

## SAVING YOU TIME, SAVING YOU MONEY, PUTTING THE PATIENT FIRST The Ambulatory Wound Care Phenomenon

The ambulatory wound care concept is an accepted and growing phenomenon worldwide. As the aging population grows so the number of patients with chronic diseases increases. Each and every chronic disease is associated with a wound manifestation of one type or another. Thus diabetic patients present with diabetic foot ulcers; those with chronic venous insufficiency present with venous leg ulcers; hypertensive patients present with arterial ulcers; elderly patients on corticosteroid drugs, blood thinners and other immunosuppressive drugs are prone to injuries, abrasions and differing wounds; and the list goes on...

The level of sophistication of treatment has increased in tandem with the level of understanding of the background pathophysiologic events surrounding the genesis of these wounds. Thus too, the success of ambulatory wound care has increased exponentially.

The advantages in terms of cost are enormous to the patient and the insurer; the lessening impact on lifestyle of the patient on ambulatory treatment who continues to work and contribute to society is incalculable; the decreased exposure to hospital acquired infections inevitable in long-stay hospital patients is also a significant factor in successful wound management outcome. This is of special importance in the patient treated for post-operative sepsis who is separated from the potential source of further infection.

For these reasons and numerous others patients and insurers worldwide are turning to ambulatory wound care as a new efficient service for healing complex wounds. South African insurers are lagging behind somewhat in recognition of this service as an essential health care segment, but the trend is starting to change with some medical aids giving consideration to the service as part of a proscribed minimum benefit working in tandem with the treatment of chronic disease.

This paper introduces a few typical cases of ambulatory wound care. They have been selected, not on the basis of any dramatic unusual response to sophisticated treatment, but rather as examples of typical cases that are treated in these facilities on a daily basis. We have included 2 cases demonstrating complete healing and comparative costs incurred and 2 more cases demonstrating comparative costs (ambulatory vs hospital) ongoing treatment costs of wounds in the process of healing.

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### Case Report 1 (complete healing costs)

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A 50 year old man had a below knee amputation as a result of osteomyelitis which he had had for the preceding 20 years following a car accident. He was referred to Advanced Wound Care Services 1 month following amputation surgery to 'resolve the stump infection'. Doctors planned to shorten the bone and use new skin flaps to cover the site 2 weeks later. Prior to the amputation the patient was a healthy active self employed man.

Initial examination and assessment: Stump covered with necrotic flap (Fig 1).

Treatment: Patient was experiencing excruciating phantom limb pains and as a result was suffering from insomnia. His doctor was consulted, Lyrica (pregabalin, Pfizer) was prescribed. Pain was controlled and insomnia resolved within the first week of treatment.

Wound care was commenced with the primary dressing being an antibacterial, desloughing agent with film as the secondary dressing.



Fig 1: Day 3 following referral to AWCS – separation of necrotic flap

The wound responded immediately and by the third dressing necrotic tissue had been removed revealing a large haematoma. The secondary dressing was then changed to absorbent foam. Dressings

continued for two weeks being changed every 48 – 72 hours (Fig 2). After a further 2 weeks dressings were changed to an alginate covered with a foam absorbent dressing for moisture control with dressing changes every 4-5 days (Fig 3).



Fig 2: 2 weeks following referral showing good granulation tissue Fig 3: 3 weeks following referral – good granulation, shrinking wound

A silver impregnated dressing followed from weeks 4-6 with dressing changes every three days to facilitate granulation (Figs 4,5).



Fig 4: 4 weeks after referral – further shrinkage Fig 5: 6 weeks after referral – wound almost closed

At 8 weeks the wound was fully closed and coning of the stump was initiated. A prosthesis was successfully fitted on week 12 following referral to AWCS.

### Cost Comparison

#### Wound clinic (AWCS)

- Total cost at wound clinic R9944.66 over 8 weeks
- No swabs were necessary
- Doctor supervised the wound at the clinic ie no doctor's fees during the 8 weeks.
- Further surgery was avoided.

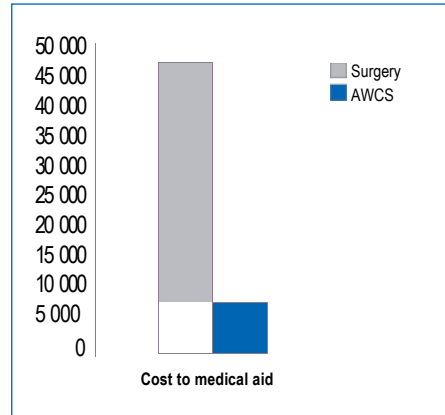
#### Hospital

- Initial surgery
- Amputation originally cost the medical aid a per diem rate R21 585.00 (M8646) ie theatre time 45min, 5 days in hospital
- Additional cost ie doctors, x-rays, laboratory etc estimated R1 5000.00

#### Additional intended surgery (had the patient been treated surgically)

Additional surgeries ie debridement plus skin graft or shortening and flap closure (per diem) R34000 (theatre time 60 min, 10 days in hospital). Additional costs ie doctors, x-rays, laboratory, physio-therapist R1 5000. Wound clinic may still have been necessary if there were any complications.

