

Ulcers, sinuses and fistulas

Ulcers

An ulcer is a discontinuity of an epithelial surface. There is usually progressive destruction of surface tissue, cell by cell, as distinct from death of macroscopic portions, e.g. gangrene or necrosis.

Ulcers are classified as **1)** nonspecific, **2)** specific (e.g. tuberculous or syphilitic) or **3)** malignant.

Nonspecific ulcers are due to infection of wounds, or physical or chemical agents. Local irritation, as in the case of a dental ulcer, or interference with the circulation, e.g. varicose veins, are predisposing causes.

Trophic ulcers are due to an impairment of the nutrition of the tissues, which depends upon an adequate blood supply and a properly functioning nerve supply. Ischaemia and anaesthesia therefore will cause these ulcers. Thus, in the arm, chronic vasospasm and syringomyelia will cause ulceration of the tips of the fingers (respectively painful and painless). In the leg, painful ischaemic ulcers occur around the ankle or on the dorsum of the foot. Neuropathic ulcers due to anaesthesia (diabetic neuritis, spina bifida, tabes dorsalis, leprosy or a peripheral nerve injury) are often called perforating ulcers. Starting in a corn or bunion, they penetrate the foot, and the suppuration may involve the bones and joints and spread along fascial planes upwards, even involving the calf.

The life history of an ulcer consists of three phases

Extension

During the stage of extension the floor is covered with exudate and sloughs, while the base is indurated. The discharge is purulent and even blood stained.

Transition

The transition stage prepares for healing. The floor becomes cleaner, the sloughs separate, induration of the base diminishes and the discharge becomes more serous. Small, reddish areas of granulation tissue appear on the floor and these links up until the whole surface is covered.

Repair

The stage of repair consists of the transformation of granulation to fibrous tissue, which gradually contracts to form a scar. The epithelium gradually extends from the now shelving edge to cover the floor (at a rate of 1 mm per day).

This healing edge consists of three zones — an outer of epithelium, which appears white, a middle one, bluish in colour (where granulation tissue is covered by a few layers of epithelium), and an inner reddish zone of granulation tissue covered by a single layer of epithelial cells. The red colour of granulation tissue is due to the high density of new capillaries (neo-angiogenesis).

Clinical examination of an ulcer

This should be conducted in a systematic manner. The following are, with brief examples, the points which should be noted.

Site, e.g. 95 per cent of rodent ulcers occur on the upper part of the face. Squamous cell carcinoma typically affects the lower lip, while a primary chancre of syphilis is usually on the upper lip.

Size, particularly in relation to the length of history, e.g. a squamous cell carcinoma extends more rapidly than a rodent ulcer, but more slowly than an inflammatory ulcer.

Shape, e.g. a rodent ulcer is usually circular. An ulcer with a square area or straight edge is suggestive of 'dermatitis artefacta'.

Edge. A healing, nonspecific ulcer has a shelving edge. It is rolled if a rodent ulcer, and raised and everted if an epithelioma, under-mined and often bluish if tuberculous, vertically punched out if syphilitic. **(Look below)**

Floor. The floor is that which is seen by an observer, e.g. watery or apple-jelly granulations in a tuberculous ulcer, a wash-leather slough in a gummatous ulcer.

Base. The base is what can be palpated. It may be indurated as in a carcinoma or attached to deep structures, e.g. a varicose ulcer to the tibia.

Discharge. A purulent discharge indicates active infection. A blue—green coloration suggests infection with *Pseudo-monas pyocyaneus*. A watery discharge is typical of tuberculosis. It is blood stained in the extension phase of a nonspecific ulcer. Bacteriological examination may reveal colonisation by coagulase-positive staphylococci.

Lymph nodes are not enlarged in the case of a rodent ulcer, unless due to secondary infection. In the case of squamous cell carcinoma, they may be enlarged, hard and even fixed. The inguinal nodes draining a syphilitic chancre of the penis are firm and 'shotty', but contrarily the submandibular nodes draining a chancre of the lip are greatly enlarged.

