



Complete Summary

GUIDELINE TITLE

Prediction and prevention of pressure ulcers in adults.

BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health. Prediction and prevention of pressure ulcers in adults. Singapore: Singapore Ministry of Health; 2001 Mar. 51 p. [102 references]

COMPLETE SUMMARY CONTENT

SCOPE

METHODOLOGY - including Rating Scheme and Cost Analysis

RECOMMENDATIONS

EVIDENCE SUPPORTING THE RECOMMENDATIONS

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

QUALIFYING STATEMENTS

IMPLEMENTATION OF THE GUIDELINE

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT

CATEGORIES

IDENTIFYING INFORMATION AND AVAILABILITY

SCOPE

DISEASE/CONDITION(S)

Pressure ulcers, also known as bedsores and decubitus ulcers

GUIDELINE CATEGORY

Evaluation

Prevention

Risk Assessment

CLINICAL SPECIALTY

Family Practice

Geriatrics

Internal Medicine

Nursing

INTENDED USERS

Advanced Practice Nurses

Health Care Providers

Hospitals
Nurses
Patients

GUIDELINE OBJECTIVE(S)

Overall Purpose

- To prevent pressure ulcer development in at-risk adults
- To manage Stage I pressure ulcers

Aims

- To identify patients at risk of pressure ulcer development
- To specify nursing interventions that promote tissue tolerance to pressure
- To specify interventions that protect patients against external pressure, shear and frictional forces
- To improve patient outcomes through educational programmes for practitioners and carers

TARGET POPULATION

Adults at risk for pressure ulcers in Singapore

The guidelines are not applicable to:

- Adults who are fully active or mobile
- Patients with existing Stage II, III, or IV pressure ulcers
- Neonates and children

INTERVENTIONS AND PRACTICES CONSIDERED

Assessment

1. Skin assessment techniques
2. Risk assessment tools (e.g., Braden Scale, Norton Scale)

Treatment

1. Perform routine skin cleansing procedures
2. Apply topical agents and dressings
3. Control moisture
4. Massage (not recommended)
5. Assess and correct nutritional deficits
6. Use routine positioning procedures
7. Use appropriate positioning or pressure-relieving devices

Education

1. Provide educational programmes to healthcare providers, patients, families or caregivers

MAJOR OUTCOMES CONSIDERED

- Risk for and prevalence of pressure ulcers
- Morbidity and mortality associated with pressure ulcers
- Sensitivity, specificity, usability, and predictive value of risk assessment tools

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The recommendations are based mainly on the Agency for Healthcare Research and Quality (AHRQ, formerly Agency for Health Care Policy and Research, AHCPR) guidelines "Pressure Ulcers in Adults: Prediction and Prevention" (Bergstrom et al 1992). As the AHRQ guidelines were based on a comprehensive review of available evidence up to 1991, the workgroup reviewed relevant published literature and evidence relating to the prevention of pressure ulcers from 1991 onwards.

The online resources used included: MEDLINE, CINAHL, AHRQ website, the National Pressure Ulcer Advisory Panel (NPUAP) website, the Joanna Briggs Institute for Evidence Based Nursing and Midwifery website and the National Health Service (NHS) Centre for Reviews and Dissemination website.

The workgroup also conducted a review of prevailing clinical practice in Singapore by studying the various guidelines and documents used by local hospitals and institutions. In areas where available evidence was inconsistent or inconclusive, recommendations were made based on the clinical experience and judgement of the workgroup members or expert committee reports.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

For the definition of the strength of evidence the workgroup adopted the criteria used by the Scottish Intercollegiate Guidelines Network (SIGN).

Levels of Evidence

I a Evidence obtained from meta-analysis of randomised controlled trials.

I b Evidence obtained from at least one randomised controlled trial.

II a Evidence obtained from at least one well-designed controlled study without randomisation.

II b Evidence obtained from at least one other type of well-designed quasi-experimental study.

III Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The workgroup adopted a structured process in the evaluation of evidence. Factors such as research design (include sampling methods, measurement methods, internal validity, external validity, conclusion validity), consistency of results from different studies, resource limitations, feasibility of implementation and patient preferences were reviewed.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

For the definition of the grades of recommendation the workgroup adopted the criteria used by the Scottish Intercollegiate Guidelines Network (SIGN).

Grades of Recommendation

A Requires at least one randomised controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation (evidence levels Ia, Ib).

B Requires availability of well-conducted clinical studies but no randomised clinical trials on the topic of recommendation (evidence levels IIa, IIb, III).

C Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates absence of directly applicable clinical studies of good quality (evidence level IV).

GPP Recommended best practice based on the clinical experience of the guideline development group (good practice points).

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The set of guidelines was circulated to hospitals and institutions for peer review and evaluation of the recommendations in clinical practice. These guidelines will be revised and updated periodically to incorporate the latest relevant research evidence and expert clinical opinions.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the grades of recommendations (A, B, C, D) and levels of evidence (I to IV) are defined at the end of the Major Recommendations field.

Nursing Assessment

On admission, patients with mobility deficit and impaired ability to reposition should be assessed for additional contributing factors such as incontinence and impaired nutritional status that increase their risk of developing pressure ulcers. (Grade A, Level I b)

Risk Assessment Tools

During assessment, use a reliable and validated risk assessment tool, such as the Braden Scale, to complement good clinical judgement and observation. (Grade A, Level I b)

If the Braden Scale is selected, institutions should establish a risk assessment threshold score (e.g. 16), that is sensitive and specific to their clinical settings. (Grade A, Level I b)

Conduct risk assessment for patients with mobility deficit within two hours of admission to any health care facility. (Grade A, Level I b)

Assessment should also be implemented at 72-hour intervals, following a change in clinical condition or a significant clinical event, such as post-surgery, prolonged procedures, and at regular intervals for chronically ill patients. (Grade A, Level I b)

Skin Assessment and Cleansing

Individuals at risk of pressure ulcer development should have a systematic skin assessment at least once a day. Particular attention should be given to bony prominences. The assessment should be documented. (Grade C, Level IV)

The skin should be cleansed routinely and at time of soiling. During cleansing, use warm water and a mild cleansing agent that minimises irritation and skin dryness. (Grade C, Level IV)

Application of Topical Agents

Minimise environmental factors that lead to skin dryness (e.g. exposure to cold). Apply moisturiser to dry skin. (Grade C, Level IV)

Moisture Control

Minimise skin exposure to moisture due to perspiration, incontinence or wound drainage. (Grade C, Level IV)

Underpads may be used where skin exposure to moisture cannot be controlled. (Grade C, Level IV)

Topical agents can be applied to areas frequently exposed to moisture. (Grade C, Level IV)

Massage

Do not massage areas at risk of pressure ulcer development. (Grade B, Level III)

Nutrition

Determine patient's nutritional status by assessing the nutritional risk factors. (Grade C, Level IV)

Give dietary support and advice. (Grade A, Level I b)

Consult the physician and dietician where dietary intake remains inadequate and interventions such as enteral or parenteral feedings should be considered. (Grade GPP)

Positioning

For bed-ridden patients who are at risk, reposition them at least 2-hourly if there are no contraindications. Draw up an individual written positioning schedule. (Grade C, Level IV)

Use positioning devices such as pillows or foam wedges to keep bony prominences from direct contact with one another. (Grade C, Level IV)

When in lateral position, avoid positioning directly on bony prominences (e.g. trochanter). (Grade C, Level IV)

Keep the head of the bed at the lowest angle (about 30 degree) unless contraindicated. (Grade C, Level IV)

Use lifting devices and correct lifting techniques during transfer and repositioning. (Grade C, Level IV)

Pressure-Relieving Devices

Place at risk patients on pressure-relieving devices whilst they are in bed (foam, gel, static air or alternating air mattress or overlay). (Grade B, Level III)

For patients who are completely immobile, raise their heels off the bed or use pressure-relieving devices. (Grade C, Level IV)

For patients who are chair-bound, use pressure-relieving devices such as foam, air or gel cushions. (Grade C, Level IV)

