

PolyMem®

Cutting guide for dressing radiotherapy induced skin reactions



About this guide

This cutting guide has been developed to help clinicians working in the field of radiotherapy to apply PolyMem® in difficult-to-dress areas of the body. We have every confidence that PolyMem® dressings can help improve the quality of life of those patients who develop radiotherapy induced skin reactions^{1,2,3}.

The guide has been written in the style of a cookbook, with what you'll need to make each dressing listed under 'Ingredients', and each step described in the 'Recipe'. There are also useful 'hints and tips' in specific dressing areas.

We'd like to acknowledge the following clinicians for their support in producing and facilitating this document.



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Radiotherapy and skin reactions

Skin reactions from radiotherapy are one of the most common side effects of treatment. Recent guidelines published from The Society of Radiographers (2015)⁴, suggest that there have been advances in radiotherapy technology such as megavoltage linear accelerators with skin sparing capabilities which have significantly reduced the severity of reactions. However it is unlikely that radiation reactions can be completely prevented. Patients who receive chemotherapy and radiotherapy are more at risk of developing skin damage. The most severe reactions tend to be seen in those patients receiving high doses to large fields and those where folds of skin are in the treatment field as skin to skin friction can occur (for example axilla, groin, inframammary fold). The aim of the new guidelines is to delay the onset and minimise the severity of a skin reaction, to reduce symptom related discomfort.

Following radiotherapy, skin that has been irradiated will be more delicate and sensitive than normal^{1,2,3,4}. Subtle changes in the colour of the skin may occur during the first 2 weeks of treatment. This is normal because the effects of radiotherapy on the skin are cumulative and last in the skin for some time. Another side effect is a skin reaction which is most likely to start around weeks 2-3 and be at its worst in the last week of treatment or in the 7-10 days after the treatment has finished.

Common types of skin reaction and Radiation Therapy Oncology Group Grading (RTOG) (Fig 1)^{1,2,5}

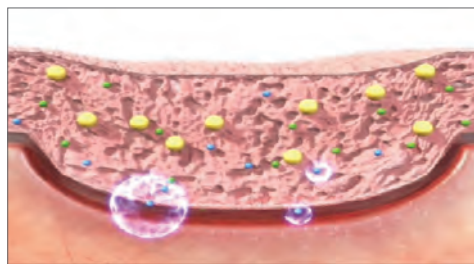
- The skin may become sore, reddened and may be itchy and uncomfortable.
- The skin may be dry, scaly, cracked and painful. This is called dry desquamation.
- The skin may be moist, have broken areas and be painful and sore. This is called moist desquamation.
- In rare conditions the skin may become necrotic.

Figure 1 -RTOG Acute Radiation Morbidity Scoring Criteria (Adapted Cox et al 1995)⁵

0 (No change to skin)	1 (Faint/dull erythema)	2 (Bright erythema/dry desquamation/sore, itchy skin)	2.5 (Patchy moist desquamation. Yellow exudate/ pain)	3 (Confluent moist desquamation, oedema, soreness)	4 (Ulceration, bleeding, necrosis)
					

What is PolyMem® and why is it different?

PolyMem® is a unique multifunctional dressing specifically designed to reduce a patient's total wound pain experience, while actively encouraging healing. All PolyMem® dressings effectively cleanse, fill absorb and moisten wounds throughout the healing continuum^{7,9}.



- Superabsorbent
- Wound cleanser/surfactant
- Glycerine

When PolyMem® is applied to the wound, the dressing components work individually and synergistically to support healing and pain relief.⁹

The dressings comprise a hydrophilic polyurethane that contains a mild, non-toxic wound cleanser (F-68 surfactant), soothing moisturiser (glycerine), an absorbent starch co-polymer and a semi-permeable backing film (not included on WIC dressing). Individually and synergistically these components presents clinicians and patients with a set of benefits:

- The wound cleanser is continuously released to the wound bed while the dressing is in use. It effectively helps debride the wound by reducing the interfacial tension level between necrotic and healthy tissue.⁷
- It minimises the need for wound cleansing at dressing change, which saves time for patients and clinical staff⁸, causes less pain⁹, supporting the wound healing process.^{1,2,7,8,10}
- The moisturiser (glycerine) is continuously released to the wound bed while the dressing is in use. It helps secure an ideal moist wound environment and prevents the dressing from adhering to wound bed, which contributes to less pain at dressing change.^{1,2,7}
- It also helps pull fluid from deep tissue into the wound bed, provided essential nutrients to support the healing process.^{3,7,9,10}
- The superabsorbents helps bind fluid in the dressing this creates an osmotic pull of exudate from the wound into the dressing.^{6,7,9,10}
- The surfactant F68 and glycerine components are unique to PolyMem®. This combination of components is proven to reduce inflammation, oedema and somatic pain by altering the action of nociceptors.^{1,7,8,9}