Pain. Nonspecific ulcers in the extension and transition stages are painful (except for the anaesthetic trophic type). Tuberculous ulcers vary, that of the tongue being very painful. Syphilitic ulcers are usually painless, but an anal chancre (of a homosexual) may be painful.

General examination. Evidence of debility, cardiac failure, all types of anaemia, including sickle-cell anaemia, or diabetes must be sought.

Pathological examinations, e.g. biopsy, will confirm carcinoma. The serological and Mantoux tests may be of value for syphilis and tuberculosis, respectively.

Sinuses and fistulas

A sinus is a blind track (usually lined with granulation tissue) leading from an epithelial surface into the surrounding tissues. Pathological sinuses must be distinguished from normal anatomical sinuses (e.g. the frontal and nasal sinuses). **A fistula** is an abnormal communication between the lumen or surface of one organ and the lumen or surface of another, or between vessels. Most fistulas connect epithelial-lined surfaces. Sinuses and fistulas may be congenital or acquired. Forms which have a congenital origin include preauricular sinuses, branchial fistulas, tracheo-oesophageal fistulas and arteriovenous fistulas. The acquired forms often follow inadequate drainage of an abscess. Thus, a perianal abscess may burst on the surface and lead to a sinus. In

other cases, the abscess opens both into the anal canal and on to the surface of the perineal stem resulting in a true fistula-in-ano. Acquired arteriovenous fistulas are caused by trauma or operation (for renal dialysis).

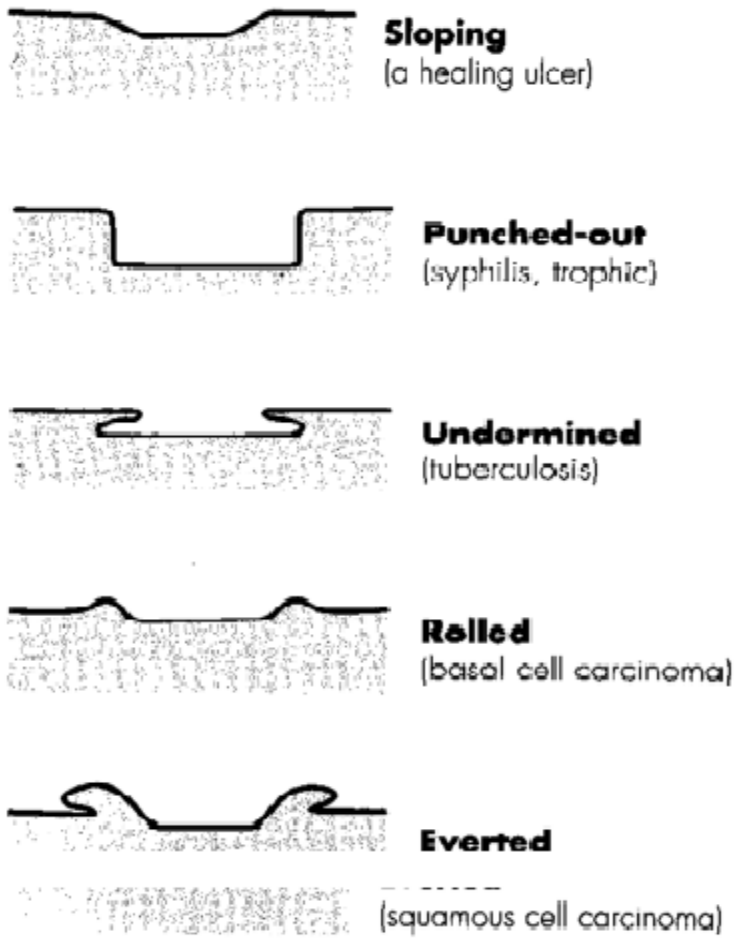
Persistence of a sinus or fistula

The reason for this will be found among the following:

- A foreign body or necrotic tissue is present, e.g. a suture, hairs, a sequestrum, a faecolith or even a worm (see below);
- Inefficient or nondependent drainage: long, narrow, tortuous track predisposes to inefficient drainage;
- Unrelieved obstruction of the lumen of a viscus or tube distal to the fistula;
- High pressure, such as occurs in fistula-in-ano due to the normal contractions of the sphincter which force faecal material through the fistula;
- The walls have become lined with epithelium or endothelium (arteriovenous fistula);
- Dense fibrosis prevents contraction and healing;
- Type of infection, e.g. tuberculosis or actinomycosis;
- The presence of malignant disease
- Ischemia;
- Drugs, e.g. steroids, cytotoxics;
- Malnutrition;
- Interference, e.g. artefacta;
- Irradiation, e.g. rectovaginal fistula after treatment for a carcinoma of the cervix;
- Crohn's disease;
- High-output fistula, e.g. duodenocutaneous fistula.

The edge of the ulcer provides important information about the pathophysiology of the ulcer:

- **Flat sloping edge:** this indicates that epithelium is growing in from the ulcer edge in an attempt to heal it. Usually this edge is only seen in superficial ulcers. Often these ulcers are venous ulcers - note that the skin around the ulcer is red-blue (due to haemosiderin deposition) and almost transparent.
- **Punched-out (square-cut) edge:** this indicates that there has been the rapid death of a whole thickness of skin without the body making much attempt to repair of the defect. This type of ulcer is often caused by pressure on an insensitive area of skin. Examples include diabetes, syphilis, any other peripheral neuropathies.
- **Undermined ulcer:** this is seen when an infection at an ulcer site affects the subcutaneous tissues more than the skin. This occurs in tuberculosis ulcers.
- **Rolled edge:** this occurs where there is slow growth of tissue at the ulcer edge and the peripheral tissue becomes heaped-up. This is classically seen in a rodent ulcer (basal cell carcinoma).
- **Everted edge:** in this case the tissue at the edge of the ulcer is growing so fast that it overlaps the normal skin as it 'spills out' of the ulcer site. An everted edge is seen in carcinomata.



Varieties of ulcer edges

Note:

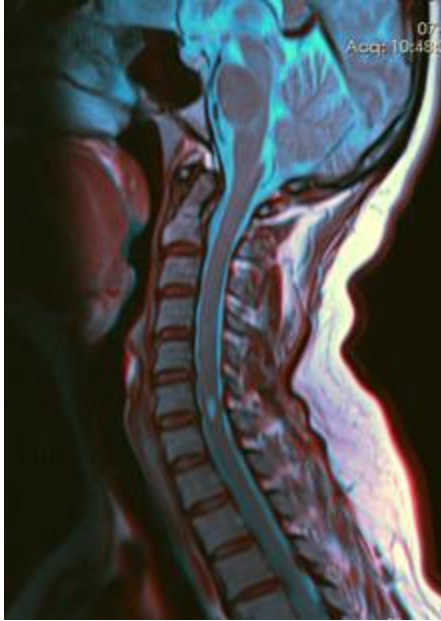
Some diseases mentioned in this lecture you don't know about, here are some informations about them

Just to know للأطلاع فقط وليس للحفظ

Syringomyelia is a generic term referring to a disorder in which a [cyst](#) or cavity forms within the [spinal cord](#). This cyst, called a [syrinx](#), can expand and elongate over time, destroying the spinal cord. The damage may result in pain, paralysis, weakness, and stiffness in the back, shoulders, and extremities. Syringomyelia may also cause a loss of the ability to feel extremes of hot or cold, especially in the hands. The disorder generally leads to a cape-like loss of pain and temperature sensation along the back and arms. Each patient experiences a different combination of symptoms. These symptoms typically vary depending on the extent and, often more critically, to the location of the syrinx within the spinal cord.

