AN AUSTRALIAN GIFT TO MEDICINE

INTRODUCTION

The launch of an internationally recognised Australian Standard for Australian Medical Sheepskin will be welcomed by the health care industry in Australia and overseas.

This Australian innovation has tremendous ramifications.

The development of pressure ulcers is not only of great discomfort to the patient but is expensive for the tax payer and dramatically reduces the number of available hospital beds, due to extended hospital stays.

Now health care authorities throughout Australia and overseas can confidently specify the Australian Standard, when purchasing Australian Medical Sheepskins, to ensure product performance.

I congratulate the CSIRO Division of Wool Technology, the Meat Research Corporation, Fleececraft Industries and Standards Australia for their endeavours.

The Hon Dr Michael Wooldridge MP
Minister for Health

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The establishment of an internationally recognised Australian Standard for Australian Medical Sheepskin and the development of new technologies and standards, offers tremendous cost-savings to the health care industry worldwide.

This outstanding Australian initiative has seen the tanning, laundering and manufacturing industries working closely with the CSIRO and Standards Australia.

The co-operative research project began three years ago with the assistance of MRC funding and attracted the interest of Australian tanners who assisted with research into the optimum properties for woolskin selection best suited to the strict standard we now have in place.

The innovative project has produced a world-class product. I congratulate everyone involved, especially CSIRO's Division of Wool Technology Leather Research Centre, the Meat Research Corporation, Fleececraft Industries, and Standards Australia, as well as the individuals, industries and hospitals who assisted with the extensive research and trials.

The Hon Peter McGauran MP
Minister for Science and Technology

PRESSURE ULCERS

A Curse Worth Exorcising

Pressure ulceration continually challenges the health professional to deliver the appropriate preventative care! Unfortunately pressure ulcers remain an unacceptably frequent occurrence in many Australian health institutions and costs the country over $350 million per annum!

Despite the availability of risk assessment tools, pressure relieving and reducing aids and a considerable body of preventative information, the curse of pressure ulceration has not been exorcised!

There are a few uncomplicated clinical practices which the health professional can follow to prevent pressure ulceration.

They include determining the level of patient risk, the method for redistribution of patient body weight, and restoration of tissue tolerance, metabolic balance and adequate nutrition. When these patient care factors are addressed successfully the likelihood of preventing pressure ulceration is greatly enhanced.

Clinical assessment supplemented by the risk assessment tools, are the foundation for a quality skin care program.

Pressure Relieving Measures

Each skin care program should be specifically tailored to the individual patient's requirements. General clinical measures including repositioning the patient, inspecting the skin on a regular basis and assessing for impending skin damage, are all important interventions.

Pressure relieving devices protect against the effects of external mechanical forces, pressure, friction and shear. There is a huge variety of such devices and of course a large variation in cost. However, prevention is considerably more cost effective than treatment of a pressure ulcer.

In any institution, it is likely that there will be the need for a large number of simple cost efficient devices for low risk patients, and a small number of considerably more expensive mechanical devices for the few high risk patients.

One of the most remarkable devices available for pressure ulcer prevention is the Australian Medical Sheepskin.

It is suitable for low risk patients, with its pressure reducing interface providing low friction and excess moisture absorption.

Accompanied by appropriate pressure relieving clinical measures, the Australian Medical Sheepskin has the propensity to assist in the prevention of pressure ulceration.

The new Australian Standard for medical sheepskins will not only ensure comfort and assist in pressure ulcer prevention, but will also prove to be cost effective through the product's increased durability, even in demanding clinical conditions.

Every health care facility should consider its range of pressure relieving and reducing devices, including the Australian Medical Sheepskin.

Pressure ulceration in Australia certainly requires improvement! The emphasis has to be on educational programs teaching the preventative methods, which will lead to a reduction of incidence of pressure ulcers.

It also makes economic sense. In this era of modern wound management, with preventative scales, protocols, pressure relieving devices – including the Australian Medical Sheepskin – all available to assist the health professional, there is little defence for pressure ulcers developing!

Professor Donald G MacLellan
Chairman, Wound Foundation of Australia

A NEW ERA

The introduction of Australian Standard AS 4480.1-1997 heralds a new era for the acceptance, promotion and marketing of the outstanding attributes of Australian Medical Sheepskin.

History

Prior to the introduction of the Australian Standard, the International Wool Secretariat's licensing agreements underpinned the identification and marketing of medical sheepskins in Australia. This system, however, had several shortcomings:

- The test procedures used to underpin the genuine licensing agreements did not predict the expected product performance.
- Counterfeit Woolmark licensing stamps were commonly used on products that, in many instances, clearly didn't meet the basic requirements of the health care industry.
- There was a subsequent loss of authority from the position the product initially held in the market place.

