

Skin tears: a descriptive study of the opinions, clinical practice and knowledge base of RNs caring for the aged in high care residential facilities

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Abstract

The purpose of this study was to gain an insight into the opinions, current clinical practice and knowledge base of registered nurses (RNs) responsible for the care of residents in high care (nursing home) residential aged care (HCRAC) facilities in relation to skin tears. In addition, the awareness and/or use of research findings in their practice, along with the identification of topics to be included in skin tear educational programmes were also explored. This descriptive study used questionnaires to collect data from the target population.

The main findings of the study were that skin tears are perceived by RNs to be a commonly occurring wound in aged residents, and that RNs are directly involved in the reporting, assessment and management of these wounds. There appeared to be no uniform language used by Australian clinicians relating to the description and classification of skin tears. RNs were also often unaware of published skin tear research. A wide range of treatment modalities was being used for skin tears, with little evidence available to support their use in these wounds. Specific skin tear topics identified for inclusion in future educational programmes were aging skin issues, resident risk assessment, skin tear classification skills, local wound management and preventative strategies. The non-response rate was high.

Further research is required to add to the small but growing skin tear knowledge base. National incidence and prevalence rates, along with uniformity in skin tear language, incident reporting, assessment, classification and management are required. Future prospective, randomised, controlled, clinical studies relating to skin tear type (classification) and treatment modality may guide clinicians in the provision of evidence based wound care. There is a need to raise clinicians' awareness and to disseminate both past and future research findings through exposure to the literature and formal educational programmes.

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Introduction

Skin tears have been identified as a common, acute injury sustained by the aged in extended care facilities¹⁻³ and changes to aging skin make this population more susceptible to skin tear injuries^{1,3-9}. In 1990, Payne & Martin⁵ first defined skin tears as, "... a traumatic injury occurring on the

extremities of older adults as a result of shearing and friction forces which separate the epidermis from the dermis". In 1991, Malone *et al.*¹ penned the following definition, "... a laceration of the epidermis, most often associated with minor trauma and involving a separation of the epidermis from the underlying connective tissue so that a flap of skin is created".

Skin tear research

Over the past decade, researchers have begun to monitor the incidence of skin tears¹⁻⁵, to develop and refine definitions, language and classification systems^{5,6}, to identify risk factors^{1-3,5}, to examine preventative strategies⁷ and to study various treatment modalities^{4,5,8}. To date, there have been a small number of Australian studies published^{2,8} and one unpublished pilot study¹³ which have examined skin tear issues.

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Australia's aging population

The Australian aged population has been increasing from the early '70s. Between 1977 and 1997, life expectancy for Australian men aged 65 increased from an additional 13 to 16 years; for women it increased from 17 to 20 years¹⁰. In the next 20 years, the proportion of Australia's population over the age of 65 will increase from 12 per cent to more than 16 per cent, the fastest growth rate of any age group¹¹.

Current national figures show 73,576 beds are devoted to high care residential aged care (HCRAC) facilities alone in Australia. This rises to a total of 157,478 beds when low care (hostels), residential and community aged care packages (CACP) are included¹². These figures, combined with the steady increase in the Australian aged population, have the potential to increase the number of skin tear injuries in the aged, thereby warranting further research and investigation in this field.

Aims

The aims of this study were to:

- Gain an insight into the opinions, current practice and knowledge base of RNs in relation to skin tears in the aged population of Australian HCRAC environments.
- Review the dissemination and/or use of skin tear research findings in the clinical practice of RNs in these facilities.
- Identify specific topics relating to skin tears which RNs indicate should be included in future educational programmes.

Methodology

Survey methodology was chosen to "provide a picture of a situation as it naturally happens"¹⁴. This method of research is the most widely used non-experimental type of educational and clinical research to develop theory, identify problems with current practice, justify current practice or determine what others are doing in similar situations¹⁴.

Method

Target population and sampling technique

The target population and research participants in this study were RNs (Division 1 in Victoria) who were involved in the delivery of clinical care to residents in HCRAC facilities in Australia. Current federal government statistics indicate there are 20,096 RNs nationally¹⁵.

As the target population was large, data were collected from a representative group of the study subjects using a cluster

sampling technique¹⁶⁻¹⁸. Probability sampling uses randomised selection while obtaining the sample to limit sample bias, increase sample representation and give confidence in the sample¹⁶.

One hundred and four HCRAC facilities were randomly selected from both private and government compiled state lists¹⁹⁻²² which provided the clusters of RNs. Five RNs in each facility were invited to participate, giving a sample size of 520 RNs.

