Prevention and Treatment of Pressure Ulcers/Injuries: Quick Reference Guide 2019.

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Disclaimer:

This quick reference guide was developed by the European Pressure Ulcer Advisory Panel, the National Pressure Injury Advisory Panel, and the Pan Pacific Pressure Injury Alliance. It presents a comprehensive review and appraisal

of the best available evidence at the time of literature search related to the assessment, diagnosis, prevention and treatment of pressure injuries. The recommendations are a general guide to appropriate clinical practice, to be implemented by qualified health professionals subject to their clinical judgment of each individual case and in consideration of the patient consumer's personal preferences and available resources. The guide should be implemented in a culturally aware and respectful manner in accordance with the principles of protection, participation and partnership. Review the full Clinical Practice Guideline for further context and considerations.

Printed copies of the English version of this quick reference guide can be ordered, and PDFs downloaded, from the following websites:

NPIAP	*npiap.com*
EPUAP	*epuap.org*
PPPIA	*pppia.org*
International Guideline	*internationalguideline.com*

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INTRODUCTION

Foreword

This Quick Reference Guide presents a summary of the recommendations and good practice statements contained in the full guideline, the International Clinical Practice Guideline (2019 edition). The more comprehensive Clinical Practice Guideline provides a detailed analysis of the evidence underpinning the recommendations and good practice statements and includes important implementation considerations that provide further context to the statements included in the Quick Reference Guide. This Quick Reference Guide is intended for busy health professionals who require a quick reference in the clinical setting. Users should not rely on excerpts from the Quick Reference Guide alone.

The guideline was developed as a collaboration between the Partner Organizations—European Pressure Ulcer Advisory Panel (EPUAP), National Pressure Injury Advisory Panel (NPIAP) and the Pan Pacific Pressure Injury Alliance (PPPIA). Additionally, 14 wound organizations from 12 countries joined the project as Associate Organizations contributing to the development, under the direction and oversight of the Partner Organization Guideline Governance Group (GGG) and a methodologist. The full development team consisted of 174 academic and clinical experts in the pressure injury field, including the 12-member GGG, the methodologist and working group members.

This edition of the guideline used the most recent methodological standards in guideline development. The methodology has been pre- published and peer reviewed. An updated literature search identified research published up to August 2018 that was critically appraised and analysed. New research has been combined with research from previous editions to extend the guideline scope and produce recommendations reflecting the most recent evidence. This third edition provides 115 evidence-based recommendations supported by an overview of the underpinning research. Implementation considerations providing practical guidance are provided to assist health professionals to implement the recommendations in clinical practice. A detailed analysis and discussion of available research, and a critical evaluation of the assumptions and knowledge in the field is included to provide further context. A consensus voting process was used to assign a strength to each recommendation. The strength of recommendation identifies the importance of the recommendation based on potential to improve patient outcomes. It provides an indication of the confidence one can have that the recommended practice will do more good than harm, and can be used to assist in prioritizing pressure injury related interventions. Many topics of relevance to

pressure injury prevention and treatment have not been researched extensively. To address gaps in care, the GGG has also developed 61 good practice statements intended to further assist health professionals to deliver quality pressure injury prevention and treatment.

Engagement of patients, informal caregivers (families and friends) and other stakeholders has been extensive throughout the guideline development. An online survey of patient consumers and informal caregivers was conducted to identify care goals, priorities and education needs. Responses from 1.233 patients and their families from around the world were incorporated into the guideline development. Drafts of the recommendations and supporting evidence were made available to 699 stakeholders (individuals and organizations) around the world who registered and reviewed the documents.

Limitations and Appropriate Use of This Guideline

• Guidelines assist health professionals, patient consumers and informal caregivers to make decisions about healthcare for specific clinical conditions. The evidence-based recommendations and good practice statements may not be appropriate for use in all circumstances.

• The decision to adopt any recommendation must be made by the multidisciplinary healthcare team, in collaboration with patients and informal caregivers, and with consideration of available resources and circumstances. Nothing contained in this guideline replaces medical advice for specific cases.

• Because of the rigorous methodology used to develop this guideline, the Guideline Governance Group members believe that the research supporting the recommendations is accurate. Every effort has been made to critically appraise the research contained within this document. However, we do not guarantee the reliability of individual studies referenced in this document.

• This guideline is intended for education and information purposes only.

• This guideline contains information that was accurate at the time of publication. Research and technology change rapidly, and the evidence-based recommendations and good practice statements contained in this guideline may be inconsistent with future advances. The health professional is responsible for maintaining a working knowledge of research and technology advances that may affect their clinical decision making.

• Generic names of products have been used, with descriptions of products taken from the research. Nothing in this guideline is intended as endorsement of a specific product.

• Nothing in this guideline is intended as advice regarding credentialing standards, coding standards or reimbursement regulations.

• The guideline does not seek to provide full safety and usage information for products and devices; however, commonly available safety and usage tips have been included. All products should be used according to manufacturer's directions.

Strengths of Evidence and Strengths of Recommendations

Individual studies were assigned a level of evidence based on study design. The body of evidence supporting each recommendation was given a strength of evidence based on evidence quantity, levels and consistency. A consensus voting process was used to assign a strength of recommendation. The strength of recommendation can be used by health professionals to prioritize interventions. Refer to the full Clinical Practice Guideline and/or the International Guideline website for explanation and context of the strength of evidence and strength of recommendation.

The 'strength of recommendation' is the extent to which a health professional can be confident that adherence to the recommendation will do more good than harm.

Strengths of Evidence	
A	• More than one high quality Level I study providing direct evidence • Consistent body of evidence
B1	• Level 1 studies of moderate or low quality providing direct evidence • Level 2 studies of high or moderate quality providing direct evidence • Most studies have consistent outcomes and inconsistencies can be explained
B2	• Level 2 studies of low quality providing direct evidence • Level 3 or 4 studies (regardless of quality) providing direct evidence • Most studies have consistent outcomes and inconsistencies can be explained
C	• Level 5 studies (indirect evidence) e.g., studies in normal human subjects, humans with other types of chronic wounds, animal models • A body of evidence with inconsistencies that cannot be explained, reflecting genuine uncertainty surrounding the topic
GPS	Good Practice Statement: • Statements that are not supported by a body of evidence as listed above but considered by the GGG to be significant for clinical practice.

