



17° corso
di aggiornamento
per il
medico
di base

25, 26 e 27 settembre
2019
Mercato coperto
Giubiasco

Presa a Carico delle Ulcere Croniche

Seminario, 25 settembre 2019



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Dermatologia EOC

Bellinzona – Mendrisio – Lugano



Ulcere Croniche

- **Ulcere agli arti inferiori:**
 - **Ulcere venose**
 - **Ulcere arteriose**
 - **Ulcere neuropatiche (diabete)**
 - **Rarità (<< 10%)**
- **Ulcere da pressione**
- **Ulcere altre localizzazioni non da pressione**

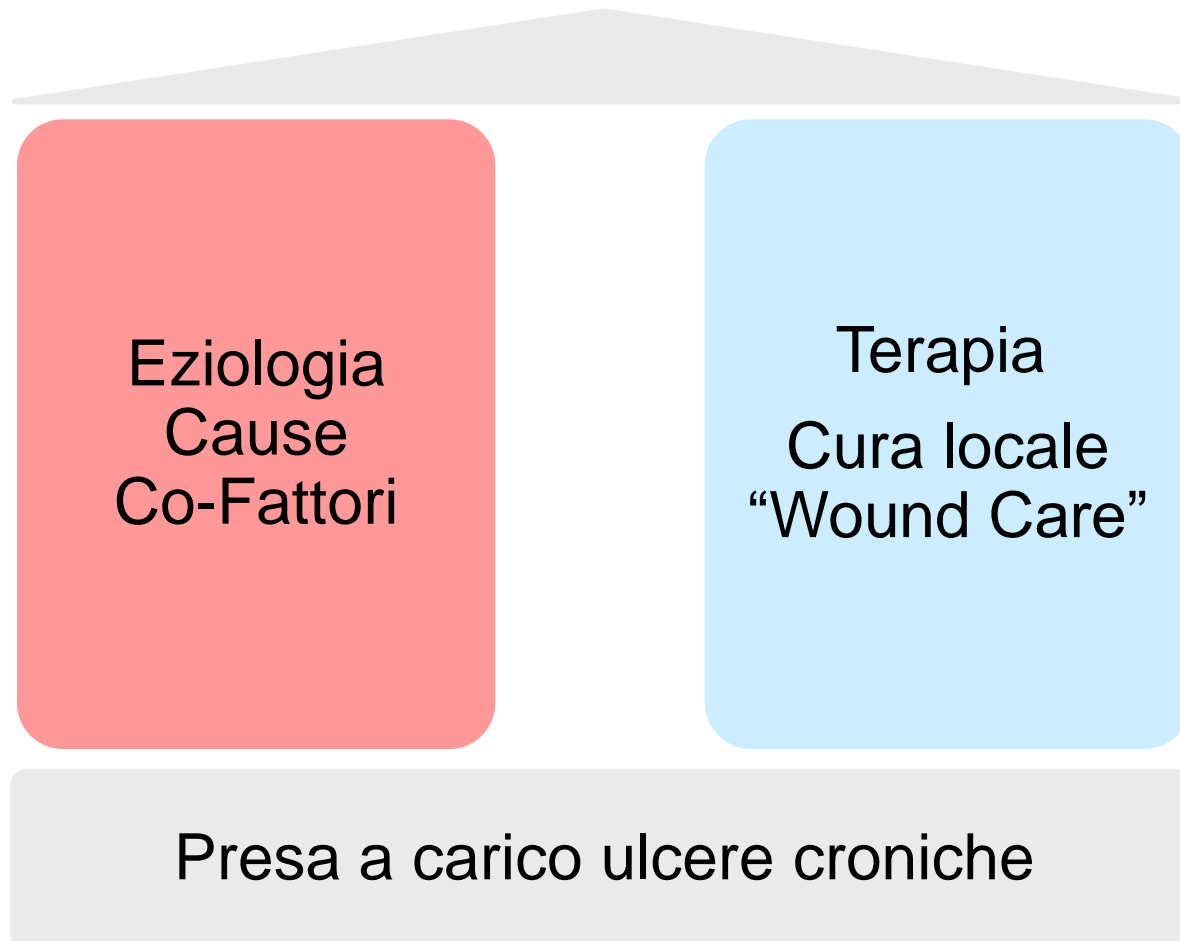
Ulcere Croniche: Presa a carico interdisciplinare



Ulcere Croniche

- Primo: **diagnosi**

- Secondo: **terapia**



Eziologia
Cause
Co-Fattori

Terapia
Cura locale
“Wound Care”

Presca a carico ulcere croniche

Ulcers Croniche





Feature	Ulcer Type			
	Venous	Arterial	Neuropathic Diabetic	Pressure
Underlying condition	Varicose veins, previous deep-vein thrombosis, obesity, pregnancy, recurrent phlebitis	Diabetes, hypertension, smoking, previous vascular disease	Diabetes, trauma, prolonged pressure	Limited mobility
Ulcer location	Area between the lower calf and the medial malleolus	Pressure points, toes and feet, lateral malleolus and tibial areas	Plantar aspect of foot, tip of the toe, lateral to fifth metatarsal	Bony prominences, heel
Ulcer characteristic	Shallow and flat margins, moderate-to-heavy exudate, slough at base with granulation tissue	Punched out and deep, irregular shape, unhealthy wound bed, presence of necrotic tissue, minimal exudate unless infected	Deep, surrounded by callus, insensate	Deep, often macerated
				
Condition of leg or foot	Hemosiderin staining, thickening and fibrosis, eczematous and itchy skin, limb edema, normal capillary refill	Thin shiny skin, reduced hair growth, cool skin, pallor on leg elevation, absent or weak pulses, delayed capillary refill, gangrene	Dry, cracked, insensate, calluses	Atrophic skin, loss of muscle mass
Treatment	Compression therapy, leg elevation, surgical management	Revascularization, anti-platelet medications, management of risk factors	Off-loading of pressure, topical growth factors	Off-loading of pressure; reduction of excessive moisture, shear, and friction; adequate nutrition

Figure 1. Venous, Arterial, Neuropathic Diabetic, and Pressure Ulcers.

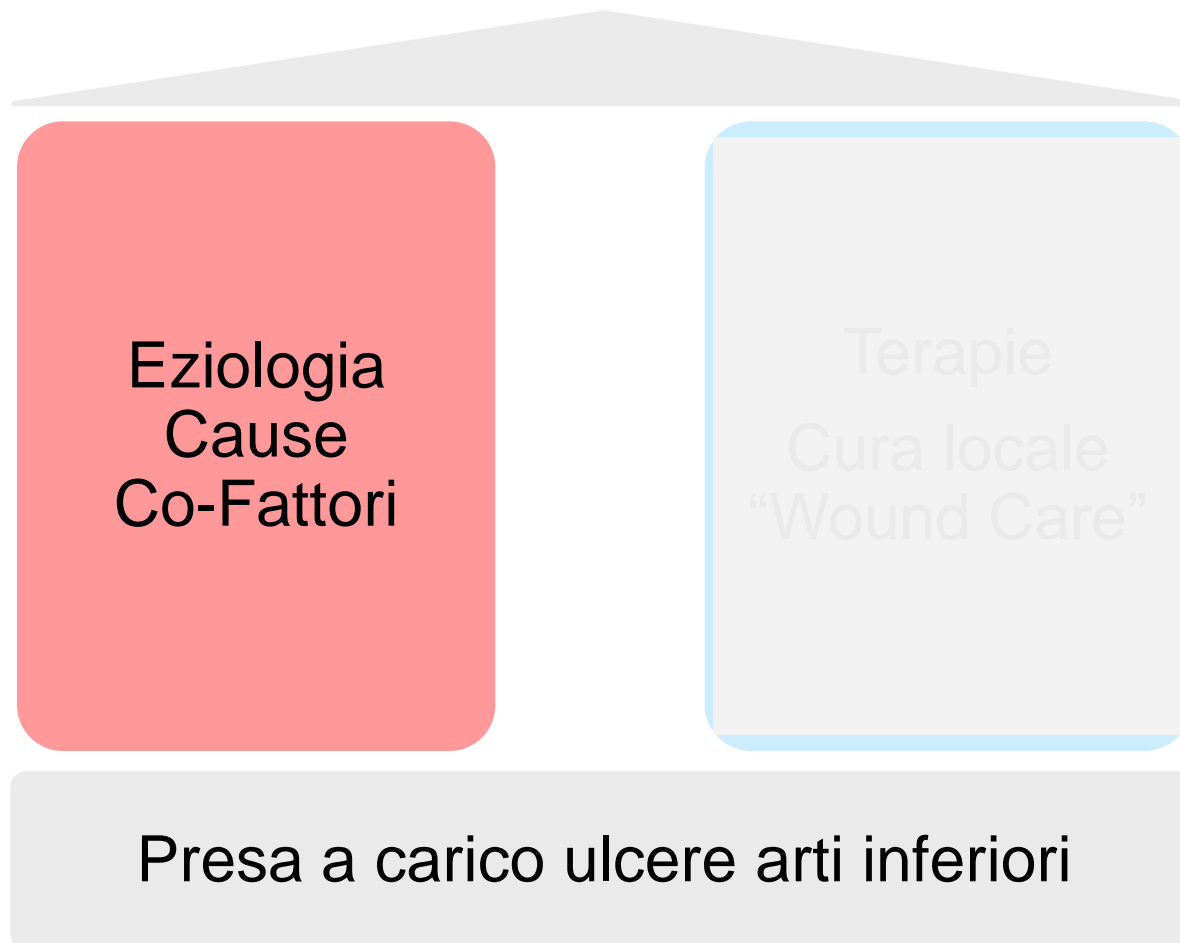
Ulcere Croniche

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Eziologia
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Presca a carico ulcere arti inferiori

Ulceri arti inferiori: Diagnosi Differenziale

Table III. Extended differential diagnosis for chronic wounds

Infection-related

Bacterial

- Erysipelas bullosa, necrotizing fasciitis (*Streptococcus haemolyticus*), botryomycosis (commonly *Staphylococcus aureus*), gas gangrene (*Clostridium* species), ecthyma gangrenosum (*Pseudomonas aeruginosa*), septic embolism, bacterial endocarditis, anthrax (*Bacillus anthracis*), diphtheria (*Corynebacterium diphtheriae*), meningococemia (*Neisseria meningitidis*), bartonellosis (*Bartonella bacilliformis*), glanders (*Burkholderia mallei*), malakoplakia (commonly *E. coli*), tularemia (*Francisella tularensis*), and yaws (*Treponema pallidum pertenue*)
- Sexually transmitted anogenital ulceration: syphilis (*Treponema pallidum*), granuloma inguinale (*Klebsiella granulomatis*), lymphogranuloma venereum (*Chlamydia trachomatis*), and chancroid (*Haemophilus ducreyi*)

Atypical mycobacterial

- Leprosy (*Mycobacterium leprae*), buruli ulcer (*M ulcerans*), tuberculosis (*M tuberculosis* causing ulcerating cutaneous tuberculosis, lupus vulgaris, and papulonecrotic tuberculid)

Viral: herpes simplex, varicella zoster, cytomegalovirus

Fungal: bullous tinea pedis, eumycotic mycetoma, chromoblastomycosis, coccidiomycosis, sporotrichosis, histoplasmosis, and blastomycosis

Protozoan: Leishmaniasis, amoebiasis (*Entamoeba histolytica*), and acanthamoeba

Medication-induced

- Hydroxyurea
- Methotrexate
- Chemotherapeutics
- Immunosuppressives
- Bacillus Calmette-Guerin vaccination

Malignancy-related

- Internal malignancy metastasis
- Cutaneous malignancy
- Squamous cell carcinoma (Marjolin ulcer)
- Basal cell carcinoma
- Melanoma (including acral and amelanotic types)
- Merkel cell carcinoma
- Kaposi sarcoma
- Malignant fibrous histiocytoma
- Lymphoproliferative malignancy

Medical conditions

- Diabetes mellitus
- Neuropathic conditions including tabes dorsalis, paraplegia, and multiple sclerosis
- Klinefelter syndrome
- Hypertension (Martorell ulcer)

Blood disorders

- Polycythemia vera
- Sickle cell anemia
- Thrombocytopenia (including thrombotic thrombocytopenic purpura)
- Paraproteinemia

Autoimmune conditions

- Scleroderma
- Rheumatoid arthritis
- Cutaneous lupus erythematosus
- Inflammatory bowel disease (including metastatic Crohn's disease)

Nutrition (caloric, protein, vitamin, and mineral deficiencies)

Pressure

Primary skin conditions

- Necrobiosis lipoidica
- Sarcoidosis
- Ulcerative pyoderma gangrenosum
- Panniculitis (including erythema induratum)
- Bullous diseases (including bullous pemphigoid, pemphigus, bullous lichen planus, and porphyria cutanea tarda)
- Stevens-Johnson syndrome and toxic epidermal necrolysis

