### 'Current government policy is to put the patient at the centre of care'

ROSIE CALLAGHAN Tissue Viability Specialist Nurse, Worcestershire PCT

PAUL CHADWICK Principal Podiatrist at Salford Royal Foundation Trust

KIRSTY MAHONEY Clinical Nurse Specialist, Tissue Viability, Cardiff and Vale University Health Board

JACKIE STEPHEN-HAYNES Professor in Tissue Viability, Birmingham City University; Consultant Nurse in Tissue Viability, Worcestershire Health & Care Trust

# CASE SERIES EVALUATION: THE USE OF ALLEVYN GENTLE BORDER MULTISITE ON CHRONIC WOUNDS

omplex, chronic wounds are a significant challenge to treat and are a growing problem due to an increasingly ageing population with various co-morbidities. Chronic wounds are much more common in people aged over 65 and the number of over-65s in the UK has been predicted to increase from 9.5 million to 13 million between 2005 and 2025 (Posnett and Franks, 2008).

The cost of treating these chronic wounds is high as the wounds can remain present or re-occur over a period of many years and may require daily treatment. Maybe greater still is the cost to patient wellbeing, as the devastating impact of living with a non-healing wound can cause depression, anxiety and social isolation (International Consensus, 2012).

## PATIENT-CENTRED CARE AND WELLBEING

Current government policy is to put the patient at the centre of care (Department of Health [DH], 2010) and the improvement of patient wellbeing is vital to making this happen. Despite significant improvements in clinicians' understanding of chronic wounds and developments in technology, complex wounds still remain difficult to treat effectively.

Chronic wounds often produce high levels of exudate, which can be very distressing for the patient and very difficult for the clinician to manage. This can have a tremendous impact on a patient's quality of life.

While it can be tempting to focus exclusively on reducing wound size, there are many other aspects of living with the wound that also negatively affect quality of life. Common causes

of distress include dealing with odour, maceration caused by excessive exudate, the pain of the wound and recurrent dressing changes. Dressings can be uncomfortable, bulky, restrict movement or fall off and generally interfere with daily living. Attending to these aspects can be just as important as the 'holy grail' of achieving wound closure.

Chronic wounds can be prone to infection or be beset by malignancy. They can also be in awkward places or be irregularly shaped, which may mean that they are difficult to treat using conventionally shaped wound dressings.

A square or rectangular dressing may not be able to contain the exudate from a wound on the back of the knee or on the side of the neck, for example. The patient's everyday movement may dislodge the dressing if it is unsuited to the wound's position. An ill-fitting dressing will provide poor exudate management and increase the chance of maceration or leakage, which can cause pain, embarrassment and feelings of shame (Gray et al, 2011).

This can result in more frequent dressing changes, which may also cause the patient further pain or inconvenience. Therefore, a simple thing like an inappropriately shaped dressing may compromise the patient's treatment plan, making them reluctant to comply with the regimen. It may also expose the wound to possible infection and prolong non-healing (Gray et al, 2011).

When presented with an irregular-shaped wound in an awkward position, clinicians in the past have alleviated the problem by cutting square or rectangular dressings to size to improve conformability. However, this can compromise infection control

and reduce the properties of the product, also increasing the risk of leakage.

#### Wellbeing

Optimising the wellbeing of someone who is living with a chronic wound is an essential part of patient-centred care. If the more unpleasant aspects of living with a wound are not considered within a patient's treatment plan, then there is a risk that they will not want to continue with their treatment (International Consensus, 2012).

Odour, pain, skin irritation and leakage from excessive exudate can all cause a decline in wellbeing and can cause the patient to have low self-esteem, which will be exacerbated if they avoid social contact and reduce their mobility to compensate for their dressing regimen's shortcomings.

Controlling and managing symptoms has to be a major feature of a wound treatment plan. Patient comfort, and minimising pain are crucial wound care goals, alongside rapid wound closure. Traditional wound care products can be inflexible and unable to provide a solution to chronic wound care, however, there are alternative solutions.

#### **ALLEVYN**<sup>TM</sup>

Allevyn hydrocellular dressings (Smith and Nephew) use 'triple-action technology, which has been designed to actively manage exudate, while also providing a moist healing environment to promote faster healing (Hurd et al, 2009). Its three modes of action are absorption, retention and transpiration of fluid.