Strengths of Recommendation	
↑↑	Strong positive recommendation: Definitely do it
↑	Weak positive recommendation: Probably do it
↔	No specific recommendation
↓	Weak negative recommendation: Probably don't do it
↓↓	Strong negative recommendation: Definitely don't do it

Guideline Recommendations and Good Practice Statements

Recommendations are evidence-based, systematically developed statements to assist health professionals, patient consumers and informal caregivers to make decisions about appropriate health care for specific clinical conditions. The recommendations and good practice statements may not be appropriate for use in all contexts, settings and circumstances. The guidance provided should not be considered medical advice for specific cases. This guideline, and any recommendations within, are intended for educational and informational purposes only. Generic names of products are provided. Nothing in this guideline is intended as an endorsement of a specific product.

The recommendations and good practice statements presented below are a general guide to appropriate clinical practice, to be implemented by qualified health professionals subject to their clinical judgment of each individual case, and in consideration of the patient consumer's preferences and available resources. The guideline should be implemented in a culturally aware and respectful manner in accordance with the principles of protection, participation and partnership.

The extract presented in this abridged Quick Reference Guide is not intended for use in isolation from the full Clinical Practice Guideline. The Clinical Practice Guideline contains evidence summaries, implementation considerations and evidence discussion that provides context to these recommendations.

Accessing the Guideline and Support Material

Access to digital and print copies of the Clinical Practice Guideline are available on the following websites:

NPIAP website npiap.com

EPUAP website epuap.org

PPPIA website pppia.org

International Pressure Injury Guideline website internationalguideline.com

The International Pressure Injury Guideline website (www. internationalguideline.com) is accessible until the next guideline revision. The website hosts additional supportive material and access to the guideline store.

Translations of the Quick Reference Guide and information about the translation process are available from the EPUAP website. For more information contact translation@internationalguideline.com.

For enquiries regarding use of the guideline, review the Permissions of Use statement on the guideline website. For more information contact admin@internationalguideline.com.

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European Pressure Ulcer Advisory Panel

National Pressure Injury Advisory Panel

Pan Pacific Pressure Injury Alliance

Associate Organizations

Brazilian Association of Enterostomal Therapists: Wound, Ostomy and Continence Care (SOBEST)

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Translation

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Patient Consumers and Stakeholders

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RECOMMENDATIONS AND GOOD PRACTICE STATEMENTS

The following recommendations and good practice statements are extracted from the full clinical practice guideline for the convenience of use in clinical practice. The recommendations and good practice statements are not intended for use without reviewing and considering the evidence summaries, implementation considerations and evidence discussion that are included in the full guideline.

		Strength of Evidence	Strength of Rec
Risk Factors and Risk Assessment			
1.1.	Consider individuals with limited mobility, limited activity and a high potential for friction and shear to be at risk of pressure injuries.	A	↑↑
1.2.	Consider individuals with a Category/Stage I pressure injury to be at risk of developing a Category/Stage II or greater pressure injury.	A	↑↑
1.3.	Consider the potential impact of an existing pressure injury of any Category/Stage on development of additional pressure injuries.	C	↑
1.4.	Consider the potential impact of a previous pressure injury on additional pressure injury development.	GPS	
1.5.	Consider the potential impact of alterations to skin status over pressure points on pressure injury risk.	GPS	
1.6.	Consider the potential impact of pain at pressure points on pressure injury risk.	GPS	
1.7.	Consider the impact of diabetes mellitus on the risk of pressure injuries.	A	↑↑
1.8.	Consider the impact of perfusion and circulation deficits on the risk of pressure injuries.	B1	↑
1.9.	Consider the impact of oxygenation deficits on the risk of pressure injuries.	C	↑
1.10.	Consider at the impact of impaired nutritional status on the risk of pressure injuries.	C	↑
1.11.	Consider the potential impact of moist skin on the risk of pressure injuries.	C	↑
1.12.	Consider the impact of increased body temperature on the risk of pressure injuries.	B1	↑
1.13.	Consider the potential impact of older age on the risk of pressure injuries.	C	↑
1.14.	Consider the potential impact of impaired sensory perception on the risk of pressure injuries.	C	↑
1.15.	Consider the potential impact of laboratory blood test results on the risk of pressure injuries.	C	↔
1.16.	Consider the potential impact of general and mental health status on pressure injury risk.	GPS	
1.17.	Consider the impact of time spent immobilized before surgery, the duration of surgery and the American Society of Anesthesiologists (ASA) Physical Status Classification on surgery-related pressure injury risk.	B2	↑
1.18.	Consider the following as additional risk factors for the development pressure injuries in critically ill individuals: * Duration of critical care stay. * Mechanical ventilation. * Use of vasopressors. * Acute Physiology and Chronic Health Evaluation (APACHE II) score.	GPS	
1.19.	Consider the impact of skin maturity, perfusion and oxygenation, and presence of a medical device on pressure injury risk in neonates and children.	B1	↑↑
1.20.	Consider the impact of illness severity and the duration of critical care unit stay on pressure injury risk in neonates and children	B2	↑