Instrument design and distribution

The questionnaire used in this study was designed following a literature review and included both open and closed questions. The accuracy and consistency of the questionnaire was assessed by cross referencing questions asked against the research questions, peer review of the questionnaire and by conducting a pilot study involving RNs working in a HCRAC facility. These RNs were not part of the final study group and were surveyed within 10 days to test consistency of the questionnaire.

Five hundred and twenty self-administered questionnaires were mailed to the 104 randomly selected facilities. A letter of introduction and invitation to participate in the research study was attached to each survey. A return-addressed envelope and complementary pen were attached to each questionnaire with a request to return the questionnaire by 30 June 2000; this gave a 2 week timeframe for the response. Reminder follow up letters were mailed to each institution 1 week after the due date, along with reminder follow up phone calls notifying facilities of the extension date of 22 July. The total survey period was extended to 5 weeks.

Data analysis

Data analysis of the two questions relating to dressing selection and frequency of complications was analysed in two ways. Firstly, a test of single proportions (2 sided, Exact Clopper-Pearson) was performed on each question. To obtain a dichotomous outcome, the 'important and very important' or 'common and extremely common' responses were pooled. This analysis allows inference to be drawn as to whether the answer distinguishes in a meaningful way between the two options (not important vs important /very important or rare vs common/extremely common).

Secondly, a qualitative ranking across questions was performed using the same method to dichotomise the data. A qualitative approach was considered adequate given the scope of the study.

The criteria for ranking were:

- the number of 'not important' or 'rare' answers i.e. a lower number yielding a higher ranking; and, if necessary,
- the summed figure of the 'important/very important' or 'common/extremely common' column i.e. a higher number yielding a higher ranking;
- the test of proportions yielding a P value >0.05 i.e. the inability to draw a meaningful conclusion from the answer (percentages) to that question.

Results

One hundred and eighteen of the 520 questionnaires were returned. Seven questionnaires were returned after the extended due by date and were not included. The national response rate was 22.7 per cent (Table 1). Such a low response rate is not uncommon in questionnaire surveys²³.

Over sampling may have achieved a sample size of 200 (the recommended sample size if target population >2,000¹⁷), but it would not solve the potential problem of sample bias caused by the non-response rate. Insufficient returns may have introduced sample bias; all care, however, was taken to reduce sample error relating to target population representation.

Demographics of the population sample

RNs' qualifications and duration of registration

Out of the total sample, 80.5 per cent of RNs had a hospital based diploma, with 57 per cent having completed further studies in nursing. Ninety four per cent of the RNs had been registered for more than 8 years, with 77 per cent registered between 21-40 years. Seventy three per cent of RNs had worked specifically with the aged for more than 8 years.

Type of facilities and location

Seventy two per cent were working in private facilities, 16 per cent in public facilities, 8.4 per cent in combined public and private or 'not for profit' facilities (3.3 per cent non-response).

There was representation of RNs from both metropolitan (capital city 46 per cent) and regional (all other 51 per cent) locations. The bed numbers in the facilities were 0-30 (27 per cent), 31-60 (36 per cent), 61-100 (28.8 per cent) and 101-150 (6.7 per cent).

Opinions on skin tear incidence, notification, assessment and documentation

Incidence

Out of the total sample, 98.6 per cent of RNs indicated that the incidence of skin tears in the aged was common to extremely common. Eighty three per cent of RNs felt that the incidence in their own facility was common to extremely common and 82.7 per cent indicated that their direct involvement was common or extremely common (Table 2). Sixty four per cent of RNs indicated they were made aware of 1-2 new skin tears in a week, with 28.8 per cent indicating 3-5 new skin tears per week.

Notification

Twenty per cent of RNs indicated it was not policy to record skin tear injuries on an incident form, and 78.8 per cent indicated it was not policy to notify the medical officer (MO) of a skin tear injury.

RNs' comments relating to when they notified a MO of a skin tear included:

- If 'severe' or 'nasty'.
- 'Large' or 'problematic'.

Table 1. Random selection of HCRAC facilities from national list.

State	High care facilities (n=1,523)	Randomly selected facilities (n=104)	Questionnaires (n=520)	Total questionnaires returned (n=118)	Response (%)
ACT	10	1	5	1	20
NSW	478	33	165	36	21.8
NT	15	1	5	0	0
QLD	197	13	65	19	29.2
SA	185	13	65	17	26
TAS	54	3	15	4	26.6
VIC	458	31	155	34	21.9
WA	126	9	45	7	15.5

- Associated with a head injury.
- Related to a fall – required suturing and/or tetanus cover.

