should be enforced for a day or two in cases of severe sprain.

After the limb has once been placed in a good position, and after precautions have been taken for maintaining it in this position, it will not be necessary, in a case of simple synovitis of moderate severity, to do very much more. The distended sac may advantageously be subjected to a moderate degree of compression. This may be effected in a variety of ways. A flannel bandage affords light compression; small dried sponges, laid over the joint and held in place by stout linen rollers, and then wet, afford either the lightest or the most severe compression. The application of a rubber bandage is one of the most common forms of producing compression. It can be loosely applied so as to produce but light pressure, or, by stretching it only slightly during its application, very severe compression may be obtained. The method of Gamgee, above alluded to,¹⁹ is applicable to almost any joint, and affords even, comfortable, and efficient compression. If, however, the intra-articular distention is extreme, or if at the end of a week it does not begin to diminish, the joint should be aspirated and compression at once applied.

The application of cold to the joint often gives relief to the pain and a sense of comfort. This can be done by a poultice of ice and sawdust, by the ice-bag, or by the rubber coil wound around the limb. In other cases hot applications are more agreeable and equally useful. Hot-water bags can be used, or poultices, or fomentations of laudanum and hot water. In synovitis of a severe character in a full-blooded individual the application of leeches to the joint might be of value. Painting with iodine, blistering, firing, and the other forms of counter-irritation seem a needless and bothersome infliction in simple acute synovitis; if, however, it shows a tendency to become chronic, then the time for counter-irritation has come, and blisters encircling the joint, in connection with aspiration and subsequent compression, should be made use of. When the effusion has subsided and only a moderate thickening of the tissues is left, the splint should be removed for a little while at a time and passive motion begun, along with massage. The tendency which inflamed joints have to become ankylosed should always be borne in mind. If the splint is kept on too long, muscular atrophy is increased and the subsequent weakness of the limb may continue a long time and be a source of discomfort and of irritation of the joint. If the patient be permitted to use the joint too soon, there may be a recurrence of the effusion and other acute symptoms. In the knee, for instance, free use should not be allowed until the effusion has wholly disappeared and the thickening of the synovial membrane about the joint has greatly diminished.

Massage is indicated as soon as the heat and extreme tenderness of the early stage have disappeared. As to methods of manipulation and massage, a skilled masseur is, of course, the best person to handle the limb, but deep kneading of the muscles and gentle flexion and extension of the joint, increasing in extent each day, are better than nothing. The muscular atrophy will cause the limb to be weak; and, if the atrophy has reached an advanced degree, although the muscular tone would probably in the course of time be restored without such help, the restoration can be hastened by the use of a weak continuous current, or, if preferred, the faradic current may be employed. The use of hot-air baths is of great value in the later stages of acute synovitis.

It is not worth while to attempt to use the limb very much until its function is fairly well restored by passive motion. The use of oil, etc., is, of course, much inferior to massage with the dry hand, but if the pain persists, on using the limb, stimulating liniments and iodine are useful.

If ankylosis should have already taken place, there are two methods to pursue: (1) To break it up at once under ether, a method which will ordinarily cause a relapse of the synovitis; or (2) to wait some months before attacking it. The latter method will generally be advisable.

Slight grades of acute serous synovitis of traumatic origin are best treated by massage from the first. The massage should be given by some one of skill and experience and not oftener than twice daily. The patient may be permitted to use the joint provided it be properly protected. In the ankle, for instance, a pad of felt under the arch of the foot, held in place by a firm bandage or strips of sticking plaster running under the foot and winding around the ankle (Cottrell's dressing), will enable the foot to be used without pain, whereas its unprotected use would be harmful and accompanied by much pain.

The application of dry heat in a hot-air oven is also of much value in these cases. The joint loosely wrapped in flannel is exposed to a temperature of 300°-400° F. for half an hour or more once daily. This treatment may often be profitably combined with massage, one treatment of each being given daily.

The constitutional treatment of acute serous synovitis amounts to nothing more than the routine of keeping the bowels open and administering diaphoretics if the temperature is elevated. If, however, there is any reason to suspect a rheumatic cause for the attack, salicylate of sodium should be given in full doses.

Traumatic purulent synovitis, where a penetrating wound of the joint exists, requires the enlargement of the penetrating wound and the free flushing out of the joint with hot sterile water or with weak antiseptic solutions. The wound may then be closed if the case is recent. If the case is not recent and if the infection of the joint is well established, free incisions should be followed by prolonged flushing out of the joint with a weak corrosive solution used hot, and the wounds should be drained.

Rheumatic synovitis should be treated by rest, compression, and ice-bags, along with the appropriate use of salicylic-acid compounds for the general condition.

Gonorrhœal synovitis should be treated in the acute stage by rest and compression. As soon as this passes, the use of hot air and massage will be found of value. Should the case prove intractable, much improvement may often be secured by opening the joint, flushing it out freely with hot water, and closing it again.

Synovitis in acute infectious disease, so long as it remains serous, is treated like any severe case of serous synovitis. So soon as it becomes purulent the joint should be opened freely and washed out and the wound closed or not, according to circumstances.

In **synovitis from infection from contiguous parts**, the opening of the joint is indicated, and at the same time the cause of the infection should be removed, if possible.

Syphilitic synovitis is treated on the general lines indicated, and antisyphilitic treatment should, of course, be given.

Synovitis in hæmophilia is treated by rest, cold, and compression.

Gouty synovitis is treated by rest and constitutional measures.

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