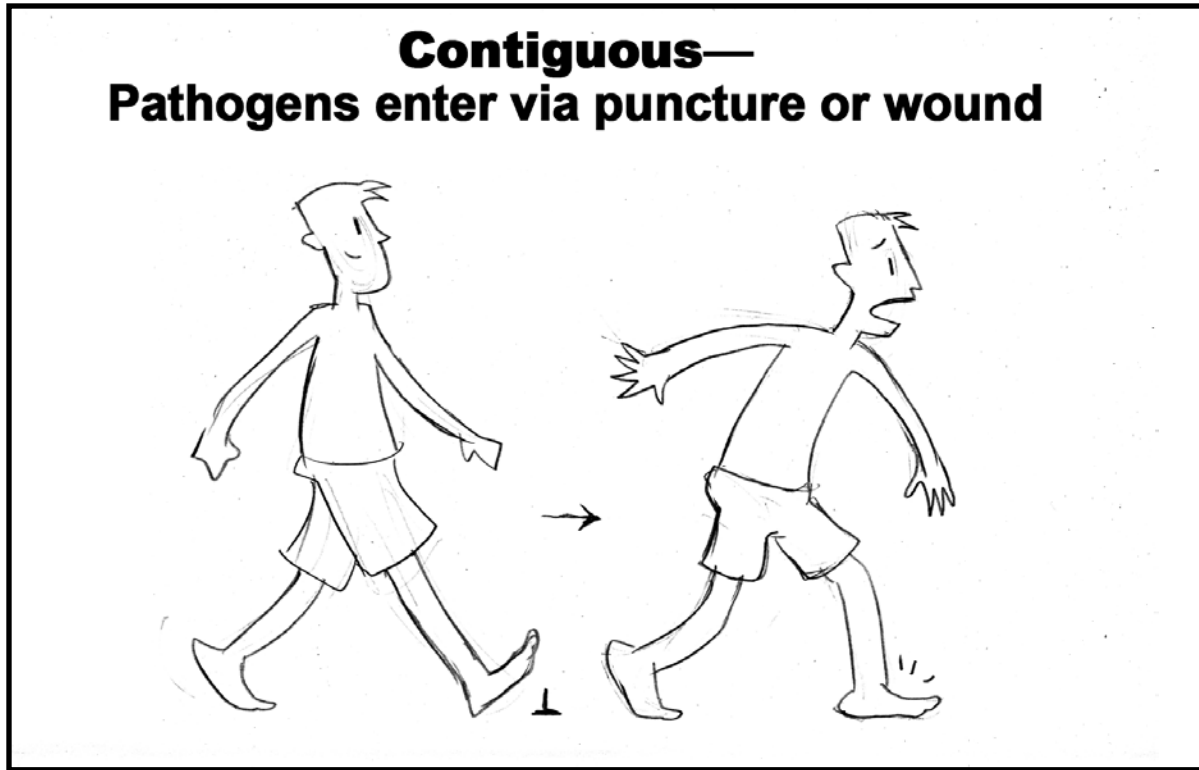


Musculoskeletal Infection and Inflammation

INFECTION AND INFLAMMATORY CONDITIONS OF THE MUSCULOSKELETAL SYSTEM

The musculoskeletal system is affected by infections and inflammatory conditions.

As VO starts, title appears.



Infection of musculoskeletal tissue occurs by means of contiguous or hematogenous spread of pathogens.

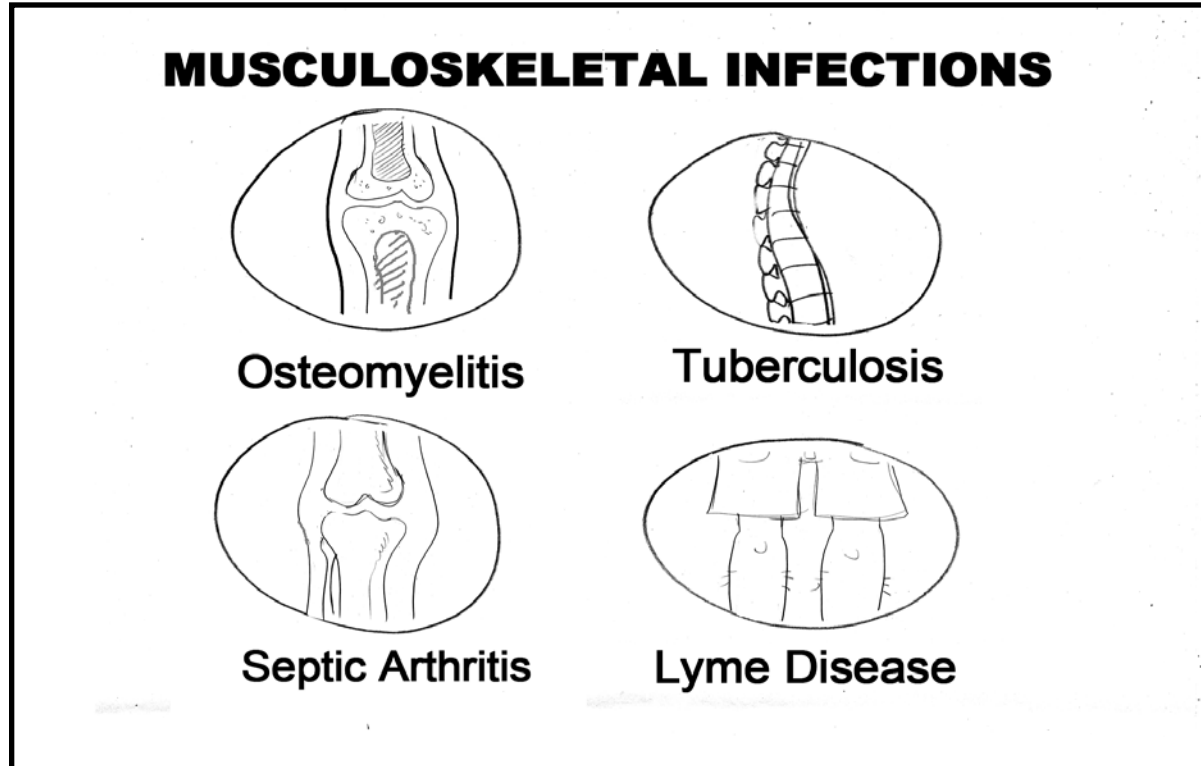
Contiguous spread occurs by invasion of a microorganism via a puncture or wound.