Assessment and documentation

Less than 50 per cent of RNs always recorded the shape of tear, amount of skin loss, depth of wound and condition of surrounding skin, whilst 9-10 per cent never recorded these factors (Table 3). Eighty nine per cent of RNs indicated that they would use a skin tear assessment and documentation chart if made available.

Opinions on skin tear management

Type of treatment identified

Twenty four per cent indicated their facility had a 'standard' treatment for the management of all skin tears. Fifty two per cent of responses indicated that the RN in charge orders the

local management of the tear, with the individual RN ordering management in 11 per cent, the MO in 7 per cent and other nurses in 5 per cent of cases.

A wide range of treatment modalities were identified; STERISTRIP® covered with a polyurethane film was the most commonly used dressing – indicated by 48 per cent of RNs – and a combined 29.9 per cent used dry dressings, STERISTRIP® alone or left the skin tear open to the air (Figure 1 and Table 4).

Considerations when selecting a dressing for a skin tear

The RNs were asked to indicate the importance of 10 considerations when choosing a dressing for a skin tear. Their responses were analysed (see method) and considerations were ranked from most important to least important. Their considerations (all with a P value <0.0001) are listed in Table 5.

Table 2. RN opinions re skin tears – shown as percentages with absolute numbers in brackets (n=118).

Question	Rare	Un-common	Common	Very common	Extremely common	No response
Skin tear injuries in the aged are ...	0 (0)	1 (2)	48 (55)	36 (43)	14 (17)	0 (0)
I feel that the incidence of skin tears at my facility is ...	0.9 (1)	15 (18)	67 (80)	15 (18)	0.9 (1)	0.9 (1)
My direct involvement in the management of skin tears is ...	6 (7)	10 (12)	38 (45)	27 (32)	18 (21)	0.9 (1)

Table 3. Skin tear assessments recorded – shown as percentages with absolute numbers in brackets (n=118).

Assessment details	Always	Mostly	Occasionally	Never	No response
Cause of skin tear	73 (86)	18 (21)	6 (7)	1 (1)	3 (3)
Location of injury (room)	69 (82)	14 (16)	10 (12)	3 (3)	4 (5)
Site on the body	97 (114)	3 (3)	0 (0)	0 (0)	1 (1)
Shape of the tear	49 (58)	18 (21)	24 (28)	6 (7)	3 (4)
Size of the tear	61 (72)	25 (29)	11 (13)	3 (3)	1 (1)
Amount of skin loss	37 (44)	17 (20)	32 (38)	9 (11)	4 (5)
Depth of the wound	42 (49)	23 (27)	25 (29)	10 (12)	1 (1)
Amount and type of exudate (bleeding)	57 (67)	25 (30)	16 (19)	0 (0)	3 (4)
Condition of the surrounding skin (bruised, fragile skin)	48 (57)	28 (33)	20 (24)	3 (1)	1 (1)
Location of documentation	Always	Mostly	Occasionally	Never	No response
Nursing notes	85 (100)	14 (16)	1 (1)	0 (0)	1 (1)
Care plan	49 (58)	14 (16)	19 (22)	7 (8)	12 (14)
Wound chart	69 (82)	8 (9)	8 (9)	2 (2)	14 (16)
Incident form	60 (71)	15 (18)	15 (18)	2 (2)	8 (9)

Table 4. Treatment modalities used in skin tear management – shown as percentages with absolute numbers in brackets (n=130). Some RNs recorded more than one response.

Dressing		
• STERI-STRIP® alone and left open air	19.2	(25)
• STERI-STRIP and film dressing	48.4	(63)
• Dry dressing, e.g. gauze / Melolin™	10.7	(14)
• Hydrocolloids	4.6	(6)
• Foams	2.3	(3)
• Other	14.6	(19)
– STERI-STRIP / Melolin / bandage		
– STERI-STRIP / Melolin / film		
– STERI-STRIP / Bactigras™ or Jelonet™ / Melolin		
– STERI-STRIP / xerofoam 7 days		
– Micropore™ / tinc benz		
– Micropore / film		
– KALTOSTAT® / non stick dressing		
– Solugel™ / non stick dressing		
– Film only		

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Figure 1. Commonly used dressings.

