Tissue Issue

New Zealand Wound Care Society

New Zealand Wound Care Society Newsletter

Issue 17 — June 2012

Welcome

Welcome to the mid-year Tissue Issue. This is a bumper issue with loads to tell you about. So sit down with a cuppa and enjoy! There has been a lot of great work being undertaken in both New Zealand and Australia to improve the care being offered those with wounds and also in terms of preventing wounds from developing in the first place. This edition hopes to spread the word about some of these materials and initiatives alongside some of the fantastic people involved.

Many thanks go to WM Bamford & Co Ltd for sponsoring this edition of Tissue Issue. Printing, production and postage of Tissue Issue is expensive and company sponsorship is invaluable in enabling this to happen.

Guidelines

Many of you will be aware of the recent launch of the Pan Pacific Clinical Practice Guideline for the Prevention and Management of Pressure Injuries.

Both this and the updated Australia and New Zealand Clinical Practice Guideline for the Prevention and Management of Venous Leg Ulcers are now available to download free of charge via both the New Zealand Wound Care Society website or the AWMA website. Hard copies of both guidelines have also been printed and can be purchased via the NZWCS website or by contacting our administrator, Jeanette Henderson (administrator@nzwcs.org.nz)

Events

The European Wound Management Association annual conference was held late May in Vienna, Austria. Although NZWCS members receive a paper copy of the journal as part of their membership, remember it is also free to download via the EWMA website alongside conference abstracts and reports.

Up and coming events in the wound care world include the 4th World Union of Wound Healing Societies conference, which will be held in September 2012 in Yokohama, Japan. Special rates for registration have been secured for NZWCS members wishing to attend. Later in September is the European Pressure Ulcer Advisory Panel conference, this year being held in Cardiff. For more information in these events please see the relevant websites. There are links to both from the NZWCS website.

In recent years we have seen 'Stop Pressure Ulcer Days' occurring in Spanish-speaking countries and last year these organisations created a Declaration in Rio speaking out against people developing pressure ulcers/ injuries.

In 2012 there will again be a Stop Pressure Ulcer Day to be held on November 16th 2012 and the NZWCS (alongside other organisations including the EPUAP) will be participating. In progress is the development of a poster to highlight that pressure injuries are preventable and to raise awareness of the new pressure injury guideline. This and possibly other material will be distributed across New Zealand with the help of company sponsorship.

Congratulations

In recognising excellence, outstanding achievement and clinical practice in Vascular Nursing Dawn Sutton, a longstanding and active member of the

Inside this issue

Editor of Tissue Issue

Carol Tweed

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What is the New Zealand Wound Care Society?

The NZWCS is a voluntary organisation made up of health care professionals from a variety of disciplines who share a common interest in wound management. As an organisation it gives its members an opportunity to share experience, expertise and knowledge providing a forum to network with other members throughout the country.

Currently there are fourteen branches New Zealand-wide. Each has an area coordinator and a national committee member. The area coordinator is responsible for coordinating meetings and seminars for the local branch members, while the national committee member represents each branch at a national level. In some areas these duties are undertaken by the same volunteer.

For more information & membership forms visit: www.nzwcs.org.nz

NZWCS in Canterbury was awarded the Australia New Zealand Vascular Nurse of the Year in November last year.

Another NZWCS member worthy of mention is Paula Mckinnel who is the wound care clinical nurse specialist at Capital and Coast DHB. Paula was recently a recipient of the Ellen Dougherty award and was described in the following way: *"Paula is the epitome of the 'professional role model' and her hard work and excellent outcomes over the past 12 months are to be commended and celebrated. She is so enthusiastic about wound management and this comes through in her dealings with staff and patients. Her breadth and depth of knowledge is formidable and when all else fails she is a great advocate for common sense."*

Many congratulations to both Paula and Dawn for their awards.

