Disclaimer:
Treatment of skin diseases, common in developing countries, is often based on the use of simple management schemes which are easy to apply and cheap.

The protocols here were devised to provide examples of recognition and treatment schedules which meet these criteria. It is important to recognise that these are seldom supported by a strong evidence base as many of the treatments were devised and assessed many years ago. However we hope that they provide useful examples of treatment protocols that can be applied in different countries using medications that are commonly available. They are broadly based on the evidence presented in the Disease Control Priorities project (www.dcp2.org).

Management of Tropical Ulcer

What is a tropical ulcer?
1. The exact cause is thought to be a combined infection by Fusobacterium ulcerans (an anaerobic bacterium) and a spiral bacterium - plus other bacteria
2. Small skin wounds allow penetration of the organisms which may be present in mud or stagnant water and which are thought to release toxins that cause a necrotic reaction in dermal tissue and lead to skin break down

Which population is at risk?
1. It is commoner in children and teenagers
2. In adults it appears that they occur more frequently in women than in men
3. Malnutrition and poor health do not seem to be risk factors in the initial development of a tropical ulcer. However nutritional and health status may have an impact on the progression of the condition.
4. Those who receive small traumatic wounds to lower limbs and are in contact with mud or contaminated water.

What are the clinical symptoms?
1. A small discoloured patch, usually on the lower leg, develops rapidly over 5-6 days into a pustule of more than 1cm.
2. When this ruptures foul smelling blood-stained pus exudes
3. Considerable tissue damage is apparent at this stage as full thickness epidermal tissue has been destroyed to reveal an ulcer.
4. The ulcer is regular round/oval in shape, with a sloughy wound bed and a clearly defined edge. The edge will not be significantly undermined.
5. Ulcers are most frequently seen on lower legs but may occasionally be seen on thighs and arms
6. Oedema exists around the ulcer along with hyperpigmentation which can last a significant amount of time after the ulcer has healed.
7. Generally there is some growth over the first 2-3 weeks (the acute phase) and the maximum size is reached at 6 weeks.
8. Initially, in the acute phase, the wound will be painful. If the wound does not heal and moves into a chronic phase it stops being painful.
9. If the wound is treated promptly in the acute phase it may heal and not progress to the chronic ulcerative phase. On some occasions the wounds will heal spontaneously without treatment however this may take months or years and leaves a heavy fibrotic scar.
How is diagnosis confirmed?

• Skin swab for bacteriology but this requires sophisticated technology. The rapid onset of the lesion, its shape and regularity are all typical

What might it be confused with?

• Any type of ulcerative condition seen in the Tropics e.g Buruli ulcer.

What preventive measures should be taken?

1. It is thought that most tropical ulcers start with a small traumatic lesion eg an insect bite or a puncture wound. Wearing shoes and taking care of lower limbs is key to preventing tropical ulcers;
2. Cleaning small wounds and dressing them may prevent deterioration to an ulcer
3. Clean mud off the legs

Which treatments are most effective?

1. A weeks course of oral antibiotics might be helpful eg penicillin V or erythromycin
2. Effective wound care including cleansing with clean water, treatment with a topical anti-bacterial eg Gentian Violet paint and regular wound dressing changes.
3. Pain killers might be needed especially in the acute stages and at dressing changes
4. Grafting (pinch) may be necessary in some cases

How should the treatments be used?

1. Wounds should be cleaned daily with water clean enough for drinking (boiled for 15 minutes and allowed to cool)
2. They should be dressed with a clean non-adherent dressing which is changed daily unless the lesions is exuding a lot, in which case it should be changed more frequently

What are the common concurrent problems?

1. Secondary bacterial infection
2. Pain in the acute stage

What are the uncommon concurrent problems?

1. Ulcers becoming so deep that they penetrate deep fascia and damage tendons and bones
2. Secondary infections leading to gangrene and possible loss of digits
3. Squamous cell carcinoma may develop in the chronic wound

What are the commonly held misconceptions about the disease?

• That they are caused by malnutrition.