Why is PolyMem® unique for radiotherapy?^{1,2,3,6,7,9}

Non-adherent dressings are important in radiotherapy, particularly for patients who have had skin desquamation injuries. Dressings that adhere to the wound can cause pain and trauma when they are removed or when the wound is exposed to the air. The unique combination of surfactant F68 and Glycerine contained in PolyMem® will keep the wound clean usually eliminating the need for wound cleansing during dressing changes.

In situations where you have RTOG 1 (dry desquamation) where the skin becomes hot and itchy, by moistening PolyMem® either with water or saline, this will activate the components of the dressing to relieve soreness and pain.

PolyMem® dressings help reduce inflammatory reaction into the surrounding uninjured areas by altering the action of certain nerve endings.

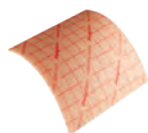
The first signs of radiotherapy induced skin reactions are often dry painful erythema due to tissue damage, this is referred to nociceptive pain or inflammatory pain. Nerve damage is another cause of wound pain and is called neuropathic pain. Neuropathic pain is often experienced following surgery or after chronic unrelieved nociceptive pain. PolyMem® dressings help to inhibit the action of some of the pain-sensing nerve fibres (nociceptors) which carry some of the pain messages after tissue damage occurs. These nerve endings transmit information that can result in: Allodynia (pain caused by normally non-painful stimuli such as lightly brushing the skin), primary hyperalgesia (increased sensitivity to pain at the site of radiation), secondary hyperalgesia (pain caused by touching an uninjured areas surrounding the radiated area). These nerve endings can be found in the epidermis. Muscle and joint viscera are also responsible for spreading the inflammation reaction into surrounding uninjured tissues.

Sleep is a very important component in the healing process. This is particularly important for patients that have undergone treatment for cancer. The use of PolyMem® during and post radiotherapy has been proven to improve sleep patterns.^{1,2}

PolyMem® dressings used in this booklet

PolyMem® Non-adhesive

Size



8cm x 8cm

10cm x 10cm

13cm x 13cm

17cm x 19cm

PolyMem® dressings are thin polyurethane foam membrane dressings containing a tissue friendly cleanser and a moisturiser (glycerol), with a semi-permeable film backing. PolyMem® dressings are non-adherent and help to cleanse the wound whilst in place, to minimise procedural pain and trauma when dressings are changed.

PolyMem® MAX

Size



11cm x 11cm

20cm x 20cm

PolyMem® MAX is 60% thicker than the standard version, to provide increased absorption capacity or to allow a longer wear time.

PolyMem® Finger/Toe

Size (circumference)



1 (46.7mm - 57.0mm)

2 (57.0mm - 67.2mm)

3 (67.2mm - 77.4mm)

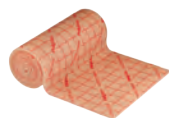
4 (77.4mm - 87.6mm)

5 (87.6mm - 97.8mm)

PolyMem® Finger/Toe can be adapted to dress other areas of the body such as the ear.

PolyMem® Non-adhesive Roll

Size



10cm x 61cm

20cm x 61cm

Exactly the same as PolyMem® Non-adhesive but in a convenient roll format. This dressing can be particularly useful for radiotherapy induced skin reactions in areas such as the neck or perineum.

PolyMem® WIC

Size

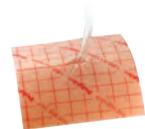


8cm x 8cm

PolyMem® WIC is based on the original PolyMem® formulation but without the semi-permeable film backing to allow absorption from all sides (this is why PolyMem® WIC does not have the printed grid found on other PolyMem® dressings).

PolyMem® Tube

Size



7cm x 7cm

9cm x 9cm

Hints and tips using PolyMem® dressings

- Where flexibility or movement is required (e.g. on the neck), cut slits along the edge of the dressing to help conform to the curves of the body.
- Do not use microporous tape on the skin, only use on the PolyMem® itself - if two dressings are required, overlap the dressings when taping them together to avoid the risk of the adhesive tape sticking to the skin.
- Where tape is needed to fix PolyMem® to the skin, use silicone tape as this can be less traumatic on sensitive skin.
- Depending on fluid levels, it may be necessary to use PolyMem® MAX which is a thicker version of the standard PolyMem® Non-adhesive.
- PolyMem® dressings (with the exception of PolyMem® WIC) are printed with a grid with 1cm squares (approx). This can be useful as a guide for scaling up and down dressings to fit your patient. There are approximately 2cm between women's UK dress size measurements, and 5cm between men's measurements.