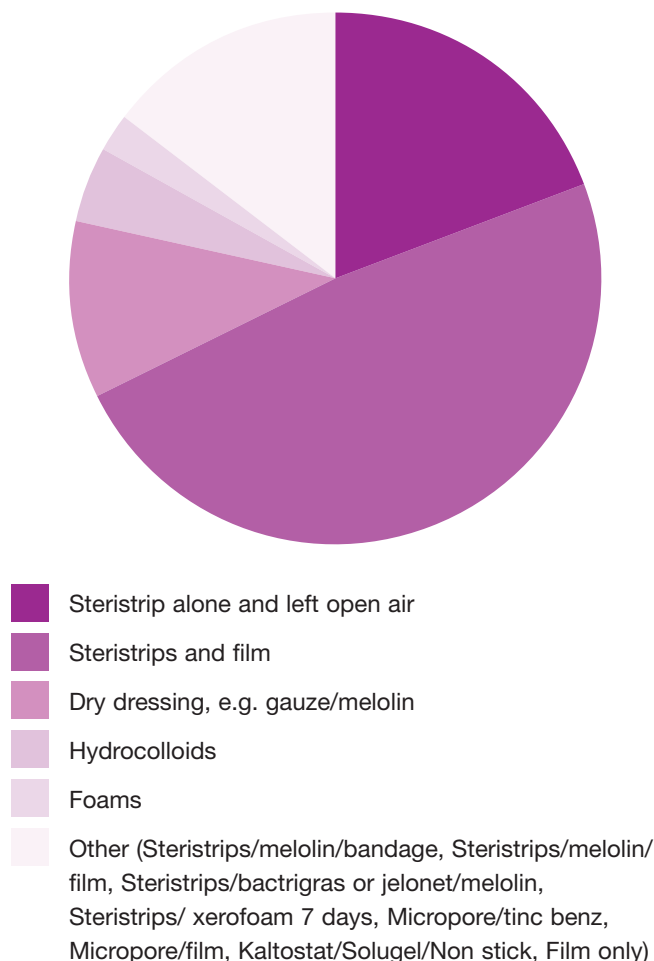


Table 5. Considerations ranked in order of importance when choosing a dressing for a skin tear – shown as percentages with absolute numbers in brackets (n=118).

Consideration	Not important	Important	Very important	No response
The dressing is easily removed causing no further pain or trauma to the wound or surrounding skin	1 (1)	26 (31)	72 (85)	1 (1)
The dressing product will protect the surrounding skin	2 (2)	43 (51)	53 (63)	2 (2)
The dressing will provide a moist wound healing environment	7 (8)	37 (44)	50 (60)	6 (7)
Research has shown it is a safe and effective form of management	4 (4)	42 (50)	53 (63)	1 (1)
The dressing requires infrequent changes	9 (11)	43 (51)	47 (56)	1 (1)
The dressing can control superficial bleeding	5 (6)	54 (64)	38 (45)	3 (3)
The dressing product will absorb exudate	5 (6)	53 (63)	38 (45)	3 (3)
What products are available on the shelf	13 (15)	56 (66)	30 (35)	1 (1)
The dressing is waterproof	14 (17)	57 (67)	24 (28)	5 (6)
Cost of the dressing product	28 (33)	52 (61)	19 (23)	1 (1)

P-value <0.0001 for all above comparisons.

Issues/complications in skin tear management

The RNs were asked to indicate how common eight issues/ complications were in skin tear management. Their responses were analysed (see method) and ranked from most common to least common. These issues (all with a P value <0.0001) are listed in Table 6.

The issues identified as ‘not significant’ were leaking from dressings (p=0.351), pain for the resident (p=0.064), cost for the facility (p=0.925) and inconsistent approach by various clinicians (p=0.051).

Knowledge and education relating to skin tears

Definition of a skin tear

Only 39.8 per cent of RNs indicated that they had read a definition of a skin tear. When asked to write a definition of a skin tear in their own words, 72 per cent of RNs responded. The definitions recorded contained common words found in the definition of a wound, e.g:

- “A break to the integrity of the skin”.
- “An injury causing loss or penetration”.
- “Opening of the surface of the skin due to trauma”.

Key words identified in Payne & Martin’s revised definition of a skin tear⁶, were compared with the RNs’ definitions. Only 2.35 per cent of responses contained at least three (50 per cent) of the key terms found in this definition (Table 7).

Knowledge of aging skin

When asked to name the two layers of the skin which are affected by skin tears, 79.6 per cent of RNs were able to name

Table 7. Key words from Payne-Martin skin tear definition, used in RNs’ definitions – shown as percentages with absolute numbers in brackets (n=85).

Key word	%	n
Traumatic	28	(24)
Occurring principally on extremities (limbs)	2.3	(2)
Of older adults	2.3	(2)
Shear / shear and friction	10.5	(9)
Separation epidermis from dermis (partial thickness)	21	(18)
Separation of epidermis and dermis from underlying structures (full thickness)	0	(0)

both the epidermis and the dermis, 20 per cent named one layer only or did not respond. When asked to list significant changes in aging skin which predispose to skin tears, 27 per cent recorded epidermal, dermal and subcutaneous thinning, 20 per cent loss of elasticity/changes to collagen formation, 4 per cent subcutaneous haemorrhages (bruising) and only 1 per cent decreased adherence between the dermis and the epidermis. Thus only a combined total of 51 per cent of RNs were able to list significant changes to aging skin identified in the literature (Figure 2).