In May 1997, the licensing agreements were withdrawn from use on all sheepskin products.

As a result of the shortcomings of the previous system, and the dissatisfaction of both users and promoters of quality products, the CSIRO in partnership with industry has developed new technologies and standards which enable the production of long life, high performance, medical sheepskins.

Critical aspects of the Australian Medical Sheepskin are detailed as follows:

Leather

At a glance, neither expert nor novice can determine if a piece of sheepskin or leather can be continuously washed at high temperatures. The performance criteria for medical sheepskin is arguably the most demanding made of any leather product. The capacity to continuously cycle sheepskin through a commercial laundry regime at a temperature of 80°C is the result of the research carried out at Australia's CSIRO. At these high temperatures, thermal disinfection is easily achieved and the tanning technology provides a stable leather for a long life over many wash/dry cycles. Test results indicate 50 plus cycles are possible when laundered to the Australian Standard.

Wool

Wool type, wool length and the final finish are also important components of a medical sheepskin. CSIRO laboratory and hospital trials have identified guidelines for the initial tannery selection of skin and wool type, and the specification for the wool finish appropriate for pressure area care.

A medical sheepskin claiming compliance with Australian Standard AS 4480.1 requires that a permanent label be bonded to the leather side replicating one of the four labels displayed on the inside back cover of this brochure.

Table 1

Type designation of medical sheepskin

Type	Regtemp	Hitemp
Standard	R1	H1
Urine Resistant	R2	H2

Table 2

Size designation of medical sheepskin

Code	Length cm Min	Width cm Min	Area dm^2 Min	Area dm^2 Max
S (Small)	83	56	46	54
M (Medium)	87	60	55	63
L (Large)	92	63	64	72
XL (extra Large)	100	70	73	80+

An Australian Medical Sheepskin ready for use in the Intensive Care Ward at Epworth Hospital, Melbourne.

Each label displays the Australian Medical Sheepskin symbol and provides the following information:

- The manufacturer's identification number. (The register is held at Standards Australia.)
- Performance identification (Table 1).

  1. Hitemp (Green) - Wash up to 80°C.
     Dry up to 60°C.

  2. Regtemp (Blue) - Wash up to 60°C.
     Dry up to 60°C.

- The designated size of the skin (Table 2).
- Designation for Urine Resistance. The letters UR designate that skins have increased resistance to urine.

The Australian Medical Sheepskin has come of age. When purchasing a medical sheepskin, users can now be assured that the skin can be laundered many times over (up to 50 during CSIRO laundry trials) and achieve high level disinfection that will meet hospital infection control standards.

The wool characteristics will maximise pressure relief for low risk pressure area care and provide enduring comfort for all who use an Australian Medical Sheepskin in the health care environment.

Never before has such a comprehensive standard defined the high performance requirements of medical sheepskin.

Tony Warr
Managing Director
Fleececraft Industries

A MEDICAL PRACTITIONER'S PERSPECTIVE

Pressure Ulcers on the Increase

One of my dear, elderly patients was recently discharged from a teaching hospital after undergoing surgery to repair a hernia. The discharge summary claims the operation was a complete success but notes that "the patient developed heel ulcers during convalescence" which will be "looked after by the community nurses".

During my 30 years in general practice, I have witnessed the increasing technical sophistication of hospital care, but I still despair when I see my patients develop stage 4 pressure ulcers on their heels.

Sadly, my patients are developing pressure ulcers far more frequently. Prevalence studies have shown about one in 10 hospital patients has a pressure ulcer. Is this just a reflection of our ageing and increasingly frail population? Definitely not!

Medical Sheepskin in use at Melbourne's Epworth Hospital's Intensive Care Ward.

Pressure ulcers are mostly preventable, and usually represent substandard care.

I was first introduced to effective pressure area management while a resident doctor at Royal Prince Alfred Hospital. Even though I reminisce through the rose coloured glasses of memory, regular repositioning and an abundant supply of medical sheepskins prevented even the sickest patient from developing a pressure ulcer.

Lucy, my patient with the bilateral pressure ulcers on her heels, was an active septuagenarian looking forward to getting back to her lawn bowls.

Now she is confined to a chair with her exquisitely tender, painful heels that must be dressed every couple of days for the next three to six months.

Had a medical sheepskin been placed under Lucy's heels while she was on the operating table and in the recovery ward, her months of agony could have been avoided.