Allevyn's tri-laminar construction is made up of a perforated wound contact layer with a silicone gel adhesive, which absorbs exudate and cellular debris. This protects the skin from the risk of damage from unnecessary maceration (Stephen-Haynes and Greenwood, 2010). The gel adhesive makes the dressing easy to apply and remove minimising pain and trauma for the patient on removal (Hurd et al, 2009).

The second layer is the hydrocellular foam core pad, which rapidly absorbs fluid and prevents it leaking back onto the wound (Stephen-Haynes and Greenwood, 2010). The outer surface of the dressing is a breathable, highly permeable polyurethane top film that

allows moisture to transpire away from the wound (Thomas, 2007).

These qualities reduce the need for frequent dressing changes (Leonard et al, 2009) and create an optimum moist wound healing environment that encourages wound closure. The top layer is also showerproof (Smith & Nephew, data on file, 2011), making it easy for patients to wash without needing to change their dressing. The dressing provides excellent exudate control and dynamic fluid management, which can greatly improve patient comfort (Surgical Material Testing Laboratory [SMTL], 2008; Hurd et al, 2009).

#### Improved conformability for awkward wounds: Allevyn<sup>™</sup> Gentle Border Multisite

Allevyn dressings are comfortable and conformable (Hurd et al, 2009). This conformability has recently been further enhanced by the introduction of Allevyn Gentle Border Multisite, which enables the dressing to conform to less regularshaped wounds. The company describes the dressing as 'human-shaped' when compared with the traditional square or rectangular dressing.

The dressing has three lobes, which makes it suitable for challenging body areas. The company have tested the design against an equivalent square dressing on knee and elbow wounds and found that it provided better conformability and retention (Smith & Nephew, data on file, 2011).

Allevyn Gentle Border Multisite has the following attributes (Smith & Nephew, data on file, 2011):

- >> Conformable, particularly in awkwardly situated wounds
- Comfortable
- >> Easy to apply and remove (Grothier, 2009)
- >> Shower-proof
- Minimises trauma during dressing changes due to its silicone-gel adhesive and can be used on fragile skin without damaging it (Hurd et al,
- Has a wear time of up to seven days (five days for sacral wounds). Use should be monitored carefully, especially if the wound is infected. When exudate approaches 0.5cm of the edge of the dressing pad, it should be changed

#### KEY WORDS

- Wellbeing
- Conformability
- Exudate
- Maceration

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'By improving confomability, concordance may be improved and the dressing may deliver exudate management more effectively'



Figure 1: The amputated area in Case 1 at presentation.



Figure 2: The amputated area in Case 1 at the second week of treatment.

- >> Excellent wound exudate management properties (SMTL, 2008)
- ▶ Good retention, which may mean less need for dressing changes.

Allevyn Gentle Border Multisite is suitable for wounds in awkward places such as:

- Knee
- **▶** Elbow
- ▶ Breast
- Back of the head
- ▶ Back of the neck
- Throat
- Armpit
- Shoulder
- Back
- ThighCalf.

Allevyn Gentle Border Multisite is indicated for a range of wounds, particularly shallow, granulating wounds and chronic and acute exudative wounds, pressure ulcers, leg ulcers, diabetic foot ulcers and fungating ulcers, infected wounds, surgical wounds, burns, donor sites and skin tears. It should not be used with oxidising agents, such as hypochlorite solutions or hydrogen peroxide, as these can break down the polyurethane top layer.

#### **Benefits for patients**

There are many benefits for patients in using Allevyn Gentle Border Multisite. Patients benefit from the optimal moist wound healing environment provided by all Allevyn products (Stephen-Haynes and Greenwood, 2010). Excessive exudate will be drawn away from the wound, which will be protected from maceration (Hurd, 2009).

#### **CASE SERIES**

The primary objective of this case series was to evaluate the overall acceptability of Allevyn Gentle Border Multisite to a number of patients with a variety of different wound types.

All clinicians taking part in the evaluation were offered specific guidance on the recommendations for use of the dressing, in accordance with the indications in the product insert leaflet and patients were treated in accordance with the instructions for use.