UK Dress size measurements ^{11,12}

***These measurements are guidance only and do not replace clinical judgement*.**

UK Womens dress size*	Bust (cm)	Hips (cm)
4	78	83.5
6	80.5	86
8	83	88.5
10	88	93.5
12	93	98.5
14	98	103.5
16	103	108.5
18	110	116.5
20	112	118.5
22	114	120.5

UK Mens size*	Chest (cm)
XXS	81-86
XS	86-91
S	91-96
M	96-101
L	101-106
XL	106-111
XXL	111-116

Raised skin tumour dressing

Ingredients:

- PolyMem® Non-adhesive 10cm x 10cm*
- PolyMem® MAX 20cm x 20cm*
- Scissors
- Microporous tape
- Tubular bandage **OR** cohesive bandage

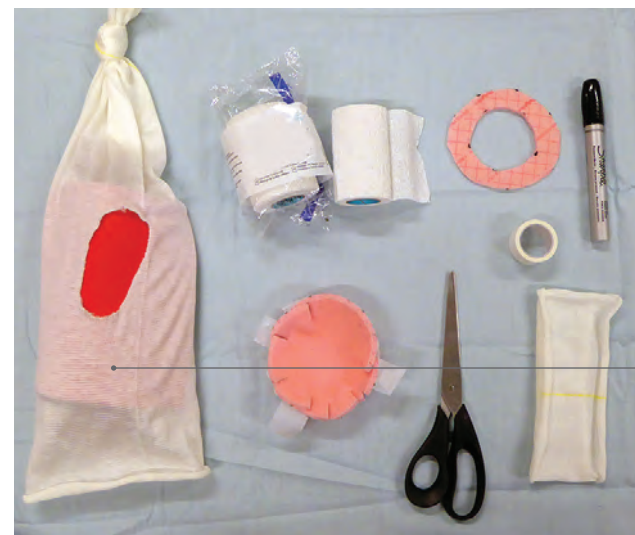
* These sizes have been used for illustration purposes only, please select the dressing size most suitable for the size of the tumour.

Recipe:

- Cut a doughnut shape from the PolyMem® Non-adhesive 10cm x 10cm to fit around the tumour - see image 1. The doughnut should be approximately 2 squares wide from the inner edge to the outer edge.
- Cut a circle from the PolyMem® MAX dressing approximately 2 squares larger than the doughnut (*tip- lay the doughnut on top of the MAX as a guide*), and cut 1cm slits around the edge of the circle (use the grid as a guide).
- Place the doughnut shape around the tumour (image 1) and place the PolyMem® MAX circle over the tumour; the slits around the edge should allow the dressing to conform to the shape of the tumour. Where the slits overlap they can be fixed in place with microporous tape, ensuring no tape is on the skin (image 2).
- Secure with either a cohesive bandage or a tubular bandage - see image 3.

Hints and tips:

- Depending on patient preference, the dressing can be concealed with scarves and hats (images 4 and 5).



*Hints and tips:
Cut tubular bandage as shown (area in red) to produce a balaclava effect



Ear dressing

Ingredients:

- PolyMem® Finger/Toe Size 5
- Silicone tape
- Scissors

Recipe:

- Cut the PolyMem® Finger/Toe along one side according to patients ear size – see image.
- Place over the ear so that the dressing encompasses the whole ear and fix with silicone tape (see 2).



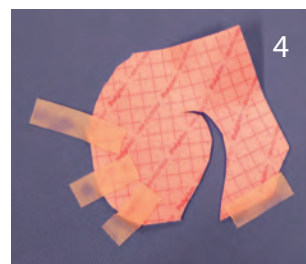
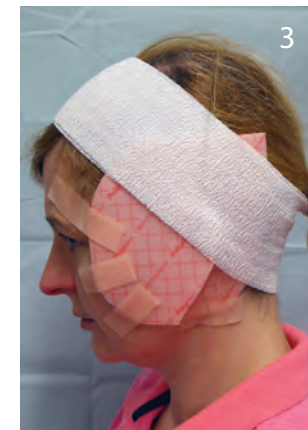
Mastoid tumour/ ear dressing

Ingredients:

- PolyMem® Non-adhesive 13cm x 13cm
- Tubular bandage **OR** cohesive bandage
- Scissors
- Silicone tape

Recipe:

- Measure approximate size of ear or tumour area, remember that the grid on PolyMem® is approx. 1cm, so you can adjust to patient.
- Cut PolyMem® to shape of ear (image 4).
- Fix with either silicone tape or a tubular or cohesive bandage see options below.