1.21.	Conduct a pressure injury risk screening as soon as possible after admission to the care service and periodically thereafter to identify individuals at risk of developing pressure injuries.	GPS	
1.22.	Conduct a full pressure injury risk assessment as guided by the screening outcome after admission and after any change in status.	GPS	
1.23.	Develop and implement a risk-based prevention plan for individuals identified as being at risk of developing pressure injuries.	GPS	
1.24.	1.24 When conducting a pressure injury risk assessment: • Use a structured approach. • Include a comprehensive skin assessment. • Supplement use of a risk assessment tool with assessment of additional risk factors. • Interpret the assessment outcomes using clinical judgment.	GPS	
Skin and Tissue Assessment			
2.1.	Conduct a comprehensive skin and tissue assessment for all individuals at risk of pressure injuries: • As soon as possible after admission/transfer to the healthcare service. • As a part of every risk assessment. • Periodically as indicated by the individual's degree of pressure injury risk. • Prior to discharge from the care service.	GPS	
2.2.	2.2 Inspect the skin of individuals at risk of pressure injuries to identify presence of erythema.	A	↑↑
2.3.	Differentiate blanchable from non-blanchable erythema using either finger pressure or the transparent disk method and evaluate the extent of erythema.	B1	↑↑
2.4.	Assess the temperature of skin and soft tissue.	B1	↑
2.5.	Assess edema and assess for change in tissue consistency in relation to surrounding tissues.	GPS	
2.6.	Consider using a sub-epidermal moisture/ edema measurement device as an adjunct to routine clinical skin assessment.	B2	↔
2.7.	When assessing darkly pigmented skin, consider assessment of skin temperature and sub-epidermal moisture as important adjunct assessment strategies.	B2	↑
2.8.	Evaluate the relevance of performing an objective assessment of skin tone using a color chart when conducting a skin assessment.	B2	↔
Preventive Skin Care			
3.1.	Implement a skin care regimen that includes: • Keeping the skin clean and appropriately hydrated. • Cleansing the skin promptly after episodes of incontinence. • Avoiding use of alkaline soaps and cleansers. • Protecting the skin from moisture with a barrier product.	B2	↑↑
3.2.	Avoid vigorously rubbing skin that is at risk of pressure injuries.	GPS	
3.3.	Use high absorbency incontinence products to protect the skin in individuals with or at risk of pressure injuries who have urinary incontinence.	B1	↑
3.4.	Consider using textiles with low friction coefficients for individuals with or at risk of pressure injuries.	B1	↑
3.5.	Use a soft silicone multi-layered foam dressing to protect the skin for individuals at risk of pressure injuries.	B1	↑
Nutrition Assessment and Treatment			
4.1.	Conduct nutritional screening for individuals at risk of a pressure injury.	B1	↑↑
4.2.	Conduct a comprehensive nutrition assessment for adults at risk of a pressure injury who are screened to be at risk of malnutrition and for all adults with a pressure injury.	B2	↑↑
4.3.	Develop and implement an individualized nutrition care plan for individuals with, or at risk of, a pressure injury who are malnourished or who are at risk of malnutrition.	B2	↑↑
4.4.	Optimize energy intake for individuals at risk of pressure injuries who are malnourished or at risk of malnutrition.	B2	↑
4.5.	Adjust protein intake for individuals at risk of pressure injuries who are malnourished or at risk of malnutrition.	GPS	

4.6.	Provide 30 to 35 kcalories/kg body weight/ day for adults with a pressure injury who are malnourished or at risk of malnutrition.	B1	↑
4.7.	Provide 1.2 to 1.5 g protein/kg body weight/ day for adults with a pressure injury who are malnourished or at risk of malnutrition.	B1	↑↑
4.8.	Offer high-calorie, high-protein fortified foods and/or nutritional supplements in addition to the usual diet for adults who are at risk of developing a pressure injury and who are also malnourished or at risk of malnutrition, if nutritional requirements cannot be achieved by normal dietary intake.	C	↑
4.9.	Offer high calorie, high protein nutritional supplements in addition to the usual diet for adults with a pressure injury who are malnourished or at risk of malnutrition, if nutritional requirements cannot be achieved by normal dietary intake.	B1	↑↑
4.10.	Provide high-calorie, high-protein, arginine, zinc and antioxidant oral nutritional supplements or enteral formula for adults with a Category/Stage II or greater pressure injury who are malnourished or at risk of malnutrition.	B1	↑
4.11.	Discuss the benefits and harms of enteral or parenteral feeding to support overall health in light of preferences and goals of care with individuals at risk of pressure injuries who cannot meet their nutritional requirements through oral intake despite nutritional interventions.	GPS	
4.12.	Discuss the benefits and harms of enteral or parenteral feeding to support pressure injury treatment in light of preferences and goals of care for individuals with pressure injuries who cannot meet their nutritional requirements through oral intake despite nutritional interventions.	B1	↑
4.13.	Provide and encourage adequate water/fluid intake for hydration for an individual with or at risk of a pressure injury, when compatible with goals of care and clinical conditions.	GPS	
4.14.	Conduct age appropriate nutritional screening and assessment for neonates and children at risk of pressure injuries.	GPS	
4.15.	For neonates and children with or at risk of pressure injuries who have inadequate oral intake, consider fortified foods, age appropriate nutritional supplements, or enteral or parenteral nutritional support.	GPS	
Repositioning and Early Mobilization			
5.1.	Reposition all individuals with or at risk of pressure injuries on an individualized schedule, unless contraindicated.	B1	↑↑
5.2.	Determine repositioning frequency with consideration to the individual's level of activity, mobility and ability to independently reposition.	B2	↑↑
5.3.	Determine repositioning frequency with consideration to the individual's: • Skin and tissue tolerance. • General medical condition. • Overall treatment objectives. • Comfort and pain.	GPS	
5.4.	Implement repositioning reminder strategies to promote adherence to repositioning regimens.	B1	↑
5.5.	Reposition the individual in such a way that optimal offloading of all bony prominences and maximum redistribution of pressure is achieved.	GPS	
5.6.	Reposition the individual to relieve or redistribute pressure using manual handling techniques and equipment that reduce friction and shear.	B2	↑
5.7.	Consider using continuous bedside pressure mapping as a visual cue to guide repositioning.	C	↔
5.8.	Use the 30° lateral side lying position in preference to the 90° side lying position when positioning.	C	↑
5.9.	Keep the head of bed as flat as possible.	B1	↔
5.10.	Avoid extended use of prone positioning unless required for management of the individual's medical condition.	B1	↔
5.11.	Promote seating out of bed in an appropriate chair or wheelchair for limited periods of time.	B1	↑
5.12.	Select a reclined seated position with the individual's legs elevated. If reclining is not appropriate or possible, ensure that the individual's feet are well-supported on the floor or on footrests when sitting upright in a chair or wheelchair.	B2	↑
5.13.	Tilt the seat to prevent the individual sliding forward in the chair or wheelchair.	B2	↑

