Global Initiative for Wound and Lymphoedema Care (GIWLC)

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Over the past two decades the world has seen tremendous medical advances in modern wound care and lymphoedema management, principally due to new scientific knowledge, techniques and materials. These advances have occurred mainly in the developed countries. The diagnosis and treatment of chronic wounds and lymphoedema, both primary and secondary in aetiology, involves all medical specialties and all ages. The management of diseases and conditions such as diabetes mellitus, venous ulceration, pressure ulcers, traumatic wounds and acquired immune deficiency syndrome (AIDS)-related wounds have benefited from improved medical knowledge and technology, leading to better care and reduction in both morbidity and economic burden. Additionally, it is anticipated that using modern wound care methods for wounds related to leprosy, Buruli ulcer, trauma and common tropical ulcers will also lead to significant benefits.

The precise global burden of chronic wounds and lymphoedema is not known. International statistics giving the full picture of the prevalence, disability, and impairment of wounds, burns and lymphoedema are difficult to acquire. The aetiologies of these conditions are numerous with regional, national and local specificities. However, the epidemiology and economic burden of the chronic wound is well documented in the developed world. Each year in North America, between five and seven million chronic and/or complex wounds occur (Petrie et al, 2003). A recent study in the UK showed a prevalence of patients with a wound was 3.55 per 1000 population (Vowden et al, 2009). The majority of wounds were surgical/trauma (48%), leg/foot (28%) and pressure ulcers (21%). Prevalence of wounds among hospital inpatients was 30.7%. Wounds in Australia are a highly significant health issue: some estimates suggest that over 200,000 Australians have problem wounds at any one time (www.elephantintheroom.com.au/problem.php).

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With the growing epidemic of non-communicable diseases and longer life expectancy, the prevalence and impact of chronic wounds and lymphoedema are likely to increase. Furthermore, studies show worrisome data about the extent of chronic wounds and lymphoedema in resource-poor nations. In India, a recent study estimated a prevalence rate of chronic wounds at 4.5 per 1000 population (Shukla et al, 2005). The incidence of acute wounds was more than double at 10.5 per 1000 population (Shukla et al, 2005). The aetiology of these wounds included systemic conditions such as diabetes, atherosclerosis, tuberculosis, leprosy, venous ulcers, pressure ulcers, vasculitis and trauma. In India, filariasis may account for 23 million cases of lymphoedema (National [INDIA] Programme to Eliminate Lymphatic Filariasis, 2004; Agrawal and Sahindran, 2006). According to data from epidemiological studies, the incidence of chronic ulcers in surgical hospitalised patients in China is 1.5–20.3% (Fu, 2005). Diabetes is the third leading cause of general mortality in Mexico. Between 8% and 12% of the general population in Mexico, four to six million people, currently have diabetes (Ruiz, 2007). Buruli ulcer has been reported from 30 countries in Africa, the Americas, Asia and the Western Pacific, mainly in tropical and subtropical regions (WHO Fact sheet no 199, revised March 2007, available online at: www.who.int/buruli/en/). In Ghana, more than 14,000 cases have been recorded since 1993 — 986 cases in 2008 (National Buruli Ulcer Control Program. Annual report 2008, Ghana Health Service).

Economic and social impact

In the UK, the attributable cost of wound care in 2006–2007 was 9.89 million pounds: 2.03 million pounds per 100,000 population and 1.44% of the local health-care budget. Costs included 1.69 million pounds spent on dressings, 45.4 full-time nurses (valued at 3.076 million pounds) and 60–61 acute hospital beds (valued at 5.13 million pounds) (Vowden et al, 2009). Thus, the cost of wound care is significant. The most important components are the costs of wound-related hospitalisation and nursing time. The 32% of patients treated in hospital accounted for 63% of total costs (Vowden et al, 2009).