Throughout the series, 10 cases were completed in total from three different

centres. The four cases considered the most representative are presented in detail below, with results from these and the remaining six cases collated in *Table 1*.

# Case 1: Surgical wound following amputation, along with a diabetic foot ulcer (Paul Chadwick)

#### Background

The patient was a man in his early 60s with a surgical wound following treatment to a plantar diabetic foot ulcer. He had a history of type 2 diabetes and neuropathy, which previously had led to the amputation of his fifth toe on the left foot.

In June 2012, the patient needed a metatarsal head amputation to treat osteomyelitis in the fourth toe of his left foot. He then developed a further diabetic foot ulcer at the third metatarsal head.

Upon presentation in the acute outpatient clinic four weeks after surgery, his wound appeared to be non-healing with moderate levels of exudate (*Figure 1*).

It was clean and granulating but the surrounding skin was dry and inflamed. The patient also had an ulcer in the fourth and third plantar area. The ulcer measured 4mm x 4mm, while the amputation site measured 1mm x 8mm.

Previous treatments included the use of a superabsorbent dressing. The clinician would previously have used two adhesive foam dressings for this type of wound, however, the patient demonstrated hyperhidrosis, which made it difficult to keep adhesive dressings in place.

#### Presentation and treatment plan

The clinician opted to dress the wound using Allevyn Gentle Border Multisite dressing to deal with the awkward site of both wounds, the moderate exudate and to protect the healing scar.

#### Week 1

After one week of treatment, the wounds showed signs of improvement (*Figure 2*). The scar tissue was looking more healthy on the surgical wound site and the wound bed showed evidence of granulation tissue, while exudate levels remained unchanged.

The foot ulcer measured 4mm x 4mm and was 2mm deep. The dressing had stayed in

place for three days despite the hyperhidrosis, with the clinician regarding the dressing's overall performance as 'excellent'.

#### Week 2

At week two, the dressing had remained in place for six days and both wounds showed signs of healing (Figure 3). The clinician was very pleased with the dressing's ability to conform to the wound site and its effectiveness at dressing an awkward area.

#### Week 3

At week three, the dressing was being changed every two to three days and the irritated periwound skin was much improved (Figure 4). There was no longer any maceration and the scar site was now healed. There were further signs of the ulcer healing, with decreased levels of exudate and granulation tissue on the wound bed.

The size of the wound had reduced and the wound had decreased to 3mm x 3mm and 1mm deep. The clinician decided to continue using the dressing to protect the healed scar site.

#### Week 4

After four weeks of treatment, the scar wound had healed and the ulcer had virtually healed (Figure 5) There was no longer any exudate and the ulcer size had further reduced to 1mm x 1mm with no depth. After another week of treatment, the wound had completely healed.

#### Discussion

The clinician was pleased with the dressing's overall performance and the progress made with the treatment, since it was considered to be a difficult wound to treat given its awkward location (Figure 6).

#### Case 2: Fungating tumour of the neck (Rose Cooper, Jackie Stephen-Haynes) Background

The patient was a man in his early 80s with esophageal cancer who had developed a fungating tumour to the neck. The patient was a long-term smoker and had a history of renal failure.

The tumour had begun as a lump to the neck, which had then developed into a wet tumour (Figure 7). Once the tumour had erupted through the skin, it had become difficult to achieve an

effective seal over the wound so as to control the exudate.

Upon initial presentation, the wound was wet and vascular and the surrounding skin was becoming macerated. Exudate levels were moderate, with the patient complaining of exudate leaking down his neck and chest.

Due to its location, a soft, mouldable dressing was necessary, one with adhesive properties which would also be easy to remove. Prior to treatment, dressing pads, kept in place using tape, and foam dressings had been tried.

#### Presentation and treatment plan

The clinician would typically have chosen an absorbent pad for this type of wound, but had found them difficult to mould to the area, with poor adherence. Thus, the decision to select the Allevyn Gentle Border Multisite dressing was based on the need for a mouldable dressing that would fit the challenging neck area, since previous dressings had been ineffective. The dressing would be changed when necessary, which, at this point, had been carried out daily due to exudate leakage.