New title appears. Figure enters from the left and steps on a nail.



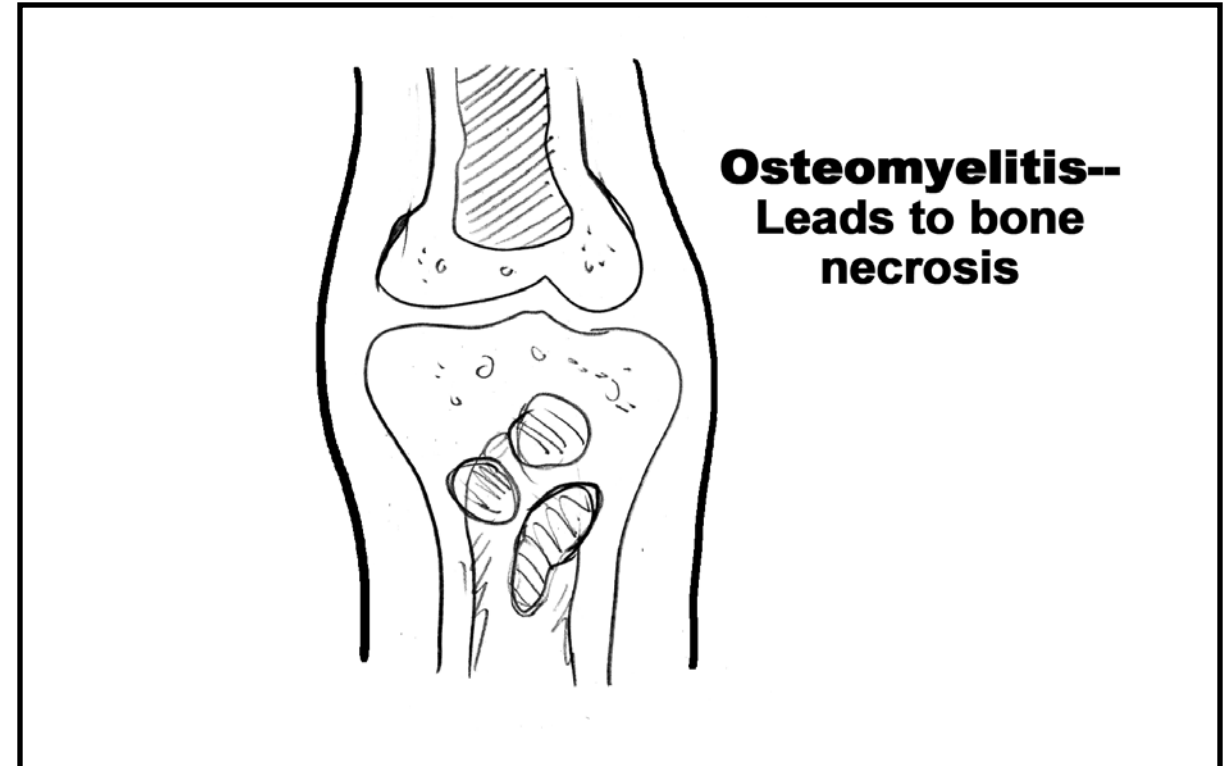
Hematogenous spread occurs when bacteria from tissues within the body spread via the bloodstream to the musculoskeletal system.

Camera pans into the foot, which becomes a cutaway view. Circles representing bacteria enter the wound, then the blood vessel, then the bone, inflaming it.



