



Nursing protocol for pressure ulcer prevention Protocolo de enfermería para la prevención de úlceras por presión

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ABSTRACT

Objective: to design a nursing protocol for the prevention of pressure ulcers based on a literature review. **Methodology:** systematic review of 30 scientific documents. **Results:** This type of ulcerative lesion is a common public health problem. The best way to treat pressure ulcers and their various complications is prevention, as once they develop they can be difficult to treat and can quickly become complicated. **Conclusion:** This literature review proposes strategies to prevent pressure ulcers, which are a major challenge in healthcare, especially in immobilised patients or those with reduced mobility. It also accurately determines the classification of pressure ulcers and their appropriate treatment.

Descriptors: pressure ulcer; drug therapy; nursing. (DeCS).

RESUMEN

Objetivo: diseñar un protocolo de enfermería para la prevención de úlceras por presión desde una revisión de literatura.. **Metodología:** revisión sistemática de 30 documentos científicos. **Resultados:** Este tipo de lesiones ulcerosas representan un problema de salud pública frecuente, la mejor forma de tratar las úlceras de presión y sus diversas complicaciones es la prevención, ya que una vez que se desarrollan pueden ser difíciles de tratar y pueden complicarse rápidamente. **Conclusión:** En esta revisión bibliográfica, se plantea estrategias para prevenir las úlceras provocadas por presión, siendo un desafío importante en la atención sanitaria, especialmente en pacientes inmovilizados o con movilidad reducida, así también se determinará con exactitud la clasificación de las úlceras de presión como su adecuado tratamiento.

Descriptores: úlcera por presión; tratamiento farmacológico; enfermería. (DeCS).

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Original Article



INTRODUCTION

Bedsore lesions of the skin and underlying tissues caused by prolonged application of pressure to a bony prominence, often accompanied by shear forces (1). They primarily affect areas such as the sacrococcygeal region, hips, heels, shoulder blades and occipital region. Those with little or no mobility and unable to change position on their own are most vulnerable, as the inability to relieve pressure on these areas increases the risk of these injuries, which can cause pain and serious complications if not prevented or adequately treated (2).

Nurses, who are responsible for care, must continually update their knowledge, skills and techniques for the clinical management of pressure ulcers. Their role is essential in both risk assessment and prevention, which highlights the need for a prevention protocol that standardises comprehensive care. This guideline details nursing care aimed at preserving skin integrity and preventing these lesions, and identifies specific treatments according to the stage of each ulcer (25, 26, 27, 28, 29, 30).

Pressure ulcers represent a major public health problem, affecting a significant number of patients with limited mobility. As they are mostly preventable through timely and appropriate intervention by healthcare workers, early identification of the signs of risk is a priority. However, care and prevention are often not optimally implemented, which aggravates patient suffering and increases care costs. The incorporation of new prevention methods and tools is therefore key to reducing the incidence of these injuries, improving the quality of life of those affected and reducing the rate of serious complications (3).

It is essential that staff caring for hospitalised patients develop not only technical skills, but also sound scientific and practical knowledge to prevent and rehabilitate pressure ulcers. By integrating these principles into clinical practice, the healthcare



team will provide high quality and warmth of care, optimising the patient's recovery and well-being during hospitalisation and convalescence (4).

This study encompasses both preventive and therapeutic care, therefore, the protocol includes strategies to prevent ulcers in patients at risk and treatment guidelines for different stages (I-IV). These interventions include changing the patient's position at regular intervals, the use of support surfaces and specific skin care. It also establishes a standardised wound assessment and recording system, incorporating tools such as the Braden scale to monitor progress and response to treatment.

Bedsore are now a recurrent public health problem, with a high cost to health services and serious personal impact. However, most of these cases are preventable with appropriate and timely care. Omission or poor implementation of preventive measures can lead to severe complications, making it essential to implement effective strategies to reduce risk and improve patients' quality of life (5).

The pressure ulcer care protocol includes guidelines on the use of dressings, antiseptics and other products that promote healing, adapted to the needs of each patient. It also stresses the importance of continuing education of nursing staff in basic and advanced skills and defines the role of each member of the interdisciplinary team to ensure the correct application of the protocol.

Pressure ulcers frequently affect hospitalised patients, prolong their recovery and limit their daily activities, as well as causing severe pain and increasing the risk of skin, tissue and joint infection (6). Therefore, the protocol should be implemented in all hospital areas, with special emphasis on intensive care units (adult, paediatric and neonatal), emergency, internal medicine and surgery. Standardisation of care allows early identification of risk, planning of personalised interventions and reduction of the incidence and prevalence of these injuries, ensuring patient safety and improving quality of life.