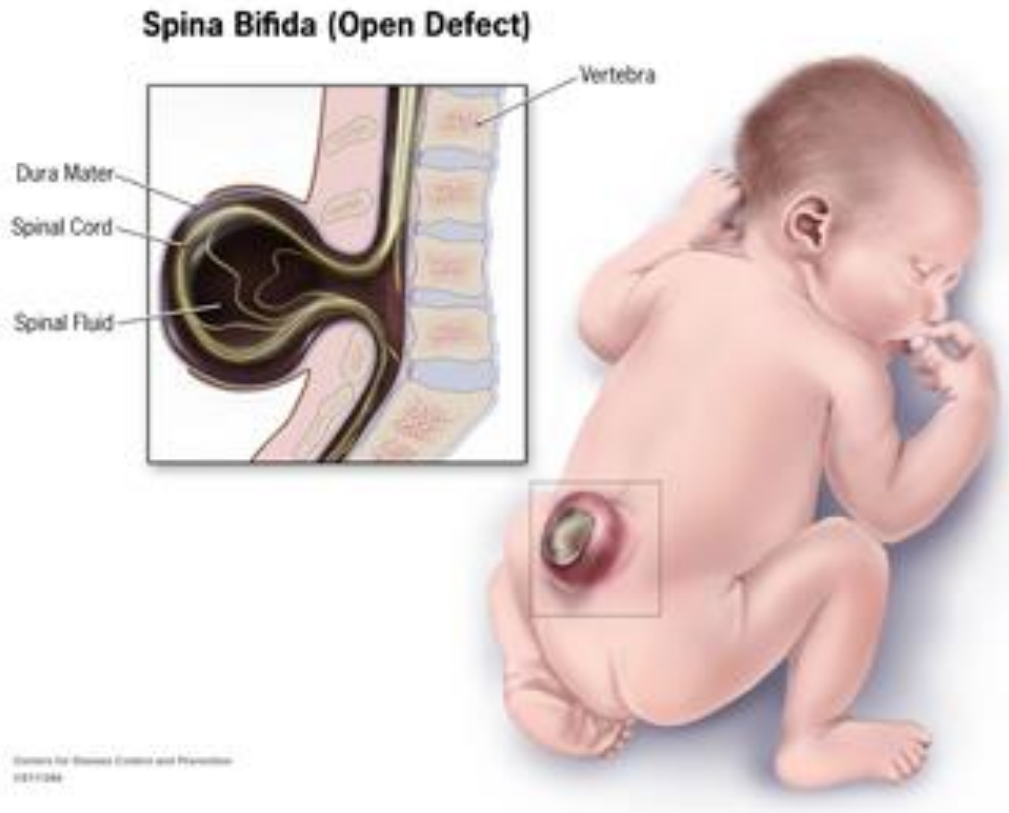


An idiopathic [syrinx](#). See the thin light grey shape inside the spinal cord, placed at centre in the bottom half of the above image.



Spina bifida ([Latin](#): "split spine") is a developmental [congenital disorder](#) caused by the incomplete closing of the [embryonic neural tube](#). Some [vertebrae](#) overlying the [spinal cord](#) are not fully formed and remain unfused and open. If the opening is large enough, this allows a portion of the spinal cord to protrude through the opening in the bones. There may or may not be a fluid-filled sac surrounding the spinal cord. Other neural tube defects include [anencephaly](#), a condition in which the portion of the neural tube that will become the [cerebrum](#) does not close, and [encephalocele](#), which results when other parts of the brain remain unfused.

Spina bifida malformations fall into three categories: spina bifida occulta, spina bifida cystica with meningocele, and spina bifida cystica with myelomeningocele. The most common location of the malformations is the [lumbar](#) and [sacral](#) areas.