Carol Tweed (Editor)

Dawn Sutton

Paula Mckinnel

President's Report

We now have a new date for your 2013 diary — the NZWCS Conference Committee is pleased to announce that our 6th biennial National conference will take place on the 24–25 May at the Rendezvous Hotel in Auckland. The theme of the conference is Wound Care Across the Life Span and will focus on wound management in both the young and older age groups, plus other topics relevant across all age groups including topics such as lymphoedema, wound diagnostics and hyperbaric therapy. The Conference Committee is now working securing keynote and invited speakers and we will soon be releasing a call for abstracts and preliminary programme.

Staying with the conference theme, I have been in contact with the World Union of Wound Healing Societies (WUWHS) Congress 2012 Secretariat in Japan, and the NZWCS is now a supporting organisation of the Congress. This means the NZWCS now has official acknowledgement on the Congress website (http://wuwhs2012.com) and in Congress information, and it also means any NZWCS member attending the conference is able to receive a substantial discount on registration fees. I will be there representing the NZWCS and it would be great to have some fellow NZWCS members there as well!

I continue to work with AWMA on bid to host the 2016 WUWHS congress in Brisbane. We will be presenting the bid at the Japan Congress in September and we are having special polo shirts designed for all Australian and NZ delegates to show our united support for the bid (provided free to delegates if you are attending WUWHS 2012).

I am also pleased to be able to announce the 2012 NZWCS Research Grant recipient. After a peer review process involving wound care and research experts, the grant has been awarded to Dr Keith Rome and his team at the School of Rehabilitation & Occupation Studies in Auckland. Dr Rome will be undertaking a project to evaluate the clinical characteristics of foot ulceration in patients with chronic gout.

Lastly, thanks to all of you who made the effort to join the AGM teleconference, while we had a quorum it was still a fairly small turn out. However, it was a very good meeting, we were able to elect the required Committee Members and Area Coordinators and agree the Annual Report and minor changes to the Rules (both now available on the NZWCS website).

Wayne Naylor
President, NZWCS

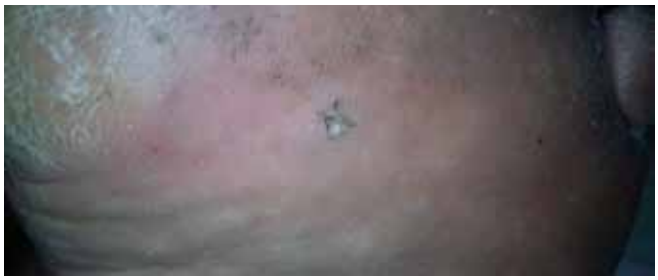
Foreign Bodies in Foot Care

Treena Harris, Podiatrist, Southern Podiatry, Auckland.

Feet are at risk of puncture from various objects — natural and synthetic. At a recent clinic, a client with multiple medical concerns presented for routine diabetic foot care.

She is classified as having a high risk foot type and during her consultation I observed a lesion on the plantar surface of the left foot. Morbid obesity limited her ability to self check her feet, and podiatry was part of her regular routine.

The skin was obviously compromised at the 2nd MTP joint planter surface. With moderate hyperkeratosis on both feet, at a cursory glance it may have presented as staining or superficial erosion whilst walking barefoot. The client was unaware of the lesion and asymptomatic. Gentle sharp debridement allowed better visualization, and confirmed my suspicions. My client — aged 66yrs with Type 2 Diabetes Mellitus and a recent acute episode of erupting gouty tophi on the left hallux had succumbed to the beast. Her rather large Black Labrador!



Let me explain. The first hair was obvious to one who removes hairs from human feet regularly. This hazard is particular to hairdressers and pet owners. The first hair was superficial and although it broke in half, was easy to remove. The second hair shaft was perpendicular to the skin surface, and penetrated multiple levels of skin. It was only visible as a pinprick, and could easily have been missed. To obtain the depth that it had, it had been present for at least one week.

The majority of the population and indeed the healthcare profession generally would not fathom that podiatry caters for all types of foreign body removal in the foot. Foreign body penetration in the feet is often a precursor for many months of wound healing, and early detection helps minimise these events.