It is estimated that 95-98% of pressure ulcers in hospitalised patients can be prevented if nursing care is optimally applied. The most commonly used classification, agreed in 1989 by the US Department of Health and Human Services, distinguishes four stages:

- Stage I: persistent reddening of the skin without tissue loss, accompanied by local heat.
- Stage II: partial loss of skin thickness involving epidermis and sometimes dermis.
- Stage III: total loss of skin thickness up to, but not involving, the fascia.
- Stage IV: tissue destruction involving muscle, bone and supporting structures, with necrosis and involvement of adjacent tissues (7).

Nurses must provide timely and up-to-date care, apply devices available in the unit and make appropriate postural changes to prevent the onset and progression of pressure ulcers. Continuing education is essential to ensure the effectiveness of established protocols and to improve the quality of life of patients (8).

This protocol does not cover advanced surgical procedures (e.g. complex debridement), specialised pharmacological management (prescription of antibiotics or analgesics) or specific guidelines for severe comorbidities (renal failure, severe malnutrition, immunosuppression), which require multidisciplinary approaches. It also does not include long-term assessments of effectiveness on quality of life, as it focuses on immediate, short-term interventions. Defining these boundaries ensures that the protocol is practical, applicable and effective for the nursing team.

Implementation will be progressive, starting with training of staff and the health care team through theoretical sessions, practical workshops and information materials. The protocol will then be integrated into the clinical routine, starting with the areas of highest risk. Institutions will adapt the document to their resources and context.



Effectiveness will be assessed by monitoring pressure ulcer incidence and patient satisfaction, as well as by regular reviews to update and adjust the protocol according to the results obtained.

The aim of the article is to design a nursing protocol for the prevention of pressure ulcers based on a literature review.

METHOD

Bibliographic review , the search was carried out using five high-impact scientific databases: PubMed, Scopus, Web of Science, CINAHL and Cochrane Library, selected for their recognition and coverage in the area of health sciences.

Inclusion and exclusion criteria were established and applied. Selected articles had to be available in English or Spanish, have been published from 2008 to 2024 and meet high scientific standards , assessed through peer review and impact factors. Papers that did not meet the inclusion criteria were excluded.

The search was performed using standardised keywords according to the MeSH (Medical Subject Headings) and DeCS (Health Sciences Descriptors) thesauri. These keywords were used strategically by means of Boolean operators ("AND" and "OR"), in order to optimise the results; combinations such as "trauma AND nursing care" or "neonatal infections AND management" were used to adjust the search terms according to the needs of the study.

RESULTS AND DISCUSSION

1. Home page

Protocol title: Nursing protocol for the prevention of pressure ulcers.

Institution: Catholic University of Cuenca.

Date of creation and/or revision: June 2025.



2. Introduction

Pressure ulcer lesions are considered a common public health problem, as they have significant consequences for the quality of life of those who suffer from them and for the provision of health services. Therefore, healthcare workers must provide and ensure quality and warm care, monitor pressure ulcer lesions adequately and apply the necessary methods to prevent them, focusing especially on groups with the highest risk factors (9). Prevention is the best strategy for the management of pressure ulcers and their complications, since, once developed, they are difficult to treat and can rapidly worsen. By reducing or avoiding risk conditions such as tissue hypoxia, extremes of age, hyperthermia, excessive moisture or friction, successful prevention is achieved (10).

This literature review presents key strategies to prevent bedsores, a major challenge in healthcare, especially in immobile or mobility impaired patients. The classification of pressure ulcers and the appropriate treatment at each stage will also be precisely determined. It is essential that healthcare workers adopt a holistic approach that addresses all key aspects.

General objective. To determine, from the scientific literature, the recommendations for the prevention of pressure ulcers, in order to establish an action protocol.

Scope of application. Hospital area: adult intensive care unit, internal medicine and surgery department.

3. Definitions and key terms

- **Pressure ulcer (PU):** injury to the skin and underlying tissues caused by prolonged pressure over a bony prominence, according to the NPUAP.
- **Acronyms:**
 - UPP: pressure ulcers



- NPIAP: National Pressure Injury Advisory Panel
- SEMP: special surfaces for pressure handling

4. Theoretical framework and scientific evidence

Bedsore is skin and underlying tissue lesions caused by prolonged pressure that interrupts blood circulation, which can lead to tissue necrosis. Depending on their depth and severity, they are classified into stages I to IV, and are associated with intrinsic and extrinsic factors (11).

Pressure ulcers are among the main causes of adverse events related to patient safety, as their occurrence indicates deficiencies in the quality of care. Their incidence is highest in intensive care and operating theatres, due to the fragility, immobility and need for positioning of patients, as well as the handling of medical devices. Causal factors include inadequate nutritional status and prolonged stay in the health centre (12).

Correct classification of each ulcer is essential for proper management, as it allows the severity of the ulcer to be determined, treatment to be planned and its evolution to be monitored. Classification should be carried out by trained professionals (nurses, physicians or wound specialists) (13).