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ИНФОРМАЦИЯ ПРЕДНАЗНАЧЕНА ДЛЯ СПЕЦИАЛИСТОВ ЗДРАВООХРАНЕНИЯ

5.14.	Teach and encourage individuals who spend prolonged durations in a seated position to perform pressure relieving maneuvers.	C	↑
5.15.	Implement an early mobilization program that increases activity and mobility as rapidly as tolerated.	C	↑
5.16.	For individuals with an ischial or sacral pressure injury, evaluate the benefit of periods of bed rest in promoting healing versus the risk of new or worsening pressure injuries and the impact on lifestyle, physical and emotional health.	GPS	
5.17.	Reposition unstable critically ill individuals who can be repositioned using slow, gradual turns to allow time for stabilization of hemodynamic and oxygenation status.	GPS	
5.18.	Initiate frequent small shifts in body position for critically ill individuals who are too unstable to maintain a regular repositioning schedule, and to supplement regular repositioning.	C	↑
5.19.	Position the individual in such a way as to reduce the risk of pressure injury development during surgery by distributing pressure over a larger body surface area and offloading bony prominences.	GPS	
Heel Pressure Injuries			
6.1.	Assess the vascular/perfusion status of the lower limbs, heels and feet when performing a skin and tissue assessment, and as part of a risk assessment.	B2	↑↑
6.2.	For individuals at risk of heel pressure injuries and/or with Category/Stage I or II pressure injuries, elevate the heels using a specifically designed heel suspension device or a pillow/ foam cushion. Offload the heel completely in such a way as to distribute the weight of the leg along the calf without placing pressure on the Achilles tendon and the popliteal vei	B1	↑↑
6.3.	For individuals with a Category/Stage III or greater heel pressure injury, elevate the heels using a specifically designed heel suspension device offloading the heel completely in such a way as to distribute the weight of the leg along the calf without placing pressure on the Achilles tendon and the popliteal vein.	GPS	
6.4.	Use a prophylactic dressing as an adjunct to heel offloading and other strategies to prevent heel pressure injuries.	B1	↑
Support Surfaces			
7.1.	Select a support surface that meets the individual's need for pressure redistribution based on the following factors: • Level of immobility and inactivity. • Need to influence microclimate control and shear reduction. • Size and weight of the individual. • Number, severity and location of existing pressure injuries. • Risk for developing new pressure injuries.	GPS	
7.2.	Ensure that the bed surface area is sufficiently wide to allow turning of the individual without contact with the bed rails.	C	↑
7.3.	For individuals with obesity, select a support surface with enhanced pressure redistribution, shear reduction and microclimate features.	GPS	
7.4.	Use a high specification reactive single layer foam mattress or overlay in preference to a foam mattress without high specification qualities for individuals at risk of developing pressure injuries.	B1	↑
7.5.	Consider using a reactive air mattress or overlay for individuals at risk for developing pressure injuries.	C	↑
7.6.	Assess the relative benefits of using a medical grade sheepskin for individuals at risk of developing pressure injuries.	B1	↔
7.7.	Assess the relative benefits of using an alternating pressure air mattress or overlay for individuals at risk of pressure injuries.	B1	↑
7.8.	Use a pressure redistribution support surface on the operating table for all individuals with or at risk of pressure injuries who are undergoing surgery.	B1	↑
7.9.	For individuals with a pressure injury, consider changing to a specialty support surface when the individual: • Cannot be positioned off the existing pressure injury. • Has pressure injuries on two or more turning surfaces (e.g., the sacrum and trochanter) that limit repositioning options. • Has a pressure injury that fails to heal or the pressure injury deteriorates despite appropriate comprehensive care. • Is at high risk for additional pressure injuries. • Has undergone flap or graft surgery. • Is uncomfortable. • 'Bottoms out' on the current support surface.	GPS	

7.10.	Assess the relative benefits of using an air fluidized bed to facilitate healing while reducing skin temperature and excess hydration for individuals with Category/Stage III or IV pressure injuries.	B1	↑
7.11.	Select a seat and seating support surface that meets the individual's need for pressure redistribution with consideration to: • Body size and configuration. • Effects of posture and deformity on pressure distribution. • Mobility and lifestyle needs.	GPS	
7.12.	Use a pressure redistribution cushion for preventing pressure injuries in people at high risk who are seated in a chair/wheelchair for prolonged periods, particularly if the individual is unable to perform pressure relieving maneuvers.	B1	↑
7.13.	Assess the relative benefits of using an alternating pressure air cushion for supporting pressure injury healing in individuals who are seated in a chair/wheelchair for prolonged periods, particularly if the individual is unable to perform pressure relieving maneuvers.	B1	↑
7.14.	Use a bariatric pressure redistribution cushion designed for individuals with obesity on seated surfaces.	C	↑
7.15.	For individuals with or at risk for a pressure injury, consider using a pressure redistributing support surface during transit.	GPS	
7.16.	Transfer the individual off a spinal hardboard/ backboard as soon as feasible after admission to an acute care facility in consultation with a qualified health professional.	C	↑
Device Related Pressure Injuries			
8.1.	To reduce the risk of medical device related pressure injuries, review and select medical devices with consideration to: • The device's ability to minimize tissue damage. • Correct sizing/shape of the device for the individual. • Ability to correctly apply the device according to manufacturer's instructions. • Ability to correctly secure the device.	B2	↑↑
8.2.	Regularly monitor the tension of medical device securements and where possible seek the individual's self-assessment of comfort.	C	↑
8.3.	Assess the skin under and around medical devices for signs of pressure related injury as part of routine skin assessment.	GPS	
8.4.	Reduce and/or redistribute pressure at the skindevice interface by: • Regularly rotating or repositioning the medical device and/or the individual. • Providing physical support for medical devices in order to minimize pressure and shear. • Removing medical devices as soon as medically feasible.	GPS	
8.5.	Use a prophylactic dressing beneath a medical device to reduce the risk of medical device related pressure injuries.	B1	↑
8.6.	If appropriate and safe, alternate the oxygen delivery device between correctly fitting mask and nasal prongs to reduce the severity of nasal and facial pressure injuries for neonates receiving oxygen therapy.	B1	↑
8.7.	If appropriate and safe, alternate the oxygen delivery between correctly-fitting mask(s) and nasal prongs to reduce the severity of nasal and facial pressure injuries for older children and adults receiving oxygen therapy.	GPS	
8.8.	In consultation with a qualified health professional, replace an extrication cervical collar with an acute care rigid collar as soon as feasible and remove cervical collars as soon as possible as indicate by clinical condition.	C	↑
Classification of Pressure Injuries			
9.1.	Differentiate pressure injuries from other types of wounds.	GPS	
9.2.	Use a pressure injury classification system to classify and document the level of tissue loss.	GPS	
9.3.	Verify that there is clinical agreement in pressure injury classification amongst the health professionals responsible for classifying pressure injuries.	GPS	
Assessment of Pressure Injuries and Monitoring of Healing			
10.1.	Conduct a comprehensive initial assessment of the individual with a pressure injury.	GPS	
10.2.	Set treatment goals consistent with the value and goals of the individual, with input from the individual's informal caregivers, and develop a treatment plan that supports these values and goals.	GPS	