#### Week 1

By week one, the patient's quality of life had greatly improved and his general confidence had increased. This was largely because of the ability of the dressing to control the exudate, which had remained at the same levels (Figure 8). The effective containment of the exudate meant that the patient's appetite greatly improved,



Figure 6: The Allevyn Gentle Border *Multisite* in situ *on this awkwardly* sited wound.



Figure 3: The wound in Case 1 showing maceration.



Figure 4: The wound in Case 1 demonstrating much-improved periwound skin and a healed scar.



Figure 5: The wound in Case 1 at the fourth week of treatment, now virtually healed.



Figure 7: The fungating neck wound in Case 2.



Figure 8: The dressing in Case 2, demonstrating its ability to control exudate.

since he was not able to smell the wound's unpleasant odour anymore. Another improvement was that the wound bed did not bleed upon dressing change.

The dressing had stayed in place for two days and the clinician opted to continue treating with the dressing due to its effectiveness at conforming to the awkward neck area.

The clinician found the dressing performed very well overall and rated its ease of application, conformability and ability to stay in place as 'excellent'. The patient reported that he felt comfortable and that the dressing did not pull at his skin as previous dressings had.

#### Week 2

After two weeks of treatment, the wound had increased in size and the levels of exudate were unchanged. The dressing was still effective in managing the exudate and conforming to the wound, with the dressing remaining in place for two days.

#### Week 3

By the third week of treatment, the levels of exudate had increased and daily dressing changes were needed. The patient had a fungating wound and palliative care was being given.

The clinician opted to continue treating with the dressing due to the excellent seal that contained both the exudate and the unpleasant odour. The patient was very

comfortable with the dressing and did not experience pain when wearing the dressing or during dressing changes.

#### Discussion

The clinician was very pleased with the dressing's overall performance and with the increased quality of life experienced by the patient because of the treatment. The dressing was also regarded as 'excellent' in its ability to conform and stay in place, despite the awkward location of the wound.

#### Case 3: Fungating tumour to the left breast (Rose Cooper, Jackie **Stephen-Haynes**)

Background

The patient was a 97-year-old female with breast cancer who had developed a fungating wound to the left breast, which was increasing in size. The patient had a history of diabetes and glaucoma, and was registered blind.

The patient had been diagnosed with breast cancer, which had progressed rapidly over the previous four weeks. The tumour first appeared four to six weeks prior to this treatment and began as a small lesion, which then extended across the breast and into the chest.

The size of the wound was not established upon presentation since it covered a large area and the patient was reluctant to allow the clinician to measure it. The wound was vascular, bled readily and showed moderate levels of exudate (Figure 9). The condition of the surrounding skin was good, although other areas of tumour could be seen beneath the skin.

Due to its difficult location a well-fitting dressing was necessary. The dressing also needed to be absorbent so as to effectively manage the exudate. The patient had little tolerance with regards to having her dressing changed so it was important to use a dressing that was easy to apply and remove

Previous treatments included a foam, which the clinician found to be too 'fiddly'.

#### Presentation and treatment plan

The clinician decided to dress the wound using Allevyn Gentle Border Multisite dressing because it is soft and pliable, is the right shape and size for the breast and moulds well to the body. The clinician joined two dressings so that the wound could be completely covered (Figure 10).

The clinician would previously have used a square adhesive foam dressing for this type of wound but, because of the size of the wound, a square dressing would needlessly cover a lot of healthy skin. Also, being big and bulky, it would be more likely for the patient to remove this type of dressing.

#### Week 1

After one week of treatment, the wound was not bleeding when the dressing was changed and the wound contact layer remained in place. Exudate levels remained moderate, but this was controlled well by the dressing, which remained in place for three days. Since this type of wound does not heal, the size of the lesion and the level of exudate was expected to increase. The aim of the treatment was to offer palliative care to increase the patient's quality of life. The patient found the dressing very comfortable and did not attempt to remove it as had been the case with previous dressings.

It was the clinician's view that dressing changes had become less traumatic for the patient and the clinician decided to continue with the dressing, although if the wound were to increase in size the amount of dressing used and the best way



Figure 9: The fungating breast wound in Case 3.

to position it would have to re-evaluated.

Planned wound management strategies included checking for signs of infection, ensuring exudate was well-managed and that the periwound skin was not becoming macerated.

