

RED, SORE, SWOLLEN JOINTS

Year One

A discussion of symptoms involving the joints.

SYMPTOM LIST

**A list of the diagnoses associated with redness, pain and swelling in joints and their possible causes.
Other symptoms associated with the listed diagnoses are shown in brackets.**

SWOLLEN JOINT

Rheumatoid arthritis (red, painful)
Septic arthritis (hot, tender, inflamed)
 Trauma (pain, history)
Gout (red, painful, acutely tender)
Bursitis (fluid filled cyst eg. housemaid's knee)
 Baker's cyst (posterior to knee)
 Avascular necrosis
 Tumours
Sarcoidosis (dyspnoea, malaise, fever)
Charcot joint (painless joint swelling)
 Mechanical derangement
 Tendinitis (pain on movement)
 Synovitis

PAINFUL JOINT

Arthritis and Arthralgia (What is the difference between these terms?)

Infections

Septic arthritis (fever, swelling, erythema)
Osteomyelitis (fever, tenderness, swelling)
 Tuberculosis (tenderness, swelling)
 Syphilis (swelling, other system disease)
Cytomegalovirus (adenitis, fever, hepatomegaly)
Brucellosis (fever, fatigue, headache)
 Mumps (large parotids, fever)
 Viraemias (fever, malaise)
 Rubella (rash, adenitis)
Hepatitis B (fever, anorexia, rash)
Postdysenteric (migratory, chronic)
 Meliodosis (cough, chest pain)
Gonorrhoea (penile or vaginal discharge, skin lesions)
Subacute bacterial endocarditis (anorexia, fever, malaise)
Epidemic polyarthralgia (rash, muscle ache)
Lyme disease (fever, myalgia, rash)

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Bone and Joint Disease

Trauma

- Osteoarthritis (stiffness, no systemic disease)
- Rheumatoid arthritis (nodules, malaise)
- Chondrocalcinosis (swelling)
- Osgood-Schlatter's disease (tender tibial tuberosity)
- Henoch-Schoenlein purpura (rash, child)
- Ankylosing spondylitis (back pain, uveitis)
- Acromegaly (joint enlargement, visual loss, headaches)
- Osteogenesis imperfecta (blue sclera)
- Synovial chondromatosis
- Pigmented villonodular synovitis
- Haemarthrosis (trauma)
- Tumours

Syndromes

- AIDS (fever, adenitis, rash)
- Behçet syn. (uveitis, mouth and genital ulcers)
- Carpal tunnel syndrome (wrist pain)
- Chronic fatigue syn. (weakness, fever)
- Felty syn. (fever, migratory arthritis, splenomegaly)
- Fibrositis syn. (stiff, muscle pain)
- Hunter syn. (gross facies, cardiac anomalies)
- Hurler syn. (dwarf, retarded, gross facies)
- Jaccoud syn. (rheumatoid-like changes)
- Lesch-Nyhan syn. (retarded, gout, mutilation)
- Marfan syn. (hypermobile joints, kyphoscoliosis)
- Post-polio syn. (fatigue, myalgia, weakness)
- Reiter syn. (urethritis, conjunctivitis)
- Shoulder-Hand syn. (scapulo-humeral periartthritis)
- Sjögren syn. (dry eyes and mucous membranes)
- Sweet syn. (skin plaques, fever)

Other

- Gout (often hallux, severe pain, erythema & swelling)
- Bursitis (tender, fluctuant swelling)
- Frozen shoulder (limited movement, tender)
- Lateral epicondylitis (tennis elbow)
- Psoriasis (rash, nail changes)
- Pseudogout (red, swollen)
- Neurogenic (eg. diabetes, tabes dorsalis, cord injury)
- Malignancy (any type)
- Rheumatic fever (migratory arthritis, nodules, rash)
- Leukaemia (fever, malaise, anorexia)
- SLE (rash, anorexia, malaise)
- Scleroderma (Raynaud's phenomenon, gut symptoms)
- Dermatomyositis (proximal weakness, rash)
- Ulcerative colitis (mouth ulcers, diarrhoea)
- Hypothyroidism (dry skin, mental changes)
- Sarcoidosis (fever, erythema nodosum)
- Hypoparathyroidism (tetany, stridor)
- Polyarteritis nodosa (fever, tachycardia, skin disorder)
- Serum sickness (headache, fever, rash)
- Amyloidosis
- Haemochromatosis (skin pigmentation)
- Whipple's disease (symmetrical large joints, small bowel disease)
- Hyperparathyroidism (polyuria, polydipsia, nausea)