10.3.	Conduct a comprehensive reassessment of the individual if the pressure injury does not show some signs of healing within two weeks despite appropriate local wound care, pressure redistribution, and nutrition.	B2	↑↑
10.4.	Assess the pressure injury initially and re-assess at least weekly to monitor progress toward healing.	GPS	
10.5.	Select a uniform, consistent method for measuring pressure injury size and surface area to facilitate meaningful comparisons of wound measurements across time.	B2	↑↑
10.6.	Assess the physical characteristics of the wound bed and the surrounding skin and soft tissue at each pressure injury assessment.	GPS	
10.7.	Monitor the pressure injury healing progress.	GPS	
10.8.	Consider using a validated tool to monitor pressure injury healing.	B2	↑
Pain Assessment and Treatment			
11.1.	Conduct a comprehensive pain assessment for individuals with a pressure injury.	B1	↑↑
11.2.	Use non-pharmacological pain management strategies as a first line strategy and adjuvant therapy to reduce pain associated with pressure injuries.	GPS	
11.3.	Use repositioning techniques and equipment with consideration to preventing and managing pressure injury pain.	GPS	
11.4.	Use the principles of moist wound healing to reduce pressure injury pain.	GPS	
11.5.	Consider applying a topical opioid to manage acute pressure injury pain, if required and when there are no contraindications.	B1	↔
11.6.	Administer analgesia regularly to control pressure injury pain.	GPS	
Cleansing and Debridement			
12.1.	Cleanse the pressure injury.	B1	↑
12.2.	Use cleansing solutions with antimicrobials to clean pressure injuries with suspected or confirmed infection.	GPS	
12.3.	Cleanse the skin surrounding the pressure injury.	B2	↑
12.4.	Avoid disturbing stable, hard, dry eschar in ischemic limbs and heels, unless infection is suspected.	B2	↑↑
12.5.	Debride the pressure injury of devitalized tissue and suspected or confirmed biofilm and perform maintenance debridement until the wound bed is free of devitalized tissue and covered with granulation tissue.	B2	↑↑
Infection and Biofilms			
13.1.	Have a high index of suspicion of local infection in a pressure injury in the presence of: • Delayed healing. • Lack of signs of healing in the preceding two weeks despite appropriate treatment. • Larger size and/or depth. • Wound breakdown/dehiscence. • Necrotic tissue. • Friable granulation tissue. • Pocketing or bridging in the wound bed. • Increased exudate, or change in the nature of the exudate. • Increased warmth in the surrounding tissue. • Increased pain. • Malodor.	B1	↔
13.2.	Have a high index of suspicion of biofilm in a pressure injury in the presence of: • Failure to heal despite appropriate antibiotic therapy. • Recalcitrance to appropriate antimicrobial therapy. • Delayed healing despite optimal treatment. • Increased exudate. • Increased poor granulation or friable hypergranulation. • Low level erythema and/or low level chronic inflammation. • Secondary signs of infection.	GPS	

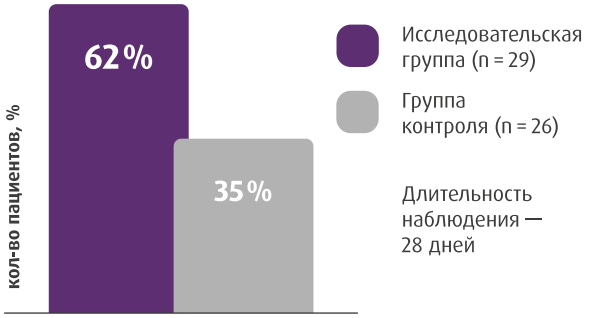
Нутритивная поддержка — неотъемлемая часть лечения пролежней [1]

NUTRICIA
Nutrison advanced
Cubison

Нутризон Эдванст Кубизон ускоряет заживление пролежней и хронических ран [2–4]

Эффективность Нутризон Эдванст Кубизон у взрослых и детей с пролежнями доказана в клинических исследованиях [4, 6]

% пациентов с полным заживлением пролежней в течение 28 дней (n = 55, p < 0,05)



При использовании Нутризон Эдванст Кубизон у 62 % взрослых пациентов заживление пролежней наблюдалось в течение 28 дней [4].