Risk factor identification

Only 34.4 per cent of RNs named risk factors identified in the literature (Table 8). Some 64.9 per cent, however, listed causes of skin tears, not risk factors. Some 78.8 per cent of RNs indicated the upper and lower limbs (as identified in

Table 6. Ranked issues/complications in skin tear management from the most common – shown as percentages with absolute numbers in brackets (n=118).

Issue/complication	Rare	Common	Extremely common	No response
Dressing interference by resident	33 (39)	53 (62)	11 (13)	3 (4)
Frequent dressing changes	36 (42)	58 (69)	2 (2)	4 (5)
Trauma to the skin or skin tear on dressing removal	65 (77)	31 (36)	2 (2)	3 (3)
Cost issues for the resident/and or family	69 (82)	19 (23)	6 (7)	3 (4)
				2 (2NA)
				Total 5 (6)
Failure to heal/chronic wound/ulcer formation	75 (89)	21 (25)	0 (0)	3 (4)
Maceration to the surrounding skin	75 (89)	21 (25)	0 (0)	3 (4)
Clinical infection	81 (96)	17 (20)	1 (1)	1 (1)
Persistent bleeding	89 (106)	8 (10)	1 (1)	2 (2)

P-value <0.0001 for all above comparisons

Figure 2. Aging skin.



research) as the most common location of skin tear injuries in the aged.

Skin tear classification

When asked about the Payne-Martin classification system for skin tears^{5,6}, none of the RNs (0 per cent) were aware of, could describe or used the system in their department.

Table 8. Risk factors identified in the literature recorded by RNs.

Risk factor	%
Advancing age – the 'old old' >85 years	1.0 ^{1,3,5}
Altered sensory status (vision, hearing, sensation)	4.7 ^{2,3,24}
Independently ambulant	2.6 ^{2,3,24}
History of a previous tear	0.3 ^{1,3,5}
Presence of ecchymosis	1.2 ^{3,5}
Dependant on staff for all needs	3.4 ^{5,24}
Poor nutrition	6.9 ³
Dementia	9.2 ^{2,3,5}
Altered neuromuscular status (stiffness, contractures)	1.5 ³
Polypharmacology	0.2 ³
User of equipment (wheel chairs, lifting machines restraints)	3.3 ^{3,24}

Prevention strategies

When asked to indicate what is routinely used to wash and bath residents, 56 per cent of RNs indicated soap, 22 per cent emollients and 19.4 per cent other (soap alternatives and skin cleansing preparations). A total of 62.7 per cent indicated that skin moisturisers were routinely used on all residents daily.

Some 68.6 per cent of RNs indicated that preventative procedures for skin tears existed in their department. The most common interventions included:

- Bandaging of the limbs.
- Protective sheepskins to limbs.
- Padding of equipment.
- Use of moisturising cream.
- Staff education.
- Correct handling techniques.

Twenty four per cent of RNs indicated that no preventative procedures were in place in their facilities. This figure mirrors the percentage of RNs (24 per cent) who indicated that it was not policy to identify residents at risk in their department.

Educational programmes and knowledge of literature

Thirty two per cent of RNs had not attended an educational programme which had discussed research findings in skin tear management. When asked to indicate topics to be included in skin tear educational programmes, 86 per cent of RNs selected 'dressing choice relating to skin tear assessment and management' and 69-75 per cent indicated all other listed topics should be included (Table 9). Only 40 per cent of RNs had read published articles or research papers relating to skin tears, with each having read on average 2.4 papers/articles.

Discussion

Population sample demographic

The majority of responding RNs were hospital trained, with over half completing further nursing studies. Most had been registered for more than 8 years, with the majority working in private facilities; three quarters had specifically worked with the aged for over 8 years. There was equal representation of RNs working in both metropolitan and regional locations.

Skin tear incidence

Skin tears are perceived as a common injury occurring in the aged resident; this is in accord with reported skin tear incidence^{1,3,5}.

Table 9. Subjects indicated by RNs to be included in future educational programmes – shown as percentages with absolute numbers in brackets (n=118).