### Graph: Cost Comparison



### Summary

Within 8 weeks the patient had completely healed and returned to work.

He attended the clinic 25 times.

This particular medical aid negotiated a per diem rate for the initial amputation instead of fee for service. Rand value for additional surgery was calculated on a per diem rate.

Cost saving to patient's medical aid is estimated at R39000.00

This calculation does not take into account the potential problems with prosthetic fit and functionality should the leg have needed to be shortened

### Case Report 2 (Complete Healing Costs):

Ann Levenberg R.N. (Advanced Wound Care Services, AWCS LINKSFIELD)

Mr K, a 69 year old male patient presented with presented to the AWCS wound clinic on with a septic venous leg ulcer on his left lower leg. A type 2 diabetic and hypertensive, Mr K was being treated on Glucophage and anti-hypertensives.

On presentation the ulcer measured 9,1cm x 4,9cm (fig 1). The tendon and bone were both exposed. His ulcer had been present for approximately 22 months.

He had been treated for this by various specialists with no success. He had recently consulted a general surgeon, who had advised him that his only option would be below knee amputation. A friend had advised him to attend the wound clinic.



Fig 1: Venous leg ulcer with exposed tendon and bone.

On initial assessment a wound swab was sent for microscopy, culture and sensitivity. A Doppler study was carried out to rule out any arterial insufficiency.

Oral antibiotics were prescribed, sharp debride-ment of obviously necrotic

tissue was carried out, a dressing of hydrogel combined with a silver impregnated foam was applied.

After an initial 2 weeks of this therapy, the wound was deemed to be free of infection, foam dressings were applied and compression bandaging was initiated.

Over the following 6 weeks, this regime was followed – significant shrinkage and re-epithelialisation had occurred (Fig 2) and treatment was continued with a hydrocolloid dressing and compression bandaging. This regime was continued until full healing 12 weeks following initial assessment. (Fig 3)



Fig 2: Significant shrinkage and re-epithelialisation of the



Fig 3: Full healing at 12 weeks after first clinic visit

#### Total Cost of Ambulatory Wound Treatment

Wound Treatment	R1 ,200.00 (average) Total cost 14,400.00	12 weeks
Pus Swab	R480.00 Total cost R960.00	twice
Antibiotics	R320.00 Total cost R640.00	twice
<b>Total Cost</b>	<b>R1 6,000.00</b>	

#### Estimated Cost of Surgery & Amputation

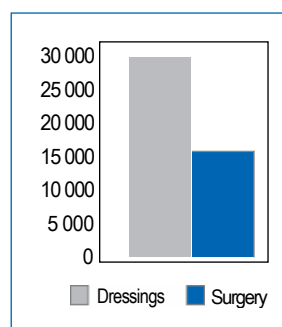
Surgical Fee	R2,477.48
Ward Fee	R8046.40
Ward Extras	R820.04
Theatre Fees	R9945.60
Theatre Drugs	R4203.00
Theatre Extras	R289.47
Dispensary Drugs	R2672.63
<b>Total cost</b>	<b>R28,454.64</b>

These costs include a 6 day hospital stay in a general ward. These costs would be comparable if the patient underwent a surgical debridement and skin grafting (if another surgeon deemed the leg to be salvageable). Costs also exclude any potential peri-operative complications.

In view of the background venous disease, it is likely that the patient would be referred for compression therapy application (wound clinic) and advice following skin graft surgery.

Additionally, had the patient undergone amputation as recommended, further costs for coning, fittings, prosthesis, rehabilitation and loss of earning would have at least doubled projected costs (The average cost for a below knee prosthesis is R30,000.00).

Either way, ambulatory therapy in a Wound care facility proved to be extremely cost effective to patient and insurer.



#### Conclusion

Case reports involving ambulatory wound care are presented. These are not exceptional case but typical cases, chosen as these patients are now routinely managed by ambulatory facilities. Although the treatment can be protracted in some cases, the patients' lifestyle is minimally affected, there is immense cost saving in almost every case and the patient is not subjected to added surgical risks and morbidity from donor sites, potential infections etc. While attending these clinics, the patient are also educated in the art of compression, foot care, leg elevation where appropriate and dealing with the background disease appropriate to the presenting wound. Thus prevention of further wound occurrences is more likely.

It is important to note that we are not decrying the use of surgery where necessary – we still send many patients to specialists for surgical interventions and work closely with surgeons on the patients management. We are pointing out however, that in many cases previously thought to be impossible to treat on an out-patient basis, we have achieved success at a major cost saving and great convenience to the patient.