Может использоваться как зондовое питание и перорально

Повышенное содержание белка 5,5 г на 100 мл

для компенсации белковых потерь, замедления катаболизма, регенерации повреждённых тканей [1, 5]

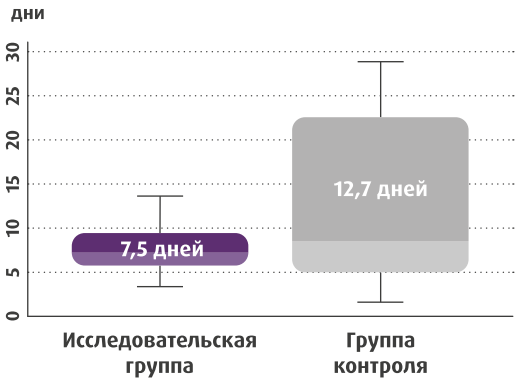
Аргинин

для улучшения микроциркуляции и натяжения раны [1, 5]

Цинк, селен, витамины А, С и Е

для поддержки иммунитета, стимуляции заживления ран и усиления синтеза коллагена [5]

Количество дней до начала уменьшения площади пролежня, по группам (p < 0,05)



При использовании Нутризон Эдванст Кубизон у детей быстрее отмечалась положительная динамика уменьшения площади пролежня [6].

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13.3.	Consider a diagnosis of spreading infection if the individual with a pressure injury has local and/or systemic signs of acute infection including but not limited to: • Delay in healing. • Erythema extending from the ulcer edge. • Wound breakdown/dehiscence. • Induration. • Crepitus, fluctuance or discoloration of the surrounding skin. • Lymphangitis. • Malaise/lethargy. • Confusion/delirium and anorexia (particularly in older adults).	GPS	
13.4.	Determine presence of microbial bioburden in the pressure injury by tissue biopsy or semiquantitative swab technique and microscopy.	GPS	
13.5.	Determine presence of biofilm in the pressure injury by tissue biopsy and high resolution microscopy.	GPS	
13.6.	Evaluate the pressure injury for presence of osteomyelitis in the presence of exposed bone and/or if the bone feels rough or soft, or if the pressure injury has failed to heal with appropriate treatment.	B2	↑
13.7.	Optimize potential for healing by: • Evaluating the individual's nutritional status and addressing deficits. • Evaluating the individual's comorbidities and promoting disease control. • Reducing the individual's immunosuppressant therapy if possible. • Preventing contamination of the pressure injury. • Preparing the wound bed through cleansing and debridement.	GPS	
13.8.	Use topical antiseptics in tissue-appropriate strengths to control microbial burden and to promote healing in pressure injuries that have delayed healing.	B1	↑
13.9.	Use topical antiseptics that are active against biofilm in tissue-appropriate strengths in conjunction with regular debridement to control and eradicate suspected (or confirmed) biofilm in pressure injuries with delayed healing.	C	↑
13.10.	Use systemic antibiotics to control and eradicate infection in individuals with pressure injuries and clinical evidence of systemic infection.	GPS	
Wound Dressings			
14.1.	For all pressure injuries, select the most appropriate wound dressing based on goals and self-care abilities of the individual and/or their informal caregiver and based on clinical assessment, including: • Diameter, shape and depth of the pressure injury. • Need to address bacterial bioburden. • Ability to keep the wound bed moist. • Nature and volume of wound exudate. • Condition of the tissue in the wound bed. • Condition of the peri-wound skin. • Presence of tunneling and/or undermining. • Pain.	GPS	
14.2.	Evaluate the cost effectiveness of wound dressings at a local level, with consideration to direct and indirect costs to the health care system and to the individual with a pressure injury. Advanced wound dressings that promote moist wound healing are more likely to be cost-effective due to faster healing times and less frequent dressing changes.	GPS	
14.3.	Use hydrocolloid dressings for non-infected Category/Stage II pressure injuries as indicated by the clinical condition of the pressure injury.	B1	↑
14.4.	Use hydrogel dressings for non-infected Category/Stage II pressure injuries as indicated by the clinical condition of the pressure injury.	B1	↑
14.5.	Use polymeric dressings for non-infected Category/Stage II pressure injuries as indicated by the clinical condition of the pressure injury.	B1	↑
14.6.	Use a hydrogel dressing for non-infected Category/Stage III and IV pressure injuries with minimal exudate.	B1	↑
14.7.	Use calcium alginate dressings for Category/ Stage III and IV pressure injuries with moderate exudate.	B1	↑
14.8.	Use foam dressings (including hydropolymers) for Category/Stage II and greater pressure injuries with moderate/heavy exudate.	B1	↑
14.9.	Use super-absorbent wound dressings with a high capacity for absorption to manage heavily exuding pressure injuries.	B2	↑
14.10.	Use moist gauze dressings to maintain an appropriately moist wound environment when advanced wound dressings are not an option.	B1	↔

14.11.	Use a transparent film dressing as a secondary dressing when advanced wound dressings are not an option.	B1	↔
14.12.	Consider the available evidence and guidance on using local resource wound dressings when selecting dressings in geographic regions with limited access to resources.	GPS	
Biological Dressings			
15.1.	Consider applying collagen dressings to nonhealing pressure injuries to improve rate of healing and decrease signs and symptoms of wound inflammation.	B1	↑
Growth Factors			
16.1.	Consider applying platelet-rich plasma for promoting healing in pressure injuries.	B1	↔
16.2.	Consider applying platelet-derived growth factor for promoting healing in Category/Stage III and IV pressure injuries.	B1	↔
Biophysical Agents			
17.1.	Administer pulsed current electrical stimulation to facilitate wound healing in recalcitrant Category/Stage II pressure injuries and Category/Stage III or IV pressure injuries.	A	↑
17.2.	Consider using non-contact low frequency ultrasound therapy as an adjunct therapy to facilitate healing in Category/Stage III and IV pressure injuries and suspected deep tissue injuries.	B2	↔
17.3.	Consider using high frequency ultrasound therapy at 1MHz as an adjunct therapy to facilitate healing in Category/Stage III and IV pressure injuries.	B1	↔
17.4.	Consider negative pressure wound therapy as an early adjunct therapy for reducing the size and depth of Category/Stage III and IV pressure injuries.	B1	↑
Pressure Injury Surgery			
18.1.	Obtain a surgical consultation for an individual with a pressure injury that: • Has advancing cellulitis or is a suspected source of sepsis. • Has undermining, tunneling, sinus tracts and/or extensive necrotic tissue not easily. removed by conservative debridement. • Is Category/Stage III or IV and not closing with conservative treatment.	GPS	
18.2.	Consider the following factors when assessing eligibility for pressure injury surgery: • Likelihood of healing with non-surgical treatment versus surgical intervention. • The individual's goals of care. • The individual's clinical condition. • Motivation and ability of the individual to comply with the treatment regimen. • Risk of surgery for the individual.	GPS	
18.3.	Evaluate and mitigate physical and psychosocial factors that may impair surgical wound healing or influence recurrence of a pressure injury.	B2	↑
18.4.	Fully excise the pressure injury, including abnormal skin, granulation and necrotic tissue, sinus tracts, bursa and involved bone to the extent possible.	B2	↑
18.5.	When designing a flap: • Select tissue with a good quality blood supply. • Use composite tissues to increase durability. • Use a flap as large as possible. • Minimize violation of adjacent skin and tissue. • Locate the suture line away from areas of direct pressure. • Minimize tension on the incision at closure.	GPS	
18.6.	Regularly monitor the wound and immediately report signs of flap failure.	GPS	
18.7.	Use a speciality support surface in the immediate post-operative period.	B2	↑
18.8.	Position and transfer the individual in such a way as to avoid pressure on, and disruption to, the surgical site.	GPS	
18.9.	When the surgical site is sufficiently healed commence a progressive sitting protocol.	B2	↑
Measuring Pressure Injury Prevalence and Incidence			
19.1.	Use a rigorous methodological design and consistent measurement variables when conducting and reporting pressure injury prevalence and incidence studies.	GPS	

