Exercise

The paragraphs in the following presentation (given on radio) have been jumbled (mixed) up. Please read through the transcript and rearrange the numbered paragraphs in the order you think the original was given in.

Original Order

A New Pathway to Improve the Repair of Wounds[1]

Transcript

Nadira Ruzehaji: My name is Nadira Ruzehaji, I'm a PhD candidate with the University of Adelaide, Department of Paediatrics. I originally come from one of the former Soviet Union republics, Uzbekistan. I was born in Uzbekistan, I was 16 years old when I came to Australia.

A New Pathway to Improve the Repair of Wounds.

1. We don't experiment on humans. This is why I use laboratory animals, because they too have their own biology. We manipulate their biology and use mice that are known to have different levels of this protein. These mice look identical on the outside, but on the inside they are programmed to produce different levels of the protein throughout their bodies. We innovated a way to mimic human wounds in mice. My experiments showed that mice lacking this protein healed faster than mice with high levels of the protein. Taken together, my results suggest that the special protein has the capacity to inhibit healing. This was of great scientific and clinical interest because we now know that too much of this protein in the wound is bad for healing.

2. The skin is the largest organ in the body, it functions as a barrier against dehydration, keeping the water in and the bacteria out. When large areas of skin are damaged, the barrier function of skin is under threat, making the body vulnerable to infection. Many people suffer from some form of skin disorder, whether it be from a burn injury or an inherited skin disorder.

3. We now want to test the new treatment in a human clinical trial. Depending on the results, it may take another five years before this treatment finds its way from the lab bench to the patient bedside. As an improved method of treatment, I hope that one day it could be used in a clinic and help people lead longer, more comfortable and happy lives with all four limbs still in place.

4. Tissue repair and regeneration is a new and expanding area of biomedical research. In our lab we focus on the development of new treatments that allow the body to restore damaged skin more efficiently. The biology of wound healing is complex. It requires interaction of skin and immune cells which remove bacteria and make proteins. Our research group has identified a protein, and over the past eight years we have been probing the mysteries of specific functions of this protein. We were the first group in the world to recognise the importance of this protein in the wound healing process.

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1 A presentation by Nadira Ruzehaji on 21 April 2012 on the The Science Show. The Science Show with Robyn Williams on Radio National is one of the longest running programs on Australian radio. [Internet]: http://mpegmedia.abc.net.au/rn/podcast/2012/04/ssw_20120421_1233.mp3

5. We also analyse human wounds and culture cells in the laboratory. We showed that by getting rid of this harmful molecule we can enhance wound closure. We then targeted this protein for therapy. We developed a product, a cream that contains antibodies which neutralise the harmful activity of this protein. By rendering the protein useless, wounds treated with our antibody base cream, heal quicker.

6. Burn injury is common in children. Each week in Australia, 23 young children go to hospital emergency departments for the treatment of burns. In adults, chronic wounds related to diabetes have become very significant. Diabetes is now the fastest growing chronic disease in Australia. It causes a massive number of health problems, including skin ulceration. Having worked with these patients, I have seen wounds that get bigger and bigger. Too often the only treatment is amputation. Due to poor outcomes from existing therapies, there were 3,400 lower limb amputations in Australia in 2004 related to diabetes. Obviously there is an acute need for better therapies for wound healing.

Robyn Williams: Nadira Ruzehaji at the University of Adelaide, who's won both a 3MT Prize and a Young Investigator Award for her brilliant work, helping the wounds from burns heal again.

Vocabulary

Paediatrics: the branch of medicine that deals with the medical care of infants, children, and adolescents.
Dehydration: excessive loss of body fluid(dehydration of skin is called medical dryness).
Amputation: the removal of a body extremity by surgery
Therapy: treatment.
Wound Healing: an intricate process in which the skin repairs itself after injury(tissue repair).
Clinical Trial: a set of procedures in medical research that are conducted to allow safety (or more specifically, information about adverse drug reactions and adverse effects of other treatments) and efficacy data to be collected for health interventions.

Useful Presentation Resources

Videos

A 10-15 minute scientific presentation, Part 1: Introduction http://www.youtube.com/watch?v=kBfEvppvIvg

A 10-15 minute scientific presentation, Part 2: body of the presentation
http://www.youtube.com/watch?v=-qkEGKWMHeg&feature=relmfu

Susan McConnell: Designing effective scientific presentations
http://www.youtube.com/watch?v=Hp7Id3Yb9XQ&feature=related

Internet Sites

Bradford University School of Management. Presentations.
http://www.brad.ac.uk/management/media/Management/els/Presentations.pdf

Writing Guidelines for Engineering and Science Students
http://www.writing.engr.psu.edu/