Responses	Response		No response	
	%	n	%	n
Ageing skin issues, why skin tears occur in the aged skin	74	(87)	26	(31)
Resident risk factor identification/research findings	69	(81)	31	(37)
Local wound assessment skills/partial thickness/full thickness	69	(82)	31	(36)
Skin tear classification skills	72	(85)	28	(33)
Preventative measures	75	(89)	25	(29)
Dressing choice relating to skin tear assessment and management	86	(102)	14	(16)

Malone *et al.*¹, in a retrospective study of incidence reporting in aged care facilities, found incidence was approximately one skin tear per resident per year. A further validation study found that only one in three tears was reported, suggesting that the actual incidence may be higher. They suggested that if this figure were relevant to national aged care facilities, then at least 1.5 million skin tears occur in institutionalised elderly each year in the United States.

Everett and Powell² found an incidence of 133 tears over a 6 month period in an extended care facility; in McGough and Kopac's³ prospective, descriptive multicentre study, 154 skin tears were recorded in 6 months³. Payne & Martin⁵, although stating their findings were 'preliminary', reported an incidence of 2.23 per cent with 20 individuals having 50 skin tears and one individual having 12 tears.

To date, no national skin tear incidence has been identified or published for aged care facilities within the public or private sectors in Australia¹². With 64 per cent and 29 per cent of RNs being made aware of 1–2 or 3–5 new skin tears per week respectively, the actual number of skin tear injuries in HCRAC facilities in Australia requires further investigation and documentation through point prevalence and incidence studies.

In an unpublished pilot study, Moncrieff and Ellis¹³ found a point prevalence of 14 per cent using a convenience sample of two wards in an acute care hospital in Adelaide, Australia. Further research is required to provide baseline data for skin tear incidence in acute, extended and community care settings, as the aged are identified across all health care areas.

Skin tear notification, assessment and documentation

It is not always institutional policy to report the incidence of skin tear injuries in the facilities studied; only 60 per cent of RNs indicated that they always completed a form. Malone *et al.*¹ identified substantial under reporting of skin tears using incident forms, even where it was institutional policy. Nor is it policy in all HCRAC to contact the MO when a skin tear occurs, and there is minimal direct MO intervention in their management. Malone *et al.*¹ reported 97 per cent of skin tears in their study required local treatment only, and questioned whether the physician should be notified. They concluded that in the case of frequent tearing, a multidisciplinary approach addressing preventative measures may be of benefit.

There is not a clear or uniform language used by RNs in HCRAC facilities relating to skin tear severity. A common language and classification system may assist all members of the multidisciplinary team to communicate the extent and the severity of the skin tear via standardised reporting procedures.

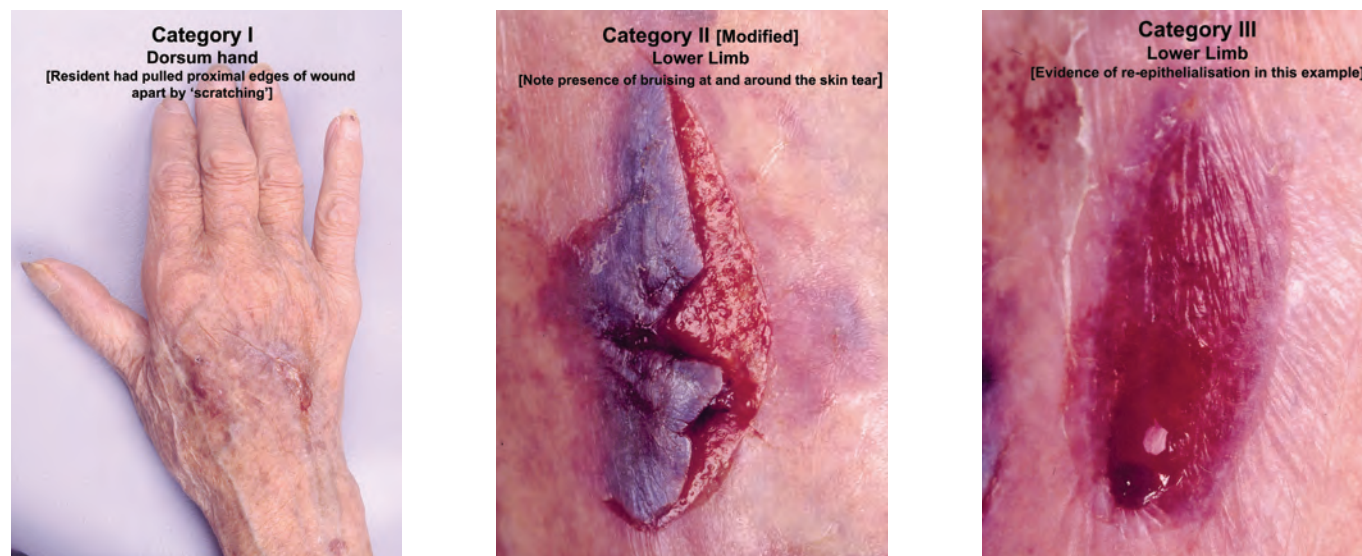
The Payne-Martin classification system for skin tears, was the first system developed to describe and classify skin tears⁵ and includes definitions and characteristics. The authors conclude that skin tears vary widely in their appearance at the time of injury and during the healing process. On revising their system⁶, they reiterate the need for a common taxonomy and definition for each type of skin tear (Figures 3-5):