Implementing Best Practice in Clinical Settings			
20.1.	At an organizational level, assess and maximize workforce characteristics as part of a quality improvement plan to reduce pressure injury incidence.	C	↑
20.2.	At the organizational level, assess the knowledge health professionals have about pressure injuries to facilitate implementation of education and quality improvement programs.	B1	↑
20.3.	At an organizational level, assess and maximize workforce attitudes and cohesion to facilitate implementation of a quality improvement program.	GPS	
20.4.	At an organizational level, assess and maximize the availability and quality of equipment and standards for its use as part of a quality improvement plan to reduce the incidence of pressure injuries.	B1	↑↑
20.5.	At an organizational level, develop and implement a structured, tailored and multifaceted quality improvement program to reduce the incidence of pressure injuries.	A	↑↑
20.6.	At an organizational level, engage all key stakeholders in oversight and implementation of the quality improvement program to reduce the incidence of pressure injuries.	B1	↑↑
20.7.	At an organizational level, include evidencebased policies, procedures and protocols and standardized documentation systems as part of a quality improvement plan to reduce the incidence of pressure injuries.	B1	↑↑
20.8.	At an organizational level, provide clinical decision support tools as part of a quality improvement plan to reduce the incidence of pressure injuries.	B1	↑↑
20.9.	Provide clinical leadership in pressure injury prevention and treatment as part of a quality improvement plan to reduce pressure injuries.	B1	↑↑
20.10.	At a professional level, provide education in pressure injury prevention and treatment as part of a quality improvement plan to reduce the incidence of pressure injuries.	A	↑↑
20.11.	At an organizational level, regularly monitor, analyze and evaluate performance against quality indicators for pressure injury prevention and treatment.	B1	↑↑
20.12.	At an organizational level, use feedback and reminder systems to promote the quality improvement program and its outcomes to stakeholders.	B2	↑
Health Professional Education			
21.1.	At the organizational level, assess the knowledge health professionals have about pressure injuries to facilitate implementation of education and quality improvement programs.	B1	↑↑
21.2.	At an organizational level, develop and implement a multi-faceted education program for pressure injury prevention and treatment.	B2	↑↑
Quality of Life, Self-Care and Education			
22.1.	Assess the health-related quality of life, knowledge and self-care skills of individuals with or at risk of pressure injuries to facilitate the development of a pressure injury care plan and education program.	GPS	
22.2.	Provide pressure injury education, skills training and psychosocial support to individuals with or at risk of pressure injuries.	C	↑

Structure quality indicators → **Process quality indicators** → **Outcome quality indicators**

QI1. A plan for assessing appropriate staff workforce characteristics (e.g., staffing levels and skill mix) to assure quality care is in place.
QI2. The organization has a structured, tailored multifaceted pressure injury quality improvement program in place.
QI3. The organization has policies and procedures on pressure injury prevention and treatment that reflect current best practice outlined in this guideline.
QI4. Health professionals receive regular education in pressure injury prevention and treatment.
QI5. Organization management, health professionals, patients, and caregivers are involved in the oversight and implementation of the pressure injury prevention program.
QI6. The quality improvement program addresses the availability and quality of pressure injury related equipment and standards for its use.
QI7. The organization provides clinical decision support tools to support pressure injury prevention and treatment.
QI8. A specialized health professional is available to support pressure injury prevention and treatment.

QI9. Every individual is assessed for pressure injury risk as soon as possible after admission/transfer and periodically thereafter and the assessment is documented in the medical record.
QI10. Every individual has received a comprehensive skin assessment as soon as possible after admission/transfer and periodically thereafter as indicated and the assessment is documented in the medical record.
QI11. An individualized risk-based pressure injury prevention plan is documented, implemented and modified in response to change in risk status for every individual with, or risk of pressure injuries.
QI12. An assessment of the individual is documented for individuals with a pressure injury.
QI13. Pressure injuries are assessed, and the findings are documented at least weekly to monitor progress toward healing.
QI14. An individualized treatment plan and its goal is available for each individual with a pressure injury.
QI15. Every individual with a pressure injury has a documented comprehensive pain assessment and where applicable, a pain treatment plan.
QI16. Every individual at risk of a pressure injury receives a nutritional screening and when applicable, a comprehensive nutritional assessment is conducted, and a nutrition care plan is documented.
QI17. Every individual with or at risk of pressure injuries (and/ or their informal caregiver) receives information about the prevention and treatment of pressure injuries, self-care skills training and psychosocial support.
QI18. Measurement of pressure injury rates is regularly conducted and reported to stakeholders.

QI19. Percentage of individuals within the facility at a specific point in time with a pressure injury (point prevalence).
QI20. Percentage of individuals who did not have a pressure injury on admission who acquire a pressure injury during their stay in the facility (facilityacquired rate).