It was also essential to ensure that pain was well-managed and that the patient was informed of what was taking place while the wound was being dressed. For this type of case, the clinician would typically have used a pad and tape or a



*Figure 10:* The dressing in situ in Case 3 — note, two dressings were used to cover the extensive area.



Figure 11: The sacral pressure ulcer featured in Case 4.

gauze vest, but decided to continue with the dressing since it had proven effective in its ease of application and ability to stay in place.

#### Discussion

The clinician was very pleased with the dressing's overall performance, rating it as 'excellent' in its ease of application, ability to conform to the wound area and to dress an awkward location.

# Case 4: Sacral pressure ulcer (Kirsty Mahoney)

#### Background

The patient is a woman in her late 20s with a sacral grade four pressure ulcer, which developed due to immobility. The

Figure 12: Case 4 at week one — granulation tissue is present.



Figure 13: Case 4 at week two — the wound continued to granulate and had reduced in size.

patient is being treated in her own home, with her mother as her primary carer.

The patient had been diagnosed with brain stem glioma, a type of brain tumour that has led to paralysis and loss of sensation. Her immobility resulted in the development of the pressure ulcer on the sacrum. Upon presentation, the wound was approximately six weeks old and exhibited sloughy tissue, granulation and moderate levels of exudate (*Figure 11*). The surrounding skin exhibited erythema with superficial abrasions.

#### Presentation and treatment plan

The clinician opted to dress the wound using Allevyn Gentle Border Multisite dressing since previous dressings had not effectively managed the exudate and did not adequately conform to the skin. Daily dressing changes were planned.

#### Week 1

After the first week of treatment, the wound bed showed slight signs of improvement. The level of exudate was unchanged and granulation tissue could be seen. The wound at this point measured 3.5mm x 3mm and 3mm deep (*Figure 12*). There was significant improvement to the surrounding skin.

The clinician found the dressing to be more efficient and easier to remove than the tape used to hold the previous dressing in place.

The clinician rated the dressing's overall performance as 'very good' and opted to continue using it since it was proving good at conforming to this awkward area, and was comfortable and effective.

#### Week 2

At week two, the wound should signs of slow improvement. The level of exudate had decreased, the wound was granulating (*Figure 13*) and had reduced in size to 2mm x 2mm x 1.5mm. The surrounding skin had also improved.

Prior to the Allevyn Gentle Border Multisite being used the packing was falling out as the secondary dressing was not holding it *in situ* — however, once the Allevyn Gentle Border Multisite was used the packing stayed *in situ*. The patient also found the dressing comfortable. The

clinician continued to use the dressing until negative pressure wound therapy (NPWT) was made available.

#### Discussion

The clinician was very pleased with the dressing's ability to conform to the wound site and its effectiveness at dressing an awkward area.

#### **SUMMARY OF CASES 1-10** Wound type and patient characteristics

Of the 10 individual cases evaluated in this series, there were a total of six males and four females patients included, with the youngest patient observed being 27 years old, while the oldest was 97. The average age was 69.4 years.

A varied range of wound aetiologies were involved in the study from a number of different anatomical locations. These included fungating wounds, pressure ulcers, surgical wounds and diabetic foot ulcers. Wounds were located in difficult areas such as the neck, breast, abdomen, foot, toes, leg and sacrum.

#### **Dressing performance**

Feedback from the patients and nurses was very positive, with the majority of the feedback being excellent.

Clinicians were asked to evaluate the following areas:

- >> Effectiveness as a means of dressing awkward areas
- **▶** Ease of application
- Ability to conform to the wound bed
- >> Conformability when in situ
- ➤ Ability to handle exudate
- >> Patient comfort during wear
- Ability to stay in place
- ▶ Ease of removal
- Patient comfort on removal
- Overall dressing performance.

For each of these categories, the clinician was then asked to rate Allevyn Gentle Border Mulitisite as being either — 'poor,' fair,' good,' 'very good' or 'excellent' (see *Table 1*).

In many of the cases observed, the new dressing offered a solution to the very challenging task of dealing with complex wounds in awkward anatomical areas. For example, one patient who had an abdominal wound



Figure 14: Abdominal wound before the use of the Allevyn Gentle Border Multisite dressing.

of four months' duration, was struggling to find a dressing that would allow full mobilisation. The patient commented that the Allevyn Gentle Border Multisite was 'fantastic' as it enabled her to carry on living as normal at home (Figures 14 and 15).