By providing a friction free surface and a dense wool pile to redistribute the weight of her feet, the medical sheepskin would have enabled Lucy's vulnerable heels to be protected while she was anaesthetised and as she was transferred from table to trolley to bed.

Prevention Rather Than Cure

The Australian Medical Sheepskin with the unique properties of its dense wool pile offers health professionals a most versatile product for preventing pressure ulcers.

It provides local pressure relief when placed under the common sites of pressure neurosis such as the sacrum, trochanters and heels. It offers protection to patients where other pressure relieving devices may be unsuitable such as those with deformities and contractures.

Waterproofing is mandatory in health care facilities but the use of impermeable plastic covers causes moisture to accumulate at the skin interface.

This moisture may simply be from normal insensible perspiration or from the profuse sweating of spinal cord damaged patients or from the incontinent elderly. But when a medical sheepskin is placed between the patient and the plastic cover, wool's unique moisture absorption characteristics keep the skin dry.

Patients with dry skin can be moved without causing excessive shearing and frictional force. There is less risk of capillary rupture with concomitant deep ulceration and less risk of superficial skin tears.

Easily transportable, the Australian Medical Sheepskin stays beneath the patient as they move from bed to trolley to chair to x-ray table and so on.

Now that medical sheepskins can be laundered to meet the most rigorous infection control standards, they will be able to be used in the operating theatre which is a common site of pressure ulcer development.

Nursing Support

Many nurses have been reluctant to believe in the efficacy of the Australian Medical Sheepskin despite using the product successfully for decades. They have fallen victim to the overseas medical literature that has condemned 'sheepskin', a word that refers to at best, a sheepskin without any Merino content or at worst, a synthetic polyester pile, machine knitted onto a synthetic fabric.

Genuine Australian Medical Sheepskins with their dense wool pile courtesy of their Merino content, have rarely been seen outside Australia let alone described in medical literature.

Australians are lucky to have such a product readily available for patients at risk of pressure ulceration. The judicious use of medical sheepskins in hospitals, nursing homes and the community would certainly reduce the incidence of pressure ulcers.

Dr Robert Carter
Medical Practitioner
Sydney

Heel and ankle protector to prevent pressure ulcers on the heels.

Medical sheepskins, in a variety of uses, have again become a major assistance to the ill and elderly.

W O O L P I L E

The Secret to the Therapeutic Value of Sheepskin

It is the wool fibres, each individually held intact by the tanned skin of the sheep, which contribute to the woolskin's value as a medical product. Interfaced between patient and bed, they reduce pressure, friction and moisture – the primary causes of pressure sores.

Pressure sores are a result of tissue breakdown due to prolonged compression of tissue and the subsequent reduction of capillary blood flow in tissue between skeletal promincences and the body's external environment.

The causes are *pressure* at susceptible sites, *friction or shear forces* at the point of contact between the patient and the support surface and *moisture or humidity* build up at the interface surface.

The unique properties of wool, its high density of soft but springy and resilient fibres, provide a cushion to distribute and relieve pressure at vulnerable pressure points on the patient's body. The wool fibres have a low friction coefficient – they provide a soft and smooth surface to reduce strain on the patient's skin and shear forces on the underlying tissue.

The wool fibres can absorb up to 34% of their dry weight in moisture without feeling damp.

They rapidly dissipate this moisture away from the source – this alleviates discomfort to immobile patients from perspiration and also reduces moisture build up at the pressure points.

Recent Research on Woolskin Properties

CSIRO's Leather Research Centre and industry have collaborated in a research project aimed at identifying the optimum wool pile properties and woolskin type to optimise comfort, performance and durability for Australian Medical Sheepskins.

The results form the basis of the new Australian Standard which will ensure that Australian Medical Sheepskins can be purchased and used with confidence.

Comfort Properties

Comfort trials were undertaken with the help of Concord Hospital, Sydney, to evaluate the responses of elderly volunteers to a variety of wool lengths and fibre diameters in both sheepskins and lambskins (skins from young sheep).

Well defined staple and woolpile of the Australian Medical Sheepskin.

These trials were carried out in a simulated hospital environment to evaluate the comfort properties of sheepskins and lambskins when 'as-new' and then after one cycle and 10 cycles of hospital laundering and tumble drying.

Wool pile length, for both sheep and lambskins, was the most important consistent property influencing perceived comfort throughout the tests. Comfort factors, generally related to the softness and support provided by the skins, tended to increase with increasing pile length.