There are scales such as the Braden and Norton scales that predict the risk of developing bedsores. These tools identify with high specificity the hospital population at highest risk, enabling early implementation of preventive measures (14).

In Latin American hospitals, the incidence of pressure ulcers in the older adult population has reached 7.43%. These lesions reduce the quality of life and aggravate the patient's condition. According to the World Health Organisation, bedsores affect 5-12 % of the hospitalised population worldwide and 7 % in the Americas (15).



Most pressure ulcer injuries are preventable; however, when they occur, they generate negative sequelae in the patient, the health service and the staff in charge of their care, impacting both physical and emotional health and self-esteem (17). For this reason, it is essential to accurately identify the risk factors, which are grouped into intrinsic and extrinsic (18).

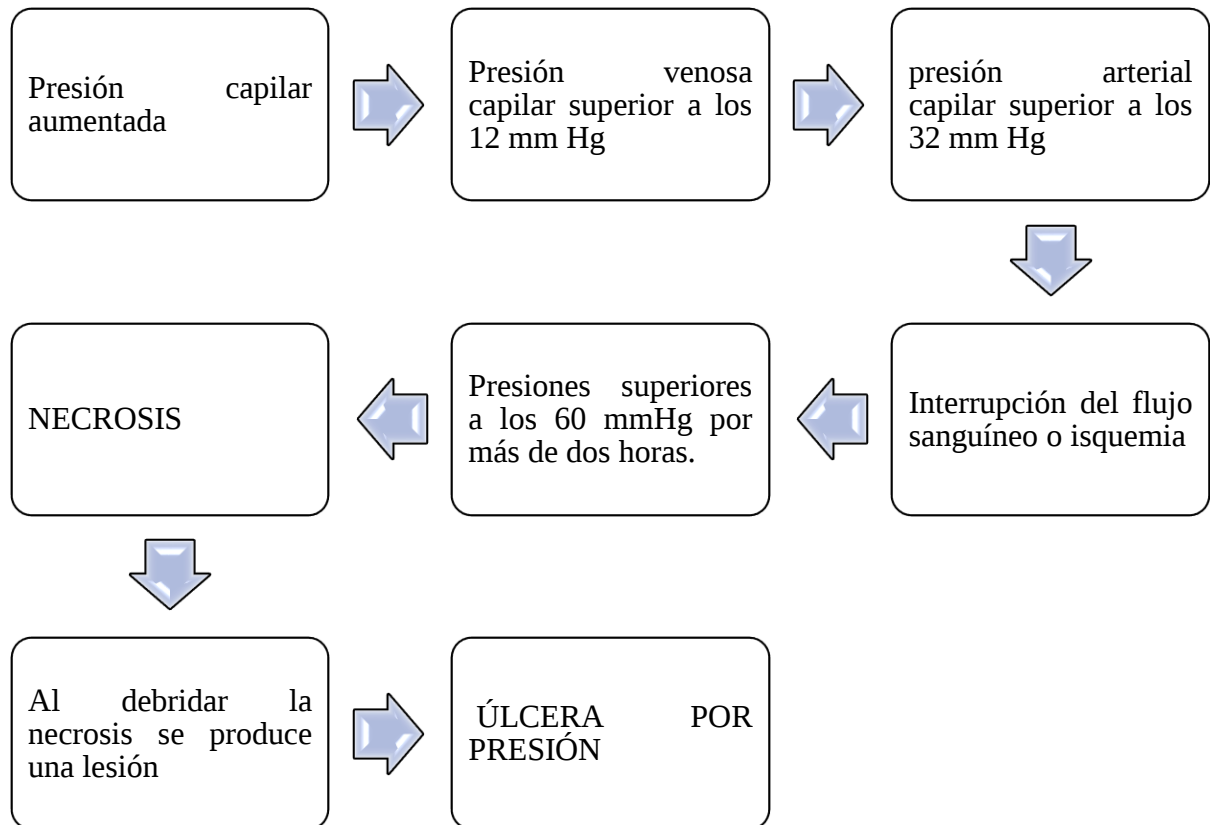
Table 1. *Risk factors for pressure ulcers.*

Patient's own	Assistance Assistance
Pathologies leading to prolonged encamation.	Staff shortage in a service.
Impaired physical mobility.	Low knowledge about how to prevent and treat pressure ulcers.
Extreme ages: older adults, paediatrics.	
Elevation of body temperature.	
Anaemia.	Outdated manuals on the prevention of pressure ulcer injuries within a health care institution.
Moist skin.	
Existing comorbidities.	

Note: Table 1 was reproduced from the frequency of pressure ulcers and the factors associated with their presentation in patients in a national hospital in Lima, Peru (18).