COMMONLY USED CLASSIFICATION SYSTEMS

The following pressure injury classification systems are used in different geographic regions. The Clinical Practice Guideline includes photographs and illustrations of pressure injury Category/Stages, and a more extensive list of commonly used pressure injury classification systems.

International NPUAP/ EPUAP Pressure Ulcer Classification System (2009, 2014)	WHO ICD-11 (2018)	NPUAP Classification System (April 2016)
Category/Stage I pressure ulcer: Nonblanchable erythema	**EH90.0 Pressure ulceration grade 1**	**Stage 1 Pressure Injury: Non-blanchable erythema of intact skin**
Intact skin with nonblanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its color may differ from the surrounding area. The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. Category/Stage I may be difficult to detect in individuals with dark skin tones. May indicate "at risk" individuals (a heralding sign of risk).	Pressure ulceration grade 1 is a precursor to skin ulceration. The skin remains intact but there is non-blanchable redness of a localized area, usually over a bony prominence. The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. It can be difficult to detect in individuals with dark skin but affected areas may differ in color from the surrounding skin. The presence of pressure ulceration grade 1 may indicate persons at risk of progressing to frank ulceration.	Intact skin with a localized area of nonblanchable erythema, which may appear differently in darkly pigmented skin. Presence of blanchable erythema or changes in sensation, temperature, or firmness may precede visual changes. Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.
Category/Stage II pressure ulcer: partial thickness skin loss	**EH90.1 Pressure ulceration grade 2**	**Stage 2 Pressure Injury: Partial-thickness skin loss with exposed dermis**
Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serumfilled blister. Presents as a shiny or dry shallow ulcer without slough or bruising.* This Category/Stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation. *Bruising indicates suspected deep tissue injury.	Pressure injury with partial thickness loss of dermis. It presents as a shallow open ulcer with a red or pink wound bed without slough or as a serum-filled or serosanguinous blister which may rupture. This category should not be used to describe skin tears, tape burns, incontinence associated dermatitis, maceration or excoriation.	Partial-thickness loss of skin with exposed dermis. The wound bed is viable, pink or red, moist, and may also present as an intact or ruptured serum-filled blister. Adipose (fat) is not visible and deeper tissues are not visible. Granulation tissue, slough and eschar are not present. These injuries commonly result from adverse microclimate and shear in the skin over the pelvis and shear in the heel. This stage should not be used to describe moisture associated skin damage (MASD) including incontinence associated dermatitis (IAD), intertriginous dermatitis (ITD), medical adhesive related skin injury (MARSI), or traumatic wounds (skin tears, burns, abrasions).
Category/Stage III: Full thickness skin loss	**EH90.2 Pressure ulceration grade 3**	**Stage 3 Pressure Injury: Full-thickness skin loss**
Full thickness tissue loss. Subcutaneous fat may be visible, but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling. The depth of a Category/ Stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and Category/ Stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep Category/Stage III pressure ulcers. Bone/ tendon is not visible or directly palpable.	Pressure ulcer with full thickness skin loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. There may be undermining and tunneling into adjacent structures. The depth varies by anatomical location: grade 3 pressure ulcers can be shallow in areas with little or no subcutaneous fat (e.g. bridge of the nose, ear, occiput and malleolus). In contrast, grade 3 pressure ulcers can be extremely deep in areas of significant adiposity.	Full-thickness loss of skin, in which adipose (fat) is visible in the ulcer and granulation tissue and epibole (rolled wound edges) are often present. Slough and/or eschar may be visible. The depth of tissue damage varies by anatomical location; areas of significant adiposity can develop deep wounds. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage and/or bone are not exposed. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.
Category/Stage IV pressure ulcer: Full thickness tissue loss	**EH90.3 Pressure ulceration grade 4**	**Stage 4 Pressure Injury: Full-thickness skin and tissue loss**

Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often include undermining and tunneling. The depth of a Category/Stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Category/ Stage IV ulcers an extend into muscle and/ or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.	Pressure ulcer with visible or directly palpable muscle, tendon or bone as a result of full thickness loss of skin and subcutaneous tissue. Slough or eschar may be present. The depth varies by anatomical location: grade IV pressure ulcers can be shallow in areas with little or no subcutaneous fat (e.g. bridge of the nose, ear, occiput and malleolus) but are typically deep and often undermine or tunnel into adjacent structures.	Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the ulcer. Slough and/ or eschar may be visible. Epibole (rolled edges), undermining and/or tunneling often occur. Depth varies by anatomical location. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.
Unstageable: Depth unknown	**EH90.5 Pressure ulceration, ungradable**	**Unstageable Pressure Injury: Obscured fullthickness skin and tissue loss**
Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore Category/ Stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as 'the body's natural (biological) cover' and should not be removed.	Pressure ulcer with full thickness skin loss in which actual depth of the ulcer is completely obscured by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar are removed to expose the base of the wound, it is not possible to determine whether the ulcer is grade 3 or grade 4.	Full-thickness skin and tissue loss in which the extent of tissue damage within the ulcer cannot be confirmed because it is obscured by slough or eschar. If slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be revealed. Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on the heel or ischemic limb should not be softened or removed.
Suspected deep tissue injury: Depth unknown	**EH90.4 Suspected deep pressure-induced tissue damage, depth unknown**	**Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon or purple discoloration**
Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue. Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar. Evolution may be rapid exposing additional layers of tissue even with optimal treatment.	An area of soft tissue damage due to pressure or shear which is anticipated to evolve into a deep pressure ulcer but has not yet done so. The affected skin is typically discolored purple or maroon and may display hemorrhagic blistering. It may be painful and edematous. It can be either warmer or cooler than adjacent tissue. Evolution into a deep ulcer may be rapid even with optimal treatment.	Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or bloodfilled blister. Pain and temperature change often precede skin color changes. Discoloration may appear differently in darkly pigmented skin. This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface. The wound may evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss. If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4). Do not use DTPI to describe vascular, traumatic, neuropathic, or dermatologic conditions.