In general, fibre diameter has a minimal effect. The overall comfort rating of sheepskins after the tenth wash tended to increase with decreasing fibre diameter.

In a comparison of skin types, it was noted that lambskins were consistently rated as more supportive but not as soft as sheepskins. However sheepskins were rated overall more comfortable than lambskins.

Performance and Durability

Wool pile performance trials were carried out by CSIRO's Leather Research Centre in real-life studies with patients at Melbourne's Epworth Hospital, and in the CSIRO Leather Research Centre.

Subjective assessments of various properties of both leather and wool were made before and after each cycle of use. The wool was assessed for felting or entanglement, pilling, softness, density and its ability to support a load, and recover.

For wash and in-use performance, lambskins rated better than sheepskins of the same wool length over all fibre diameters. Lambskins suffered much less felting than sheepskins.

In comparison to sheepskins, little change was noted on the lambskins during use.

Conclusion

Whilst sheepskins produce excellent products, the material of first choice is lambskin.

Finishing Sequence

Previously, for the service life of a medical sheepskin, the product was only in 'new' condition prior to the first wash. This point-of-sale finish was created by the woolskin tannery which produces a homogeneous ironed finish. Laundering allows the wool fibres to relax – similarly the leather fibres relax and there is a shrinkage on the first wash.

Further laundering does not significantly change the size or appearance of the product.

To eliminate this change from the new to the washed state, the Australian Standard specifies that the wool pile length be fully finished to 30mm at the initial wool finishing stage prior to subsequent wet processing. At the final finishing stage only the extreme wooltips and the long wispy fibres and pills are clipped away from the wool pile. Without further processing the wool maintains the appearance of a washed skin.

Dr Ken Montgomery
CSIRO
Division of Wool Technology
Leather Research Centre

PRESSURE DISTRIBUTION

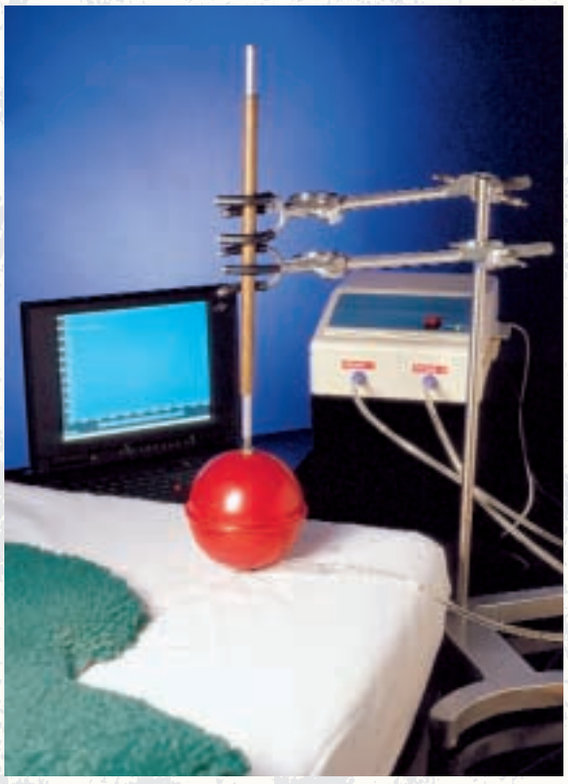
The wool fibres and staples, held intact by the tanned skin, enable the Australian Medical Sheepskin to provide support while relieving pressure by distributing the load of a patient over a large area, minimising interface pressures.

The pressure distribution must be as uniform as possible with a highly deformable interface and a constant resistance to compression[1].

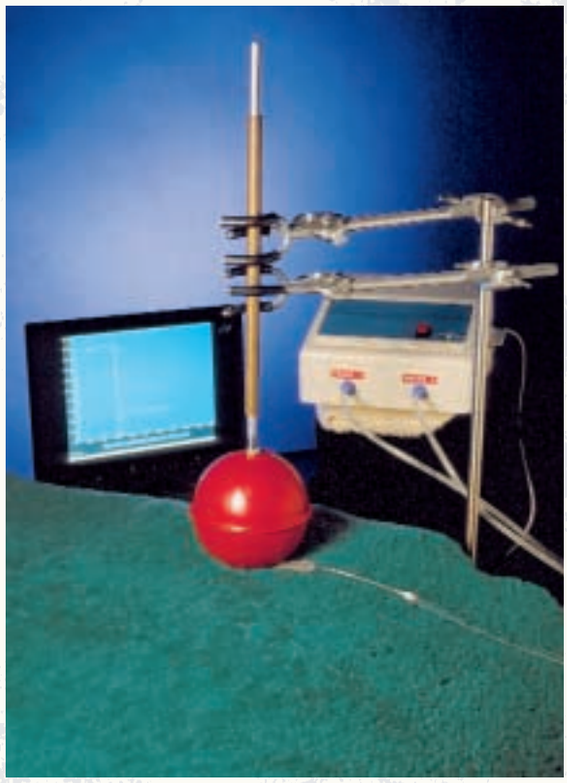
The fibre density and length must be such that the patient does not 'bottom out' on the skin surface and create localised pressure increases.