However, it should be emphasised that most pressure ulcers are preventable and avoidable through the application of effectively planned and executed care. These ulcers are generally slow-healing lesions with a higher risk of exacerbation.

The pathophysiology is as follows (19).



Source: Data compiled in the study conducted by María del Carmen Barrera Buestán.

5. Description of the procedure

A set of measures and actions within a bedsore prevention package aimed at reducing the risk of developing bedsores in people who are bedridden or sit for prolonged periods of time can be adjusted according to the needs of the patient, and are listed below (20).



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Table 2. *Activities to reduce the risk of PUs.*

ACTIVITIES	DESCRIPTION
Determine the risk.	Early and continuous assessment of the level of risk of PUs is key to their prevention. Several standardised tools can be used to identify patients at imminent risk, such as: ✓ Braden Scale ✓ Norton Scale ✓ Waterlow Scale These tools must be used within 24 hours of entry.
Skin assessment.	PUs are classified according to their severity, and there are several tools and systems for the assessment of their depth and extent, which help in the management and appropriate treatment, such as those mentioned below, according to the NPIAP statification: ✓ Stage I ✓ Stage II ✓ Stage III ✓ Stage IV This skin assessment should be performed within 4 hours of admission and should include skin defects, location of the lesion, as well as depth, size, colour, etc.
Changes of position.	of Regular repositioning of the patient is an important measure for the prevention of PPU: ✓ Position changes every 2 - 3 hours or more frequently according to the patient's needs. ✓ Assess recommended positions to avoid pressure on vulnerable areas. ✓ Positioning in the chair.
Skin protection	Skin care involves: ✓ Proper hygiene with a low pH, acid/neutral cleaner according to the need of the area to be cleaned. ✓ Hydration. ✓ Skin assessment. ✓ Use of skin barriers.
Pressure-reducing devices.	Reducing pressure on potentially vulnerable areas is a key part of prevention, some examples of which are as follows: ✓ Anti-sickness mattress. ✓ Heel cushions. ✓ Pillows.



	✓ Anti-sickness cushions, etc.
Nutrition.	A fundamental factor for the prevention and healing of PUs is nutrition. Patients with malnutrition have a higher risk of developing ulcers, as well as a lower capacity for wound healing:
	✓ Adequate calorie and protein intake.
	✓ Nutritional supplementation
	✓ Hydration.
	It is recommended that a nutritionist performs the nutrition assessment within 24 hours of admission.

Note: Table 2 was reproduced from Implementing a Pressure Injury Care Bundle in Chinese Intensive Care Units (20).

The application of this package has been instrumental in the reduction of PUs, as it suggests that certain interventions established to improve the processes of both care and prevention within a standardised protocol can be effective and bring about optimal results. It is worth mentioning that the use of this preventive package in other countries has achieved a considerable reduction in the occurrence of pressure ulcers in critical care units (21).

6. Roles and responsibilities of nurses

Nurses should be responsible for providing patient-directed care as it is a key role in preventing and managing pressure ulcer injuries by performing a number of crucial activities such as (22):

- Relevant identification of the most vulnerable patients, using various assessment scales that help to classify risk according to various conditions (mobility, nutrition, hydration, blood perfusion, sensitivity and other health-related aspects).
- Prevention and management of pressure on bony prominences through regular repositioning and the use of support surfaces to relieve pressure on areas most susceptible to PU development.
- Perform daily skin care, maintaining hygiene, use of protective creams and daily skin assessment.



- Apply treatment of existing bedsores by cleaning and debridement if necessary, choice of dressing and appropriate topical treatment for regeneration, assessment and control of pain, constant monitoring and recording of PUs within the medical record, as well as their evolution.
- Administration of oral or enteral diet according to the needs required by the patient, which have been previously established by the nutrition staff.
- In case the patient is discharged either to another service or home, the nursing staff will be in charge of educating the patient and family on skin care, mobility and monitoring for signs of infection.

As mentioned above, it can be emphasised that pressure ulcer prevention work is an effort by the entire multidisciplinary team, both the operational nurse within the unit and the nurse leader of the service, in coordination with the medical staff, although it is important to mention that the nurse in charge of direct health care is clearly responsible for carrying out timely prevention activities, treatment assessment and activities applied to the lesions, as well as follow-up (22).

Required competencies:

The nursing area plays a decisive role in the prevention and management of PUs as it is the first line of direct and continuous contact with patients, allowing timely and effective interventions. Prevention of PUs depends not only on identifying risk factors, but also on the planning and implementation of optimal strategies to avoid their development, as well as knowledge of the appropriate way of dealing with them for subsequent recovery.

Nurses should be fully conversant with prevention protocols, the initial signs and symptoms of PUs as well as techniques for assessing the patient's skin condition, including knowledge about the handling and operation of different pressure relief devices, the importance of regular repositioning of patients, as well as skin care, among others.