Neck collar

Ingredients:

- PolyMem® Non-adhesive Roll 10cm x 61cm
- Scissors
- Microporous tape OR tracheostomy tube holder pack

Recipe:

- If necessary, cut the PolyMem® dressing to the required size and length.
- Cut slits along the long edges of the dressing approx. 2 squares deep to help the dressing conform to the contours of the neck (see 2).
- If the patient has a tracheostomy, cut a suitably sized hole in the dressing (3).
- Wrap the dressing around the neck, fixing at the back with microporous tape or cut a slit about 1cm from the short edges of the dressing as shown in (4) - this is where you can now insert the tube holder straps. Using the straps, fasten the dressing on to the neck as shown, and trim off excess strap.



Neck collar including clavicle

Ingredients:

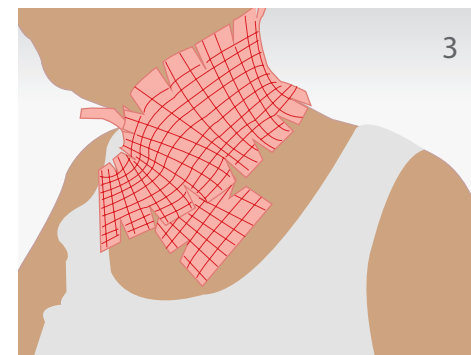
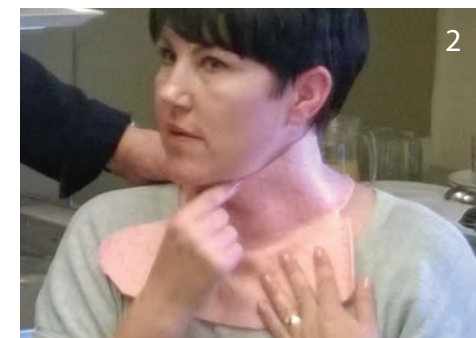
- PolyMem® Non-adhesive Roll 20cm x 61cm
- Scissors
- Microporous tape

Recipe:

- Cut the PolyMem® encompassing a bib shape (1) for the clavicle and upper chest area.
- Fix in place as per options in 'Neck collar' on the opposite page.

Hints and tips:

- See alternative dressing option (3) - cut slits on long edges of roll dressing and cross over ends at the front of the neck encompassing the clavicle. For bariatric patients use the larger PolyMem® Roll.



Alternative neck collar including clavicle

Ingredients:

Depending on fluid levels:

- 2 x PolyMem® MAX 20cm x 20cm (for higher fluid levels)
- OR**
- 2 x PolyMem® Non-Adhesive 17cm x 19cm (for lower fluid levels)
- Scissors
- Microporous tape **OR** Cohesive bandage

Recipe:

- Cut slits into the dressing depending on patient size to conform to the clavicle area (see 2).
- Place one dressing on the front of the neck and one on the back so that they overlap at the sides.
- Fix with microporous tape or with a cohesive bandage.

Hints and tips:

- In deep cavities such as the clavicle PolyMem® WIC can be applied as a primary dressing in addition to the PolyMem® MAX.



RTOG 3 skin reaction extending to the clavicle where this dressing would be appropriate.



Larynx dressing

Ingredients:

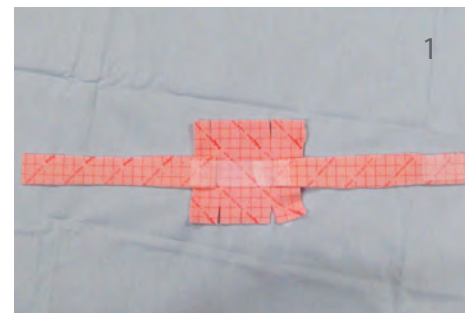
- PolyMem® Non-adhesive 13cm x 13cm or PolyMem® Roll 10cm x 60cm depending on size of patient
- PolyMem® non adhesive 17cm x 19cm
- Microporous tape

Recipe:

- Cut slits into the 13cm x 13cm dressing depending on patient size to conform to the clavicle area.
- Cut the 17cm x 19cm into strips approx 3 squares wide to support the dressing in place (1). Microporous tape can be used over the PolyMem® to secure.