The following points support the claim for pressure relieving properties of sheepskins:

- At the simplest level, there is an enormous difference between sitting or lying on a mattress and sitting or lying on a sheepskin with a 30mm pile depth – the peak interface pressure, especially at pressure points such as bony prominences (eg. areas of the back, heels and elbows), is considerably reduced on the sheepskin.



Pressure reading from a pressure sensor on a standard hospital mattress.



Reduced pressure reading from a pressure sensor on an Australian Medical Sheepskin placed on a standard hospital mattress.

- From a physical point of view, a woolskin deformed due to the weight of a patient supports a greater area of patient's skin than a mattress interface – the force per unit area on the patient's skin is therefore less on the sheepskin resulting in pressure reduction.
- The reduction in interfacial pressure between a patient and a mattress surface or sheepskin can be measured objectively[1] with a pressure sensor[2]. It has been demonstrated[3] that the pressure reduction from a mattress interface to a sheepskin interface is greater than 50%.

In addition to pressure relief, woolskins could also be claimed to be of value for patient well-being and stress relief. Most patients find the sheepskins extremely comfortable, and many are reluctant to part with their sheepskin on discharge.

The increased wool-length now incorporated in the Australian Standard is a direct result of real-life comfort studies where the longer wool was statistically more comfortable than the shorter wool-lengths (20mm & 25mm).

[1] Denne, Rheumatology and Rehabilitation, 1979, 18, 23. An objective assessment of the sheepskins used for decubitus sore prophylaxis.

[2] Clark, CARE - Science and Practice, 1987, 5, 5. Continuous interface pressure measurement using an electropneumatic sensor: The SCP Monitor.

[3] Montgomery, Reddie and Truong, Unpublished work, CSIRO Leather Research Centre, 1996.

The billiard balls show the superior support capacity of Australian Medical Sheepskin when compared to an imitation.

A NURSING PERSPECTIVE

Colour Coding Stops Confusion

From a personal perspective, both as a care giver and a patient, true sheepskins have proven invaluable. Confusion exists between genuine and imitation products. Imitation products are often misleadingly called sheepskins. As a result, definite identification is imperative.

Australian Medical Sheepskins are separated by colour after use in the ward.

Prevention of bed sores is essential for the well being and comfort of the ill or the incapacitated.

Various methods of assessment can be applied to ascertain the risk of pressure sore development, eg. Norton Scale, Waterlow Scale and/or visual assessment. These take into consideration age, continence, skin type, hydration, mobility and associated medical conditions.

The placement of sheepskins beneath pressure points can assist in the prevention of friction, together with the additional comfort of the end user. The property of increased urine resistance is a major advantage although, unfortunately, will not alter the need for instant laundering.

Wool Resilience

Generally a sheepskin can be used in the care of a patient for a considerable time due to the resilience of natural wool fibres. This is a major difference between a true sheepskin and synthetic fibre.

In recent years quality sheepskins have been expensive and scarce. Laundering caused serious consternation as skins had to be bagged, labelled and hand delivered to the laundry for a 'special' wash. Soiled skins should be laundered as soon as possible.

It is essential that the skins are washed separately. Therefore the blue and green skins must be separated and placed in a separate bag or bin for delivery to laundry. Where a number of skins are to be sent for washing, a health care facility or laundry should provide separate individually coloured bins.

In the past, problems also arose if deterioration or shrinkage of the skin occurred when it was inadvertently subjected to a high temperature and/or inappropriate wash cycle.

Establishing an Australian Standard for medical sheepskins, which allows a higher temperature washing and drying cycle (Hitemp) will ensure an outstanding product.

Colour coding of the skins, to designate whether regular **(blue)** or high temperature **(green)** wash cycles are required, will be a tremendous advantage to the user, the carer and the laundry.

The change from the yellow and pink of the past, to blue and green will be seen as a step into the future. Identification by colour for wash cycles is important and essential. The patient may even see them as more restful.