Further investigation in this area could focus on the economic benefits of Allevyn Gentle Border Mulitisite and the impact of a suitable dressing for awkward areas on quality of life and patient wellbeing.

#### CONCLUSION

Living with a chronic wound can have a massive impact on a patient's quality of life. The wound may well remain nonhealing despite using the best advanced wound care products and so treatment aims must also focus on symptom management.

By improving conformability, concordance may be improved and the dressing may deliver exudate management more effectively, providing an optimal moist wound healing environment. These more 'human-shaped' dressings are another step towards improved wellbeing, particularly for patients with irregular or awkwardly situated chronic wounds. Wuk

#### **DECLARATION**

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Figure 15: The same wound after treatment with the Allevyn Gentle Border Multisite dressing.

Table 1 Summary of key dressing performance.				
Patient/wound type	Fitting awkward areas	Ease of application/removal	Patient comfort during wear time/removal	Ability to handle exudate/stay in place
Case 1	First dressing change:	First dressing change:	First dressing change:	First dressing change:
Woman late-20s	Very good	good/Excellent	Very good/Excellent	Very good/Very good
Sacral pressure ulcer	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
grade 4	Very good	good/Excellent	Excellent/Excellent	Excellent/Very good
Case 2	First dressing change:	First dressing change:	First dressing change:	First dressing change:
Woman late-80s	Excellent	Excellent/Excellent	Very good/Excellent	Fair/Fair
Sacral pressure ulcer	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
grade 3	Excellent	Excellent/Very good	Excellent/Good	Good/Excellent
Case 3 Man early 80s Fungating neck wound	First dressing change: Excellent Last dressing change: Excellent	First dressing change: Excellent/Very good Last dressing change: Excellent/Excellent	First dressing change: Excellent/Very good Last dressing change: Excellent/Very good	First dressing change: Very good/Excellent Last dressing change: Very good/Excellent
Case 4 Woman late-90s Fungating breast wound	First dressing change:	First dressing change:	First dressing change:	First dressing change:
	Excellent	Excellent/Very good	Very good/Very good	Very good/Very good
	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
	Excellent	Excellent/Very good	Very good/Very good	Very good/Very good
Case 5 Woman late-60s Dehised abdominal wound	First dressing change: Excellent Last dressing change: Excellent	First dressing change: Very good/Excellent Last dressing change: Excellent/Excellent	First dressing change: Excellent/excellent Last dressing change: Excellent/Excellent	First dressing change: Very good/Excellent Last dressing change: Excellent/Excellent
Case 6 Man late-70s Skin tear to left shin	First dressing change: Excellent Last dressing change: Excellent	First dressing change: Very good/Very good Last dressing change: Very good/Very good	First dressing change: Excellent/Very good Last dressing change: Excellent/Very good	First dressing change: Very good/Excellent Last dressing change: Very good/Excellent
Case 7 Man in late-50s Diabetic heel ulcer (left foot)	First dressing change:	First dressing change:	First dressing change:	First dressing change:
	Excellent	Good/Excellent	Good/Excellent	Good-fair/Very good
	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
	Very good	Very good/Very good	Very good/Very good	Good/Very good
Case 8 Man in early 80s Diabetic foot ulcer left lateral maleollus	First dressing change:	First dressing change:	First dressing change:	First dressing change:
	Very good	Very good/Very good	Very good/Very good	Good/Very good
	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
	Excellent	Very good/Excellent	Excellent/Excellent	Very good/Excellent
Case 9 Man in early 60s Surgical wound/diabetic foot	First dressing change:	First dressing change:	First dressing change:	First dressing change:
	Excellent	Excellent/excellent	Very good/Excellent	Very good/Very good
	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
	Excellent	Excellent/Excellent	Excellent/Very good	Very good/Excellent
Case 10 Man in mid-50s Diabetic foot ulcer right heel	First dressing change:	First dressing change:	First dressing change:	First dressing change:
	Very good	Very good/Very good	Good/good	Very good/Very good
	Last dressing change:	Last dressing change:	Last dressing change:	Last dressing change:
	Very good	Very good/Very good	Fair/Fair	Good/Fair