Tabes dorsalis, also known as **syphilitic myelopathy**, is a slow degeneration (specifically, demyelination) of the nerves primarily in the dorsal columns (posterior columns) of the spinal cord (the portion closest to the back of the body). They help maintain a person's sense of position (proprioception), vibration, and discriminative touch. Tabes dorsalis is caused by demyelination secondary to an untreated syphilis infection

Symptoms may not appear for some decades after the initial infection and include: weakness, diminished reflexes, paresthesias (shooting and burning pains, pricking sensations, and formication), hypoesthesias (abnormally diminished cutaneous, especially tactile, sensory modalities), tabetic gait (locomotor ataxia), progressive degeneration of the joints, loss of coordination, episodes of intense pain and disturbed sensation (including glossodynia), personality changes, urinary incontinence, dementia, deafness, visual impairment, positive Romberg's test, and impaired response to light (Argyll Robertson pupil). The skeletal musculature is hypotonic due to destruction of the sensory limb of the spindle reflex. The deep tendon reflexes are also diminished or absent; for example, the "knee jerk" or patellar reflex may be lacking (Westphal's sign). A complication of tabes dorsalis can be transient neuralgic paroxysmal pain affecting the eyes and the ophthalmic areas, previously called "Pel's crises" after Dutch physician P.K. Pel. Now more commonly called "tabetic ocular crises," an attack is characterized by sudden, intense ocular pain, lacrimation and photophobia.

Leprosy, also known as **Hansen's disease (HD)**, is a [chronic](#) infection caused by the [bacterium *Mycobacterium leprae*](#) and [Mycobacterium lepromatosis](#). Leprosy takes its name from the [Latin](#) word *Lepra*, which means "scaly", while the term "Hansen's Disease" is named after the [physician Gerhard Armauer Hansen](#). It is primarily [agranulomatous](#) disease of the [peripheral nerves](#) and [mucosa](#) of the [upper respiratory tract](#); skin lesions are the primary external sign. Left untreated, leprosy can be progressive, causing permanent damage to the skin, nerves, limbs and eyes. Contrary to folklore, leprosy does not cause body parts to fall off, although they can become numb or diseased as a result of secondary infections; these occur as a result of the body's defenses being compromised by the primary disease. Secondary infections, in turn, can result in tissue loss causing fingers and toes to become shortened and deformed, as cartilage is absorbed into the body.

Treatment for multibacillary leprosy consists of [rifampicin](#), [dapson](#)e, and [clofazimine](#) taken over 12 months. Single dose multidrug therapy (MDT) for single lesion leprosy consists of [rifampicin](#), [ofloxacin](#), and [minocycline](#). The move toward single-dose treatment strategies has reduced the rates of disease in some regions. [World Leprosy Day](#) was created to draw awareness to those affected by leprosy.

Wash-leather, sometimes known as a **shammy** or also **Chamois leather** as, is a type of porous leather that is favored for its gentle, non-abrasive composition and absorption properties. It has a range of uses:

- Gloves in the 19th to the first half of the 20th century
- Leather jackets, small bags, and pouches
- Polishing cloths for jewels or shoes
- Filtering fuel
- Automotive drying material that is safe on acrylic, lacquer, enamel, and polyurethane paints and clear-coats
- Grips on sporting gear - [Chamois grips](#) are used in field hockey and golf.
- General household cleaning
- Orthopedics and other medical uses

Dermatitis artefacta is defined as the deliberate and conscious production of self-inflicted skin lesions to satisfy an unconscious psychological or emotional need. Patients with this condition require both dermatologic assessment and psychosocial support.

Signs and symptoms

Patients with dermatitis artefacta may report the following:

- Otherwise good health
- Personal history of chronic dermatoses
- Personal or family history of psychiatric illness.
- Personal history of chronic medical conditions, chronic pain syndromes, or both.

Typical locations for the lesions are as follows:

- Face (45%)
- Distal upper extremity (ie, hand and forearm; 24%)
- Lower extremities (31%)
- Trunk (24%)
- Upper arm (7%)
- Scalp (7%)

The appearance of the dermatitis artefacta lesions may vary as follows:

- Superficial erosion (50%)
- Hyperpigmented macule or purpura (30-42%)
- Excoriation (17%)
- Deep necrosis, ulceration (17%)
- Irritant dermatoses (17%)
- Papules (17%)
- Crusts (8%)
- Scars - Pinpoint, star-shaped, atypically shaped (8%)
- Onychodystrophy
- Other - Keratosis, tattoo-like

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