- Category I: Ability to approximate the wound borders, no tissue loss
 - Type A: Linear
 - Type B: Flap
- Category II: Varying amounts of tissue loss
 - Type A: Scant tissue loss <25%
 - Type B: Moderate tissue loss >25%
- Category III: Complete tissue loss

Some authors have adapted the Category II classification by combining 'scant' and 'moderate' loss, and describing as 'a modified' Category II⁴.

Payne & Martin state that, "Clinicians need to learn to recognise skin tears and to assess and classify them correctly"⁶. As all respondents in this study were unaware of the Payne-Martin classification system - the only classification system identified to date in the literature - it is evident that Australian clinicians lack a common descriptive language relating to skin tear assessment and classification.

Figures 3-5.



When gathering information on which to base skin tear management decisions, it is recommended that clinicians assess both the patient and the wound, and then document the findings⁶. This study demonstrates that key elements of skin tear assessments are not always recorded in the nursing notes, care plans and wound charts; however, 89 per cent of RNs indicated a willingness to use a skin tear assessment chart, if it were made available.

Skin tear management

The 'type' or classification of skin tear (relating to amount of skin loss) will influence treatment modalities⁵. All skin tears are not the same, yet 24 per cent of RNs indicated their institution had a 'standard' treatment for all tears. These policies do not allow each skin tear to be assessed and treated² according to the type or classification of the skin tear⁵ and individual requirements of the resident.

A wide range of treatment modalities are used in skin tear management with little evidence found in the literature to support these practices. Few researchers have studied treatment modalities in skin tear management^{4,5,8} and future prospective, randomised, controlled, clinical studies are needed to provide residents with 'evidence based' wound care.

RNs indicated that protection of the surrounding skin, moist wound healing and research findings were the most important considerations when choosing a skin tear dressing, and that the cost of the product was the least important. Interestingly, the RNs identified protection of the skin as important, yet trauma to the skin using current treatment

modalities was identified as a common occurrence. Traditional dry dressings/exposure to air were used by over 30 per cent of RNs, yet moist wound healing was identified as an important consideration.

Research findings were identified as an important consideration in dressing selection, yet little evidence is available to base treatment decisions on. Future clinical studies of dressing products are required to identify which dressings best meet clinician considerations and address issues identified.

General knowledge, awareness of research findings and perceived need for education

In 1990 Payne & Martin⁵ identified only one reference in the literature to skin tears in an article reviewing the management of pressure sores²⁵. Malone *et al.*¹ confirmed a lack of published studies with no mention of the term skin tear, and no description or definition in current medical, geriatric and dermatological texts. Other researchers, primarily McGough & Kopac³, also recorded these same limitations^{3,7,24}. They also suggest that current geriatric medicine, gerontological nursing and wound care texts fail to address the identification, risk factors, prevention and treatment of skin tears.

A common language

In 1993, Payne & Martin revised their definition for a skin tear; "A skin tear is a traumatic wound occurring principally on the extremities of older adults as a result of friction alone or shearing and friction forces which separate the epidermis from

the dermis (partial thickness wound) or which separates both the epidermis and the dermis from underlying structures (full thickness wounds)^{6''}. When asked to define a skin tear, only 2.35 per cent of the RNs' definitions contained at least 50 per cent of the key elements of the Payne-Martin definition. Greater dissemination of this definition is required to provide clinicians with a clear description of skin tear injuries and a common language for further discussion and research.

Aged related skin changes

Aged related skin changes predispose the elderly to skin tears during minimal trauma^{1, 3, 5, 7-9}. This includes a decrease in dermal, epidermal and subcutaneous thickness; decreased adherence between epidermis and the dermis by flattening of the junction and lack of elasticity. Only 1 per cent of RNs identified reduced adherence between the epidermis and the dermis as a significant change to aging skin.

Evidence of ecchymosis has been identified in the literature as being present either at the site of the tear or on the body at time of skin tear^{3, 5}. Only 4 per cent of RNs identified subcutaneous bleeding leading to senile purpura. Dissemination of these physiological changes linking aged skin to skin tear formation is required (Figures 6 & 7).