Table III. Cont'd

Substance abuse-related (Fig 1)

- Skin-popping
- Toxic and irritant properties of illicit drugs and adulterants
- Vasoconstrictive cocaine
- Bacterial embolism

Trauma (including burns, bites, and postsurgical injury)

- Factitial (including dermatitis artefacta, malingering, and Münchhausen by proxy)

Vascular

- Venous leg ulcers
- Chronic venous insufficiency
- Congenital valvular insufficiency
- Trauma-related valvular insufficiency
- Thrombus-related valvular insufficiency (deep venous thrombosis)
- Mixed venous-arterial or venous-lymphatic insufficiency
- Arteriovenous malformation
- Arterial leg ulcers

Atherosclerosis-related

Embolism-related

- Thromboangiitis obliterans
- Vasculitis
- Small-vessel vasculitis: leukocytoclastic vasculitis, microscopic polyangiitis, granulomatosis with polyangiitis (formerly Wegener granulomatosis), Churg-Strauss, Henoch-Schönlein purpura, cryoagglutination (cryoglobulins, cryofibrinogen), and Behçet disease
- Medium-sized vessel: polyarteritis nodosa

Vasculopathy

- Hypercoagulopathic disorders (Table VI)
- Disseminated intravascular coagulation and purpura fulminans
- Sneddon syndrome (usually presenting as livedo reticularis)
- Cholesterol emboli
- Calciphylaxis
- Warfarin-induced necrosis (and heparin necrosis)
- Livedoid vasculopathy
- Deigo disease (malignant atrophic papulosis)

Ulcere arti inferiori: Cause

- Malattie Vascolari:
 - Venosa
 - Arteriosa
 - Linfatica
 - **Vasculiti**
 - Mista
-

- **Infezioni / Infestazioni**
- **Esogene (pressione, ...)**
- **Farmaci**
- **Neoplasie**
- **Malattie dermatologiche**
- **Emopatie e Coagulopatie**
- **Malattie metaboliche**
- **Difetti genetici**
- **Neuropatie (periferiche, sistema nervoso centrale)**

<< 10 %

Ulcere arti inferiori: Cause dermatologiche-internistiche

Vasculiti:

- **Primitive:**
- PAN
- Wegener,...
- **Secondarie:**
- Artrite reumatoide
- Sclerodermia
- Lupus eritematoso
- Malattia di Sjögren,...

Infezioni / Infestazioni:

- Ectima
- Erisipela
- Pasteurella multocida
- Sifilide
- Micosi profonda (micetoma)
- Osteomielite
- Parassitosi
- Micobatteriosi
- Embolie settiche,...

Neoplasie:

- Epiteliomi
- Melanoma maligno
- Sarcomi
- Mycosis fungoides,...

Malattie dermatologiche:

- Pyoderma gangrenosum
- Eritema nodoso, altre panniculiti
- Malattie bollose auto-immuni
- Lichen ruber planus erosivo
- Sarcoidosi,...

Emopatie / Coagulopatie:

- Disturbi coagulazione
- Policitemia vera
- crioglobuline
- Alcuni tipi di anemie,...

Diversi:

- Diabete mellito
- Iperparatiroidismo secondario,...

Ulcere arti inferiori: Approccio Diagnostico

Table VIII. Relevant medical history and review of systems screening for chronic ulcer evaluation

Relevant medical history

Cardiovascular: hypertension (controlled or uncontrolled), atherosclerosis, intermittent claudication, congestive heart failure, deep venous thrombosis, vascular malformation, lymphedema, and venous insufficiency

Respiratory: sarcoidosis

Gastrointestinal: inflammatory bowel disease

Hematologic/lymphatic: coagulopathy, recent anticoagulation therapy, blood disorders including: sickle cell anemia, polycythemia vera, thalassemia, and thrombocytopenia

Renal: chronic kidney insufficiency or failure, hemodialysis

Neurologic: disease-causing neuropathy, multiple sclerosis

Musculoskeletal: history of lower extremity trauma or surgery

Psychologic: substance abuse, neurodermatoses, dementia

Endocrinologic: diabetes mellitus and associated complications (retinopathy, nephropathy, neuropathy), corticosteroid excess, thyroid disease

Skin: history of any chronic skin conditions, including vasculitis, necrobiosis lipoidica, sarcoidosis, PG, cutaneous malignancy

Immunologic and rheumatologic: systemic lupus erythematosus, rheumatoid arthritis, Sjögren syndrome, scleroderma, systemic and cutaneous vasculitis

Infection: chronic bacterial, viral, or fungal infections, including HIV, hepatitis, tuberculosis, or other atypical mycobacterial infection

Surgical history: cardiovascular reperfusion interventions

Review of systems

Constitutional: fever, chills, sweats, weight loss or loss of appetite, recent hospitalization

Cardiovascular: chest pain, lower extremity pain with or without exertion, lower extremity pain exacerbated by long periods of standing or worse at the end of the day, lower extremity edema, lower extremity pain worsened with leg elevation

Respiratory: shortness of breath, cough (breathlessness may also indicate cardiac failure)

Gastrointestinal: abdominal pain, nausea, vomiting, diarrhea, bloody stool, constipation

Hematologic/lymphatic: slow healing, tendency to bleed or bruise

Neurological: headaches, lower extremity numbness, burning, tingling or pain

Musculoskeletal: myalgias, arthralgias, recent trauma

Skin: rashes, pruritus, unusual lesions or moles

Eyes: blurred or double vision, decreased visual acuity

Ulcere arti inferiori: Approccio Diagnostico

Regola ABCDE

- **A** Anamnesi («**A**namnesis»)
- **B** Batteri («**B**acteria»)
- **C** Esame clinico («**C**linical examination»)
- **D** Disturbo della circolazione («**D**efective vascular system»)
- **E** Extra («**E**xtras»)

≈ > 90 % Origine Vascolare

Ulcera gamba: Algoritmo Diagnostico

Si sospetta un **disturbo della circolazione?**

SI

NO

Anamnesi
Clinica (polsi periferici)
AB(P)I e pressione alluci
Duplex venoso

Anamnesi
Clinica
Biopsia, se necessario
Esami laboratorio, ...

Venosa

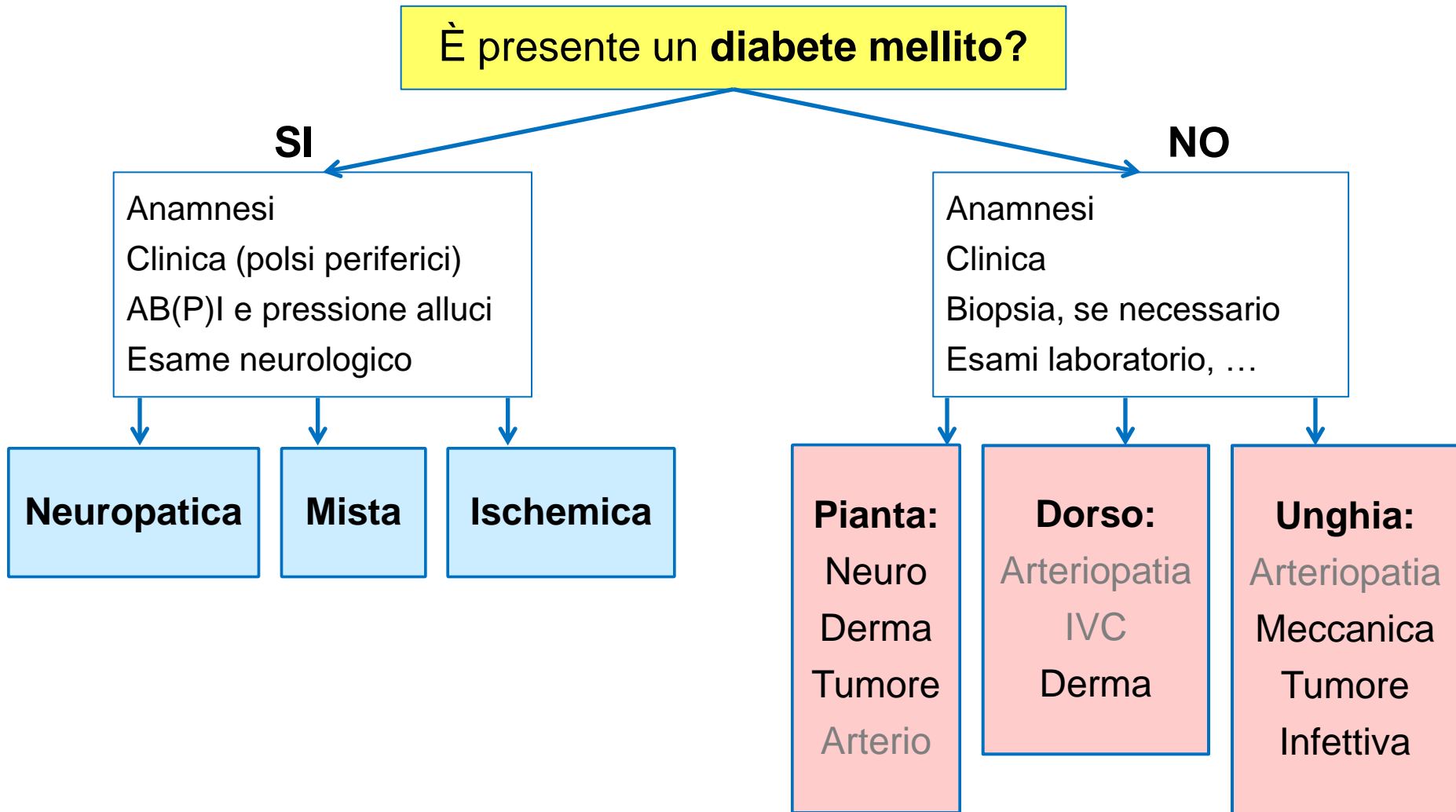
Mista

Arteriosa

Linfatica

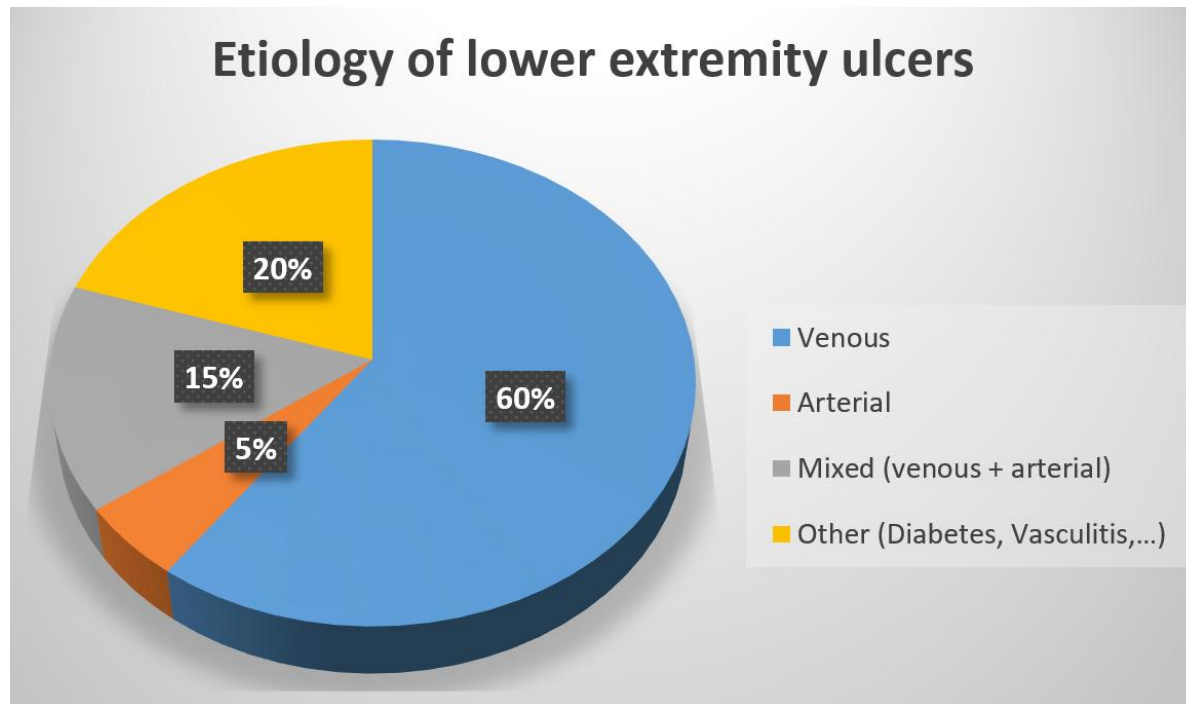
Infiammazione
Vasculite
Neoplasia
Infezione
Trauma
Farmaci / Droghe
Affezioni genetiche
Calcifilassia, ...