Training and capacity building:

The tasks performed by nursing staff play a key role in a proactive and committed approach to PU prevention. In addition, awareness of the importance of continuous updating and collaboration with other healthcare professionals to provide comprehensive patient care should be raised and it is important that authorities and service providers work together to develop and implement training programmes and nursing curricula focused on pressure ulcer prevention, as pressure ulcers are among the most frequent complications in hospitalised patients or patients with limited mobility, especially in critically ill patients, and can have serious health consequences (23).

7. Compliance and quality indicators

Within the protocol for the prevention of pressure ulcer injuries, it is essential that nurses acquire new knowledge and skills in order to achieve a high rate of prevention and recovery, and it should also be emphasised that quality indicators play a key role as tools in the evaluation and improvement of care for critically ill patients at high risk of developing PUs. These indicators are basic to the protocol, allowing the establishment of clinical standards such as assessment of PU risk, changes of position according to medical indication, correct use of protective skin barriers, planning and evaluation of a prevention plan directed to the individual needs of the patient, continuous education of nursing staff and compliance with the required nutrition and hydration. Other key indicators of compliance and quality within the protocol are patient and family satisfaction in the recovery process, reduction of the incidence rate of PUs within the service, evaluation, documentation and measurement of the scope of the activities carried out.

Evaluation criteria:

- Incidence of pressure ulcers.
- Identification and classification of patient risk.
- Existing medical devices in the institution to relieve pressure.



- Topical treatments and supplies available for PU healing.
- Type and number of professionals in charge of prevention.
- Continuing staff education.

Frequency of evaluation:

The evaluation of the indicators of compliance and quality of the PU prevention protocol will be carried out continuously and periodically in accordance with the personal requirements of each patient. As the protocol is based mainly on prevention, it is extremely important to identify possible shortcomings that may arise in order to propose improvements in the nursing activities planned for care, so the evaluation will be carried out on a daily basis, with a consolidated and monthly report, which fulfils the function of informing and identifying the shortcomings that have arisen.

Measuring tools:

The tools used to collect and analyse the data of the pressure ulcer prevention protocol will be some of the following, such as the Norton scale, systematic assessment recorded in the medical history mainly on the pressure ulcer admission sheet, correct filling of the change of position sheet, identification of the risk on the identification sign above the patient's bedside, observation of the performance of the procedure.

8. Ethical and legal considerations

Ethical aspects:

As the prevention of pressure ulcers is a fundamental component of patient safety, this protocol prioritises quality and warmth of care, based on minimising the harm that may occur to the patient during the health care process.

Legal aspects:

As the prevention of pressure ulcers is an integral nursing care, which should be performed routinely and on a daily basis, it does not require the legal consent of the patient or family, as long as their data and information in the medical record is



handled with privacy and protected by law as a legal document.

9. Contingency plan and management of complications identification of possible complications:

The protocol to prevent pressure ulcer injuries, being a protocol that is primarily based on prevention, the possible complications that could arise are the presence of ulcers in their different stages.

Table 3. *Classification and characteristics of pressure ulcers*

GRADE	CHARACTERISTICS
Grade I	Undamaged reddening of the skin, which does not lose its colour when pressure is applied within 30 seconds. Clinical manifestations: persistent redness, increased or loss of pigmentation, local temperature increase or hardening of the skin. It affects only the epidermis
Grade II	Loss of the superficial layer of the skin affecting the epidermis, dermis or both. Its clinical appearance is similar to a superficial ulcer, presenting characteristics of a lesion similar to when it is scraped or abraded by friction.
Grade III	Disorder of the subcutaneous tissue in which necrosis spreads into deeper layers of the skin, reaching the deep dermis or hypodermis. These are deep crater lesions or lesions covered by necrotic tissue.
Grade IV	There is complete loss of skin thickness and necrosis of deep structures such as muscles, bones or supporting structures.

Note: Table 3 was reproduced from Prevention and treatment of ulcers and bedsores (24).