JOINT REDNESS, SORENESS AND SWELLING

RED JOINT

Joint Erythema - Red skin over joint

- Cellulitis (tender, pain, heat)
- Septic arthritis (pain, swelling, heat)
- Gout (exquisite tenderness, swollen)
- Pseudogout (tender, swollen)
- Acute osteoarthritis (pain, poor movement)
- Lateral epicondylitis (tennis elbow)
- Calcific peri-arthritis
- Reiter syn. (conjunctivitis, urethritis, arthritis)
- Palindromic rheumatoid arthritis (acute pain)
- Erythema nodosum (rash)
- Rheumatic fever

THE ABOVE LISTS ARE EXTENSIVE FOR THE SAKE OF COMPLETENESS, BUT ONLY THOSE CONDITIONS LISTED BELOW ARE EXPECTED TO BE RECOGNISED BY A FIRST YEAR MEDICAL STUDENT.

JOINT EXAMINATION

All joints should be clinically assessed using the following five criteria

RUBOR	Redness
CALOR	Heat
DOLOR	Pain
OEDEMA	Swelling
MOTUS	Movement

AN EXPLANATION OF THE MOST SIGNIFICANT DISEASES LISTED ABOVE

BAKER'S CYST

Joints contain a lubricating (synovial) fluid within a synovial membrane that totally encloses the joint. A Baker's cyst can form at the back of the knee when part of the synovial membrane pushes out between two muscles to form an outpocketing. Commonly occur in athletes who stress their legs (eg. long distance runners).

Patients notice a lump behind the knee that causes no discomfort, or it may become inflamed and tender, or most seriously, it may rupture to cause sudden severe pain. The cause can be proved by an ultrasound scan.

Treatment involves surgical excision before rupture. With a ruptured cyst the patient is rested, the leg is kept elevated, and steroids are injected into the knee to protect the joint lining from the loss of fluid and seal the leak.

BURSITIS

Every moving joint in the body contains synovial fluid to lubricate it. This fluid is produced in small sacs (bursae) that surround the joint. The fluid passes from the bursae through tiny tubes into the joint space, from where it is slowly absorbed into the bone ends. Bursitis is inflammation or infection of a bursa due to an injury to the area, an infection entering the joint or bursa, or by arthritis. The most common sites for bursitis are the point of the elbow, over the kneecap (housemaid's knee) and the buttocks.

Patients present to a doctor with a swelling of a joint, or joint surrounds, that may or may not be painful. The skin over the bursa may become red.

In cases of simple inflammation, local heat, rest, splinting and painkillers are the only treatments required. Recurrent or persistent cases may have the synovial fluid in the bursa removed by a needle, and steroids injected back into the sac to prevent further accumulation of fluid. If the bursa becomes infected, antibiotic therapy and surgical drainage of pus are necessary.

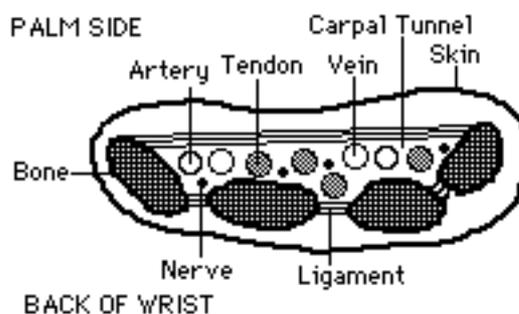
CARPAL TUNNEL SYNDROME

The carpal tunnel syndrome is a form of repetitive strain injury to the wrist caused by excessive compression of the arteries, veins and nerves that supply the hand as they pass through the carpal tunnel in the wrist. This tunnel is shaped like a letter 'D' lying on its side and consists of an arch of small bones which is held in place by a band of fibrous tissue.

If the ligaments become slack, the arch will flatten, and the nerves, arteries and tendons within the tunnel will become compressed. It is far more common in women and in those undertaking repetitive tasks or using vibrating tools and in pregnancy.

Patients experience numbness, tingling, pain and weakness in the hand. X-rays of the wrist, and studies to measure the rate of nerve conduction in the area confirm the diagnosis.