Ulcera piede: Algoritmo Diagnostico



Angiology Background

- Dermatologists encounter patients with a variety of lower extremity ulcers
- **Etiology** of lower extremity ulcers are especially vascular:
 - Chronic Venous Insufficiency (**CVI**) $\geq 60\%$
 - Peripheral Arterial Disease (**PAD**) $\geq 5\%$
 - **Mixed** (CVI + PAD) $\geq 15\%$



Vascular Tests for Dermatologists and CPs

Arterial Vascular Studies

Macrovascular Tests

Ankle Brachial Pressure Index, Toe Pressure, Toe Brachial Index

Doppler Arterial Waveform

Duplex Ultrasonography

Angiography, Angio-CT-Scan, Angio-MRI

Microvascular Tests (Microcirculation Assessment)

Transcutaneous Oxygen Saturation

Venous Studies

Venous Doppler

Color Flow Duplex Ultrasonography

Venography

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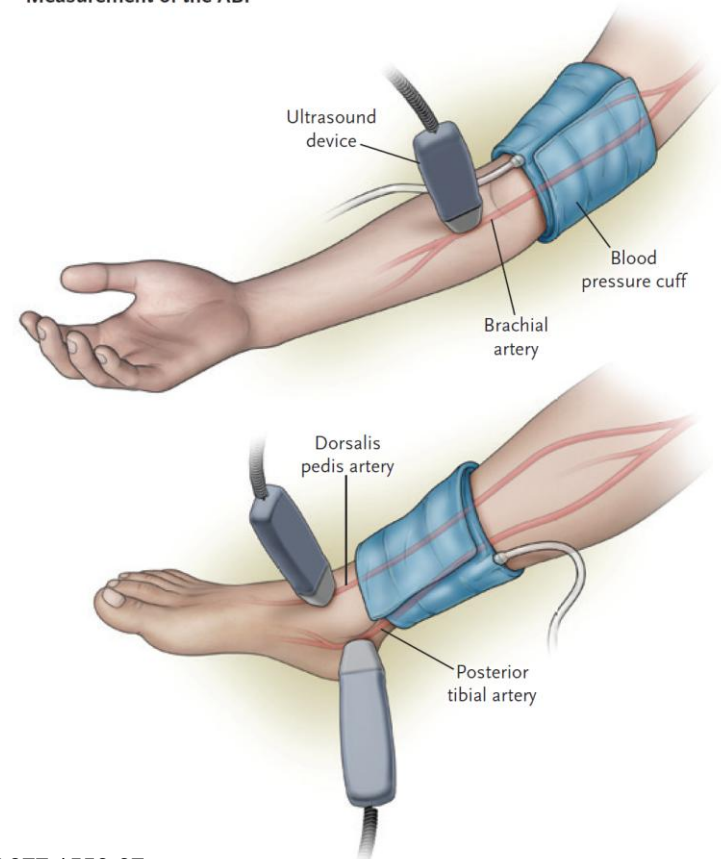
Arterial Vascular Studies

Macrovascular Tests

Ankle Brachial Pressure Index, Toe Pressure, Toe Brachial Index

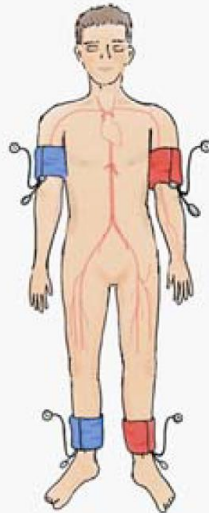
- **Ankle Brachial Pressure Index (ABPI or ABI):** è calcolato dividendo la pressione sistolica misurata alle arterie dorsalis pedis e tibialis posterior, per la pressione più alta misurata ad entrambe le arterie brachiali
- **Indicazione:** Sospetta arteriopatia periferica

Measurement of the ABI



b

Right arm:
Systolic pressure



Left arm:
Systolic pressure

Right ankle:

Systolic pressure
Posterior tibial (PT)
Dorsalis pedis (DP)

Left ankle:

Systolic pressure
Posterior tibial (PT)
Dorsalis pedis (DP)

Right ABI equals ratio of:

$$\frac{\text{Higher of the right ankle pressure (PT or DP)}}{\text{Higher arm pressure (Right or left)}}$$

Left ABI equals ratio of:

$$\frac{\text{Higher of the left ankle pressure (PT or DP)}}{\text{Higher arm pressure (Right or left)}}$$

$$\text{ABPI} = \frac{\text{Ankle systolic blood pressure}}{\text{Brachial systolic pressure}}$$

Table 1 Interpretation of ABPI

Resting ABPI	Severity of disease
> 1.3	Calcification may be present
> 1.0	Probably no arterial disease
0.81–1.00	No significant arterial disease, or mild/insignificant disease
0.5–0.80	Moderate disease
< 0.5	Severe disease
< 0.3	Critical ischemia

Bandage

Particular Bandage

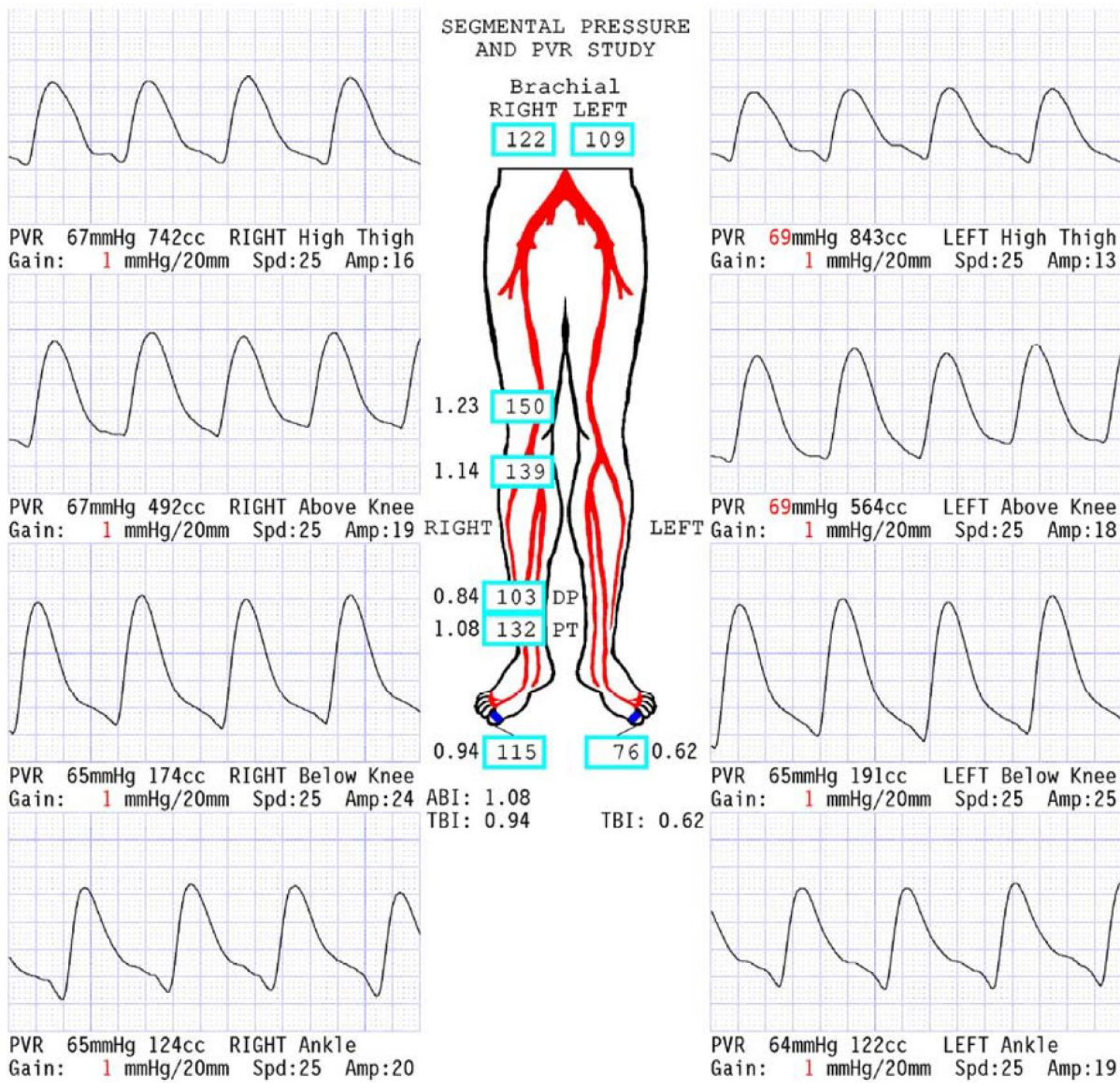
Notes: Copyright © 2001, Institute of Physics and Engineering in medicine. Adapted with permission from Cole SEA, editor. *Vascular Laboratory Practice (Part III)*. 1st ed. London, UK: IPEM; 2001. p. 36.

Abbreviation: ABPI, Ankle Brachial Pressure Index.

Ankle Brachial Pressure Index

Pulse volume report

- **ABI:** ankle-brachial index
- **PVR:** pulse volume recording
- **TBI:** toe brachial index

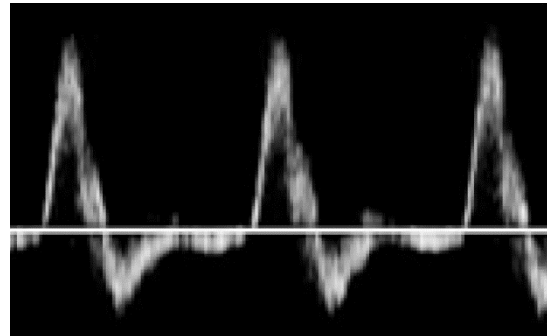
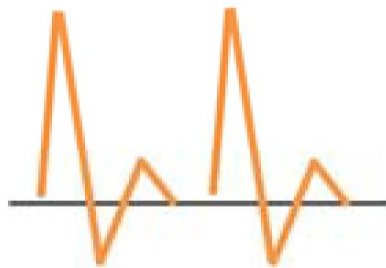


Arterial Vascular Studies

Macrovascular Tests

Doppler Arterial Waveform

- Are used to measure arterial Doppler flow
- This device recorded arterial Doppler waveforms from aorta to the pedal arch
- **Description of waveforms in a triphasic or normal waveform:**
 - The first upstroke creates a **sharp peak** corresponding with the high flow of systole
 - The subsequent **down-stroke** corresponds with the inverse flow created by the beginning of diastole
 - The **final small peak** of the waveform is caused by aortic recoil at the end of diastole



Classification Using Doppler Waveform

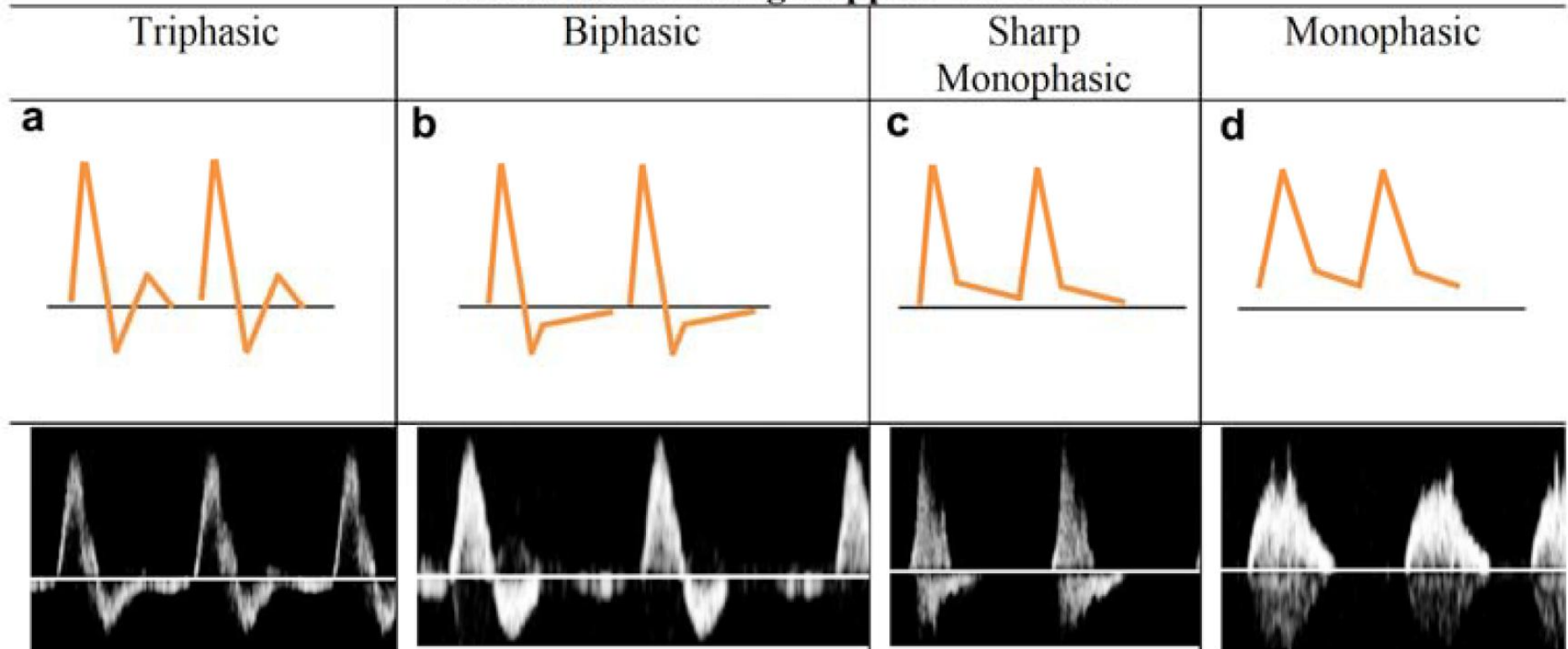


Fig. 2 Types of Doppler waveforms from a peripheral artery. **a** The triphasic waveform corresponds to a Doppler waveform morphology with three “phases”. A sharp ascending branch (systolic phase) with a short rise time and then a descending branch comprising a retrograde portion and an antegrade portion during the diastolic phase. **b** The biphasic waveform corresponds to a Doppler waveform. Two “phases”. A sharp ascending branch (systolic) with a short rise time and then a descending branch and a retrograde portion during the diastolic phase that shows increased velocity, through a mild stenosis.