While the costs related to hospitalisation, nursing time and dressings and drugs are considerable, the economic and social impact resulting from mismanagement of chronic wounds

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and lymphoedema disabilities on families, communities, and nations is huge. In addition to the preventable human suffering and disabilities, this burden encompasses the cost of caring for disabled men, women and children; lost earnings by the patients and sometimes family caregivers; and an ongoing cycle of poverty and deprivation for poor families and societies.

Social interaction may be impeded due to odour and drainage seen in some wounds. Chronic leg wounds in the USA account for the estimated loss of two million workdays per year (McGuckin and Kerstein, 1998). The impact of loss of self-esteem, continued pain, and possible depression is difficult to quantify, but is certainly real.

Chronic and complex wounds can lead to complications such as infection, pain, and limb amputation. The psychological problems that such patients and their families acquire are better managed today because of a greater understanding of their needs, as a result of quality of life studies. Patients affected by these types of wounds often require assistance in performing common daily tasks. Neglect can lead to malnutrition, further morbidity, and, as with the diabetic foot, higher mortality rates (Reiber, 1995; Deery and Sangerorzan, 2001).

In addition to any loss of earnings, people may have to choose between a commitment to work and a commitment to medical management of their wound. This choice has increased significance in resource-poor nations. In many cases, a disabling wound results in the loss of two or more people from the work force — the patient and the family member caring for the patient. A wound can control a life. People may have to cope with specialised devices or beds, lack of mobility, dressing changes, drainage, odour, clothing limitations, and sleep deprivation. Healing may take months or years, and unsuccessful wound treatment can lead to limb loss or even death. Sixty percent of non-traumatic lower limb amputations are associated with diabetes (Armstrong and Lavery, 1998).

Limited access to modern technology for managing chronic wounds and lymphoedema in developing countries

Advances in modern wound and lymphoedema management have occurred mainly in the developed world. In the developing countries, outdated techniques, practices and materials are used to manage these conditions, leading to prolonged morbidity, suffering and high costs (Ryan, 1993). For example, observations throughout the world have shown common mismanagement deficiencies. Standard wound care most often is reduced to tissue toxic cleansing solutions, misuse of topical antibiotics, wet to dry gauze dressings and the absence of compression bandaging (personal experience). Management of lymphoedema, filariasis in particular, often demonstrates a lack of basic hygiene and absence of compression bandaging. This scenario too often results in severe disability, isolation, and in far too many cases, amputation. Recycling of dressings and bandages is common, with dressing changes not being performed as often as needed because of limited availability of materials or costs.

Why a new global health partnership for wound and lymphoedema care?

During the opening ceremonies for 2005, the American Symposium for the Advancement of Wound Care (SAWC), the Association for the Advancement of Wound care (AAWC) startled the audience with the announcement that the mission of the AAWC was about to enter uncharted waters. The AAWC was going 'global'. As with any new idea, the announcement was met with both emotional support and caustic criticism. To quote Joseph Campbell, 'The big question is whether you are going to say a hearty yes to your adventure.' Members of the AAWC responded to the global alliance adventure with a 'hearty yes'. The AAWC now has established active volunteer teaching sites in Cambodia, India, Peru, St Lucia and Ghana. In October 2007, representatives of the AAWC, through the cooperation of the non-government organisation (NGO), Handicap International (HI), met with representatives of the World Health Organization (WHO) in Geneva, Switzerland. At this meeting it was agreed that a growing interest in wound and lymphoedema care had led to the creation of many wound care and lymphoedema associations throughout the developed world. These associations are both regional and country-specific. It was discussed that modern wound care and lymphoedema management should be given a global priority so that knowledge, techniques and materials could reach those in need, particularly in developing countries, and that a global policy on wound and lymphoedema management, combined with a global coordination mechanism to unite all organisations, associations, industry and individuals with interest in these subjects, would further progress. This would most especially support the efforts in developing countries. It was agreed at a subsequent meeting in October 2008 that we would, together, create the Global Initiative for Wound and Lymphoedema Care (GIWLC).