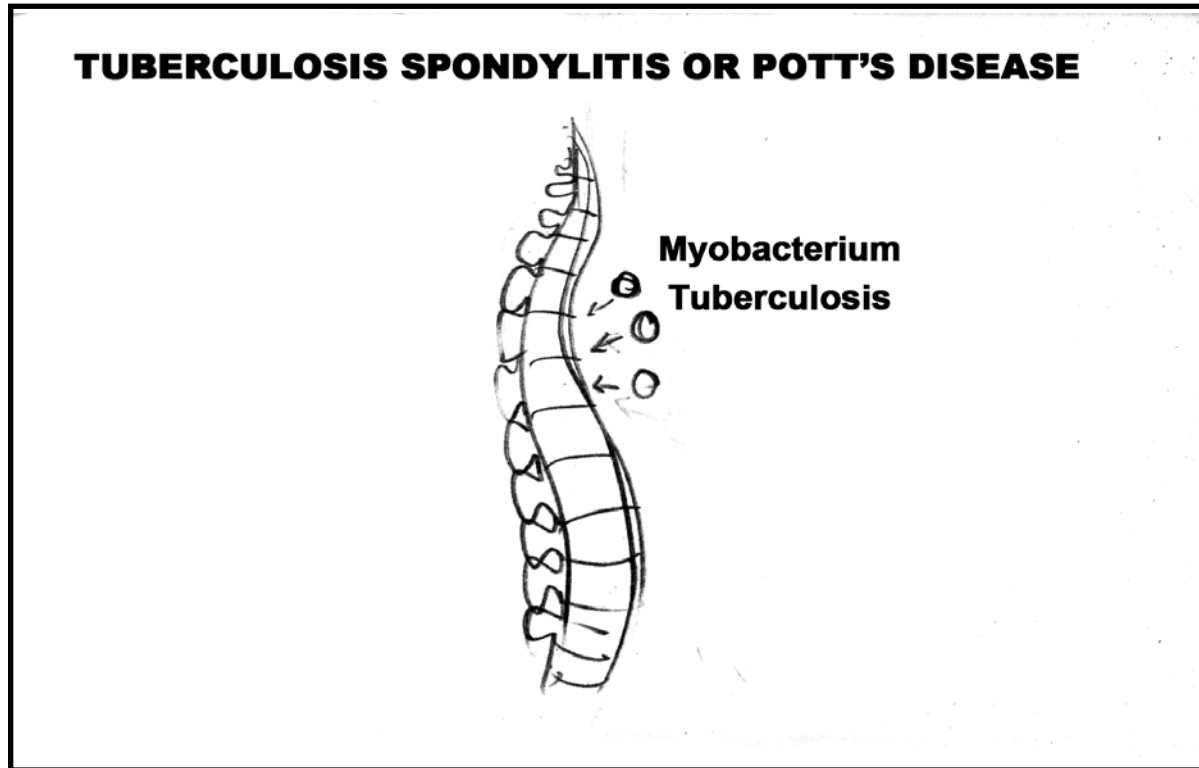
Infections include osteomyelitis, tuberculosis, septic arthritis, Lyme disease, and tuberculosis

Title appears, then the circles with their titles, following the voiceover. In this part, and the one like it later on, the images should show the body parts pre-condition.



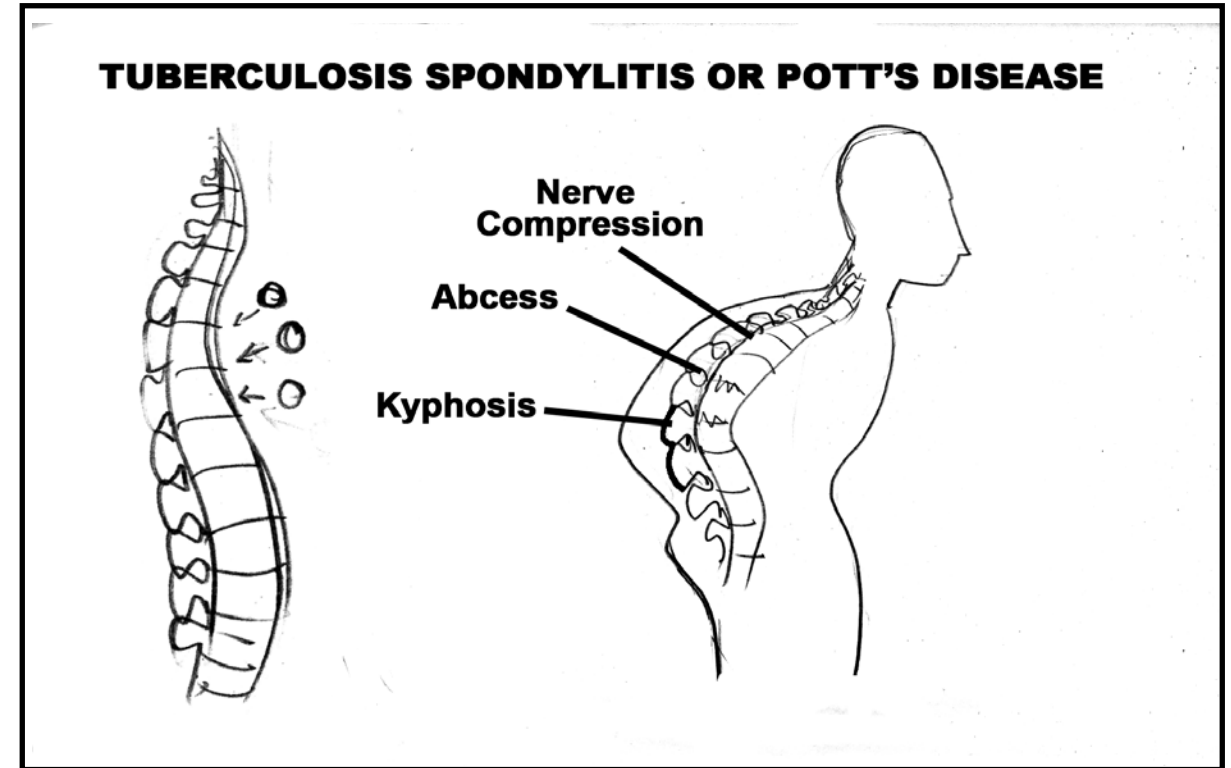
Osteomyelitis is a contiguous or hematogenous infection of the bone most commonly caused by *Staphylococcus aureus*. The bacteria invade, lodge in bones, and often form an abscess. Because the abscess deprives the bone of its blood supply, the bone tissue dies and becomes necrotic. In a hematogenous infection, Group A streptococci is often the culprit.