c The sharp monophasic waveform corresponds to a Doppler waveform morphology with an ascending branch (systolic phase) with a short rise time, a rapid descending phase (short fall time), and no retrograde portion during the diastolic phase that indicates greatly increased velocity, through tight stenosis. **d** The “blunted” monophasic waveform corresponds to an extension of the ascending branch rise time (systolic phase), with no retrograde diastolic portion that indicates reduced velocity distal to tight stenosis” [56] (Doppler tracings courtesy of Dr. Ahmed Kayssi)

Vascular Tests for Dermatologists

Arterial Vascular Studies

Microvascular Tests (Microcirculation Assessment)

Transcutaneous Oxygen Saturation (tcPO₂)

- **Indication:** the evaluation of local microcirculation, tissue ischemia, and peri-wound oxygenation
- **Procedure:**
 - a Clark-type polarographic oxygen electrode that measures ambient oxygen concentration is placed on the skin and heated to 43.5 ° C to promote oxygen diffusion toward the electrode;
 - the warmed electrode causes vasodilatation of the arterioles and capillaries, which promotes oxygen diffusion toward the electrode;
 - The probe estimates vasodilatory capacity of micro-vessels in the skin by directly measuring post-heating hyperemia;
- The **tcPO₂ value** obtained depends on **4 variables:**
 - Cutaneous circulation
 - Arterial partial pressure of oxygen
 - Oxygen consumption by skin tissue
 - Oxygen infusibility through the skin

Vascular Tests for Dermatologists

Arterial Vascular Studies

Microvascular Tests (Microcirculation Assessment)

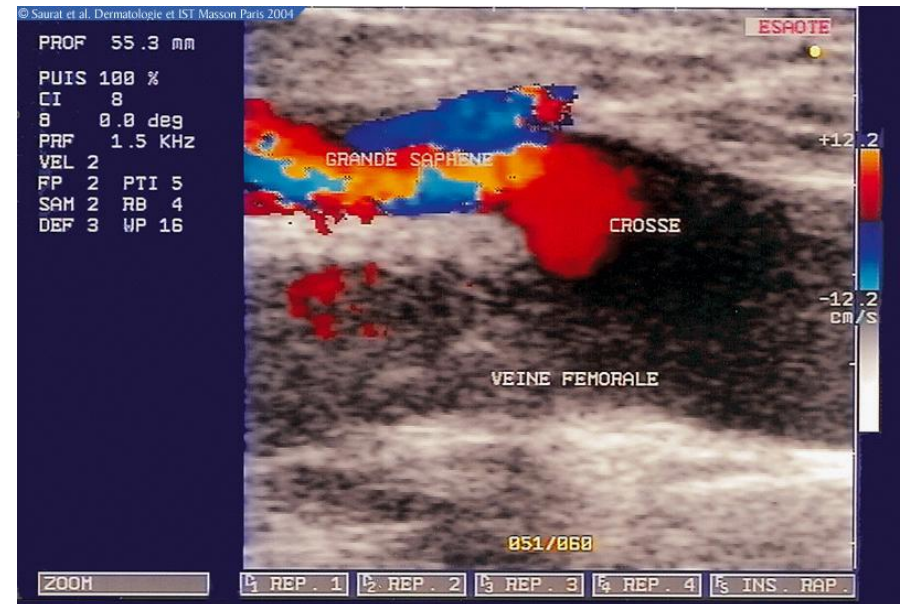
Transcutaneous Oxygen Saturation (tcPO₂)

- **Measurements** may be obtained from any area of interest. **Values:**
 - Normal: > 40 mmHg
 - Mild circulation compromise: 30-40 mmHg
 - Moderate circulation compromise: 20-30 mmHg
 - Non-healing wound: < 20 mmHg
- **Impact of measured tcPO₂ values:**
 - Obesity
 - Edema
 - Infection
 - But also local conditions such as inflammation, scar tissue, irradiated tissue, sclerosis, and position of patient (tcPO₂ ↓)

Venous Studies

Color Flow Duplex Ultrasonography

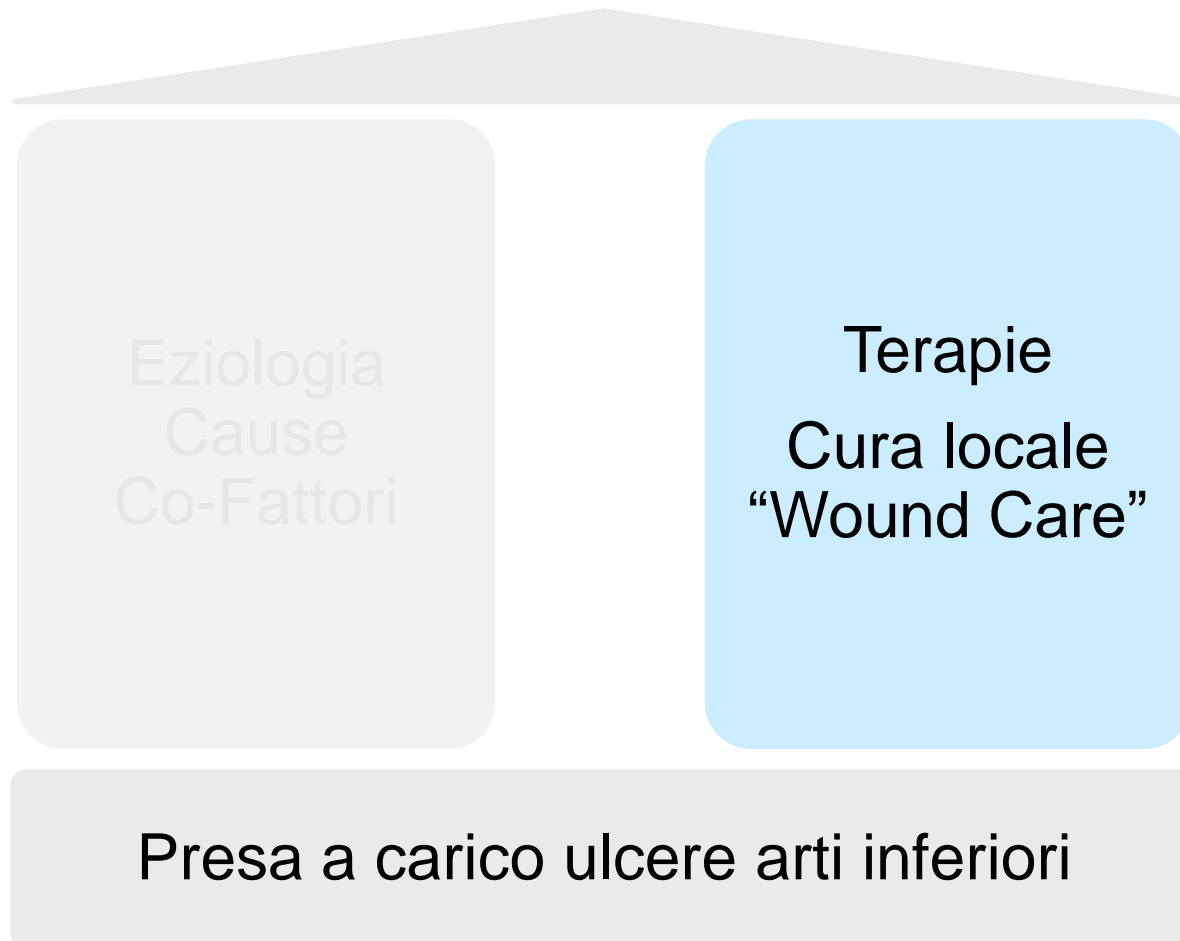
- **Indication:** provides anatomical and flow data for the assessment of reflux and patency in specific veins. Thromboembolic disease in the extremities veins can be diagnosed
- Enables the operator to evaluate the direction and velocity of blood flow and thus detects the location of venous occlusion, stenosis, or reflux



Ulcera croniche arti inferiori

- Primo: **diagnosi**

- Secondo: **terapia**



Ulcere Venose

- **Bendaggio compressivo:**
 - «Alzare» gli arti inferiori
 - Riduzione del peso
- **Chirurgia vascolare**
 - **Chirurgia vene varicose**
 - **Terapie endovascolari**
 - **Scleroterapia**
- **Chirurgia dell'ulcera**
- **Trapianti cutanei**

Ulcera venosa

- **Ulcera:** forma arrotondata, polilobata; fondo fibrinoso o con tessuto di granulazione
- **Localizzazione:** terzo distale della gamba: malleolare o sopramalleolare interna
- **Cute circostante:** infiammata (dermite ocre, dermatoliposclerosi, eczema,...). Varice o vena perforante insufficiente a monte



Bendaggio compressivo: first-line therapies

- *Evidence level A: double-blind study*
- **Guarisce 95 % delle ulcere venose**, ma ci vuole tempo
- Tecnica bendaggio !
- La compressione ideale alle caviglie: 40 mmHg
- **Compressione a 4 strati** (Profore®) e stivali di zinco



- Bende di estensione debole (Rhena-Varidress® 8 + 10 cm)

Marston WA et al. *J Vasc Surg* 1999;30:491-8.
Moffatt CJ et al. *Wound Repair Regen* 2003; 11:166-71.
Nelson EA et al. *J Vasc Surg* 2007; 45:134-41.

