Systemic signs of infection

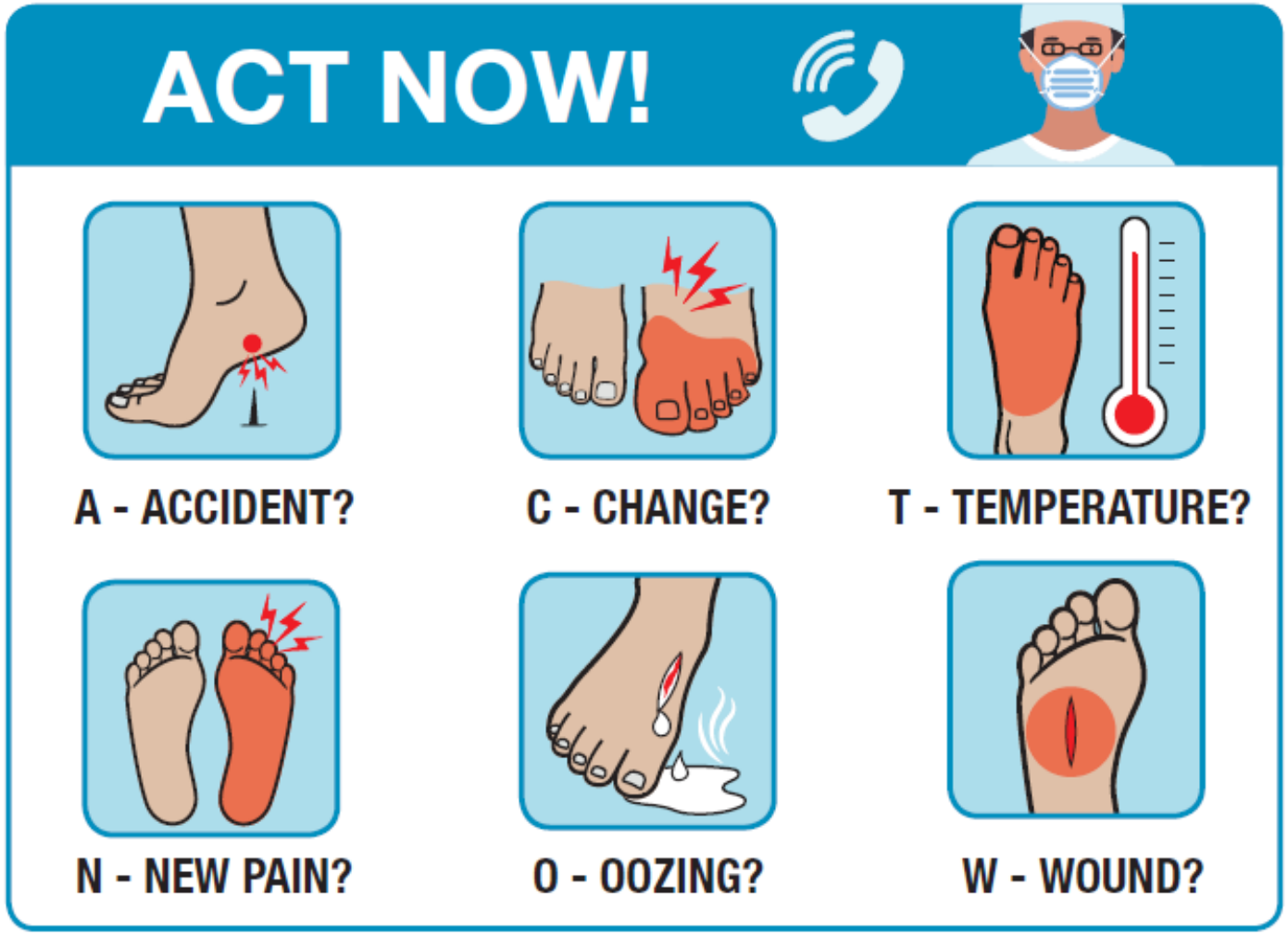
- Malaise or other non-specific deterioration in the general condition
- Shivers, shakes or rigors
- Flu-like symptoms

