

- Involvement of sacroiliac joints, with or without other joints
- Absence of rheumatoid factor
- Association with HLA-B27

The manifestations are immune mediated and are triggered by a T-cell response presumably directed against an undefined antigen, likely infectious, that may cross-react with native molecules of the musculoskeletal system.

### Ankylosing Spondylitis

**Ankylosing spondylitis causes destruction of articular cartilage and bony ankylosis, especially of the sacroiliac and apophyseal joints (between tuberosities and processes).** It is also known as *rheumatoid spondylitis* and *Marie-Strümpell disease*. Disease involving the sacroiliac joints and vertebrae becomes symptomatic in the second and third decades of life as lower back pain and spinal immobility. Involvement of peripheral joints, such as the hips, knees, and shoulders, occurs in at least one third of affected individuals. Approximately 90% of patients are HLA-B27 positive; associations have also been found with the IL-23 receptor gene.

### Reactive Arthritis

**Reactive arthritis is defined by a triad of arthritis, nongonococcal urethritis or cervicitis, and conjunctivitis.** Most affected individuals are men in their 20s or 30s, and more than 80% are HLA-B27 positive. This form of arthritis also affects individuals infected with the human immunodeficiency virus (HIV). The disease is probably caused by an autoimmune reaction initiated by prior infection of the genitourinary system (*Chlamydia*) or the gastrointestinal tract (*Shigella*, *Salmonella*, *Yersinia*, *Campylobacter*).

Arthritic symptoms develop within several weeks of the inciting bout of urethritis or diarrhea. Joint stiffness and low back pain are common early symptoms. The ankles, knees, and feet are affected most often, frequently in an asymmetric pattern. Synovitis of a digital tendon sheath produces the sausage finger or toe, and ossification of tendoligamentous insertion sites leads to calcaneal spurs and bony outgrowths. Patients with severe chronic disease have involvement of the spine that is indistinguishable from ankylosing spondylitis. Extraarticular involvement manifests as inflammatory balanitis, conjunctivitis, cardiac conduction abnormalities, and aortic regurgitation. The episodes of arthritis usually wax and wane over several weeks to 6 months. Almost 50% of affected individuals have recurrent arthritis, tendonitis and lumbosacral pain.

### Enteritis Associated Arthritis

**Enteritis-associated arthritis is caused by gastrointestinal infection by *Yersinia*, *Salmonella*, *Shigella*, and *Campylobacter*, among others.** The outer cell membranes of these organisms have lipopolysaccharides as a major component, and they stimulate a range of immunological responses. The arthritis appears abruptly and tends to involve the knees and ankles but sometimes also the wrists, fingers, and toes. Unlike reactive arthritis, it lasts for about

a year, then generally clears and only rarely is accompanied by ankylosing spondylitis.

### Psoriatic Arthritis

**Psoriatic arthritis is a chronic inflammatory arthropathy associated with psoriasis that affects peripheral and axial joints and entheses (ligaments and tendons).** Susceptibility to the disease is genetically determined and related to HLA-B27 and HLA-Cw6 alleles. Symptoms manifest between the ages of 30 and 50. It develops in more than 10% of the psoriatic population, usually concurrently or following the onset of skin disease. Although the sacroiliac joints are involved in 20% of patients, this is predominantly a peripheral arthritis of the hands and feet. The distal interphalangeal joints of the hands and feet are first affected in an asymmetric distribution in more than 50% of patients, producing the characteristic "pencil in cup" deformity (unlike RA, which you will recall typically involves the proximal interphalangeal joints). Histologically, psoriatic arthritis is similar to rheumatoid arthritis. Psoriatic arthritis, however, is usually not as severe, remissions are more frequent, and joint destruction is less frequent.

### Infectious Arthritis

Microorganisms of all types can seed joints during hematogenous dissemination. Articular structures can also become infected by direct inoculation or from contiguous spread from a soft tissue abscess or focus of osteomyelitis. Infectious arthritis is potentially serious, because it can cause rapid joint destruction leading to permanent deformities.

### Suppurative Arthritis

**Bacterial infections that cause acute suppurative arthritis usually enter the joints from distant sites by hematogenous spread.** In neonates there is an increased incidence of contiguous spread from underlying epiphyseal osteomyelitis. *H. influenza* arthritis predominates in children younger than 2 years of age, *S. aureus* is the main causative agent in older children and adults, and gonococcus is prevalent during late adolescence and young adulthood. Individuals with sickle cell disease are prone to infection with *Salmonella* at any age. These joint infections affect the sexes equally except for gonococcal arthritis, which is seen mainly in sexually active women. Individuals with deficiencies of components of the complement membrane attack complex (C5, C6, and C7) are susceptible to disseminated gonococcal infections and hence arthritis. Other predisposing conditions include immune deficiencies (congenital and acquired), debilitating illness, joint trauma, chronic arthritis of any cause, and intravenous drug abuse.

The classic presentation is the sudden development of an acutely painful and swollen joint that has a restricted range of motion. Systemic findings of fever, leukocytosis, and elevated sedimentation rate are common. In disseminated gonococcal infection the symptoms are more subacute. In 90% of nongonococcal cases, the infection involves only a single joint, most commonly the knee followed in