Coban® 2:

ABPI ≥ 0.8

Indicazione:

IVC

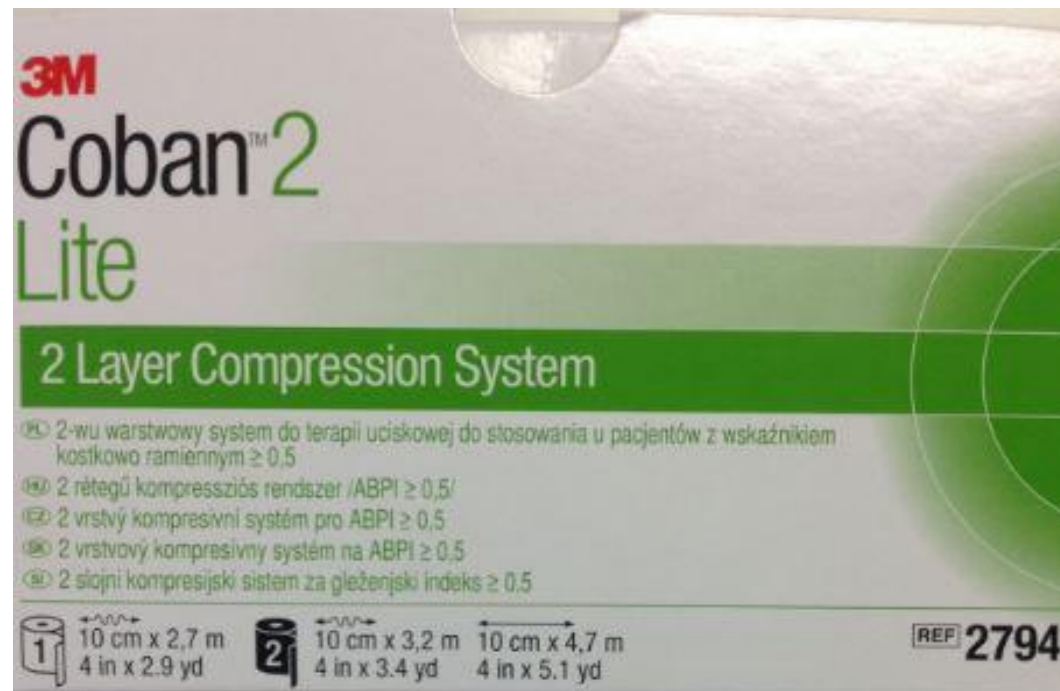


Coban® 2 Lite:

ABPI ≥ 0.5

Indicazione:

Anche lieve arteriopatia



Trapianto cutaneo: second-line therapies

- *Evidence level A: double-blind study*
 - **Secondo Reverdin**



Giorno 4

Giorno 7

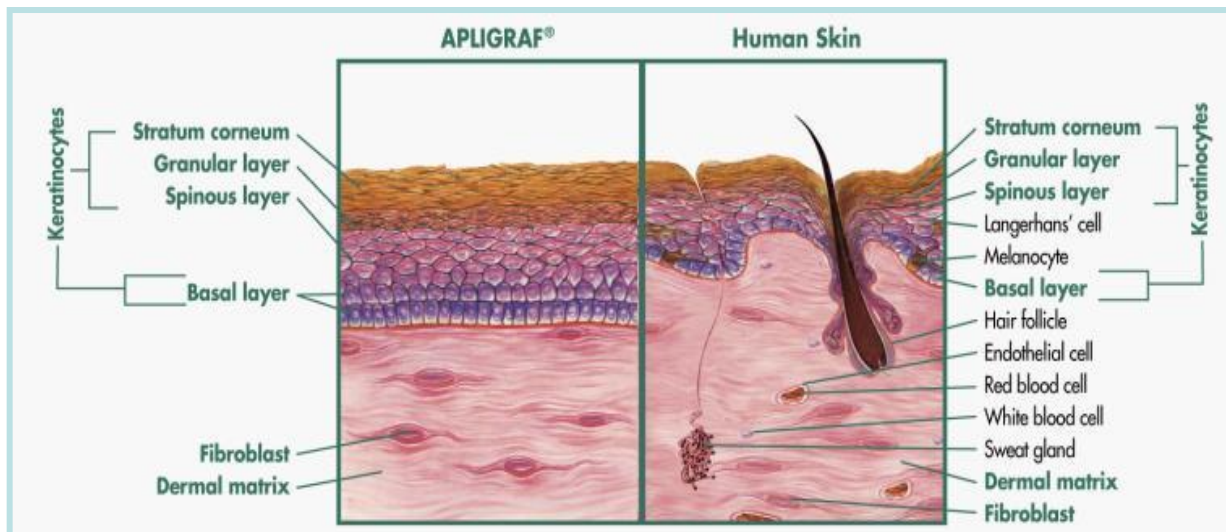


- **Secondo Thiersch**

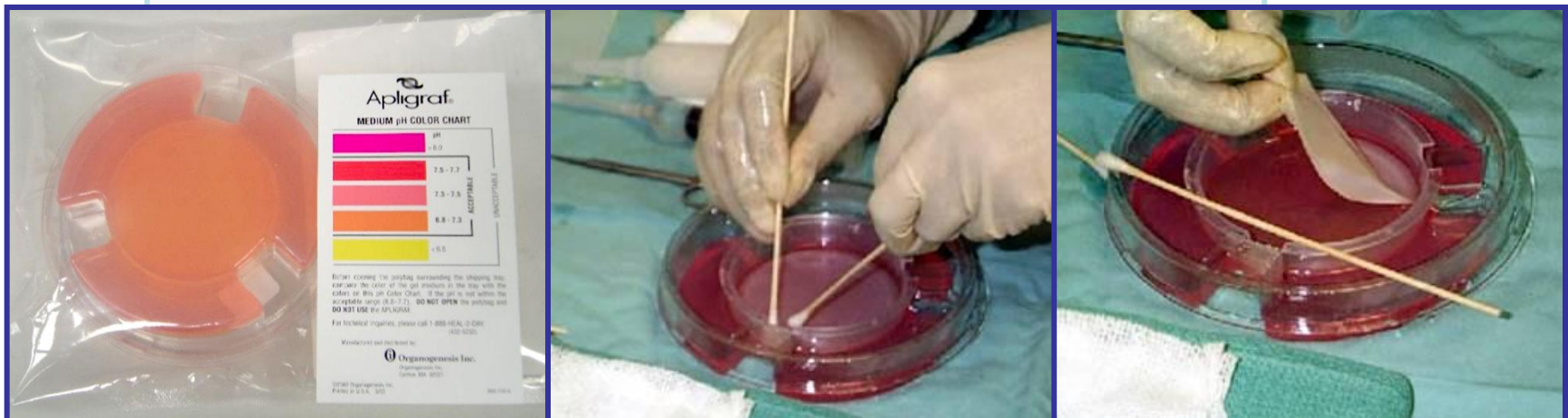


Trapianto cutaneo: second-line therapies

- *Evidence level A: double-blind study*
- **Skin equivalent dressings (Graftskin, Apligraf)**



Courtesy of P. Bigliardi



Trapianto cutaneo: second-line therapies

- *Evidence level A: double-blind study*
- **Skin equivalent dressings (Graftskin, Apligraf)**



Ulcera venosa: terapia chirurgica

Evidence level B: Clinical trial > 20 subjects

Shaving surgery: 5 anni dopo



Ulcere Arteriose

- **Rivascolarizzazione:**
 - **Endovascolare (Angioplastica +/- Stent)**
 - **Arterial Bypass Grafting**
- **Farmaci**
 - **Anti-aggregazione**
 - **Anticoagulazione**
 - **Prostaglandine (Iloprost)**
- **Cura dei fattori di rischio (diabete,...)**
- **Cura Infezione parti molli-Osteomielite / Amputazione**

Ulcera arteriosa classica: terapia



Stato dopo angioplastica e posa Stent

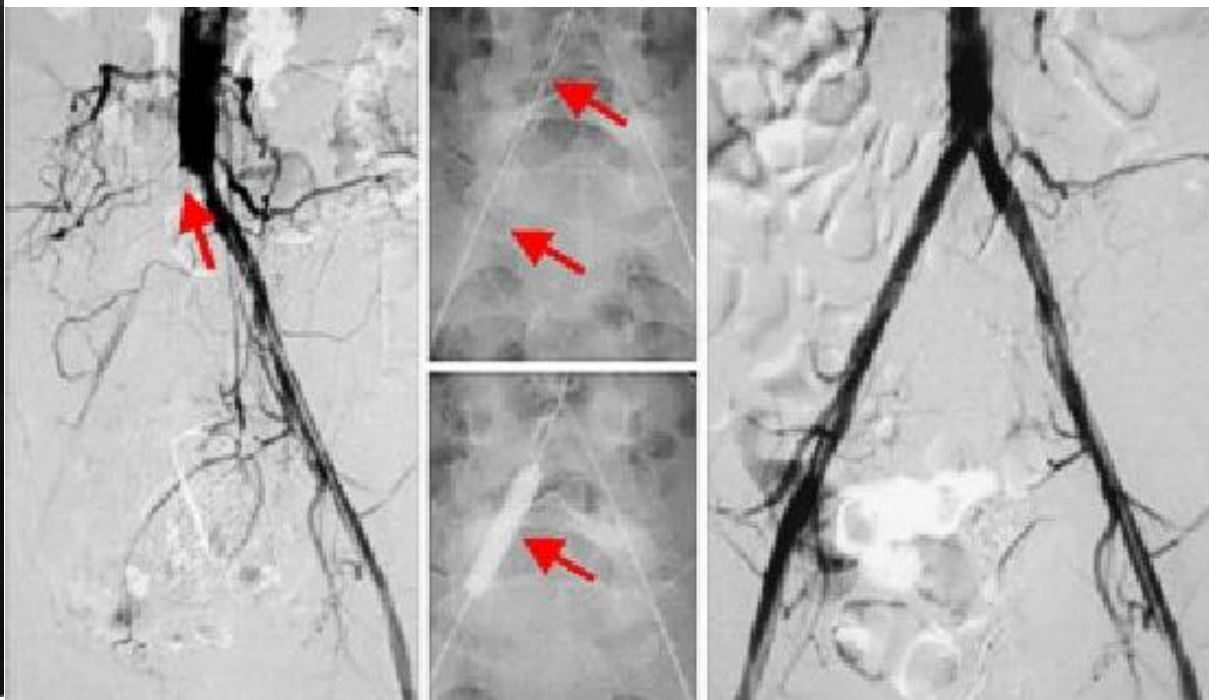
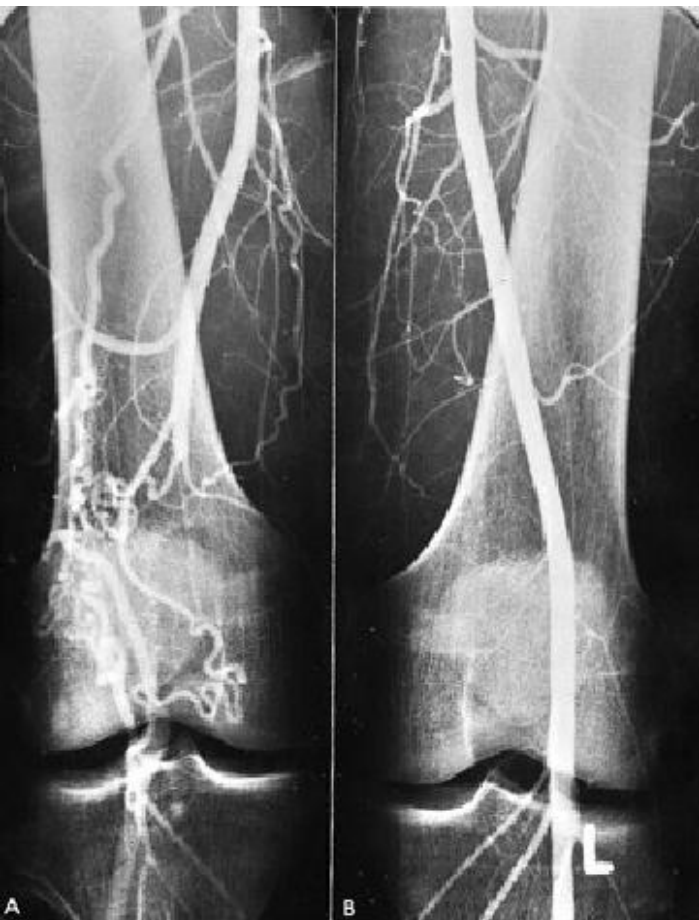


Trapianto cutaneo secondo Thiersch



Ulcera arteriosa classica: terapia

Dilatazione endoluminale (angioplastica) con posa di un **stent**



Ulcere neuropatiche (Malum Perforans)

- **Scaricare la pressione zone d'appoggio (Off-loading):**
- **Asportazione dell'ipercheratosi ai bordi**
- **Cura dei fattori di rischio (nutritivi o metabolici)**
- **Cura Infezione parti molli-Osteomielite / Amputazione**

Sindrome del piede diabetico



Wound Care (Advanced Therapies)

Prevention:

Risk factors, Off-loading plantar lesions, Compression, Skin Care, Adapted shoes

Infection

- Antiseptic
- Silver
- Honey
- Super absorber
- Hydrocellular / Foam
- Coal

Necrosis

- Surgery
- Hydrogel
- Bio-surgery
- Ultrasound

Exudation

- Hydrofiber
- Alginate
- Hydrocellular / Foam
- Honey
- Super absorber
- «Powders»
- NPT (Negative Pressure Therapy)

Fibrin

- Ultrasound
- Alginate
- Bio-surgery
- Hydrocellular / Foam
- Honey
- «Powders»
- Interface Networks
- Hydrogel
- Hydrocolloid
- NPT

Granulation

- Alginate
- Hydrocolloid
- Honey
- Ialuronic acid
- «Powders»
- Hydrocellular / Foam
- Interface Networks
- Hemotherapy
- NPT
- Skin Graft

Epithelization

- Hydrocolloid
- Interface Networks
- Skin Graft



Courtesy of Barbara Rigoni Mainetti

Caso

♀ 77 anni con artrite reumatoide





Ulcera gamba: Algoritmo Diagnostico

Si sospetta un **disturbo della circolazione?**

SI

NO

Anamnesi
Clinica (polsi periferici)
ABPI e pressione alluci
Duplex venoso



Anamnesi
Clinica
Biopsia, se necessario
Esami laboratorio, ...