Beware of the development of SEPSIS -

- Slurred speech or confusion
- Extreme shivering or muscle pain
- Severe breathlessness
- “Feeling of going to die”
- Skin mottled or discoloured

Seek medical help urgently if the person experiences any of these signs

ACT NOW : Visual summary of the warning signs of amputation including infection



ACT NOW

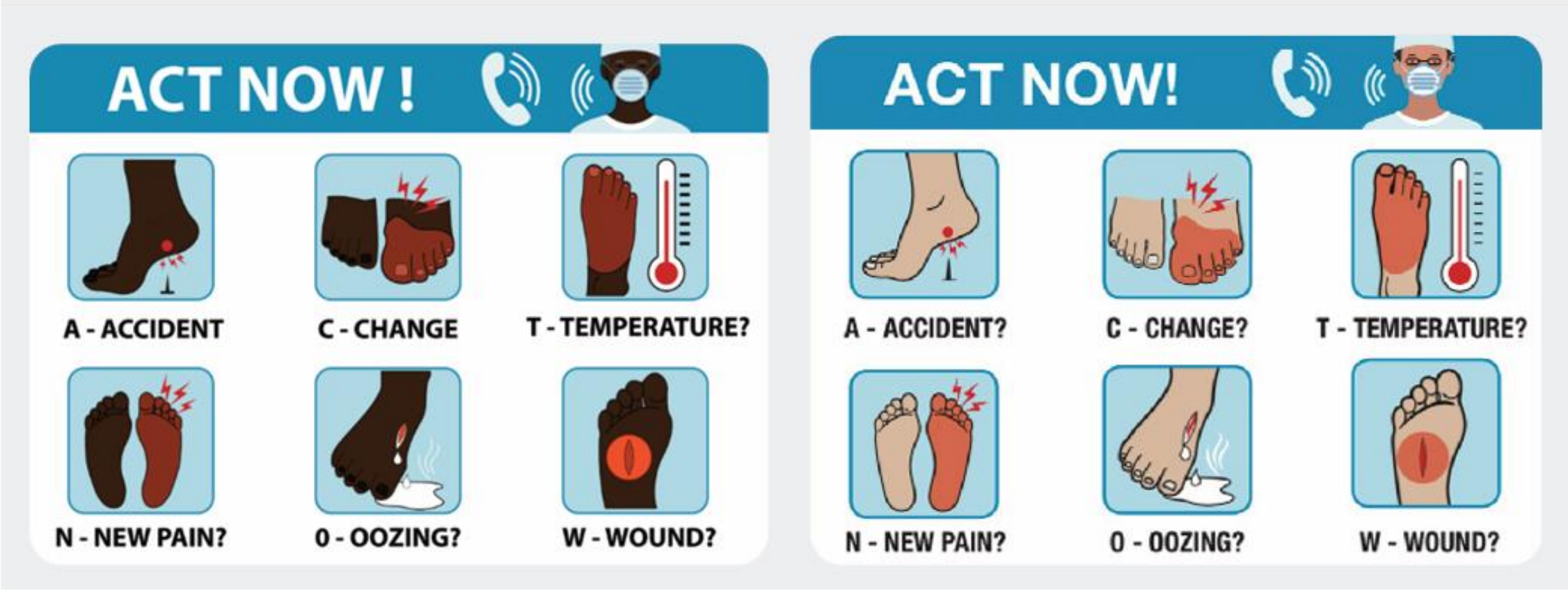
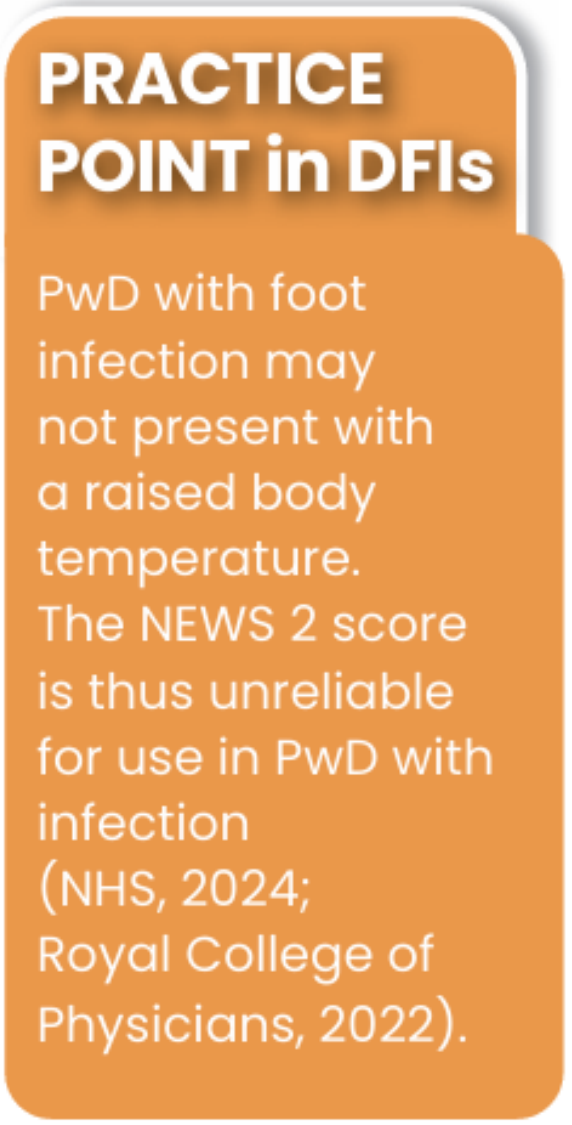
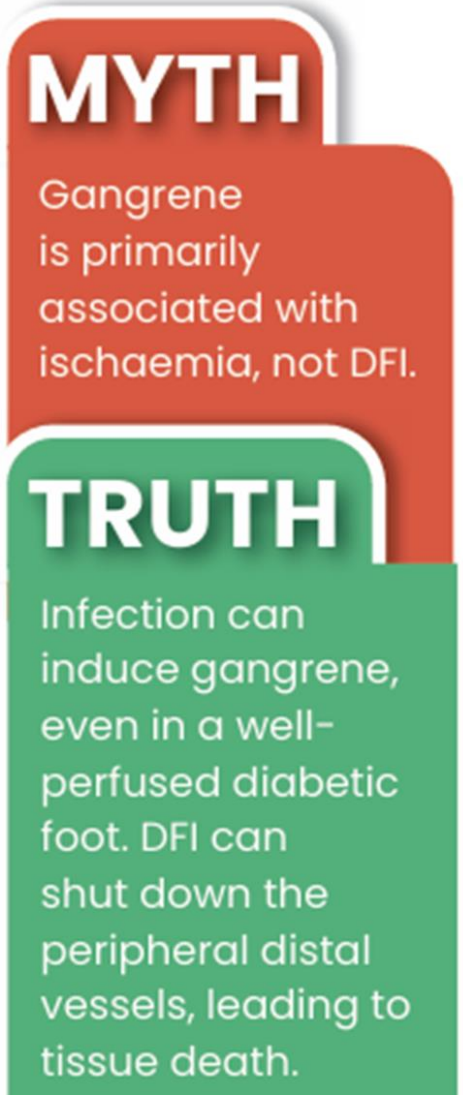


Figure 2: The ACT NOW acronym provides a visual summary of warning signs of amputation including infection. The left panel represents a dark skin tone and the right a light skin tone (iDEAL, 2018).