The first circle enlarges to fill the screen with the image. The image starts with a clear bone, but as the VO continues, green abscesses appear. The words appear on the right.



Although we are most familiar with Mycobacterium tuberculosis causing pulmonary symptoms, this bacterium may also spread through the blood and infect bone, resulting in extrapulmonary tuberculosis. M. tuberculosis commonly infects the vertebrae, and this is known as Pott's disease.

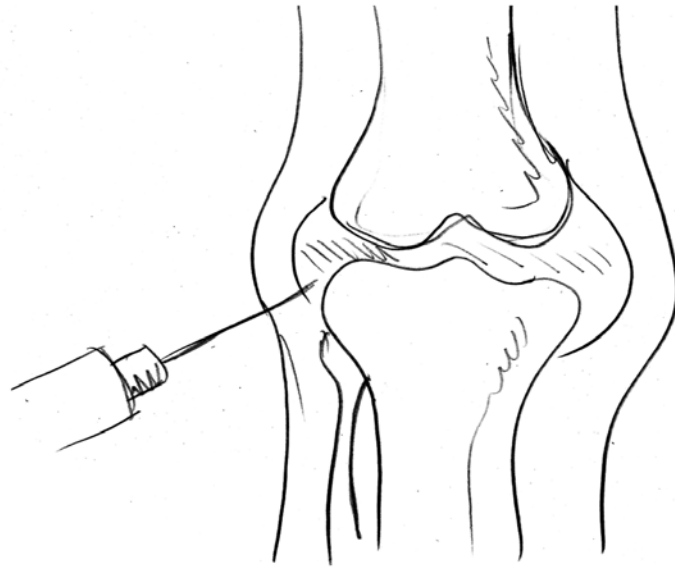
*The second circle appears, then again fills the screen with the image of a healthy spine.
The title appears at the top, then the circles representing bacteria appear and enter the bone.
The title appears on the right.*



Pott's disease most often occurs in the thoracic vertebrae and intervertebral discs. Compression of spinal nerves, abscesses, and severe kyphosis can occur in conjunction with destruction of the vertebrae.

The first spine moves to the left and the second image appears. The labels appear, following the VO.

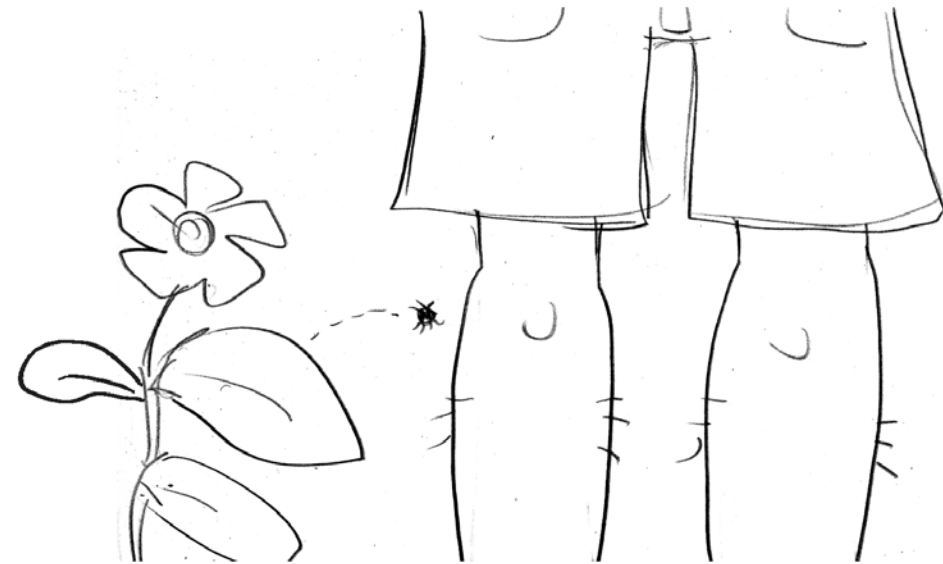
SEPTIC ARTHRITIS



Septic arthritis is also known as infectious arthritis. It is a direct invasion of the joint space by pathogens, and causes inflammation, severe pain, swelling and redness. Aspiration of the joint is needed to determine the infectious agent and treat it.

