

Skin Changes at Life's End (SCALE)

During the end stages of life (days to weeks, SCALE consensus panel, 2009), any number of vital body systems can be compromised and will eventually cease functioning. The process of organ failure can result in injury or interference to the skin as a result of decreased cutaneous perfusion and localised hypoxia. This reduced availability of blood denies the body of vital nutrients and other factors required to sustain normal skin function. When this compromised state occurs, it is referred to as 'Skin Changes at Life's End' (SCALE). This physical status can increase the risk of pressure damage occurring. Skin changes may develop at life's end despite optimal care, as it may be impossible to protect the skin from environmental insults in its compromised state. These changes are often related to other cofactors including aging, co-existing diseases, and drug adverse events.

SCALE by definition occurs at life's end, but skin compromise may not be limited to end-of-life situations; it may also occur with acute or chronic illnesses, and in the context of multiple organ failure that is not limited to the end of life (SCALE, 2009). However, these situations are beyond the scope of this paper.

Does my patient have SCALE?

Identifying when someone is at life's end and at risk of or suffering with SCALE can sometimes be difficult. The SCALE process is insidious and difficult to prospectively determine. In some circumstances it may only be after a patient has died that it becomes evident that the pressure damage was indeed SCALE.

The SCALE Consensus Statement (2009) document describes it as a person with a palliative, life limiting disease (which includes aging) who can present with a selection of symptoms, including:

- Weakness and progressive limitation of mobility
- Suboptimal nutrition including loss of appetite, weight loss, cachexia and wasting, low serum albumin/pre-albumin, and low haemoglobin as well as dehydration
- Diminished tissue perfusion, impaired skin oxygenation, decreased local skin temperature, mottled discoloration, and skin necrosis.
- Loss of skin integrity from any of a number of factors including equipment or devices, incontinence, chemical irritants, chronic exposure to body fluids, skin tears, pressure, shear, friction, and infections
- Impaired immune function

Diminished tissue perfusion is the most significant risk factors for SCALE and generally occurs in areas of the body with end arteries, such as the fingers, toes, ears, and nose. These areas may exhibit early signs of vascular compromise and ultimate collapse, such as dusky erythema, mottled discoloration, local cooling, and eventually infarcts and gangrene.

Tissue Perfusion can be assessed by:

1. Measuring blood pressure
2. Assessing capillary refill of a finger when the arm is held level with the heart. Over 2 seconds refill time would indicate compromised perfusion

3. Observing extremities for signs of vascular compromise A/A

Clinicians are advised to:

- Determine the probable skin change aetiology and goals of care and consider the 5 Ps for determining appropriate intervention strategies:
 1. Prevention
 2. Prescription (may heal with appropriate treatment)
 3. Preservation (maintenance without deterioration)
 4. Palliation (provide comfort and care)
 5. Preference (patient desires)
- Continue to use the SSKIN bundle to assess and plan care.
- Do not assume pressure damage is unavoidable and **consider** all normal management strategies to avoid it. Even when the goal is preservation or palliation, debridement of dead tissue and prevention of infection are still important in managing symptoms such as odour and exudate, and preventing complications such as infection, pain, and sepsis
- Engage the patient and family in decisions around management priorities and patient preference given the end-of-life status of the patient. This may result in decisions being made not to implement standard care and accepting the subsequent risks e.g. choosing not to change to a higher specification pressure relieving mattress if this would cause distress
- Clearly document any discussions and decisions taken not to implement standard pressure ulcer prevention or management plans following such discussions

SCALE Skin Changes at Life's End; Consensus Statement, 2009 available to download from: [SCALE-Final-Consensus-Statement-2009.pdf \(oxfordhealth.nhs.uk\)](https://www.oxfordhealth.nhs.uk/~/media/oxfordhealthnhsuk/~/media/2019/04/20190416-SCALE-Final-Consensus-Statement-2009.pdf)

SCALE checklist – for use by clinicians or auditors to aid identificatin:

Has the Patients diagnosis been discussed with MDT and confirmed as palliative or end of life?

Yes	No	Documentation/comments:

Has the clinician identified the patient as having SCALE?

Yes	No	Documentation/comments:

Has the clinician documented rationale why the patient is categorised as SCALE?

Yes	No	Documentation/comments:

Has the clinician assessed perfusion – e.g. blood pressure, capillary refill, signs of mottled skin?

Yes	No	Documentation/comments:
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Has the clinician carried out a skin inspection/assessment and subsequent re-assessments?

Yes	No	Documentation/comments:
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Have they identified any skin changes or issues after doing the skin assessment?

Yes	No	Documentation/comments:
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Has clinician put an appropriate management plan in place? (consider 5 P's - see guidance).

Yes	No	Documentation/comments:
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Is there evidence that the patient's management plan has been evaluated and updated in an appropriate time frame?

Yes	No	Documentation/comments:
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Has the clinician discussed SCALE with family and carers?

Yes	No	Documentation/comments:
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Has the clinician ordered appropriate equipment whilst considering forward planning for patient deterioration?

Yes	No	Documentation/comments:
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Do your findings from this checklist support the diagnosis of SCALE ?

Yes	No	Documentation/comments:
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