Three types of additional texts in each section





MYTH

Redness in a diabetic foot will always indicate infection.

TRUTH

Redness, or erythema, does not always indicate infection. Nor does the absence of redness mean there is no infection. Consider the pathophysiology of infection, consider skin tone and think about other differential diagnoses for redness within the foot (e.g. acute gout, fracture, Charcot foot, sunburn, insect bite or ischaemia).

Differential Diagnosis of DFI

Charcot arthropathy	Deep vein thrombosis	Acute gout flare-up	Fractures without Charcot	Sunburn or melanomas
In the initial stages, presents as a 'red, hot and swollen foot'. In the later stages, can present with new foot deformity. Can be 'silent' but some symptoms may be present: • Red, hot, swollen foot with or without pain • New foot deformity/ change in foot shape • May or may not be a history of trauma (ankle sprain or fall or any accident) • X-rays may appear 'normal' in early stages but MRI will show early signs of bone marrow oedema	• Unilateral leg pain • Swelling of foot, ankle or leg • Calf swollen • A Duplex scan will reveal thrombosis in the deep veins of the calf	• Painful (can be excruciating) most commonly seen in big toe (metatarsal/ phalangeal) joint with redness/darker hues (in people with dark skin tone), heat and swelling • Can present with symptoms similar to acute Charcot or cellulitis • May be presence of gouty tophi	Can present as red, hot swollen foot with or without pain Consider: • History of trauma (ankle sprain or fall or any accident) • History of foot overuse (e.g. heavy sports)	Both of these can be confused with cellulitis and/or DFUs • Rule out sunburn • Consider possibility of atypical malignant melanomas. Although rare, they can be easy to confuse with foot ulcers resulting in antibiotic abuse and dangers associated with missing the melanoma treatment. Malignant melanomas may bleed easily, may have raised hypergranulation tissue, and may be pigmented

Differential diagnosis of DFI

Buerger's Test

Ischaemia	Cellulitis (acute bacterial infection of the skin)	Osteomyelitis
• In severe ischaemia, the foot may appear pink/red. The pink painful red 'sunset foot' with taut shiny skin is typical of severe ischaemia. The severely ischaemic foot can progress to develop localised areas of necrosis. Toes may become cyanosed/blue and will progress to necrosis/gangrene unless perfusion of the foot is improved • Poor arterial flow to the foot that can be assessed via the Buerger's test: patient's leg may appear colourless upon lifting or the leg colour may appear different even without lifting – it may have a dusky forefoot that completely blanches if the limb is lifted. This indicates critical limb ischaemia and must be urgently referred to a vascular surgeon • Ischaemia may appear as 'shades of duskiness' in people with dark skin tones (Edwin et al, 2021)	• The infected area is characterised by pain, warmth, swelling, and erythema. Blisters and bullae may form. Fever, malaise, nausea and rigors may accompany or precede the skin changes • Cellulitis most commonly affects the lower limbs, but other areas, such as the upper limbs, face, ears, and trunk, can also be affected • May be confused with acute sunburn, Lyme disease and localised allergic reaction (e.g. to a dressing) • May blister	• Harder to diagnose with observation as it can be present without showing local or systemic infection and inflammation signs (especially true for chronic osteomyelitis) • Can co-exist with soft tissue infection • A wound with a width >2cm^2 or a deep ulcer with >3mm depth may be associated with presence of osteomyelitis • A positive 'probe to bone' test can increase likelihood of osteomyelitis, as can the observation of bone/ bone fragments within the wound • 'Sausage toe' – red, swollen toe • The presence of hypergranulation tissue may correlate to underlying osteomyelitis • Radiological evidence of osteomyelitis (x-ray, MRI), recognising that early changes may not be picked up on x-ray) • Osteomyelitis can exist without the presence of a wound ('hematogenous' osteomyelitis) – as opposed to 'contiguous' osteomyelitis where the bone becomes infected through a wound