Spray-on skin for leg ulcers

Read the excerpt and then complete the exercises

‘Spray-on skin' helps heal leg ulcers

by James Gallagher  3 August 2012  from: www.bbc.co.uk/news/health-19093302

A "spray-on skin" which coats a wound with a layer of skin cells could help healing, according to US and Canadian researchers. The spray was tested on 228 people with leg ulcers, which are painful open wounds that can last for months.

The findings, published in the Lancet, showed that ulcers treated with the spray were more likely to heal and did so more quickly. Experts said faster healing could save money despite the cost of the spray.

Leg ulcers are hard to treat. The best treatment, compression bandages, will heal only about 70% of ulcers after six months. Other options include taking skin from somewhere else on the body and grafting it over the wound.

Instead the spray puts a coating of donated skin cells and blood-clotting proteins over the ulcer. In the study, patients who were given the spray-on-skin every 14 days showed the most improvement. The researchers said the size of the wound "began to decrease rapidly" as soon as the treatment started. In the patients who had the spray, 70% were healed after three months compared with 46% who received other treatment.
**Activity 1: Match the terms 1 – 8 with their meanings a – h**

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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>spray</td>
<td>a) the area which has provided a piece of skin for a graft</td>
</tr>
<tr>
<td>2.</td>
<td>wound</td>
<td>b) a wound which is often caused by faulty valves in the veins of the legs which reduce blood flow</td>
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<tr>
<td>3.</td>
<td>skin graft</td>
<td>c) also known as a lesion or a sore. A break in the skin</td>
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<tr>
<td>4.</td>
<td>dressing</td>
<td>d) elasticised bandages which are used for support</td>
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<td>5.</td>
<td>healing</td>
<td>e) fine mist coating</td>
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<td>6.</td>
<td>leg ulcer</td>
<td>f) getting better</td>
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<td>7.</td>
<td>compression bandages</td>
<td>g) sterile gauze which is placed over a wound</td>
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<td>8.</td>
<td>donor site</td>
<td>h) a piece of skin taken from another part of the body which covers large wounds</td>
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**Activity 2: Match the pictures with their correct labels**

- **compression bandage**
- **spray**
- **dressings**

(1) (2) (3)
Activity 3: Complete the summary of the text. Use the words in the box below to help you.

<table>
<thead>
<tr>
<th>treatment</th>
<th>healing rates</th>
<th>leg ulcers</th>
<th>compression bandages</th>
</tr>
</thead>
<tbody>
<tr>
<td>blood-clotting</td>
<td>skin grafts</td>
<td>wound management</td>
<td>skin cells</td>
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</table>

A new type of wound dressing for (1)________________________, “spray-on skin” works by adding a layer of (2) ______________________ to the wound to help speed up healing.

Leg ulcers are difficult to manage and (3) ____________ costs a lot in nursing hours and in dressing costs. Currently, bandages which support the legs and (4) ____________________ are the most effective methods of treatment. These forms of treatment are not entirely successful. For example, less than three quarters of leg ulcers are helped by the use of (5) ______________________________. A trial of a spray-on coating of donated skin cells and (6) __________________ proteins used to cover leg ulcers has resulted in some promising (7) __________________ and appear to be a more cost-effective method of (8)____________________________.

Activity 4: Complete the crossword using words from the text ‘Spray-on skin' helps heal leg ulcers’

Clues

Across:
1. salt water used to clean wounds
3. area which has provided skin for a skin graft
7. something which is not sticky
9. coagulation
10. good way to use money
11. bandages which are elasticised to provide support
12. medication used to cure a disease

Down
2. the amount of time a nurse takes to treat a condition
4. a sterile covering for a wound
5. give for free
6. getting better
8. piece of skin which covers a large wound to help it heal
Watch the video and complete the summary. Use the words below to help you.

advantages a week option adoption majority
innovation long-term two thirds incubating hospital days

**Burns and leg ulcers benefit from a quick spray.**

ReCell is a spray-on treatment for burns and (1) ____________ leg ulcers. The process involves taking a small biopsy, (2) ____________ the tissue to develop a liquid which can be applied easily to a wound or burn. A dressing is placed over the sprayed area, remaining until the area heals around (3) ____________ later.

The Australian (4) ____________ underwent testing in 2012. Over two hundred people with difficult to heal lower leg ulcers were treated with the ReCell process. The ulcers of over (5) ____________ of patients treated with the spray-on skin healed within five weeks. In addition, the pain level of the (6) ____________ of the group reduced significantly within the first day of treatment.

The new spray has several (7) ____________ over the current treatment methods which use compression bandages and skin grafts. Faster healing times using ReCell mean fewer (8) ____________ . Chronic leg ulcers affect from 1.5 to 3% of the population and often take months to heal, if at all. Health services in Europe, Australia and China have accepted the spray as a treatment (9) ____________ in cosmetic, plastic and reconstructive surgery claiming that faster healing times could save money despite the high cost of the spray. NICE in The UK is still in the process of conducting further research before recommending (10) ____________ of the treatment in NHS hospitals.
Answers:

**Activity 1:** 1. e 2. c 3. h 4. g 5. f 6. b 7. d 8. a

**Activity 2:** 1. dressings 2. compression bandage 3. spray

**Activity 3:** (1) leg ulcers  (2) skin cells  (3) treatment costs  (4) skin grafts  (5) compression bandages.  (6) blood-clotting  (7) healing rates  (8) wound management

**Activity 4:**

Across


Down:  2. nursing hours  4. wound dressing  5. donate  6. healing  8. skin graft

Summary answers

(1) long-term  (2) incubating  (3) a week  (4) innovation  (5) two thirds  (6) majority  (7) advantages  (8) hospital days  (9) option  (10) adoption