Venosa

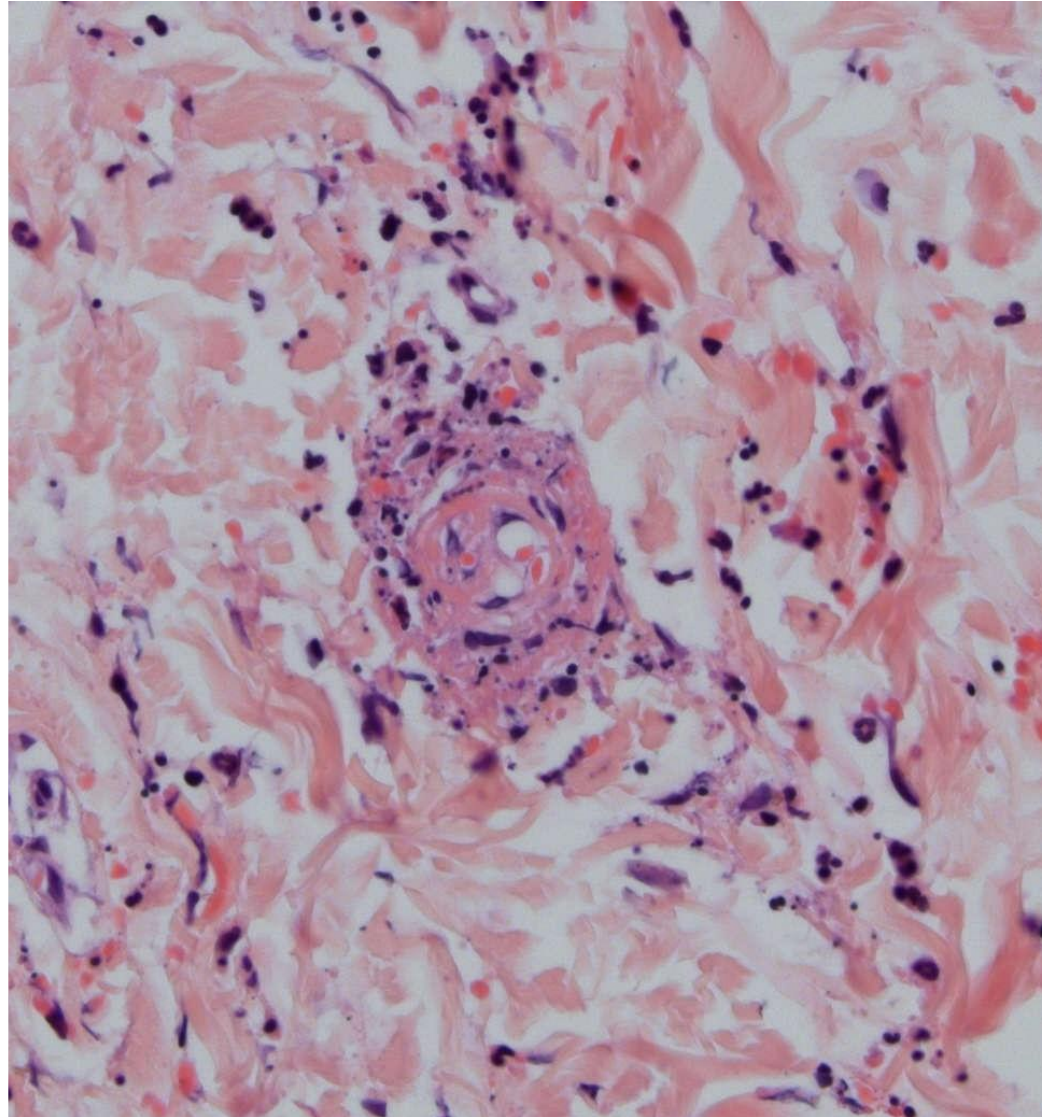
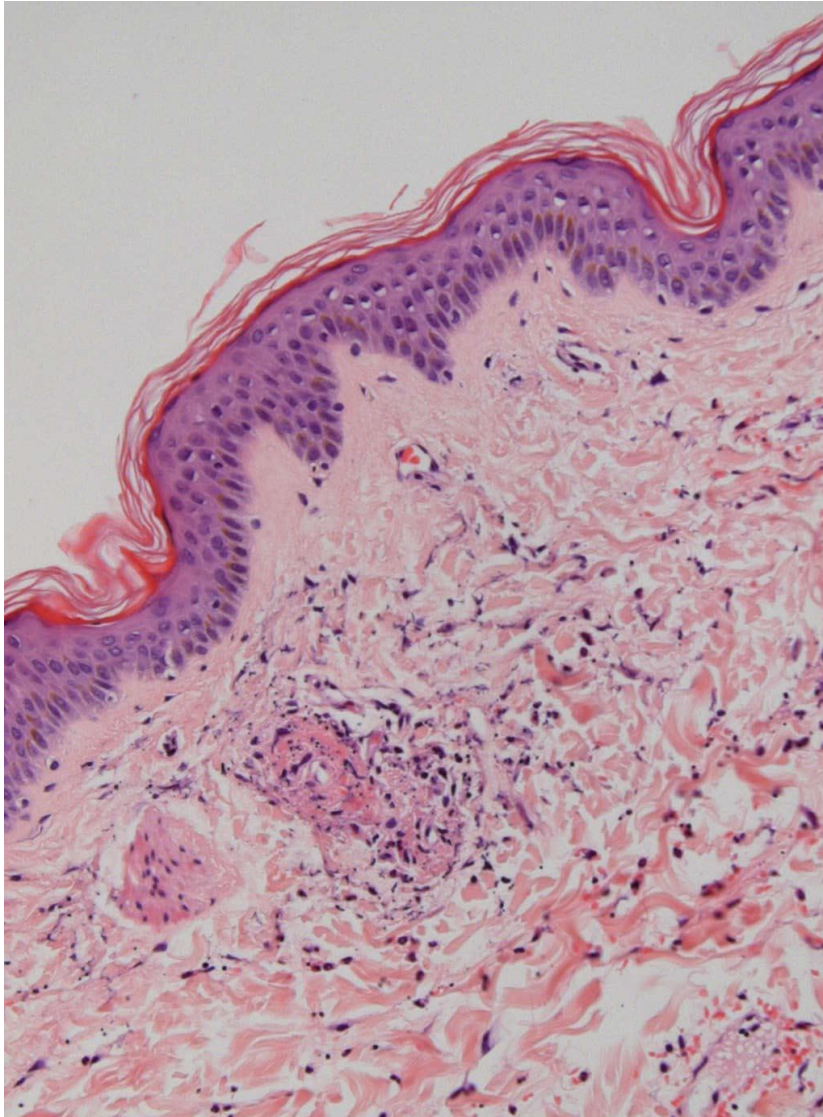
Mista

Arteriosa

Linfatica

Infiammazione
Vasculite
Neoplasia
Infezione
Trauma
Farmaci / Droghe
Affezioni genetiche
Calcifilassia, ...

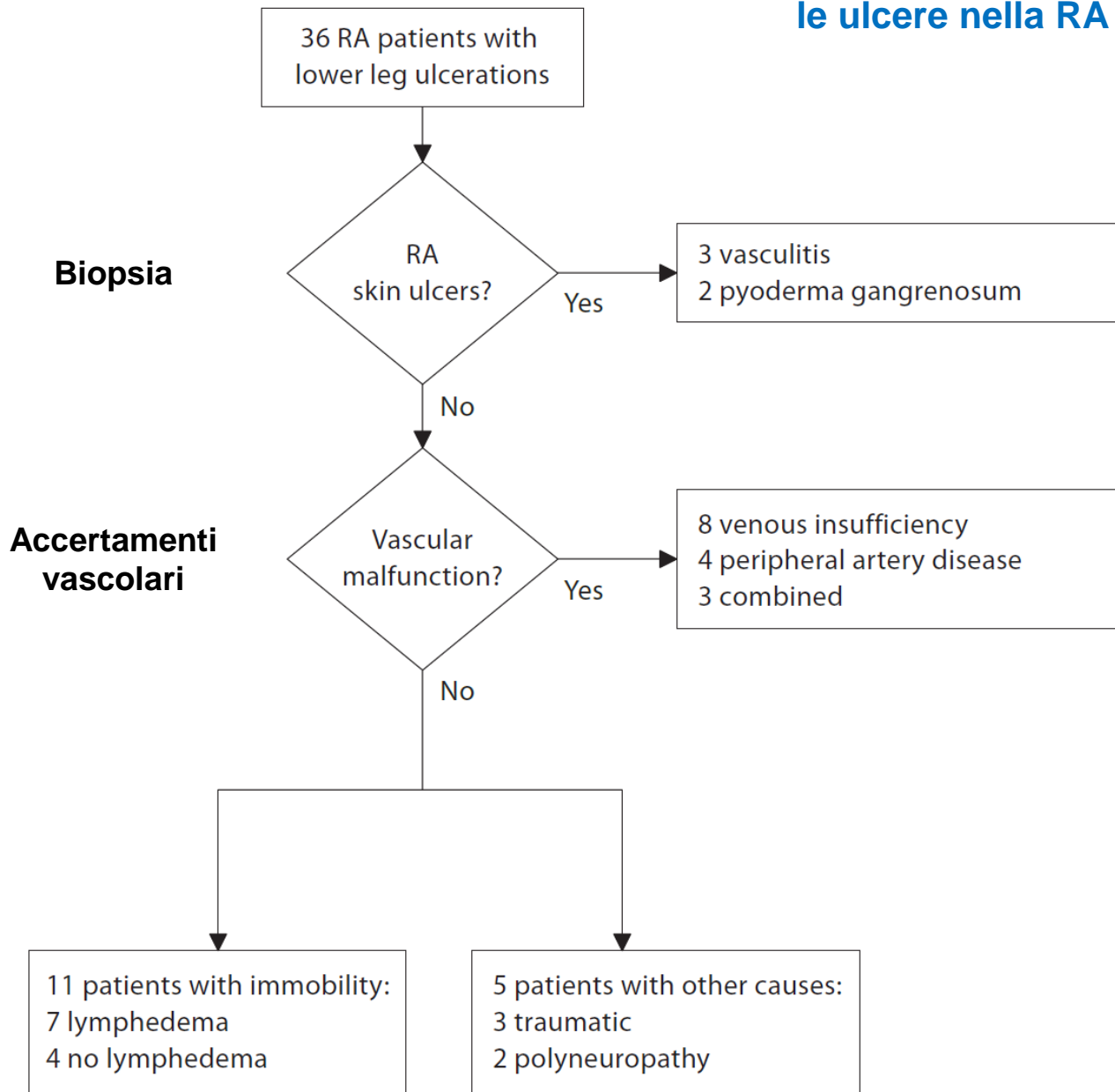
Biopsia bordo ulcera: vasculite leucocitoclastica



Ulcere arti inferiori ed artrite reumatoide (RA)

- Rischio di sviluppare ulcera in 10% dei pazienti RA (popolazione: 1%)
- Durata media ulcera prolungata: 5-15 mesi
- Resistenza alle terapie locali
- Co-fattore più importante: IVC (3/4 casi)
- Ruolo dell'immobilità articolare
- **Vasculite reumatoide (leucocitoclastica):**
 - complicanza severa con aumento rischio morbilità e mortalità (fino al 8% dei casi)
 - 8-55% dei casi di ulcera associata a RA
 - localizzazione preferita: malleolo laterale e pretibiale
 - dolore +++
 - Rischio sviluppo: neuropatia periferica o centrale, cardiopatia, IRC, pneumopatia, emopatia e oftalmopatia
 - Terapia immunosoppressiva: CS, DMARDs, Biologici

Algoritmo per classificare le ulcere nella RA



≈ 50%

Shanmugam VK. et al. J Vasc Surg Venous Lymphat Disord 2017;5:280-292.



13.01.2005

PDN 30 mg p.o. / die
MXT 10 mg i.m. / sett.



04.03.2005

PDN 25 mg p.o. / die
MXT 15 mg i.m. / sett.



25.07.2005

PDN 10 mg p.o. / die
MXT 15 mg i.m. / sett.



25.01.2006

MXT 15 mg i.m. / sett.