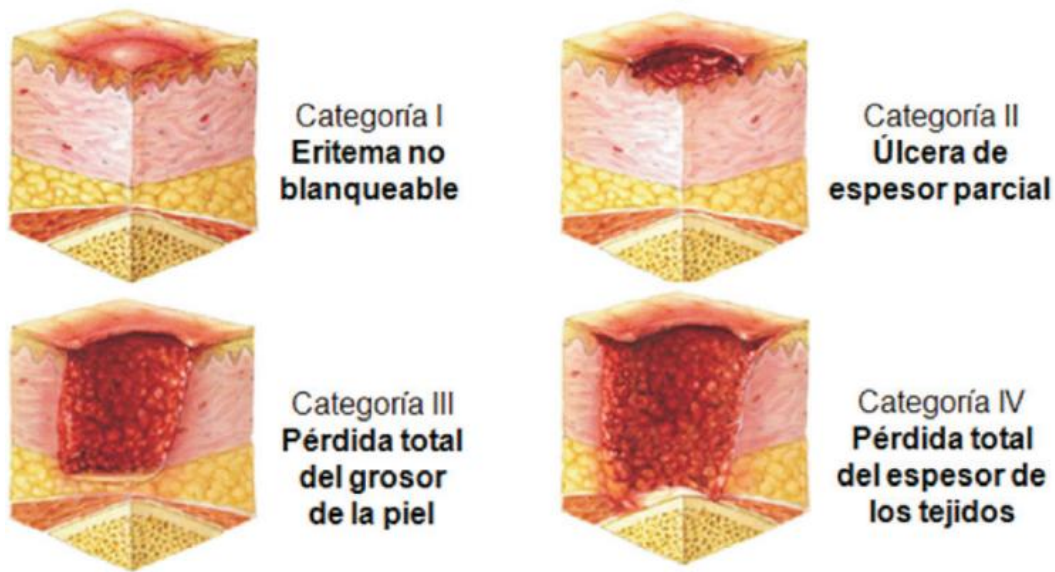


Image 1. *Classification of pressure ulcers.*

Source: Image obtained from: Pressure ulcers [Internet]. Boticabarcia.com [cited 8 March 2025]. Available from: <https://boticabarcia.com/ulceras-por-presion-factores-que-inciden-su-aparicion-riesgo-cuidados-y-todo-lo-que-debes-conocer-sobre-ellas/>

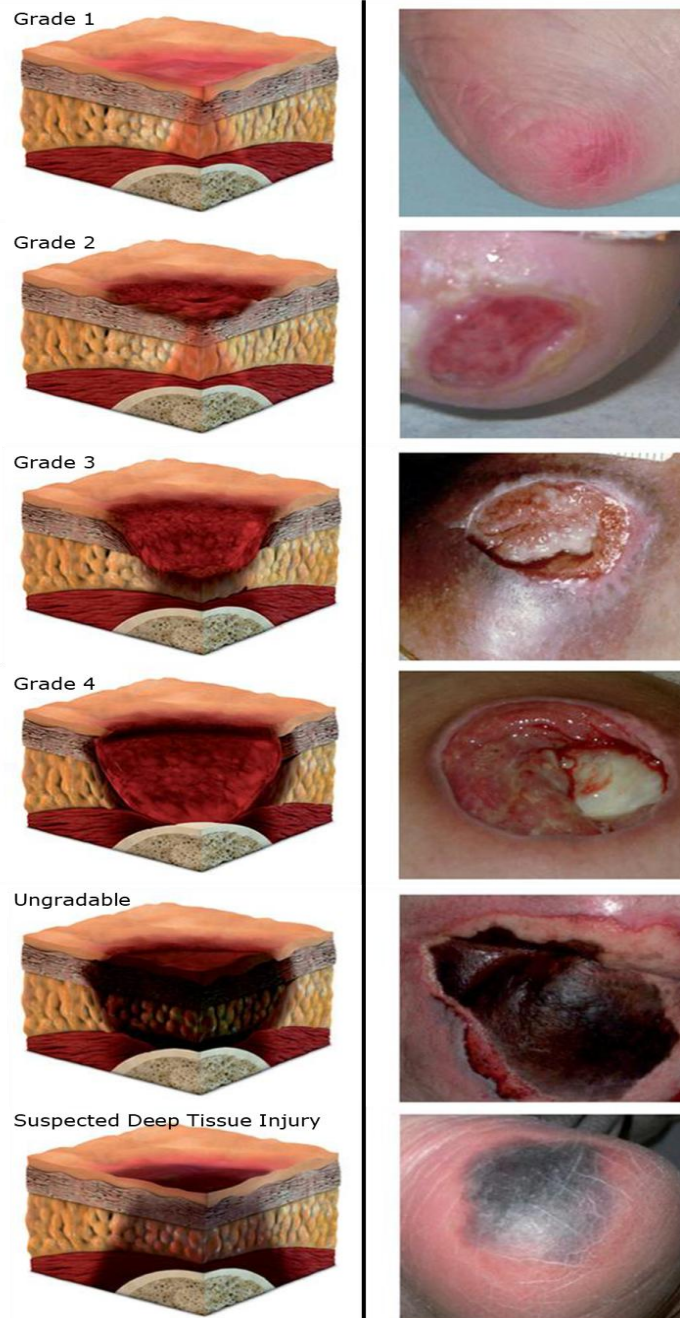


Figure 2. *Classification of pressure ulcers - clinical presentations.*

Source: Image obtained from: Clinical focus. Pressure injury prevention & care [Internet]. Woundcare.ie. [cited 2025 March 8]. Available from: <https://www.woundcare.ie/pressure-injury-prevention-care/>