What is the Global Initiative for Wound and Lymphoedema care (GIWLC)?

The GIWLC is a partnership of international organisations, governmental and non-governmental agencies, partner countries, donors, foundations, healthcare professional associations, academic and research institutions. Also included are individuals and industry leaders sharing interest in, and a commitment to, improving the management of wounds and lymphoedema around the world. Members are committed to providing adequate and sustainable technical, financial and material support to ensure continued and successful operations of the initiative. The mission of the GIWLC is to provide guidance for safe and effective wound and lymphoedema care through public health recommendations, education and training at all levels, and country support for implementation of such activities. These levels are to include tertiary, secondary, primary and community involvement for lymphoedema and both acute and chronic wounds. The education philosophy of the GIWLC strives to 'teach the teachers', optimising local clinicians and integration into the existing healthcare structure. It is intended that such care be provided in a cost-effective

manner using, where possible, locally available products and currently available essential drugs and dressing supplies. The teaching and training programmes will include the use of therapies common to multiple disciplines. It is believed that significant benefit will be achieved by decreasing now prevalent, ineffective, costly remedies. Experience has shown that misdiagnoses and lack of understanding of the principles of modern wound and lymphoedema care can be devastating to the overall health and economic welfare of communities.

What are the objectives of the GIWLC?

1. To raise awareness of the importance of chronic wounds and lymphoedema, and their economic and social impacts.
2. To develop global policy on modern wound and lymphoedema management.
3. To support countries to develop the capacity necessary to utilise current knowledge on wound and lymphoedema in the care of patients.
4. To contribute to strengthening the health systems in affected countries in order to achieve objective 3.
5. To support research aimed at improving the management of wound and lymphoedema.

What has the GIWLC accomplished to date?

- A White Paper titled 'Best Practice Recommendations for Wound and Lymphoedema Management' developed and expected to be published by WHO in 2010.
- Assessment of wound and lymphoedema care and related issues completed in four countries — Cameroon, Ghana, Sierra Leone and Uganda.
- Lymphoedema therapist training programme, 2008, at the Christian Medical College, Vellore, India.

The Ghana experience

Advance preparation — find your champion

It is essential that for each education initiative, a preliminary 'site' visit be made. It is important to identify a 'local' champion. A site visit to Ghana, West Africa was completed in July 2008, funded by WHO with logistical support from the WHO Buruli Ulcer office in Ghana. At that time Terry Treadwell MD, Mary Jo Geyer PT, PhD, CLT and John Macdonald MD spent 10 days evaluating the needs and expectations of the clinicians in Ghana. They were hosted by the Plastic Surgery Departments of the primary teaching hospitals in Accra and Kumasi. Additional visits were made to three isolated regional hospitals in central and southern Ghana. In each hospital clinical rounds with the medical teams were made, ideas exchanged,

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and in Kumasi and Accra powerpoint presentations were given. Subjects covered were limited to the basic principles of wound and lymphoedema care: patient evaluation, protecting the wound from trauma, debridement and infection control, moist wound healing, control of periwound oedema/lymphoedema, basic hygiene, elevation and short-stretch compression bandaging for lymphoedema. We also met with representatives of the Ministry of Health and the Ghana WHO authorities, and, unexpectedly, participated in a 'talk show' on a national radio station answering questions related to our observations in Ghana and the hope for our mission. Over the course of 10 days, we travelled, dined and talked wound care and lymphoedema. We had identified 'our champions' and began to plan our return for formal training.

Formal training intervention — keep it simple

Designing a curriculum for wound and lymphoedema management in resource-poor nations can be a challenge. The first challenge is for the teachers not to accept the label 'expert' seriously. The 'experts' in resource-poor nation wound and lymphoedema management are themselves in a learning phase. Wound care in most resource-poor nations, as has been previously true in much of North America, consists of Betadine, acetic acid, dry gauze and no compression. Lymphoedema management is a critical problem in these nations because of filariasis and must be included in any comprehensive curriculum. We have found that 'Wound care 101' is best defined by five basic principles that need to be stressed and expanded:

- Comprehensive patient evaluation
- Avoid physical and chemical trauma to the wound
- Debridement and judicious infection control
- Moisture control
- Control of peri-wound oedema/lymphoedema.