In conclusion, I compliment everyone who diligently researched and developed an Australian product which not only conforms to the Australian Standard but will bring quality sheepskins back to health care and into the future. Well done!!

Mary McCrorie
President
Federation of Sterilizing Research and Advisory Councils of Australia Inc (FSRACA)

FROM THE NURSING HOME

The new Australian Medical Sheepskins provide enhanced levels of comfort, pressure relief and elimination of moisture for residents with reduced mobility and are a remarkable improvement over sheepskins previously used.

The use of Australian Medical Sheepskins has shown that residents are easier to move with less risk to frail skin. There has also been a significant reduction in the incidence of skin tears and pressure areas.

The colour coding of blue and green for correct laundering and identification for increased urine resistance has been particularly helpful in identifying the specific purpose of these sheepskins.

The sheepskins are changed daily or weekly depending on the level of continence of the individual.

Sheepskins that need laundering are kept in separate bins according to their classification before being transferred to the on-site industrial laundry. They are washed with a specialised sheepskin bacteriostat detergent and dried separately at 60°C.

In a six month case study, Australian Medical Sheepskins were in regular use and there was no obvious deterioration. They remained soft and pliable, with no evidence of staining or residual odour.

The improved characteristics of the new Australian Medical Sheepskins gives them a wide range of potential applications in nursing home and rehabilitation care.

Mrs J Agnew
Director of Nursing
Heatherleigh Private Nursing Home
East Hawthorn

Medical sheepskins offer a diverse range of rehabilitation applications.

Used in hospitals, nursing homes and privately, Australian Medical Sheepskins look to a bright future.

Medical Sheepskins and Bed Linen

Medical sheepskins are used in the same way as bed linen, ie in direct contact with the skin.

Consequently the micro-organisms found on them are the same as those on bed linen, essentially the normal skin flora. Where faecal soiling occurs, intestinal flora will also be present.

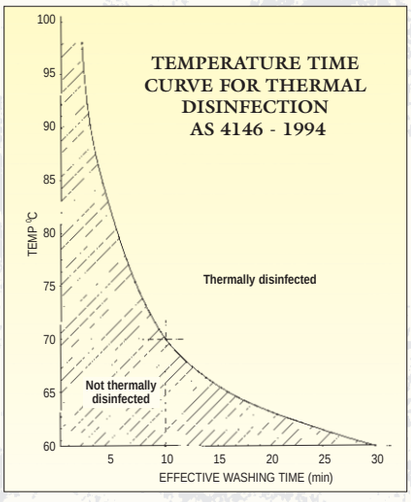
These organisms do not present a cross-infection problem unless the user or handler has open skin lesions in direct contact with the sheepskin.

If a patient has a diagnosed contagious disease, the medical sheepskin may become contaminated with pathogenic organisms, in which case it should be segregated in the same way as infectious linen but must be washed separately in compliance with the Standard.

Sterilised

Objects coming into contact with sterile internal organs and tissues must be sterilised. All other articles must undergo some form of decontamination to make them safe for reuse.

This ranges from high level disinfection, washed for six minutes at 80°C, or a low level disinfection in a warm wash at 60°C using a suitable bacteriostat detergent.



Washing at 70°C or above will rapidly destroy most micro-organisms except bacterial spores and a few viruses.

Medical sheepskins cannot be sterilised but can be adequately sanitised using an appropriate laundering process, leaving them clean and presentable for use as well as microbiologically safe.

Providing gross soil has been removed in a preliminary rinsing stage, moist heat is the most reliable method for disinfection.

It is rapid, convenient, economical and efficient compared with chemical agents.

Even at temperatures below the minimum pasteurising temperature, the cleaning action of the surfactant alone will remove most of the microbiological contaminants.

Sanitised

Standard laundry cycles will provide low level disinfection, adequate for processing soiled linen. The sanitising effect can be further enhanced by the addition of a chemical agent such as a Quaternary Ammonium Compound (QAT). High level disinfection is desirable for all articles used in high risk areas such as operating theatres. Six minutes exposure to water at 80°C will provide this level of safety, the prescribed holding time of eight minutes is more than sufficient to ensure that the entire load is subjected to the required conditions.

Thermal disinfection is now recommended wherever possible. This standard is now achievable for green Hitemp (80°C high level wash cycle) sheepskins, covered by the Australian Standard and is acceptable for prevention of cross-infection.

Reliable methods of disinfection will become more important in the future as more multi-resistant organisms emerge in the hospital environment, as well as higher degree of patient susceptibility.