SCHMATIC CROSS SECTION OF WRIST SHOWING CARPAL TUNNEL



Splinting the wrist, nonsteroidal anti-inflammatory medications, injections of steroids into the wrist, oral steroids and therapeutic ultrasound are the main treatments. Most patients will eventually require minor surgery to release the pressure. Permanent damage to the structures in the wrist and hand can occur if not treated, but the operation normally gives a lifelong cure.

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FROZEN SHOULDER

A frozen shoulder (adhesive capsulitis) is a shoulder that for no apparent reason becomes stiff and limited in its range of movement, although overuse of the joint may be an aggravating factor. The joint stiffness usually starts slowly and worsens gradually over a period of days or weeks, and there may also be a constant ache in the joint. X-rays are taken to exclude other causes, but in a frozen shoulder the X-rays are normal.

Treatment involves constant gentle movement with more structured exercises under the supervision of a physiotherapist. Anti-inflammatory drugs and mild to moderate strength painkillers are prescribed, and in severe cases, steroid tablets are taken or steroid injections given into the joint. If recovery is delayed, the shoulder may be moved around while the patient is anaesthetised to break down any adhesions that have formed. Most cases last 6 to 24 months, then slowly recover regardless of any treatment.

GOUT

Gout is caused by excess blood levels of uric acid (hyperuricaemia), which is produced as a normal breakdown product of protein in the diet. Normally uric acid is removed by the kidneys, but if excess is produced or the kidneys fail to work efficiently, high levels build up in the body and precipitate as crystals in the lubricating fluid of a joint. Under a microscope the crystals look like double-ended needles. An alcoholic binge or eating a lot of meat can start an attack in someone who is susceptible, and there is a tendency for the disease to run in families. Most victims are men and it usually starts between 30 and 50 years of age.

The main **symptom** is an exquisitely tender, red, swollen and painful joint. The most common joint to be involved is the ball of the foot, but almost any joint in the body may be involved. In severe attacks, a fever may develop, along with a rapid heart rate, loss of appetite and flaking of skin over the affected joint. Attacks usually start very suddenly, often at night, and may occur every week or so, or only once in a lifetime. In chronic cases uric acid crystals can form lumps (tophi) under the skin around joints and in the ear lobes. More seriously, the crystals may damage the kidneys and form kidney stones.

High levels of uric acid found on blood tests confirm the diagnosis, and a needle may be used to take a sample of fluid from within the joint for analysis in difficult cases.

The management of gout takes two forms - treatment of the acute attack, and prevention of any further attacks.

Acute attacks are cured by the combination of nonsteroidal anti-inflammatory drugs (eg. indomethacin) and colchicine (a hypouricaemic). Aspirin is contraindicated in acute gout as it may elevate serum uric acid levels and aggravate the symptoms. Rest of the affected joint to control the pain and prevent further damage is important.

Prevention involves taking tablets (eg. allopurinol, probenecid, sulfapyrazone) daily for the rest of the patient's life to prevent further attacks, not consuming excess alcohol, keeping weight under control, drinking plenty of liquids to prevent dehydration, avoiding overexposure to cold, not exercising to extremes and avoiding foods that contain high levels of purine producing proteins which metabolise to uric acid (eg. prawns, shellfish, liver, sardines, meat concentrates and game birds). If the prevention tablets are missed an attack of gout can follow very quickly.

Gout can be controlled and prevented easily in most cases, provided the patient understands the problem and co-operates with treatment.

HOUSEMAID'S KNEE

Housemaid's knee is the rather old-fashioned name for a condition that is technically known as **pre-patellar bursitis**, and also commonly known as water on the knee. It is a swelling and inflammation of the bursa on the front of the knee cap. Bursae are small sacs that are connected by a fine tube to a joint cavity. Several are present near every joint, and secrete the synovial fluid which acts as a lubricant for the joint. One of the bursae supplying the knee is in front of the kneecap, and it may be damaged by prolonged kneeling or a blow to cause a painful swelling over the knee cap. Uncommonly, a serious bacterial infection may occur in the knee.

Treatment involves rest, strapping, avoiding kneeling and occasionally draining the excess fluid from the knee. The results of treatment are good, but a recurrence is possible.