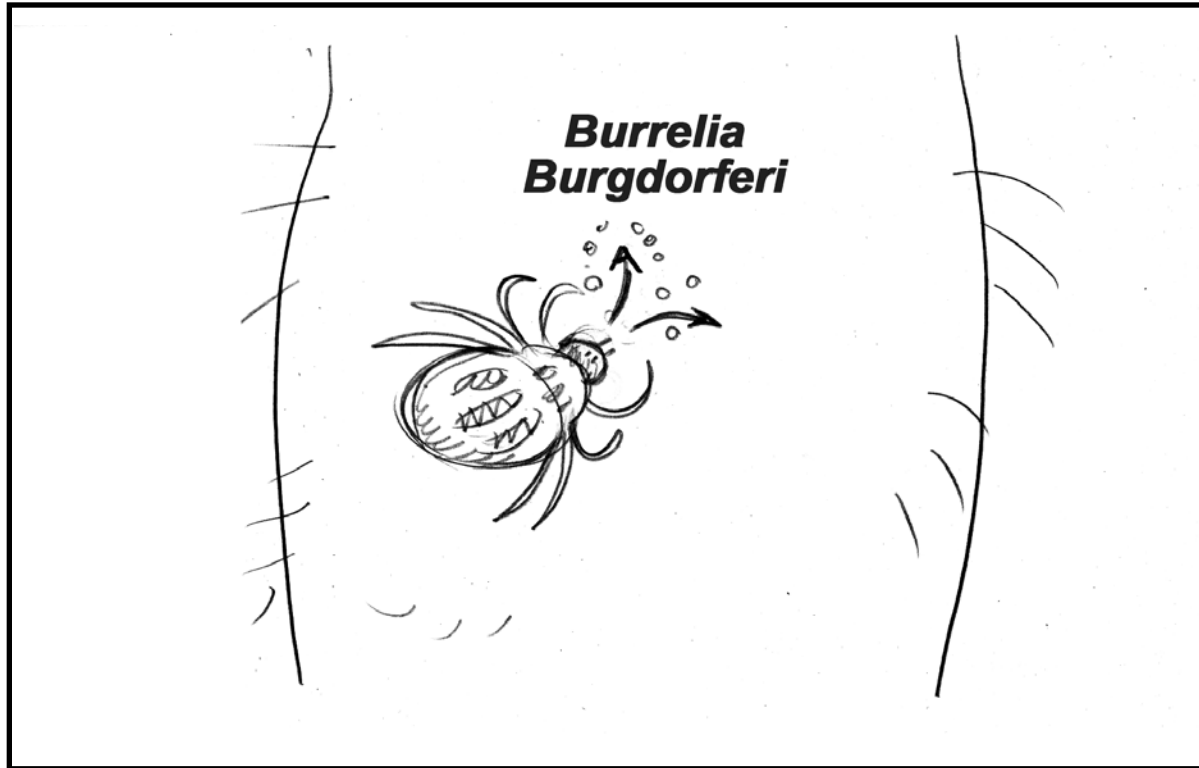
The third circle appears, filling the screen with the knee image and the title appears. The fluid mass fills the knee and a needle enters from the right to drain it.

LYME DISEASE



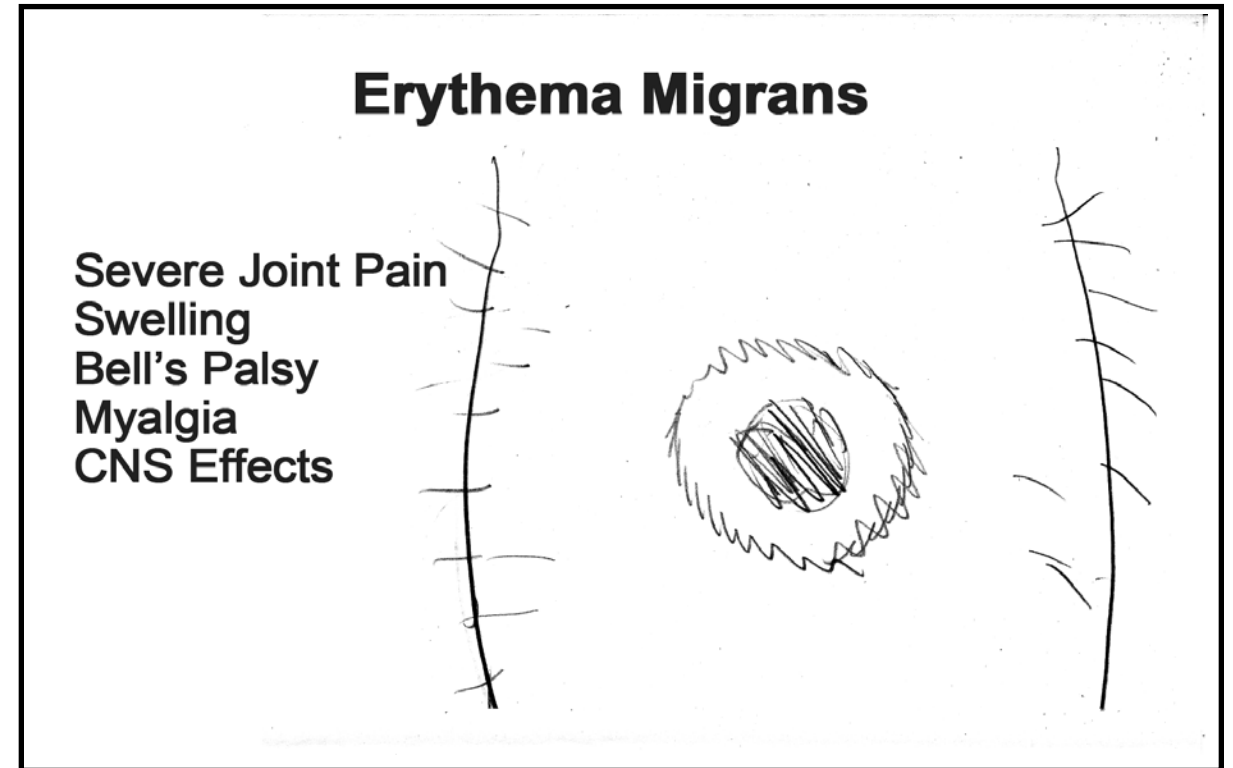
Lyme disease is transmitted by ticks...and is caused by the bacteria *Borrelia burgdorferi*. The infection may pass through several stages.