Cynthia O'Keefe
Sterilisation Consultant

L A U N D E R I N G

The Procedure

Laundering has often been a problem for medical sheepskins. This was partly related to poor tanning, but also due to hospitals directing skins to inappropriate washing regimes.

Until recently, all medical sheepskins were to be laundered at not more than 60°C for a period of eight minutes. This was the maximum safe temperature for repeated washing of the leather. At this temperature and time there was minimal thermal disinfection, so a bacteriostat was required for disinfection.

The major problems occurred when skins from infectious wards were included in the sealed bags for the high temperature 80°C 'infectious wash'. Not only was this wash at a temperature too extreme for the majority of sheepskins, but also the wash frequently contained chemicals irreversibly harmful to chrome tanned sheepskins.

Recent Laundering Improvements

To overcome the problems associated with laundering, and also problems with the previous specification, a new Australian Standard has been prepared by Standards Australia based on recent CSIRO research.

Two new products are covered by the new Australian Standard, and are colour-coded for correct dispatch to the laundry.

- Regtemp (Blue) for conventional 60°C chemical disinfection
- Hitemp (Green) for 80°C high level thermal disinfection.

Lambskins are recommended, as there is minimum felting and pilling of the wool during use and laundering.

Skin colour identifies correct laundry procedure.

Breakthrough

Under the new Australian Standard, the real breakthrough has been the development of the Hitemp standard for Australian Medical Sheepskins.

Previously sheepskins could not be routinely washed at 80°C. At this temperature the skins are thermally disinfected and a bacteriostat is no longer required.

However, it should be noted that alkali, hydrogen peroxide, phosphates, bleaches and enzymes should not be used at any time since they will irreversibly damage the leather of the sheepskins.

The development is extremely timely because in the future, with increasing resistance of organisms to chemical or biological treatments, it may be necessary for all institutional laundering to be performed at 80°C to ensure adequate disinfection.

Dr Ken Montgomery
CSIRO
Division of Wool Technology
Leather Research Centre

CSIRO developed machine for testing the stability of leather at high temperatures.

(AS 4480.1, 1997 - Table A9.2.3)
WASH FORMULATION FOR HITEMP MEDICAL SHEEPSKINS **(COLOUR CODE: GREEN)**
HIGH LEVEL THERMAL DISINFECTION • BASED ON AS 4146 - 1994 (MODIFICATION II)

Operation	Dip	Temperature °C	Time, min	Washing agent
1 Break	High	Cold	3	Detergent (3.5 - 4.5 ml/kg)
2 Drain	–	–	1	
3 Suds	High	60	4	Detergent (3.5 - 4.5ml/kg)
4 Drain	–	–	1	
5 Thermal	High	80*	8	
6 Drain	–	–	1	
7 Rinse	High	50	2	
8 Drain	–	–	1	
9 Rinse	High	Cold	2	
10 Drain	–	–	1	
11 Extract	–	–	9	
12 Dry	–	60 max	120	

*** In this case (for Hitemp products) disinfection is obtained through washing at an elevated temperature. However, unlike infectious wash formulae in many hospitals, the procedure for chrome tanned medical sheepskins MUST NOT CONTAIN ANY ENZYMES, ALKALI, PHOSPHATE, PEROXIDES OR BLEACHES - these products cause rapid and irreversible damage, shrinkage and hardening of chrome tanned leathers.**

BEWARE SYNTHETICS & IMITATIONS

It is common practice in international medical literature to use the term 'sheepskin' to describe a whole range of products that often bear no resemblance to real sheepskins other than a fur-like pile and/or appearance. The misleading and incorrect use of the term 'sheepskin' and the growing, widespread usage of imitation products claiming to share the same properties as genuine medical sheepskin, has many practitioners confused about the properties and benefits of the authentic article.

Consequently, a large number of sick and immobilised individuals are sitting or lying on pieces of knit fabric that provide little or no benefit to the patient. In fact some authorities claim that synthetic fabric used for pressure area care may actually be deleterious to skin integrity.

Recent comparative trials have reported the failure of 'sheepskin' to perform adequately when tested under trial conditions. Unfortunately most of these so called 'sheepskin products' are, incorrectly described, imitation knit fabrics and in most cases are 100% synthetic. KNITTED IMITATION FABRICS SHOULD NOT BE CONFUSED WITH REAL SHEEPSKIN. If the materials used were identified correctly, many of these trials would have confirmed that it is the manufactured knit fabrics that failed, or performed poorly.