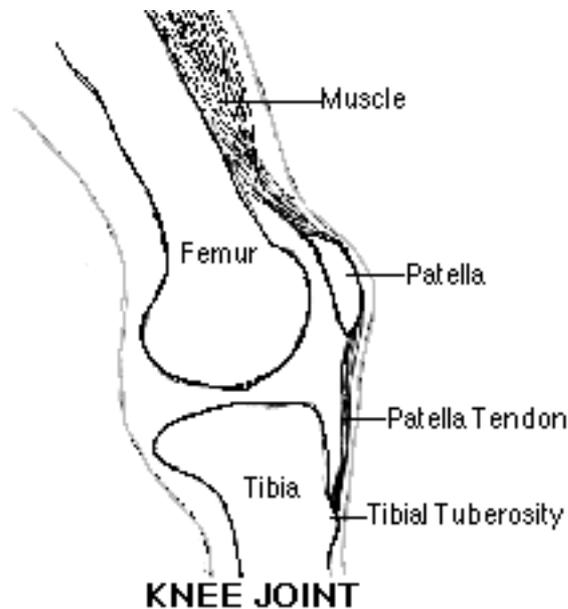
OSGOOD-SCHLATTER DISEASE

Osgood-Schlatter's disease (apophysitis of the tibial tuberosity) is a relatively common but minor knee condition of children and teenagers. It is named after American surgeon Robert Osgood (1873-1956) and Swiss surgeon Carl Schlatter (1864-1934).

At the top and front of the tibia (shin bone) in the lower leg, there is a lump just below the knee (the tibial tuberosity). The large patellar tendon runs from the tibial tuberosity up to the kneecap (patella) and through this is connected to the large muscles on the front of the thigh (quadriceps). When the knee is straightened the thigh

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muscles contract, pull on the patella, which pulls on the patellar tendon, which is attached to the tibial tuberosity, which pulls the tibia into position and straightens the knee. Children who are growing rapidly tend to have slightly softened bones, and in a child who exercises a great deal it is possible for the tibial tuberosity to be pulled slightly away from the softened growing area of the tibia behind it. This separation of the tibial tuberosity from the upper part of the tibia causes considerable pain.



The patient is usually a boy, a keen sportsman, and between 9 and 15 years of age, who develops pain, tenderness and sometimes an obvious swelling just below the knee. The pain is worse, or may only occur, whenever the knee is straightened, particularly when walking or running. The knee joint itself is pain-free. The diagnosis confirmed by X-rays that show the separation of the tibial tuberosity from the tibia.

The only treatment is time and rest. In severe cases, strapping or plaster and crutches may be necessary to rest the knee adequately. The prognosis is very good, but two to six months rest may be required.

OSTEOARTHRITIS

Osteoarthritis is a degeneration of one or more joints that affects up to 15% of the population, most of them being elderly. The cartilage within joints breaks down, and inflammation of the bone exposed by the damaged cartilage occurs, which is then aggravated by injury and overuse of the joint. There is also a hereditary tendency to develop osteoarthritis.

Symptoms are usually mild at first, but slowly worsen with time and joint abuse. The knees, back, hips, feet, and hands are most commonly affected. Stiffness and pain that are relieved by rest are the initial symptoms, but as the disease progresses, swelling, limitation of movement, deformity and partial dislocation (subluxation) of a joint may occur. A crackling noise may come from the joint when it is moved, and nodules may develop adjacent to joints on the fingers in severe cases. X-rays show characteristic changes from a relatively early stage, and repeated X-rays are used to follow the course of the disease. There are no diagnostic blood tests.

Treatment. Patients should avoid any movement or action that causes pain in the affected joints, such as climbing stairs and carrying loads (obese patients should lose weight). Paracetamol, aspirin, heat and anti-inflammatory drugs may be used to reduce the pain in a damaged joint, and physiotherapy, acupuncture and massage have also been found to be useful. Surgery to replace affected joints is very successful, with the most common joints replaced being the hip, knee and fingers. Surgery to fuse together the joints in the back is sometimes necessary to prevent movement between them, as they cannot be replaced. Steroid injections into an acutely inflamed joint may give rapid relief, but they cannot be repeated frequently because of the risk of damage to the joint.

The **prognosis** depends on the joints involved and the disease severity. Cures can be achieved by joint replacement surgery, while other patients achieve reasonable control with medications. The inflammation in some severely affected joints can sometimes "burn out" and disappear with time.

OSTEOMYELITIS

Osteomyelitis is a serious but uncommon infection of a bone that is more common in children. The femur

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(thigh bone), tibia (shin bone) and humerus (upper arm bone) are most commonly affected, but any bone in the body may be involved. Often there is no obvious cause and the infecting bacteria reaches the bone through the blood, but any cut or injury that penetrates through to the bone leaves it open to infection.