Teaching seminars

In February 2009, with the sponsorship of the AAWC Global Alliance and the WHO endorsed GIWLC, teaching seminars devoted to wound care and lymphoedema were conducted in Ghana, West Africa. The faculty included Terry Treadwell, Mary Jo Geyer, Janice Young and John Macdonald. Seminars were given in the university teaching hospitals in Kumasi and the capital, Accra. Each seminar was scheduled for two and a half days and included didactic lectures and three hours of hands-on workshops. The audience was composed of a balanced mixture of physicians, nurses and physical therapists. Each participant was enrolled by invitation and represented hospitals from all regions in Ghana. Some had driven 8–10 hours over difficult terrain to attend. We were delighted and inspired by the fervour of their involvement. From the beginning of the seminars we stressed that we — the 'experts' — were in Ghana to learn as well as to teach. The goal set was for this to be a 'team' effort in creating wound and lymphoedema centres of excellence for Ghana. We also stressed that the format for these seminars would be used as the template for future GIWLC/AAWC teaching interventions. Therefore, we encouraged questions, advice and critique of the

educational content and style of presentation.

In the design of this curriculum, the importance of using locally available materials for dressings, topical agents and compression bandages was emphasised. Much of the learning experience was gained by wandering through the ward supply rooms or by visiting local pharmacies and discovering bandages and supplies that were easily adaptable to basic modern needs. Dr Treadwell demonstrated 'How to make your own Unna Boot' and 'Growth Factors — right here, right now', and for moist wound healing, 'Vaseline gauze is gauze + Vaseline'. As said, the seminars were divided between didactic lectures and hands-on workshops. The workshops were devoted to negative pressure wound therapy (NPWT), lymphoedema management and compression bandaging.

For formal training sessions as carried out in Ghana, a multidisciplinary team is ideal. In this case, we had two doctors, one physiotherapist (PT) and one registered nurse (RN). Of special note, our RN, wound/ostomy continence nurse (WOCN) teacher was Janice Young, representing KCI. Prior to our arrival in Ghana, KCI graciously donated two new VAC systems and one year of support supply for each. These gifts were formally presented to the Chairs of Plastic Surgery in Kumasi and Accra. KCI is the first biomedical corporation to donate and become involved with GIWLC. This was a shining example of the best in medical cooperation. An example we believe others will follow. KCI is to be congratulated.

Future plans

The teaching model presented in Ghana represents a work in progress. Each future location will require innovative thinking and flexible adaptation. We believe that the design of an initial site visit, then formal seminars and thereafter repeated volunteer visits for re-assessment and mentoring is a realistic formula for success. It is appreciated that economic restraints and the availability of volunteer 'teams' will determine the realities of interventions. Certainly there are opportunities for solo interventions by qualified volunteers. We are encouraged by the recent response given to volunteers in each of the established sites. In Ghana, for example, we were informed that both university teaching hospitals were making plans for establishing out-patient wound-lymphoedema clinics. Ghana is looking forward to extending a warm welcome for future teaching volunteers.

Figure 1. Above — Multidisciplinary team and healthcare professionals who attended the seminar in Ghana. Right — John MacDonald talking to a group of physicians, nurses and physical therapists.

The globalisation of modern wound and lymphoedema management is beginning to take a giant step. The chronic suffering, disability, isolation and limb loss resulting from inadequate or improper care for millions of men, women and children will be alleviated. Alleviated not by unaffordable medications and dressings, not by difficult-to-learn techniques, and not by transient experts. This gift to millions will come from continuing knowledge of the basic principles of wound and lymphoedema management, techniques for application and the teamwork of both national and international clinicians.

The adventure is just beginning... JL

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