As part of my consultation process, screening for these complicating factors is a necessity. The potential exists for this foreign body to cause a number of significant issues including infection, ulceration and osteomyelitis. It is one of the reasons podiatry will continue to exist — particularly for those with diabetes.

The offending 'foreign bodies', aka dog hair, removed from the lesion.

Evaluating improvements with the P control chart

Dr. Jan Weststrate, Care-Metric LTD , Wellington

In the February edition of *Tissue Issue* I discussed the run chart. In this we learnt that a run chart is the first instrument to use if starting out with any quality improvement project. The biggest advantage of a run chart is that you only need a small number of samples (10–12) in order to find out if your intervention is having an effect or not. The down side is that it is still a rough estimate and misinterpretations can be made, particularly about the stability of the process.

Each and any care process experiences variation. Shewhart (Shewhart, 1931) found out that there is normal variation and special cause variation. Normal variation belongs to the process itself but special cause variations are triggered by circumstances outside the process. An example that could cause a normal variation in pressure injury prevalence is the level of expertise of the nurses that are working on the ward, or the number of nurses working on the ward. Examples of special cause variation are for example a change in provider of special mattresses or a change of policy. Shewhart and Demming (a student of Shewhart) suggested that starting to implement interventions in processes that show aspects of special cause variation are doomed to fail. This is understandable as you try to improve a process that is affected by something outside of which it has no control over. Therefore the first thing to do is to find out the reason for this special cause variation, resolve it and bring the system back into its course of normal variation.

To find out when a process shows sign of special cause variation Shewhart designed the control chart. The difference between a control chart and a run chart is that the control chart is based on the average and has an upper control limit (UCL) and a lower control limit (LCL). Usually these limits are based on 3 standard deviations above and below the mean. Based on the normal distribution curve (empirical rule) it indicates that when results cross the UCL or LCL it is worth investigating as this only happens in 0.03% of all the cases.

There are several types of control charts (Provost & Murray, 2011). In pressure injury prevention it is best to use the so-called P-chart. Much is written about how to use P-charts and therefore it can still be a complicated issue. If you want to know more about how to use the P chart, the best thing to do is to read some of the books or articles listed at the end of this article. For now, I want to explain the working of a P chart with a simple case study

Scenario

You measure monthly the incidence of pressure injuries on your ward by charting every new development of pressure injuries stage 2 or higher. Figure 1 shows the number of patients developing a pressure injury (> stage 2 or higher) each month over the last 2 years. For the sake of simplicity we keep the number of new monthly admissions the same for each month (n=20).

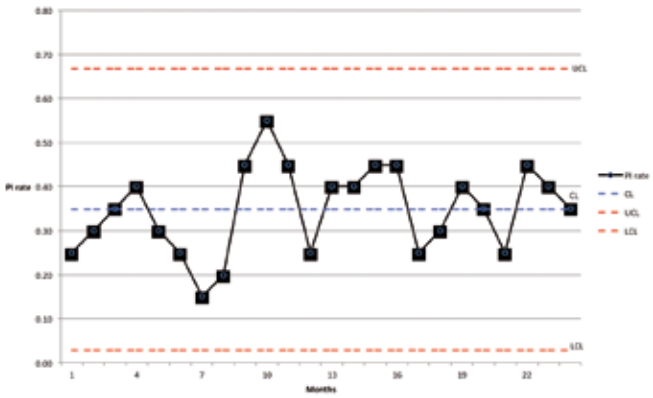


Figure 1. P-Chart displaying the baseline proportion of patients that developed a pressure injury each month.

The centre line (CL) is reflecting the average proportion of patients that developed a pressure injury during the 24 month period. The UCL and the LCL are the upper and lower control limits – and + 3 times the standard deviation below and above the CL. Because we have the same number of admissions each month the UCL and the LCL are straight lines.

In reality these numbers vary and are displayed in stair-step lines.

The results indicate the numbers of pressure injuries is high. You think that the mattresses used to prevent pressure injury development, in patients that are at risk, are not working effectively and therefore suggest using different mattresses for this purpose. After introduction of the new mattresses you follow closely the effects on pressure injury incidence with your P-Chart. Figure 2 incorporates the results over the next 12 months when using the new mattress. You think you spot a reduction but how sure can you be it is not a temporary effect?