The infected bone becomes painful, tender and warm, the tissue over it is red and swollen, and the patient is feverish and feels ill. Complications may include septicaemia, permanent damage to the bone and nearby joints, bone death and collapse, persistent infection and damage to the growing area of a bone in a child.

X-rays show bone damage, but often not until several days after the infection has started. Blood tests for the presence of bacteria, plus the appearance of the patient, are usually sufficient to allow the commencement of treatment using potent antibiotics, which are often given by injection for several weeks. Once the infecting bacteria have been correctly identified, the antibiotic may be changed. Strict bed rest is also necessary, and if pus is present in the bone, an operation to drain it is essential. The majority of osteomyelitis cases are controlled and cured by correct treatment.

PSEUDOGOUT

Pseudogout (calcium pyrophosphate deposition disease) is the deposition of calcium pyrophosphate crystals in the cartilages lining major joints. It may be a familial condition (passed from one generation to the next), or due to abnormalities in the body's metabolic processes (eg. diabetes mellitus, hypothyroidism, haemochromatosis).

Pseudogout has exactly the same symptoms as gout with acute pain in, and redness over a joint, but affects the knees and other large joints. Patients are usually elderly, and complain of recurrent, severe attacks of pain. Permanent arthritis may develop in repeatedly affected joints. It is diagnosed by identifying the responsible crystals in the fluid that may be drawn out of the affected joint through a needle. X-rays show arthritis and calcification around the joint.

Treatment involves the use of nonsteroidal anti-inflammatory drugs (eg. indomethacin, naproxen), and injections of steroids into the joint. Unlike gout, there are no medications that can be used in the long term to prevent further attacks. Medication can control each attack, but repeated attacks may occur.

RHEUMATOID ARTHRITIS

Rheumatoid arthritis is an inflammatory autoimmune disease that affects the entire body, and is not limited to the joints. The immune system is triggered off inappropriately, and the body starts to reject its own tissue. The main effect is inflammation (swelling and redness) of the smooth moist synovial membrane that lines the inside of joints. Those most affected are the hands and feet.

It tends to run in families from one generation to the next, and the onset may be triggered by a viral infection or stress. It occurs in one in every 100 people, females are three times more frequently affected than males, and usually starts between 20 and 40 years of age. A juvenile form is known as Still's disease.

Initial **symptoms** are very mild, with early morning stiffness in the small joints of the hands and feet, loss of weight, a feeling of tiredness and being unwell, pins and needles sensations, sometimes a slight intermittent fever, and gradual deterioration over many years. Occasionally the disease has a sudden onset with severe symptoms flaring in a few days, often after emotional stress or a serious illness. As the disease worsens, it causes increasing pain and stiffness in the small joints, progressing steadily to larger joints, the back being only rarely affected. The pain becomes more severe and constant, and the joints become swollen, tender and deformed. Additional effects can include wasting of muscle, lumps under the skin, inflamed blood vessels, heart and lung inflammation, an enlarged spleen (Felty syndrome) and lymph nodes, dry eyes and mouth, and changes to cells in the blood.

It is **diagnosed** by specific blood tests, X-rays, examination of joint fluid and the clinical findings. The level of indicators in the blood stream can give doctors a gauge to measure the severity of the disease and the response to treatment. Blood tests that may be used in the investigation of rheumatoid arthritis include rheumatoid factor, anti-deoxyribonucleic acid titre, antinuclear antibodies, Beta-2 microglobulin, complement, C-reactive protein, DNA autoantibodies, erythrocyte sedimentation rate, extractable nuclear antigen autoantibodies, HLA-DR4 and latex agglutination.

The condition requires constant care by doctors, physiotherapists and occupational therapists. The severity of cases varies greatly, so not all treatments are used in all patients, and the majority will only require minimal care.

In **acute stages**, general physical and emotional rest, and splinting the affected joints are important. Physiotherapists undertake regular passive movement of the joints to prevent permanent stiffness developing, and apply heat or cold as appropriate to reduce the inflammation.

In **chronic stages**, carefully graded exercise under the care of a physiotherapist, are used. Medications for the inflammation include aspirin and other anti-inflammatory drugs. Steroids such as prednisone give dramatic, rapid relief from all the symptoms, but they may have long-term side effects (eg. bone and skin thinning, fluid retention, weight gain, peptic ulcers, lowered resistance to infection, etc.), and their use must balance the benefits against the risks. In some cases, steroids may be injected into a particularly troublesome joint. A number of

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unusual drugs are also used, including gold by injection or tablet (auranofin), antimalarial drugs (eg. chloroquine), penicillamine (not the antibiotic), etanercept (a tumour necrosis factor antagonist) and cell-destroying drugs (cytotoxics). Surgery to specific painful joints can be useful in a limited number of patients.