The third circle fills the screen with the image of the legs and the title appears. The legs are next to a flower, from which a tick jumps onto the left leg.



...and is caused by the bacteria *Borrelia burgdorferi*. The infection may pass through several stages.

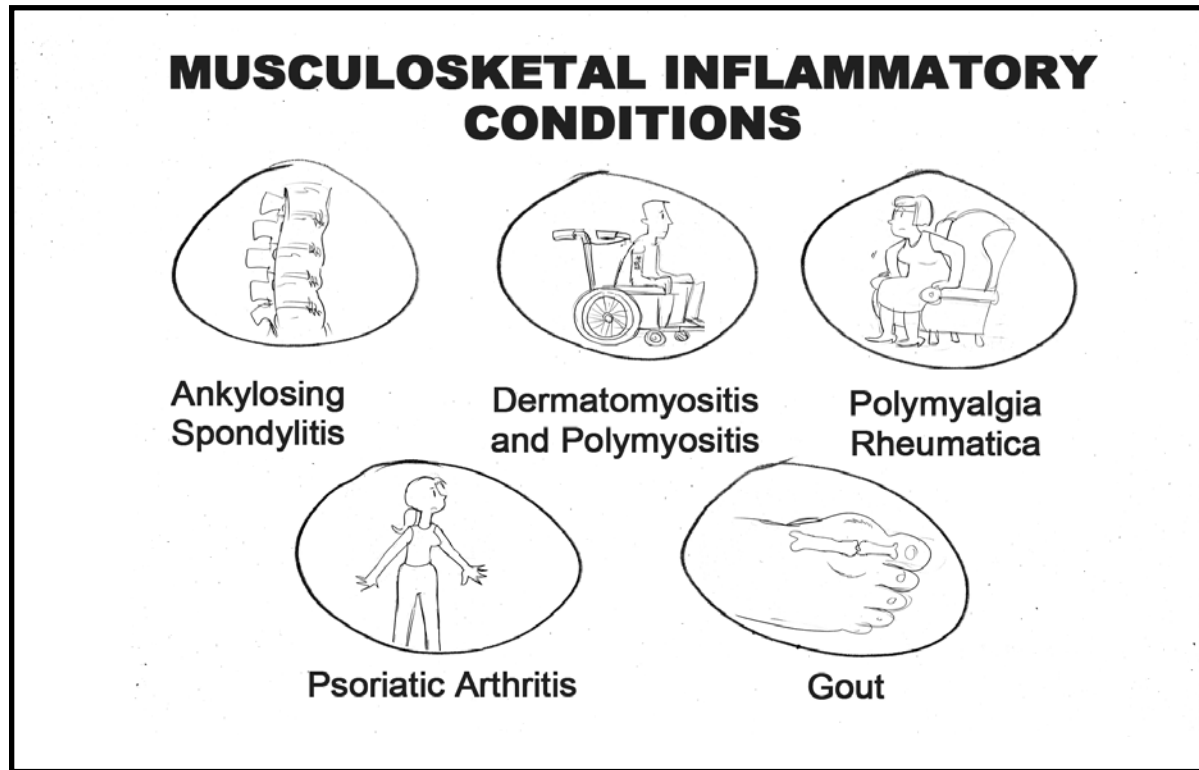
Pan close to the tick. Circles representing bacteria enter the leg from its bite. The label appears.



Erythema migrans is a common sign of infection. The bacteria replicate and may be spread through the body by blood or lymph.