Risk factors

In 1991, Malone¹ called for further investigation into the identification of risk factors relating to skin tear injuries in the aged. McGough & Kopac³ have expanded the profile of an individual at risk as well as identifying new groups at risk. Their findings are mirrored by other researchers^{1, 5, 24} and include:

- Advancing age – the old; 85 years or older.
- Altered sensory status/vision, hearing, sensation.
- Independently ambulant.
- History of previous skin tear.
- Presence of ecchymosis (bruising).
- Dependant on staff for all needs.
- Poor nutrition and dementia.
- Altered neuromuscular status/stiffness, contractures.
- Polypharmacology (multiple drug).
- User of equipment (wheelchairs, lifting machines).

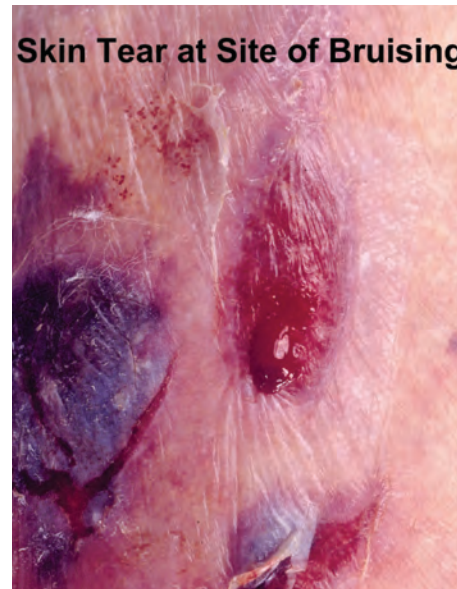
Only 34 per cent of RNs were able to identify risk factors identified in research, while 65 per cent listed causes of skin tears, not risk factors.

Another common factor identified in these studies was that 65-80 per cent of skin tears occur on the upper extremities, with the forearm being the most common location^{1, 3, 5}. The lower limb accounted for 10-22 per cent of skin tears. A total of 78.8 per cent of the RNs in this study named the upper and lower limb as the most common locations for skin tears to occur.

Skin tear prevention

Little has been written about the prevention of skin tears. One study examined skin tear incidence when comparing an emollient to soap when bathing aged residents⁷. Statistical significance was not demonstrated, yet the number of skin tears reduced. Fifty six per cent of RNs in this study indicated that soap is the most common skin cleanser used in HCRAC

Figures 6 & 7.



facilities, with 41.4 per cent indicating routine use of emollients, soap alternatives and skin cleanser preparations. A total of 62.7 per cent indicated that they routinely moisturised the skin of their residents daily. Further studies are needed to address simple preventative protocols and their outcomes³. Common sense protocols may be the best approach in the light of minimal clinical evidence⁹.

Education

Ongoing professional development is a requirement of all clinicians and educational providers have a responsibility to identify areas of need. Thirty per cent of RNs in these environments indicated that they had never attended an educational programme relating to skin tears. With the growing amount of data made available through research, educational programmes may play a role in the dissemination of information to clinicians distanced from the research arena. Some 69-75 per cent of RNs indicated the inclusion of the following subjects in future educational programmes:

- Aging skin issues; why skin tears occur in the elderly.
- Resident risk factor identification/research findings.
- Local wound assessment skills.
- Skin tear classification skills.
- Preventative measures.

With 87 per cent indicating:

- Dressing choice relating to skin tear assessment and management.

Conclusion

This study has identified a need to record national skin tear incidence/prevalence rates in Australian HCRAC facilities, as RNs have identified skin tears as commonly occurring wounds. As the Australian population continues to age, those at risk of skin tear injuries may be cared for in other health care settings e.g. acute, extended and community care. Future studies in these locations would provide a clearer picture of skin tear incidence/prevalence in the Australian population.

Clearly there is a need to adopt uniform incident reporting procedures, risk assessment and preventative policies, along with a common descriptive language including individual assessment and classification of all skin tears. RNs in this study have endorsed the need for these strategies by indicating that they would use a skin tear assessment tool/instrument if provided.

Future well designed, clinical studies are required to measure the efficacy of different dressing products on different types / classifications of skin tears, including outcomes of healing times and cost effectiveness. There is a need to disseminate skin tear research findings from the past decade to RNs caring for the aged in Australian HCRAC facilities. The design and delivery of formal educational programmes, which include topics identified by RNs in this study, may assist in this process.

There is still so much to learn and explore in relation to skin tear injuries. Future studies into skin tears can only add to this small but growing knowledge base and assist clinicians in the delivery of evidence based skin tear assessment, management and prevention.

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