Hints and tips:

- PolyMem® Tube (image 2) 9cm x 9cm could be used instead of the 13cm x 13cm where necessary (e.g. tracheostomies and laryngectomies).



The larynx dressing with a 13cm x 13cm Non-adhesive and a 17cm x 19cm cut into strips to go around the neck.



PolyMem® Tube dressing in situ.

Inframammary fold

Ingredients:

- PolyMem® MAX 20cm x 20cm
- Silicone tape

Recipe:

- Cut half moon shape into the PolyMem®. Use the grid as a guide for the size of your patient - remember the grid on PolyMem® is approx 1cm squares.
- Fix in place with silicone tape.

Hints and tips:

- It may be necessary to cut a larger shape to encompass the inframammary area. This may prevent any rubbing due to movement of the breast.
- Patients come in all shapes and sizes - choose PolyMem® Non-adhesive or PolyMem® MAX depending on fluid level .
- Avoid underwired bras as this can add to friction - cotton camisoles/vests can be more comfortable.



Axilla dressing involving lymph nodes

Ingredients:

- PolyMem® MAX 20cm x 20cm OR PolyMem® Roll 20cm x 61cm (depending on fluid level)
- Silicone tape

Recipe:

- Cut PolyMem® into a hand-puppet shape, depending on the size of patient (using the grid as a measuring guide). Ensure all edges are rounded off- see image 1.
- Fix in place with silicone tape (2).

Hints and tips:

- Ensure the dressing extends long enough under the underarm.
- Consider a sleeved vest, t-shirt or large tubular bandage to keep the dressing in place.



The dressing cut to fit this patient (dress size 10) was approx 22 squares long by approx 21 squares at the widest point. Scale up or down by 2 squares depending on size of patient.

Breast lateral transverse - option 1

Ingredients:

- PolyMem® MAX 20cm x 20cm **OR** PolyMem® Roll 20cm x 61cm (depending on fluid level)
- Scissors
- Options to secure- camisole, maternity bra, net knickers

Recipe:

- Cut PolyMem® dressing to shape the body (image 1). Use the grid to scale up. Remember to curve the edges to encourage conformability and comfort during wear time.
- Secure in place with one of the options listed above.

Hints and tips:

- Cut the gusset out of net knickers to use as a boob tube style top (see image 4).
- Discuss patient's preference.



Breast lateral transverse - option 2

Ingredients:

Depending on fluid and comfort levels:

- PolyMem® MAX 20cm x 20cm **OR** PolyMem® Non-adhesive Roll 20cm x 61cm
- Scissors
- Silicone tape
- Net knickers (cut gusset out of the knickers to make a boob tube style top)

Recipe:

- Cut PolyMem® to shape the body - see image 1.
- Cut second PolyMem® dressing to shape the breast, cut slits around the edge of dressing if needed to allow dressing to conform to the body.
- Tape the two pieces of PolyMem® where they overlap, fixing to the skin with silicone tape if needed (4).
- Hold in place with net knickers.



Perineum dressing

Ingredients:

- PolyMem® Non-adhesive Roll 20cm x 61cm
- Net knickers
- Patients own underwear
- Scissors

Recipe:

- Cut PolyMem® Roll depending on patient size and shape.
- This can be held in place with net knickers and/or patient's own underwear.

Hints and tips:

- Ensure dressing edges are curved to ensure comfort and conformability, adjusting crotch area to patient size .
- If you have lesions extending into the rectum or vagina, PolyMem® WIC can be applied in addition to the dressing.
- Always ensure pure cotton underwear for comfort.



For this model (approx UK dress size 14), the whole length of the dressing was used (61cm) and the gusset section measured approximately 9 squares wide. Remember to use the grid as a measuring guide, scaling up or down 2 squares per dress size.

