

sic musculature of the foot. In cases of severe wasting, pedal deformity will result that promotes wound formation. Joint disease will also directly cause pressure that can lead to a wound if severe or even moderate deformity is present, or indirectly cause pressure leading to wound formation if the joint disease affects gait function. It goes without saying that previous surgery should be noted in regard to its effect on gait.

The skin should *be* examined for character, temperature, texture and general appearance. The presence of skin lesions should be noted. A surgical incision through abnormal skin may be complicated by infection or may fail to heal. The vascular status should be assessed by determining the colour and temperature of the feet and the presence of pulses.

General examination (Performed by a doctor) 'Fite rest of the physical exam should cover the major regions of the body. Cardiac examination should take into account signs of congestive failure, such as peripheral oedema, pallor, or cyanosis. Scars of previous surgery may be significant. One would want to make sure that the incision healed properly, and that the treating team is aware of the extent to which the lower extremity venous system was sacrificed for cardiac vessel grafting. A history of arrhythmias should be noted in case surgical intervention is necessary.

The examination of the lungs should take into account the ability of the respiratory system to supply enough oxygen to the blood, so that the oxygen can be taken to the site of the wound repair. Lung sounds such as rales or rhonchi should be noted. In addition, a good pulmonary examiner should take a step back, and see the shape of the chest, whether or not accessory muscles are being recruited to expand the chest size during breathing, and whether or not there is peripheral cyanosis. As always the extremity surgeon should acquaint him or herself with appropriate consultant specialists that are familiar with the protocol and practices of the wound healing regimen to assist in discovering the aetiology of each wound scenario. In this fashion, the team approach will always benefit the patient'.

Wound examination

Evaluating wound characteristics is an extremely important aspect of wound care, however it is a process where subjective observations can lead to inconsistencies between evaluators. It then becomes difficult to determine true improvements or regressions within the wound. To lend this process more objectivity and consistency, a standard wound care assessment tool can be used at each patient's visit. The highlights of this

method will be reviewed. Upon the initial visit, wound duration in months and exact wound location, including a diagram, may be documented on a wound data summary sheet. The wound should then be graded according to a six grade scale that incorporates thickness of ulcer, involvement of bone, ligament, and/or joint, and the extent of infection.'

Each wound should be measured at every visit for length, width, depth, and undermining, if present, in millimetres. These measurements, compared to those of the previous visit, yield some information regarding healing. However, it is important to remember that a decrease in size alone may not necessarily be a reliable indicator of healing. Other wound characteristics must be assessed. These include presence of fibrin, wound discharge, periwound skin, and any exposed bone or tendon. Additional factors which should be evaluated include presence of necrotic tissue, and periwound erythema and oedema'.

Wound maturity and healing may be measured by the percentage of epithelial tissue coverage. A functional assessment scale defines the varying degrees of wound maturity. For example, a wound with a functional assessment score of 1 is defined as less than 100% epithelialized, has wound drainage, and requires a dressing. A functional assessment level of 4 reflects a fully cornified, mature skin and is considered a healed and functional wound'.

Clinical evidence of infection should be noted. Signs include erythema, non-pitting oedema, heat and tenderness in the surrounding skin and a purulent or malodorous discharge from the wound.

Photographic documentation may be obtained at each visit in the form of colour slides. This visual account of wound status is extremely helpful when used in conjunction with written documentation.

INVESTIGATION

Non-invasive vascular testing

Before any type of surgical intervention is planned, a number of tests should be performed. The initial phase of testing is non-invasive testing of the vascular status of the extremity. Transcutaneous oxygen testing (tcO₂) can be performed, however this is not freely available in South Africa. The Institute for Aviation Medicine in Pretoria provides this service. Diabetics and all patients without palpable pedal pulses should ideally receive this test, which can assess relative oxygen tension in the skin under an electrode as compared with a control. These tests are performed with the patient supine as well as with the extremity elevated'-'0.

The arterial Doppler is a non-invasive test that is used extensively in the evaluation of the