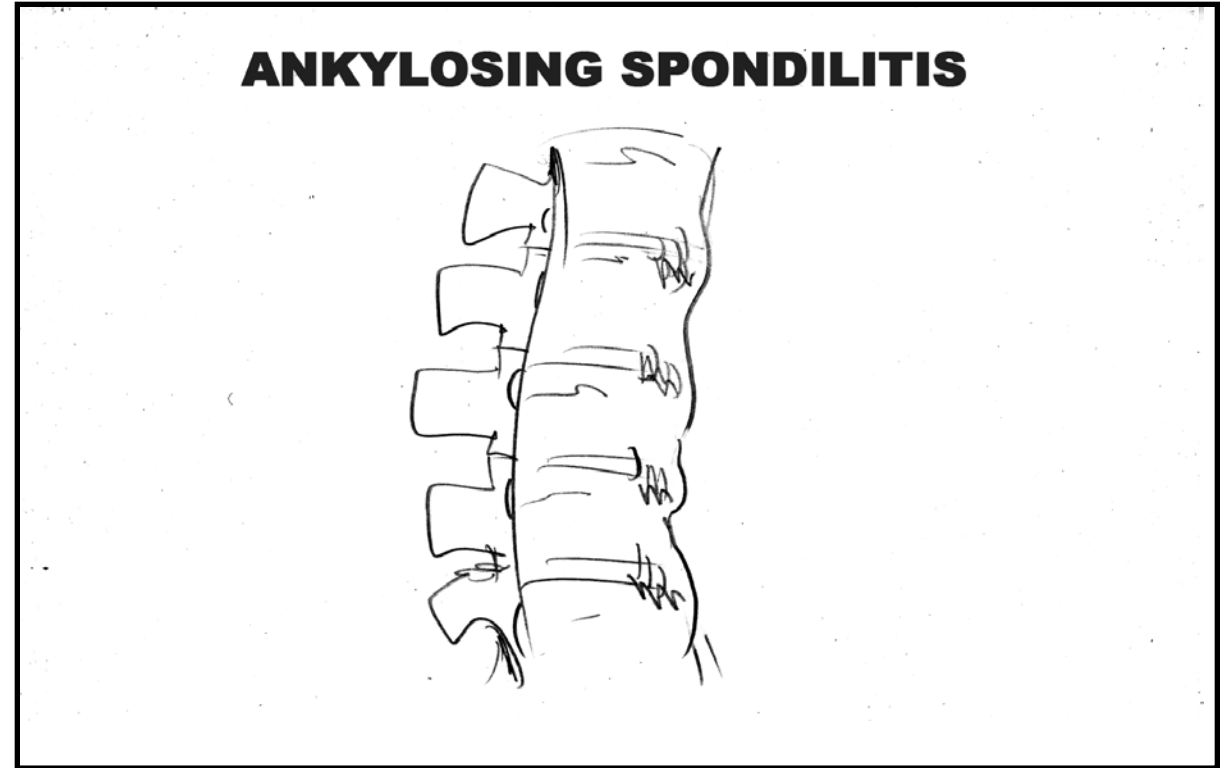
If not treated, Lyme disease will progress and result in severe joint pain, swelling, Bell's palsy, myalgia, and sometimes even central nervous system problems.

A new title appears at the top as the tick disappears and the rash appears on the leg. The words appear on the left, following the VO.



Ankylosing spondylitis, dermatomyositis and polymyositis, polymyalgia rheumatica, psoriatic arthritis, , and gout are inflammatory conditions.

A new title appears and a new series of circles, following the VO.



Ankylosing spondylitis affects multiple tissues throughout the body, including the eyes, heart, lungs, and kidneys. It is a chronic inflammation of ligaments surrounding the spine and sacroiliac joints, often resulting in ossification and fusion of the vertebrae.

The first circle enlarges to fill the screen with the image of a fused spine. The new title appears.

DERMATOMYOSITIS AND POLYMYOSITIS



Dermatomyositis and polymyositis are inflammatory myopathies in which muscle proteins are mistaken for harmful antigens. As the name implies, dermatomyositis also involves the skin. Both conditions result in progressive muscle destruction and weakness.

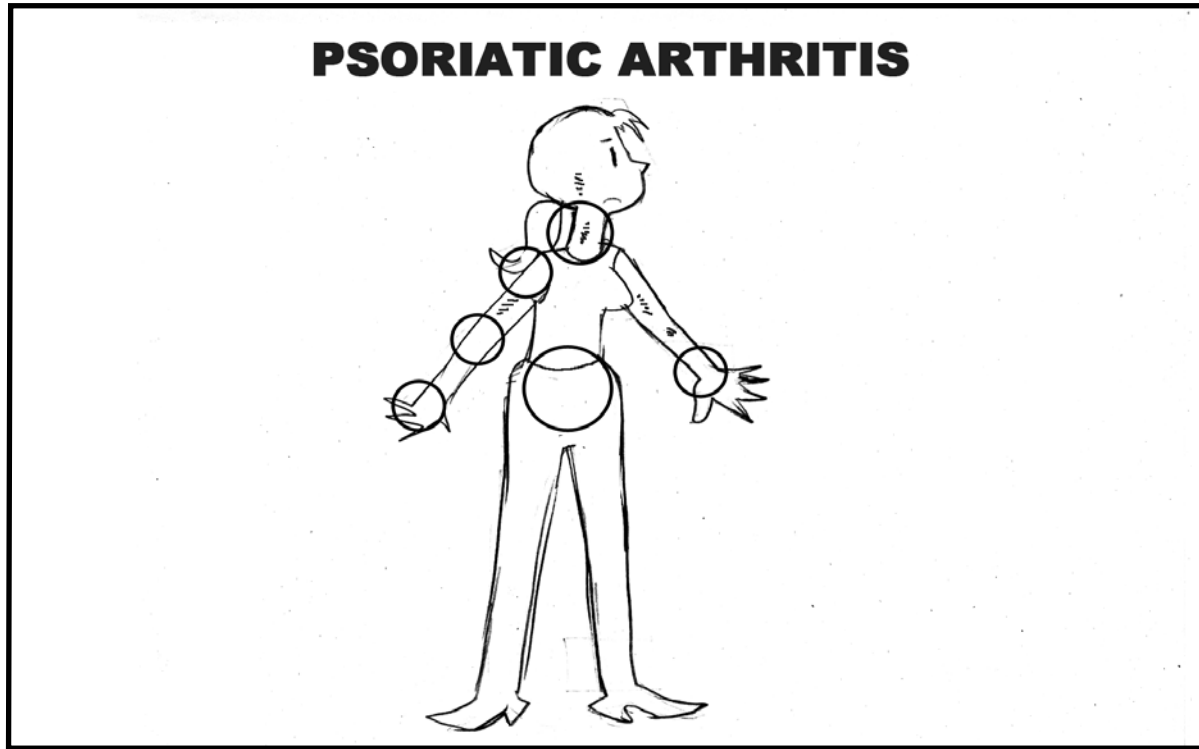
The second circle appears and fills the screen with the image of the man in the wheel chair, along with the new title. A box appears on his arm, highlighting the rash. As the VO concludes, the box appears on the right, with the cutaway view of the muscle.