In most cases, manufactured knit fabrics are unable to provide the same benefits as Australian Medical Sheepskins and provide little relief from friction and shear. If a synthetic fabric is used, it will absorb virtually no moisture. Genuine sheepskin, on the other hand, provides a low friction interface which reduces shearing forces[1] and has an excellent capacity to rapidly absorb and dissipate moisture away from the source.

The unique properties of sheepskin cannot be replicated by manufacturing technology. It is not possible to individually implant into backing material, between 4,000 and 6,000 fibres per square centimetre as can be found in sheepskin. It is the unique properties of each individual and independently aligned wool fibre that separate the genuine sheepskin from the many manufactured imitations.

Medical sheepskins are used as an interface between the surface of a bed and the patient and are usually sold and used as a single natural shaped skin. Two skins can be sewn together or made into rectangular shapes. For pressure care of the elbows, heels and ankles, adjustable specialty sheepskin accessories are made in a variety of styles.

Tony Warr
Managing Director
Fleececraft Industries

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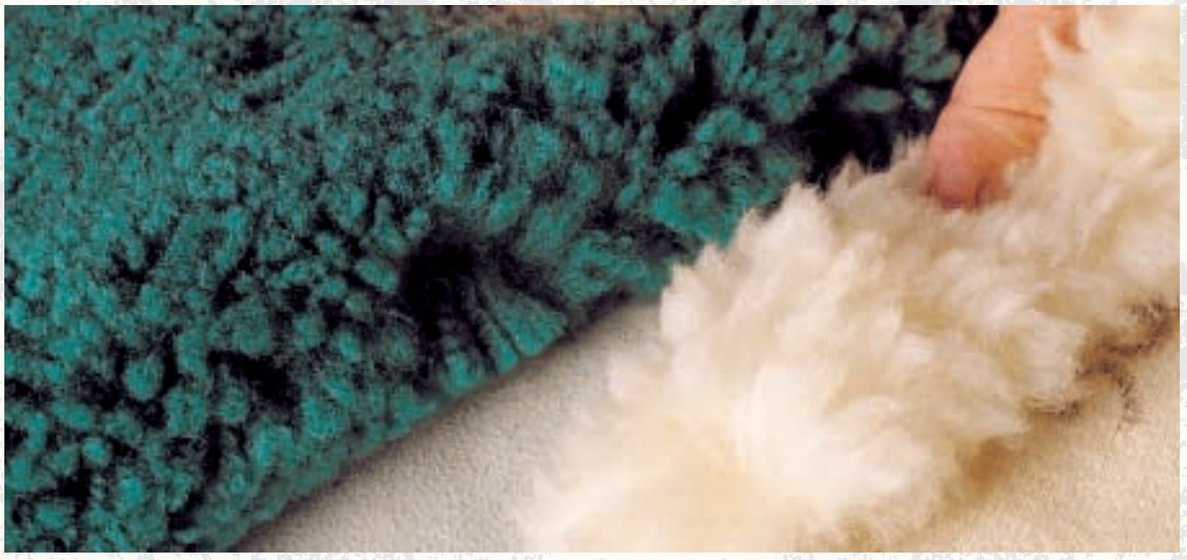
[1] Denne. 1979. Rheumatology and Rehabilitation, 1979, 18, 23.



The pile of an Australian Medical Sheepskin, compared to an imitation product (often a polyester pile knitted onto a synthetic fabric).

HOW DO YOU IDENTIFY A GENUINE SHEEPSKIN?

Look for the leather back

Only real sheepskin has a leather back. Manufactured fabrics have a knit back that may or may not be coated with a rubber or plasticised material.

Look for the Australian Medical Sheepskin Symbol

All sheepskins claiming compliance with the Australian Standard AS 4480.1-1997 must have a replica of one of the labels shown on the opposite page, permanently bonded to the leather.

Check these reasons to use Australian Medical Sheepskin:

- **Easy to use**
- **Portable**
- **Cost effective**
- **Lightweight**
- **Safe to use**
- **Comfortable**
- **Efficient**
- **Supported by an Australian Standard**
- **Durable to high temperature thermal disinfection.**

Look for this unique symbol when seeking a quality Australian Medical Sheepskin.

Australian Medical Sheepskin – Regtemp. 60°C wash temperature wool colour blue.

Australian Medical Sheepskin – Regtemp with increased resistance to urine. 60°C wash temperature wool colour blue.

Australian Medical Sheepskin – Hitemp. 80°C wash temperature wool colour green.

Australian Medical Sheepskin – Hitemp with increased resistance to urine. 80°C wash temperature wool colour green.

These labels confirm compliance to Australian Standard AS 4480.1.

SUPPLIER:

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