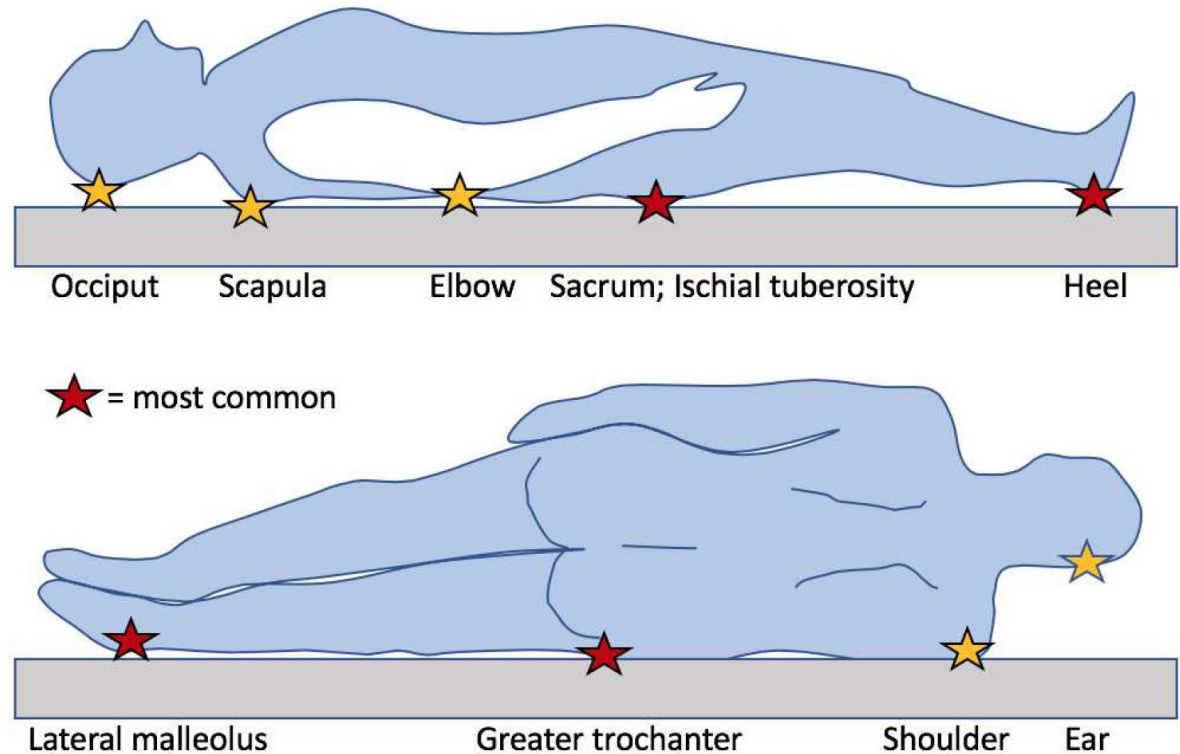
Ulcere Croniche

- **Ulcere agli arti inferiori:**
 - **Ulcere venose**
 - **Ulcere arteriose**
 - **Ulcere neuropatiche (diabete)**
 - **Rarità (<< 10%)**
- **Ulcere da pressione**
- **Ulcere altre localizzazioni non da pressione**

Lesioni o ulcere da pressione:

Descrizione clinica

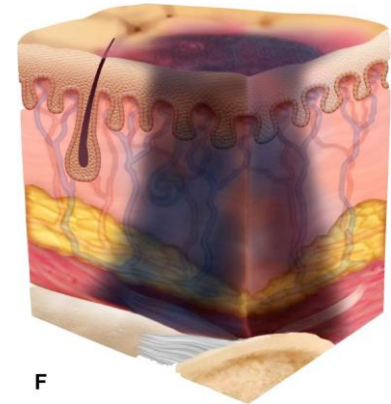
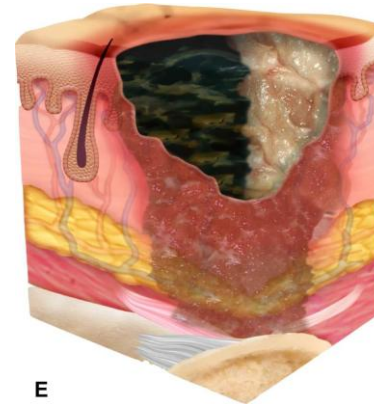
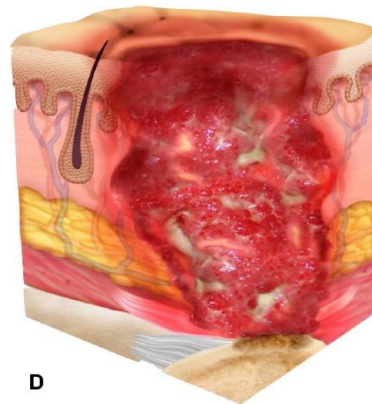
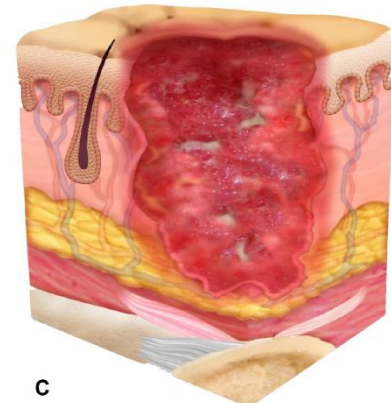
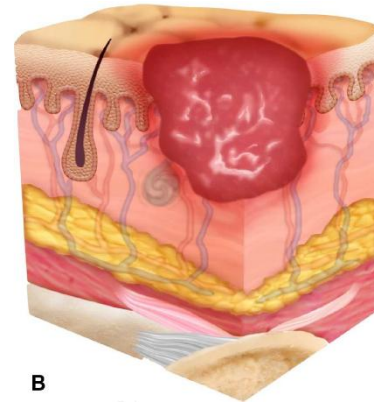
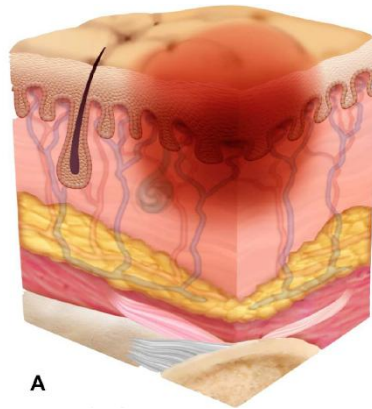
- Localizzazione
- Dimensione
- Profondità
- Fondo
- Bordi
- Cute perilesionale



Lesioni o ulcere da pressione:

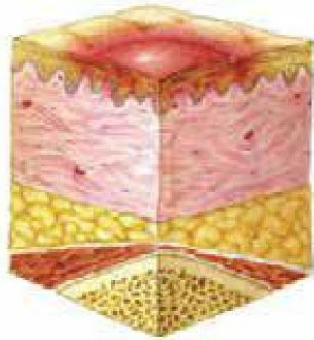
Descrizione clinica

- Localizzazione
- Dimensione
- Profondità
- Fondo
- Bordi
- Cute perilesionale

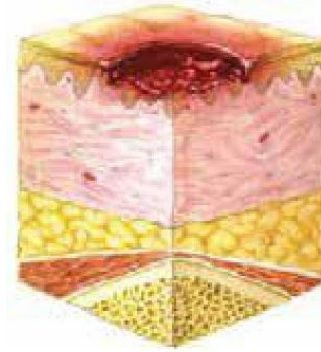


Stadiazione NPUAP (National Pressure Ulcer Advisory Panel)

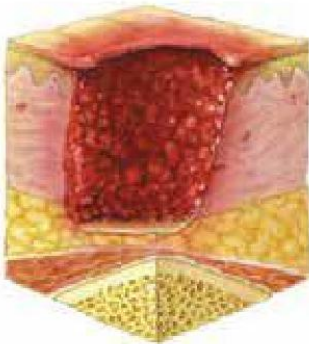
Stadio 1:
eritema



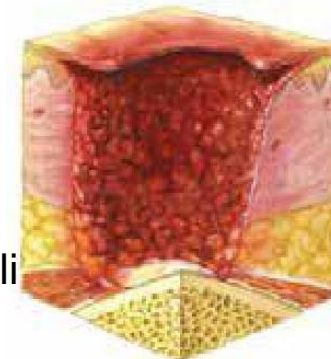
Stadio 2:
pelle lesa
flictene
erosione
ulcera



Stadio 3:
perdita
pelle
sottocute
visibile



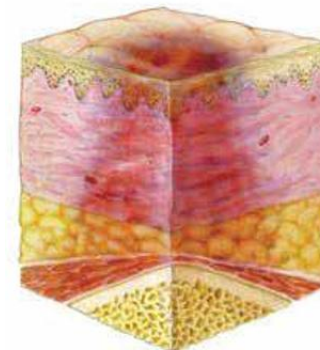
Stadio 4:
perdita
tessuto
completa
muscolo e
osso visibili



Inclassabile:
perdita
tissutale
completa di
profondità
sconosciuta



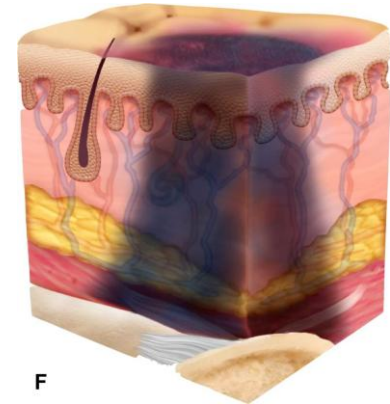
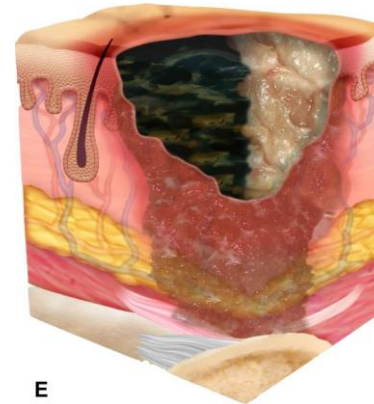
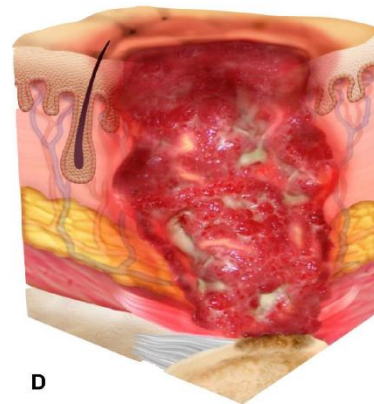
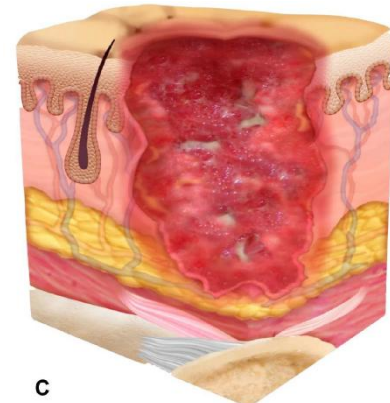
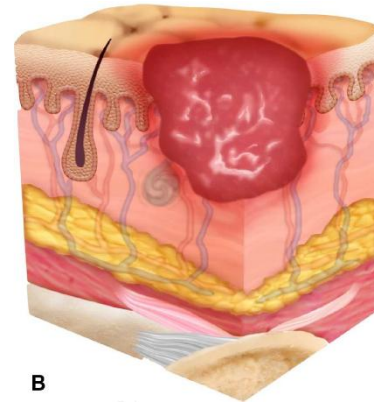
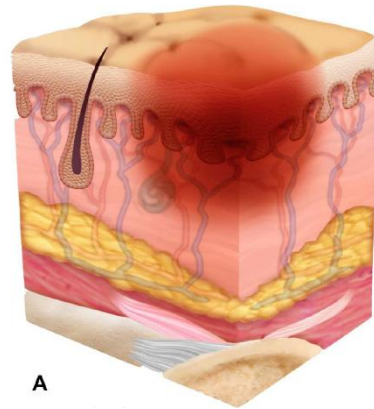
**Danno
tissutale
profondo:**
profondità
non nota



Lesioni o ulcere da pressione:

Descrizione clinica

- Localizzazione
- Dimensione
- Profondità
- Fondo
- Bordi
- Cute perilesionale



Lesioni o ulcere da pressione: Considerazioni dermatologiche

- **Fondo / Bordi / Cute peri-lesionale:**
 - **Infezioni**
 - Batteri
 - Funghi
 - Virus / Parassiti
 - **Dermatite da contatto**
 - Allergica
 - Tossico-irritativa
 - **Dermatite da incontinenza**
 - **Tumori (ulcera di Marjolin)**