There is no cure, but effective controls are available for most patients, and the disease tends to burn out and become less debilitating in old age. Some patients have irregular acute attacks throughout their lives, while others may have only one or two acute episodes at times of physical or emotional stress, while yet others steadily progress until they become totally crippled by the disease.

SEPTIC ARTHRITIS

Septic arthritis is an uncommon but serious bacterial infection of a joint that requires urgent and effective treatment. The responsible bacteria usually enter the joint through the bloodstream, but sometimes injury to the joint or adjacent bone can allow bacteria to enter. It may also follow an injection into, or the draining of fluid from a joint. Premature babies are at a particularly high risk.

The infection starts with a fever and the sudden onset of severe pain in a joint that is tender to touch, swollen, hot, red, and painful to move. The knees, hips and wrists are most commonly involved. Joint destruction, severe chronic arthritis, or complete fusion and stiffness of a joint can occur if the disease is not treated correctly.

Blood tests show infection is present in the body, but not the location or type. Fluid drawn from the joint through a needle is cultured to identify the responsible bacteria. X-rays only show changes late in the disease.

A culture of joint fluid should be started before treatment is commenced, so that the bacteria can be correctly identified. While awaiting results, antibiotics are started and are initially given by intramuscular injection. Regular removal of the infected fluid from the joint by needle aspiration or open operation is also necessary. Further treatment involves hot compresses, elevation and immobilisation of the joint, and pain relieving medication. Gentle movement of the joint should commence under the supervision of a physiotherapist as recovery occurs.

Recovery within a week to ten days is normal with good treatment.

TENNIS ELBOW

Tennis elbow (lateral epicondylitis) is an inflammation of the tendon on the outside of the bony lump at the side of the elbow (epicondyle). The cause is overstraining of the extensor tendon at the outer back of the elbow due to excessive bending and twisting movements of the arm. In tennis, the injury is more likely if the backhand action is faulty, with excessive wrist action and insufficient follow-through. Being unfit, having a tautly strung racquet, a heavy racquet and wet balls all add to the elbow strain. This leads to tears of the minute fibres in the tendon, scar tissue forms which is then broken down again by further strains. It may also occur in tradesmen who undertake repetitive tasks, housewives, musicians and many others who may put excessive strain on their elbows.

Painful inflammation occurs, which can be constant or may only occur when the elbow is moved or stressed. The whole forearm can ache in some patients, especially when trying to grip or twist with the hand.

Prolonged rest is the most important treatment. Exercises to strengthen the elbow and anti-inflammatory drugs may also be used, and cortisone injections may be given in resistant cases. The strengthening exercises are done under the supervision of a physiotherapist and involve using the wrist to raise and lower a weight with the palm facing down. Some patients find pressure pads over the tendon, or elbow guards (elastic tubes around the elbow) help relieve the symptoms and prevent recurrences by adding extra support. The condition is not easy to treat and can easily become chronic.

No matter what form of treatment is used, most cases seem to last for about 18 months and then settle spontaneously.

A FEW ADDITIONAL DISEASES FOR THE PARTICULARLY KEEN AND CURIOUS!

ANKYLOSING SPONDYLITIS

Ankylosing spondylitis (AS or Marie-Strümpell disease) is a long-term inflammation of the small joints between the vertebrae in the back. More common in men, and usually starts in the late twenties or early thirties, but progresses very slowly. The cause is unknown.

Symptoms start gradually with a constant backache that may radiate down the legs. Stiffness of the back

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becomes steadily worse, and eventually the patient may be bent almost double by a solidly fused backbone in old age (kyphosis). AS may be associated with a number of apparently unrelated conditions, including arthritis of other joints, heart valve disease, weakening of the aorta and inflammation of the eyes (uveitis). It is diagnosed by x-rays of the back and specific blood tests.

Anti-inflammatory drugs such as indomethacin, naproxen, aspirin and (in resistant cases) phenylbutazone are prescribed. Etanercept and infliximab (a specific monoclonal antibody) are newer treatments for severe and rapidly progressive cases. Regular physiotherapy can help relieve the pain and stiffness even in advanced cases.