Perineum dressing incorporating inner thigh

Ingredients:

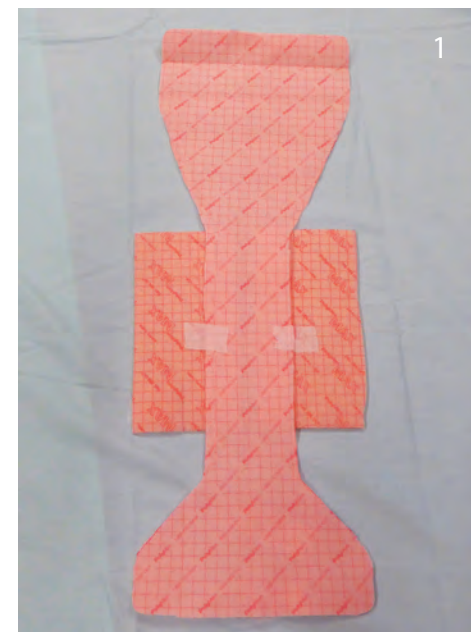
- PolyMem® Non-adhesive Roll 20cm x 61cm
- PolyMem® MAX 20cm x 20cm
- Net knickers/shorts to encompass the thigh
- Patients own underwear
- Scissors

Recipe:

- Cut PolyMem® Roll depending on patient size and shape.
- Cut PolyMem® MAX in half and attach to the perineum dressing with microporous tape to fit along the inner thighs (1).
- Fix in place with net knickers/ patient's own underwear encompassing the inner thigh.

Hints and tips:

- If there are lesions extending into the rectum or vagina, PolyMem® WIC can be applied in addition to the dressing.



Perineum pad

Ingredients:

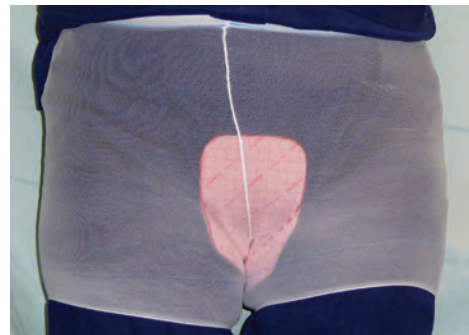
- PolyMem® Non-adhesive Roll 20cm x 61 cm
- Scissors
- Microporous tape
- Net knickers –use shorts encompassing the thigh
- Patients own underwear

Recipe:

- Cut the PolyMem® into a sanitary pad shape with wings to fit the patient (use grid as a guide).
- Use net shorts or patients own underwear to keep the dressing in place.

Hints and tips:

- Ensure the wings are long enough to encompass groin folds- use the grid to scale up or down. This is important as it may reduce skin to skin friction and shear.
- Make a loop with microporous tape to secure the sanitary pad shape to the patients undergarments



The pad used here was 28 squares long and 17 squares at the widest point.

Supra pubis

Ingredients:

- PolyMem® MAX 20cm x 20cm (depending on size of patient- use grid as a guide)
- Scissors

Recipe:

- Cut dressing in half diagonally to make a triangle shape and round off any corners.
- Cut slits along the edges that will sit in the groin to allow the dressing flexibility.
- Use net shorts or patients own underwear to keep the dressing in place (image 2).



Penis dressing

Ingredients:

- PolyMem® Finger/Toe size 5
- Microporous tape
- Scissors

Recipe:

- Remove the insert from the rolled end of the dressing and discard.
- Insert penis into the rolled end of the dressing.
- Roll the dressing onto the penis.

Hints and tips:

- Alternatively cut down one side of the dressing to aid application and secure in place with microporous tape, ensuring tape is only placed on the dressing and not on the skin **OR** cut the tip off the dressing and place gently over the penis.
- If the complete dressing is needed, cut a star shape in the tip of the dressing to allow for a catheter if required (image 2).



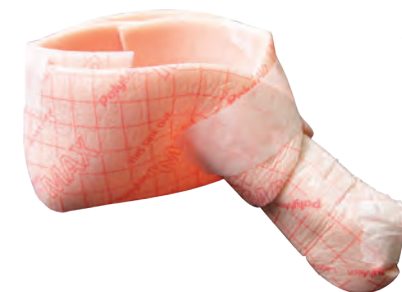
Testes dressing

Ingredients:

- PolyMem® Non-adhesive 17cm x 19cm OR PolyMem® MAX 20cm x 20cm depending on size of patient and fluid level. For illustration purposes, the size used here was 17cm x 19cm
- Scissors
- Microporous tape
- Net shorts/patients own underwear

Recipe:

- Draw a 'four-leaf clover' shape onto the dressing- see image – rounding off any corners.
- Cut along the drawn lines and fold up the dressing to form a cup shape (image 2).
- Fix in place with microporous tape.
- Use net shorts or patient's own underwear to hold the testes dressing in place.



Hints and tips - apply the dressing so that the penis is in a 'corner' of dressing, as shown above, to allow movement/flexibility for urination.

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PolyMem® is distributed in the UK by Aspen Medical Europe Ltd.
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