Table 4. *Protocol for dealing with complications.*

Stadiums	Activities
STADIUM I	✓ Strict position changes every two to three hours according to the patient's needs. ✓ Placement of topical treatment or protective skin barrier, linovera or moisturiser. ✓ Use of pressure-relieving devices.
STAGE II AND III	✓ Adequacy of nutritional intake. ✓ Strict position changes every two to three hours according to the patient's needs. ✓ Wound assessment for planning and nursing care. ✓ Record the characteristics of the ulcer in terms of dimension, depth, necrotic tissue and colouring of the edges. ✓ Pressure wound healing with aseptic and antisepsis techniques, debridement of the edges if necessary. ✓ Topical treatment is suggested, creams with zinc or silver based components. ✓ Use of pressure-relieving devices. ✓ Adequacy of nutritional intake.
STADIUM IV	✓ Consultation with plastic surgery.

Note: Table 4 was reproduced from evidence-based products and technologies for the treatment of pressure ulcer patients (23).



Table 5. *Products and technologies used for the treatment of patients with pressure ulcers*

CATEGORY	PRODUCT	FUNCTION	RECOMMENDATION
Topical therapy to promote healing	Poly-N-acetyl glucosamine (sNAG) nanofibre membrane.	Promote microvascular perfusion and oxygen supply, thereby stimulating contraction of injured tissue and accelerating healing.	Need for granulation tissue in the wound.
	Sildenafil 10% topical ointment.		Pressure ulcer I, II.
	Aloe vera and Olive Oil (Linovera),		
	Atorvastatin 1% ointment	Stimulate the formation of granulation tissue and promote effective regeneration.	
Alternative therapy to promote healing.	Oxygen Transdermal Therapy (TO)	Treating injuries with the to improve healing, produce moisture in the PU, promote angiogenesis and cellular activity.	The use of these therapies is recommended, provided that the lesion tissue and the presence of exudate have been assessed first.
	Rich Growth Factor from your own peripheral blood or plasma (PRGF).		
	Hyaluronic acid (HA).		
	Polydesoxyribonucleotide (PDRN)		Pressure ulcer II and III
	Wrap therapy .		
Topical therapy to promote debridement.	Hydrogel and collagenase products	Promote moisture from dead tissue in order to remove debriding tissue by means of an exogenous source of moisture through physiological mechanisms.	It is necessary to assess the wound, whether or not it requires moisture for debridement. Grade I ulcer with internal necrotic tissue, ulcer edges in different stages.
Topical therapy to minimise contamination of	Silver mesh dressing	It acts directly in the cleaning and disinfection of	Use on contaminated wounds



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the lesion.	Cellulose dressing containing polyhexanide	infected wounds, providing infection control and reducing inflammation.	Stage III and IV pressure ulcer, directly on the PDU, with a gauze dressing as a secondary dressing.
	Prontosan containing polyhexanide and betaine (PPB)		
Topical therapy to reduce the size of the lesion.	Topical negative pressure therapy	It is used to accelerate the healing of wounds that are difficult to heal.	Stage IV PU

Note: Table 5 was reproduced from Implementing a pressure injury care bundle in Chinese intensive care units (21).

11. Evaluation and continuous improvement

Periodic review of the protocol:

The protocol to prevent pressure ulcer injuries should be subject to constant periodic review, at least every two years, so it will be crucial for nursing staff to undergo ongoing training on the subject, as well as the development of new techniques and products to prevent pressure ulcers.

Content update

It is essential that nursing staff, who provide direct patient care, are constantly updating their knowledge to prevent pressure ulcer lesions, as there have been great technological advances, not only in techniques, but also in products related to the treatment and monitoring of lesions by means of various devices and products that improve the quality and care provided to the patient, thus improving health care (21).



12. Annexes and appendices

Annex 1. Check list for patients admitted with pressure zones or pressure ulcers.

 Ministerio de Salud Pública		ESCALA DE BRADEN Y NORTON PARA LA VALORACIÓN DE RIESGO DE ÚLCERAS POR PRESIÓN.		Código: Versión: 1.0 Fecha:	
		Unidad / Área: Centro de Trauma y Emergencia		Página: 9 de 11	
COORDINACIÓN ZONAL DE SALUD 6 HOSPITAL VICENTE CORRAL MOSCOSO					
CHECK LIST. PARA PACIENTES QUE INGRESAN CON ZONAS O ÚLCERAS DE PRESIÓN.					
NOMBRES DEL PACIENTE	# HISTORIA CLÍNICA	REFERIDO DE	PRESENTA ÚLCERAS POR PRESIÓN, SI ES POSITIVO DESCRIBA EL SITIO Y SUS CARACTERÍSTICAS.	PRESENTA ZONAS DE PRESIÓN, SI ES POSITIVO DESCRIBA EL SITIO Y SUS CARACTERÍSTICAS.	RESPONSABLE
	HOSPITAL..... DOMICILIO..... OTROS.....	SI..... NO.....	SI..... NO.....	SI..... NO.....	
Elaborado por: PERSONAL DE ENFERMERAS DEL SERVICIO		Validado por:	Aprobado por:		
Fecha de elaboración:	Fecha de validación:	Fecha de actualización:	Fecha de aprobación:		
Fecha de versión original:	COPIA CONTROLADA				