AS may settle spontaneously for a few months or years, before progressing further. No cure is available, but treatment can give most patients a full life of normal length.

BEHÇET SYNDROME

Behçet syndrome is a serious condition of unknown cause that results in widespread apparently unconnected symptoms such as recurrent severe mouth and genital ulcers, inflammation of the eye, arthritis and brain abnormalities such as convulsions, mental disturbances, partial paralysis and brain inflammation. Other symptoms may include rashes (eg. erythema nodosum), skin ulcers, inflamed veins and blindness.

Treatment is often unsatisfactory. Steroids and immune suppressant medications are used, but the condition usually follows a long course with spontaneous temporary remissions. It is often seriously disabling and sometimes fatal.

FELTY SYNDROME

Felty syndrome results in the premature destruction of red and white blood cells by the spleen and is often associated with advanced rheumatoid arthritis. Patients have a very large spleen and a low level of both red and white blood cells in the bloodstream.

Significant discomfort is felt in the abdomen because of the enlarged spleen, which may put pressure on veins that pass through it. This pressure can cause dilation of the veins that surround the upper part of the stomach, and these dilated veins may be attacked by the acid in the stomach, put under stress by vomiting, and damaged by food entering the stomach, ulcerate and bleed. Other symptoms may include a fever, leg ulcers, darkly pigmented skin patches, and tiny blood blisters under the skin. Patients may become quite ill, very anaemic and vomit blood, and if the bleeding continues, patients may die from loss of blood into the stomach.

The diagnosis is confirmed by blood tests that estimate the type and age of cells in the blood stream. Surgical removal of the spleen is the only treatment, but after removal of the spleen patients react more slowly to infections, and must ensure that they are treated early in the course of any bacterial or viral infection. Regular influenza and pneumococcal vaccinations are recommended.

LYME DISEASE

Lyme disease is a relatively common blood infection caused by the bacterium *Borrelia burgdorferi* that occurs in the northeast United States. It is spread by the bite of the tick *Ixodes* from infected mice or deer to humans. The tick may lie dormant for up to a year before passing on the infection with a bite.

The disease has three stages:-

- in stage one the patient has a flat or slightly raised red patchy rash, fever, muscle aches and headache.
- stage two comes two to four weeks later with a stiff neck, severe headache, meningitis (inflammation of the membrane around the brain) and possibly Bell's palsy.
- in stage three, which may come three to twelve months later, the patient has muscle pains, and most seriously a long lasting severe form of arthritis that may move from joint to joint. Persistent crippling arthritis sometimes occurs.

The diagnosis is confirmed by specific immunoglobulin blood tests, then a prolonged course of antibiotics is prescribed.

Long term, one third of patients may suffer from continuing muscle and joint pains, while a smaller percentage have after effects of the meningitis.

REITER SYNDROME

Reiter syndrome (reactive arthritis) is an inflammatory condition involving the eyes, urethra and joints. The cause is unknown, but it is more commonly in young men, and often follows a bacterial infection.

It has the unusual and apparently unconnected symptoms of conjunctivitis (eye inflammation), urethritis (inflammation of the urine tube - the urethra) and arthritis (joint inflammation). Other symptoms that may occur include mouth ulcers, skin sores, inflammation of the foreskin of the penis and a fever. Rarely, the heart becomes

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inflamed.

Blood tests are not diagnostic, but indicate presence of inflammation, and X-rays show arthritis in the joints of the back only after several attacks.

It heals without treatment after a few days or weeks, but the arthritis tends to last longer and recurrences are common. The disease course can be shortened by anti-inflammatory drugs such as indomethacin.

CURIOSITY

Osteopathy is a system of manipulating the spine and other joints and their surrounding soft tissues to enhance nerve and blood supply and thereby improve back problems, other joint disorders and all body tissues.

TOTALLY, COMPLETELY AND UTTERLY USELESS INFORMATION

GAMEKEEPER'S THUMB

Gamekeeper's thumb is an abnormal ability to move the thumb sideways caused by a tearing of the ligament that stabilises the joint at the base of the thumb. Normally there is minimal movement from side to side between the first metacarpal (bone leading from the wrist to the base of the thumb) and the first proximal phalange (the closest to the wrist of the two bones making up the thumb). If the thumb is suddenly forced outwards the ligament along the inside of the joint is torn, and the thumb becomes painful, swollen and is able to move abnormally from side to side.

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