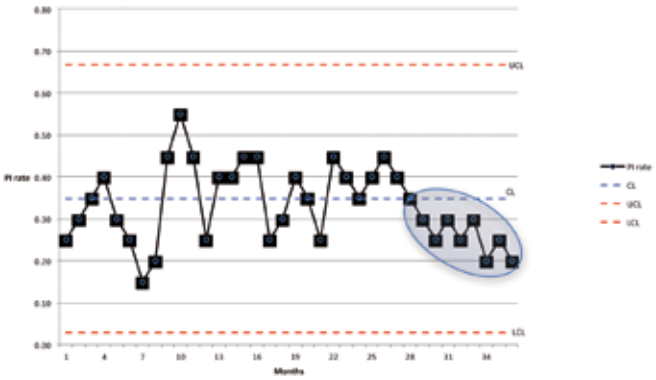


Figure 2. P-chart displaying the proportion of pressure injuries developed month 1–24 compared to month 25–36 with control limits based on month 1–24)

To spot sustainable signs of improvement in your chart we look to see if one of the following situations has occurred:

- A single data point that exceeds the upper or lower control limit.
- Eight or more consecutive data points below or above the mean.
- A trend (7 data points on a total of more than 20 data points) of constantly increasing or decreasing series of data points.

All three are signs of special cause variation but in this case a **controlled** special cause variation as you deliberately influenced the process by changing the type of mattress.

You notice the CL stayed the same (frozen) and as a consequence the UCL and LCL as well. This is because we investigated the effect of the new mattress against the previous type of mattress that was used. In analysing the data it is evident that the last 8 measurements are below the CL. This is an indication of a special cause variation (see oval in figure 2). The conclusion is that the new mattresses have truly reduced the incidence of patients that developed a pressure injury. The three signs of improvement mentioned in this article are the most frequently used ones in health care.

In conclusion

Using a P-Chart does not only help you to keep track of the pressure injury rate on your ward or clinical area but also provides you with information if the pressure injury prevention program is working or not. There is lots of material you could read on this approach ranging from simple "how to do" stuff to the more complicated theories that explain more of the background of control charts. The most surprising discovery for me was that this technique (statistical process control/ SPC) was developed nearly 100 years ago, has been extensively used in industrial quality improvement since then, but only started to be used in health care seriously in the last 15 years. It has proven to be relatively simple to instigate and gives real meaning to implementing quality healthcare measures. Using this methodology as nurses offers an opportunity to start owning and evaluating our patient centred quality improvement initiatives in a step to effectively control our own professional domain.

If you want more information or advice on this issue, please feel free to contact me by email at caremetric@gmail.com.

Suggested readings

- *Carey, R. (1995). Measuring quality improvement in healthcare : a guide to statistical process control applications. New York: Quality Resources.*
- *Kottner, J., & Halfens, R. (2010). Using statistical process control for monitoring the prevalence of hospital-acquired pressure ulcers. Ostomy/ Wound Management, 56(5), 54–59.*
- *Lloyd, R. (2004). Quality health care : a guide to developing and using indicators (1st ed.). Sudbury Mass.: Jones and Bartlett Publishers.*
- *Mohammed, M. A., Worthington, P., & Woodall, W. H. (2008). Plotting basic control charts: tutorial notes for healthcare practitioners. Quality & Safety in Health Care, 17(2), 137–145.*
- *Padula, W. V., Mishra, M. K., Weaver, C. D., Yilmaz, T., & Splaine, M. E. (2012). Building information for systematic improvement of the prevention of hospital-acquired pressure ulcers with statistical process control charts and regression. BMJ quality & safety, 21(6), 473–480.*

Literature

- *Provost, L. P., & Murray, S. K. (2011). The health care data guide : learning from data for improvement. San Francisco, CA: Jossey-Bass.*
- *Shewhart, W. A. (1931). Economic control of quality of manufactured product. New York: D. Van Nostrand Company.*