Individuals at risk should avoid sitting for prolonged period on a chair or wheelchair. Patients who are able should be taught to shift their weight every 15 minutes. Those who need assistance should be repositioned at least hourly or be put back to bed. (Grade C, Level IV)

Do not use donut-shaped devices as pressure-relieving devices. (Grade C, Level IV)

Do not use water-filled gloves as pressure-relieving devices. (Grade B, Level II b)

Educational Programmes

Educational programmes should be structured, organised, comprehensive and directed at all levels of healthcare providers, patients and families or caregivers. (Grade A, Level I b)

Design, develop and implement educational programmes with an overall goal of reducing the incidence of pressure ulcers in the healthcare settings. (Grade A, Level I b)

Educational programmes must be conducted on a regular basis and include new techniques or technologies. (Grade C, Level IV)

Definitions

Levels of Evidence

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GPP Recommended best practice based on the clinical experience of the guideline development group (good practice points).

CLINICAL ALGORITHM(S)

The original guideline document contains a flowchart for pressure ulcer prediction and prevention.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Prevention of pressure ulcer development
- Management of Stage I pressure ulcers

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The workgroup recommends that individual practitioners assess the appropriateness of the recommendations with regards to patient's condition, overall treatment goal, resource availability, institutional policies, available treatment options and any recent research findings before adopting any recommendation in clinical practice.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation

It is expected that these guidelines be adopted after discussion involving clinical staff and hospital and institution management. They may review how these guidelines may complement or be incorporated into their existing institution protocols. Feedback may be directed to the Singapore Ministry of Health for consideration in future review.

Clinical Audit

Hospital and institution administrators should consider these guidelines in their in-house quality assurance programmes. Nurses should critically review the implications of these guidelines on their routine care, patient-teaching and education needs.

Assessment Tool

Institutions should select a reliable and validated risk assessment tool and establish a risk assessment threshold score.

Key Outcome Indicators

In pressure ulcer prevention, quality of nursing care may be defined as:

1. Nursing assessment of pressure ulcer development risk has been accurately performed
2. Strategies and actions are planned and implemented to prevent skin breakdown
3. Education programmes are designed and conducted to staff and caregivers
4. Incidence of pressure ulcer development is documented

All the four outcome indicators may be audited at hospital and institutional levels. These require accurate and consistent documentation.

Clinical Audits

Accurate nursing assessment of pressure ulcer development risk, adoption of prevention strategies and use of pressure-relieving devices are crucial to prevention of skin breakdown due to immobility. These may best be assured through audits of randomly selected individual episodes of care and a retrospective review of cases when new skin breakdown occurs. Audits are strongly recommended at ward level. It will be necessary to establish current baseline practice against which change may be measured.

Management Role

Hospital and institution administrators, together with quality assurance teams, should ensure that outcome indicators are met. They may benchmark against hospital or institution that perform well.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

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guidelines "Pressure Ulcers in Adults: Prediction and Prevention" (Bergstrom et al 1992).

DATE RELEASED

2001 Mar

GUIDELINE DEVELOPER(S)

Singapore Ministry of Health - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Singapore Ministry of Health

GUIDELINE COMMITTEE

MOH Nursing CPG Workgroup on Nursing Prediction and Prevention of Pressure Ulcers in Adults

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Singapore Ministry of Health Web site](#).

Print copies: Available from the Singapore Ministry of Health, College of Medicine Building, Mezzanine Floor 16 College Rd, Singapore 169854.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Prediction and prevention of pressure ulcers in adults. Quick Reference Guide. Singapore: Singapore Ministry of Health; 2001.
- Prediction and prevention of pressure ulcers in adults. Poster version of the guideline. Singapore: Singapore Ministry of Health; 2001.

Print copies are available by writing to: Senior Professional Standards Executive (Nursing Practice), Nursing Branch, Ministry of Health, 16 College Road, Singapore 169854

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on December 19, 2002. The information was verified by the guideline developer on January 23, 2003.

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Date Modified: 11/8/2004

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