Image taken from: MSP. Check List, for patients admitted with pressure zones or ulcers.
Ecuador

**Annex 1. PU risk assessment sheet.**

Apellido Nombre	Edad
Fecha de ingreso	Sala
Servicio del que viene	Sexo

1) Identificación de factores de riesgo

- | | |
|--|---|
| ☐ Pérdida de sensibilidad | ☐ Alteraciones circulatorias |
| ☐ Anemia | ☐ Fiebre |
| ☐ Malnutrición | ☐ Sonda nasogástrica |
| ☐ Deshidratación | ☐ Sonda vesical |
| ☐ Edema | |
| ☐ Parálisis, paresia o inmovilidad por algún dispositivo restrictivos | |
- Enfermedad crónica. Especificar: _____
- Presencia de úlceras previas. Localización: _____

TOTAL FACTORES DE RIESGO:**2) Valoración según la escala de Norton**

ESTADO FÍSICO GENERAL	BUENO 4	MEDIANO 3	REGULAR 2	MUY MALO 1
ESTADO MENTAL	ALERTA 4	ALERTA 3	APATICO 2	ESTUPOROSO 1 COMATOSO
ACTIVIDAD	AMBULANTE 4	DISMINUIDA 3	MUY LIMITADA 2	INMOVIL 1
MOVILIDAD	TOTAL 4	CAMINA CON AYUDA 3	SENTADO 2	ENCAMADO 1
INCONTINENCIA	NINGUNA 4	OCASIONAL 3	URINARIA 2	FECAL Y URINARIA 1

PUNTUACIÓN ESCALA NORTON: **3) Puntuación total:**Puntuación Escala de Norton – Total factores de riesgo / 3 = **4) Clasificación del riesgo de presentar U.P.P.**

- | | | |
|-----------------------------|-----------------|--------------------------|
| •Puntuación de 5 a 9..... | Riesgo muy alto | ☐ |
| •Puntuación de 10 a 12..... | Riesgo alto | ☐ |
| •Puntuación de 13 a 14..... | Riesgo medio | ☐ |

Image taken from: MSP. Norton scale for pressure ulcer risk assessment. Ecuador



CONCLUSION

This study highlights the importance of timely prevention and treatment of pressure ulcer injuries in hospitalised patients and underlines the key role of nurses in implementing evidence-based strategies. It has been observed that most pressure ulcer injuries can be avoided by timely and correct interventions such as regular postural changes, use of specialised support surfaces and close monitoring of skin integrity. The application of a standardised protocol in inpatient care is an essential tool to reduce the incidence and severity of injuries, optimise the quality of care and minimise associated complications.

Pressure ulcers are one of the most frequent hospital complications in patients with reduced mobility and are preventable. Their development and aggravation depend on intrinsic factors such as comorbidities, advanced age, impaired mobility and skin alterations, and on care factors, including insufficient trained staff, failure to update prevention manuals and inadequate implementation of protocols. Nursing care is crucial to prevent PUs and to manage them appropriately. Its functions include continuous risk assessment, skin monitoring, application of preventive measures and administration of appropriate treatments for existing lesions.

From a clinical point of view, the protocol developed covers preventive and therapeutic care, and establishes the necessary guidelines for early identification of risk factors using the Braden scale, as well as for classifying the different stages of bedsores. This structured approach allows the nurse to tailor interventions to the individual needs of each patient, ensuring effective treatment and faster recovery. In addition, continuous staff training is a key pillar of successful implementation, ensuring the correct application of techniques and constant updating of technologies and treatments.

The limitations of the protocol must be acknowledged: it does not address advanced surgical procedures or specific pharmacological management, which require the



intervention of other specialists. However, its application in higher-risk hospital units can significantly reduce associated critical events. The advantages will be reflected in the well-being of patients and in the optimisation of resources, which will strengthen the role of nurses in the comprehensive management of these injuries. Ultimately, PU prevention is a multifactorial challenge that requires the combination of standardised protocols, the strengthening of nursing education and the optimisation of hospital resources. The rigorous application of these care strategies demonstrates their effectiveness in reducing the incidence of injuries and improving the quality of life of hospitalised patients.

FUNDING

Non-monetary

CONFLICT OF INTEREST

There is no conflict of interest with persons or institutions involved in research.

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