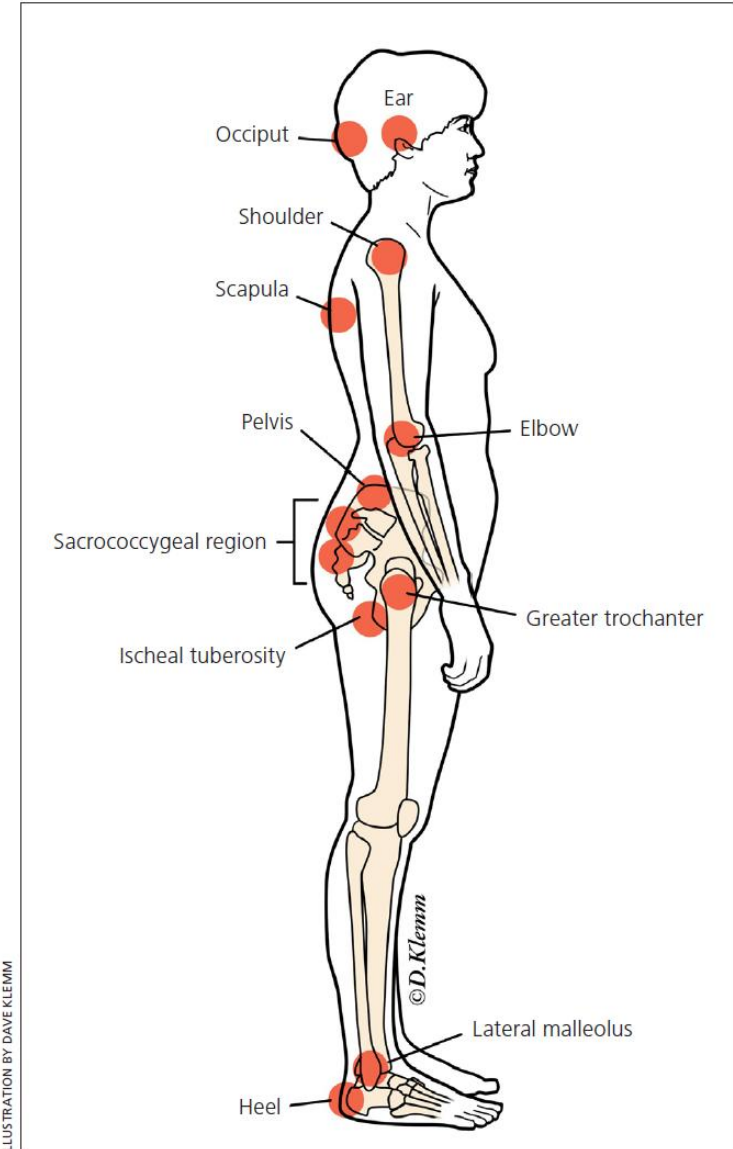


ILLUSTRATION BY DAVE KLEMM

Fattori di rischio

Table 1. Risk Factors for Pressure Ulcers

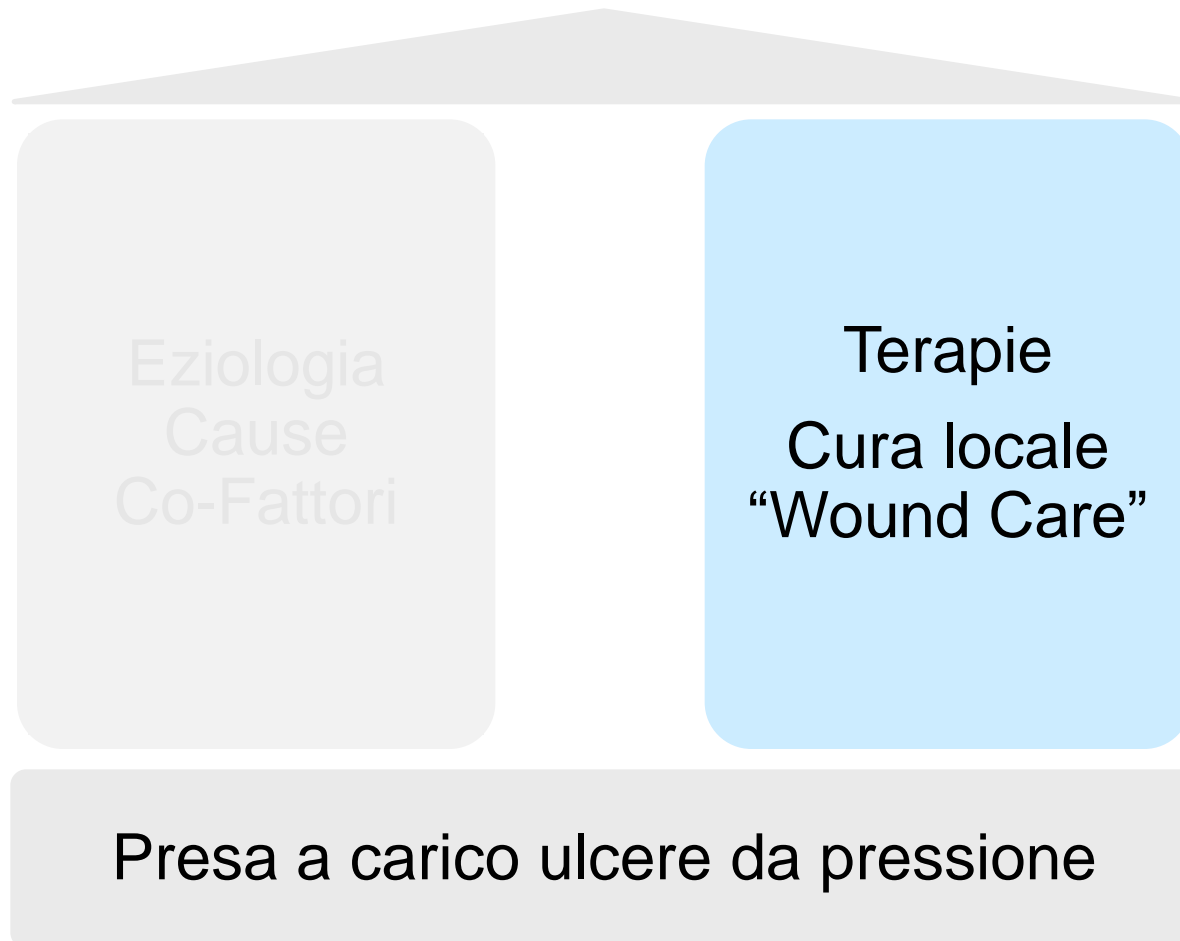
Intrinsic	Intrinsic (continued)	Intrinsic (continued)
<u>Limited mobility</u>	<u>Comorbidities</u>	<u>Aging skin</u>
Spinal cord injury	Diabetes mellitus	Loss of elasticity
Cerebrovascular accident	Depression or psychosis	Decreased cutaneous blood flow
Progressive neurologic disorders (Parkinson disease, Alzheimer disease, multiple sclerosis)	Vasculitis or other collagen vascular disorders	Changes in dermal pH
Pain	Peripheral vascular disease	Flattening of rete ridges
Fractures	Decreased pain sensation	Loss of subcutaneous fat
Postsurgical procedures	Immunodeficiency or use of corticosteroid therapy	Decreased dermal-epidermal blood flow
Coma or sedation	Congestive heart failure	Extrinsic
Arthropathies	Malignancies	Pressure from any hard surface (e.g., bed, wheelchair, stretcher)
<u>Poor nutrition</u>	End-stage renal disease	Friction from patient's inability to move well in bed
Anorexia	Chronic obstructive pulmonary disease	Shear from involuntary muscle movements
Dehydration	Dementia	Moisture
Poor dentition		Bowel or bladder incontinence
Dietary restriction		Excessive perspiration
Weak sense of smell or taste		Wound drainage
Poverty or lack of access to food		

Adapted with permission from Garcia AD, Thomas DR. Assessment and management of chronic pressure ulcers in the elderly. Med Clin North Am. 2006;90(5):928-929.

Ulcera da pressione

- Primo: **diagnosi**

- Secondo: **terapia**



Eziologia
Cause
Co-Fattori

Terapie
Cura locale
“Wound Care”

Preso a carico ulcere da pressione

Ulcere da pressione

- **Scaricare la pressione zone d'appoggio (Off-loading):**
- **Débridement / Pressione negativa**
- **Cura dei fattori di rischio (nutritivi o metabolici)**
- **Cura Infezione parti molli-Osteomielite / Amputazione**

Wound Care (Advanced Therapies)

Prevention:

Risk factors, Off-loading plantar lesions, Compression, Skin Care, Adapted shoes

Infection

- Antiseptic
- Silver
- Honey
- Super absorber
- Hydrocellular / Foam
- Coal

Necrosis

- Surgery
- Hydrogel
- Bio-surgery
- Ultrasound

Exudation

- Hydrofiber
- Alginate
- Hydrocellular / Foam
- Honey
- Super absorber
- «Powders»
- NPT (Negative Pressure Therapy)

Fibrin

- Ultrasound
- Alginate
- Bio-surgery
- Hydrocellular / Foam
- Honey
- «Powders»
- Interface Networks
- Hydrogel
- Hydrocolloid
- NPT

Granulation

- Alginate
- Hydrocolloid
- Honey
- Ialuronic acid
- «Powders»
- Hydrocellular / Foam
- Interface Networks
- Hemotherapy
- NPT
- Skin Graft

Epithelization

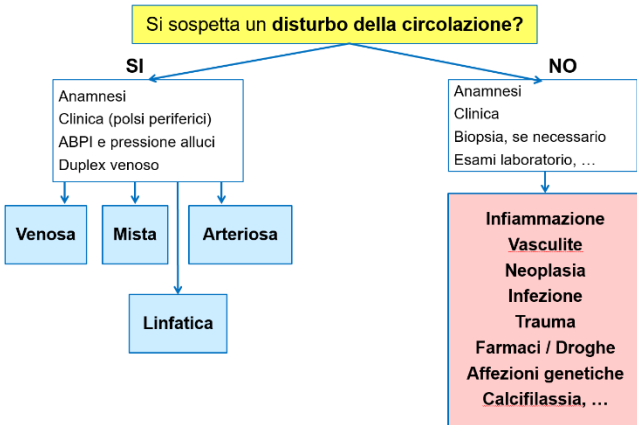
- Hydrocolloid
- Interface Networks
- Skin Graft



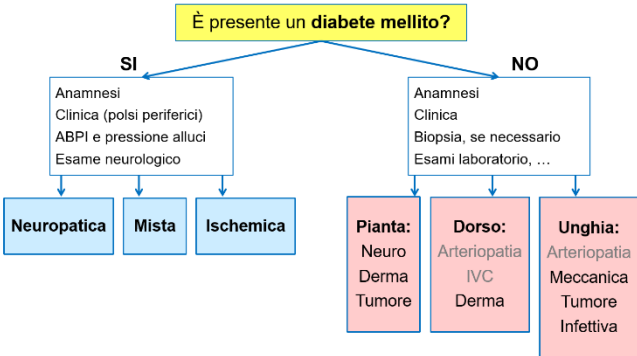
Courtesy of Barbara Rigoni Mainetti

Conclusioni: Presa a carico delle ulcere croniche

Ulcera gamba: Algoritmo Diagnostico



Ulcera piede: Algoritmo Diagnostico



Wound Care (Advanced Therapies)





Feature	Ulcer Type			
	Venous	Arterial	Neuropathic Diabetic	Pressure
Underlying condition	Varicose veins, previous deep-vein thrombosis, obesity, pregnancy, recurrent phlebitis	Diabetes, hypertension, smoking, previous vascular disease	Diabetes, trauma, prolonged pressure	Limited mobility
Ulcer location	Area between the lower calf and the medial malleolus	Pressure points, toes and feet, lateral malleolus and tibial areas	Plantar aspect of foot, tip of the toe, lateral to fifth metatarsal	Bony prominences, heel
Ulcer characteristic	Shallow and flat margins, moderate-to-heavy exudate, slough at base with granulation tissue	Punched out and deep, irregular shape, unhealthy wound bed, presence of necrotic tissue, minimal exudate unless infected	Deep, surrounded by callus, insensate	Deep, often macerated
Condition of leg or foot	 Hemosiderin staining, thickening and fibrosis, eczematous and itchy skin, limb edema, normal capillary refill	 Thin shiny skin, reduced hair growth, cool skin, pallor on leg elevation, absent or weak pulses, delayed capillary refill, gangrene	 Dry, cracked, insensate, calluses	 Atrophic skin, loss of muscle mass
Treatment	Compression therapy, leg elevation, surgical management	Revascularization, anti-platelet medications, management of risk factors	Off-loading of pressure, topical growth factors	Off-loading of pressure; reduction of excessive moisture, shear, and friction; adequate nutrition

Figure 1. Venous, Arterial, Neuropathic Diabetic, and Pressure Ulcers.



17° corso
di aggiornamento
per il
medico
di base

25, 26 e 27 settembre
Mercato coperto
Giubiasco



Grazie
per l'attenzione