POLYMALGIA RHEUMATICA



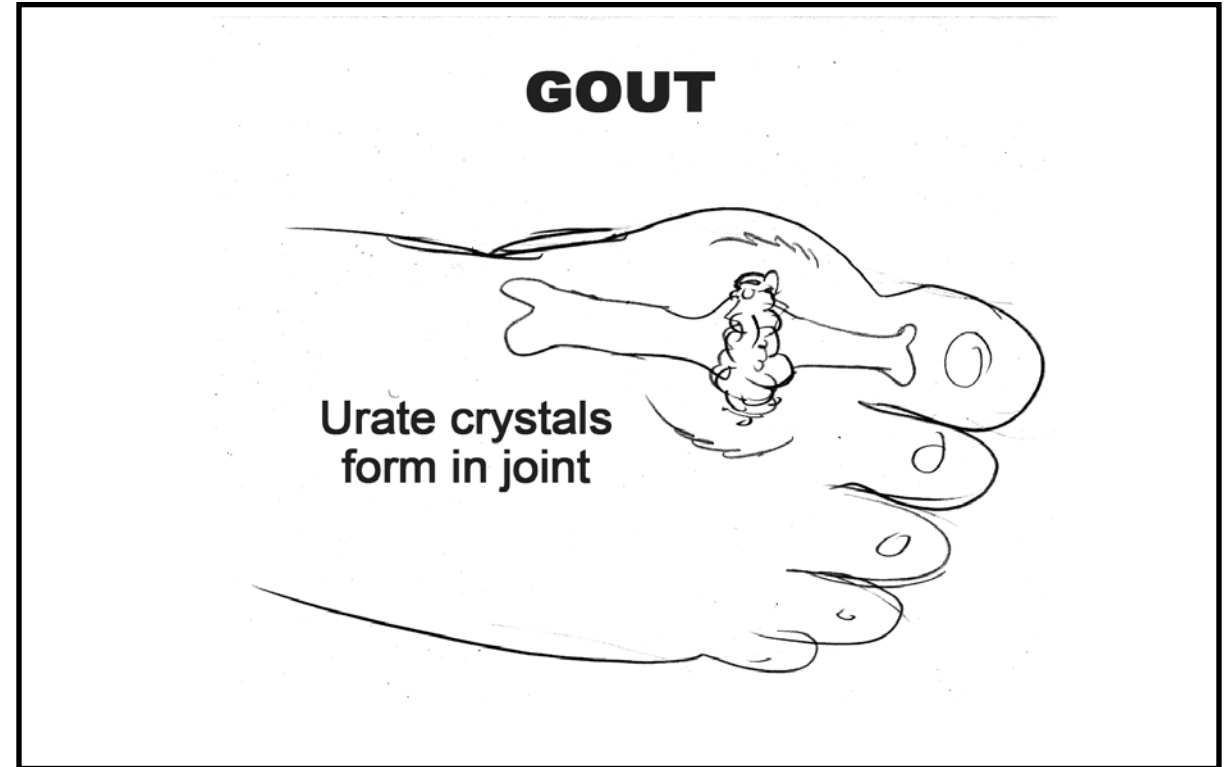
Polymyalgia rheumatica has an autoimmune component, although the specific etiology is unknown. It commonly affects older women and involves abrupt onset of severe inflammation and bilateral pain in the neck, shoulders, upper arms, and pelvic girdle.

The third circle appears and fills the screen with the image of the lady in the chair and the new title. She tries with difficulty to get up, and, following the VO circles appear highlighting the mentioned places on her body.



Psoriatic arthritis is a chronic inflammation of the joints linked to the skin disorder psoriasis. It is also believed to be an autoimmune condition in which T cells infiltrate the skin and joints, triggering immune-mediated inflammation.

The fourth circle appears, filling the screen with the image of the woman and the new title. Psoriatic rashes appear on her neck and arms, and then circles, following the VO.



Gout is an inflammatory condition of elevated uric acid in the blood and synovial fluid. Certain joints, particularly the first metatarsal, are usually affected. Urate crystals deposited in the joint cause pain. Over time, crystals are deposited in subcutaneous tissue, forming nodules called tophi.

The fifth circle appears, filling the screen with the cutaway view of the foot. Urate crystals appear around the joint and the words appear.