Clinical Guideline

HANDS AND FEET

SETTING	Primary and Secondary Healthcare Institutions in the Western Cape which refer to Red Cross War Memorial Children's Hospital (RCWMCH)
FOR STAFF	Primary and Secondary Doctors and Nurses who refer patients to RCWMCH
PATIENTS	Patients under the age of 13 years old with congenital or acquired conditions of the hands and feet

Introduction

Infections, injuries and congenital anomalies of the hands and feet can be a concerning presentation in children due to the significant impact poor healing can have on future function.

Many minor injuries and lesions are appropriately managed at primary and secondary level. It is the role of the primary/secondary care clinician or nurse to identify which patients with these injuries require specialist care and refer them to the appropriate speciality for further input at the correct time.

Congenital conditions

Hands:

The most common congenital anomaly of the hand is **polydactyly.** It is often seen as a small appendage of tissue on the lateral side of the 5th finger. Historically it was common for doctors and nurses to tie these extra digits off in labour ward if there was no bony connection between the extra digit and the main finger. This caused ischaemia of the extra digit which would then autoamputate by necrosis.

It has been found that this practise leads to a painful neuroma at the point where the digit was tied off and this practise is now strongly discouraged. Please refer these patients to the hands clinic for excision of the polydactyly to prevent painful neuromas on the lateral aspect of the hand.

The other common congenital hand conditions include **syndactyly, symbrachydactyly and ectrodactyly (cleft hand**). All congenital conditions of the hands should be seen in a hands clinic which is run by a group of plastic and orthopaedic surgeons with special expertise in reconstructive hands surgery. At RCWMCH lesions should be referred non-urgently to the congenital hands clinic outpatient department for assessment and further management. This clinic occurs on Wednesday afternoons.

Feet:

Congenital conditions of the toes are often also seen by the team in hands clinic, as there is significant overlap between the techniques used for reconstructive surgery of the toes and fingers. That being said, many patients with minor anomalies of the toes will not benefit from surgery as the functional implications are less significant than those in hands and fingers.

Anomalies of the rest of the foot - foot, heal and ankle - should have an orthopaedic review. At RCWMCH there is an elective orthopaedic clinic in the outpatients department on Monday mornings.

Club foot is the most common congenital deformity of the foot and ankle. It is characterised by inward and downward twisting of the foot at the level of the ankle. Patients with club foot should be referred to the orthopaedic clinic to facilitate assessment and management which may include casts or surgery depending on the severity. Because this is a common lesion it has its own clinic on a Friday morning at RCWMCH.

Injuries

Minor injuries to the hands and feet can be managed with simple principles at the primary and secondary care level. In cases with significant injuries, further assessment may be needed.

The following would warrant further assessment and consideration for transfer to further assessment and management:

- Tissue loss
- Neurovascular injuries
- Tendon injury
- Imbedded foreign bodies
- Infected wounds

All significant penetrating injuries to the hand or arm, below the level of the elbow, are at risk of causing injury to the tendons that control the fine motor movements of the hands and fingers. These injuries should be assessed and if there is any concern regarding possible injury to a tendon then urgent referral to the general orthopaedic surgeon on call for trauma at RXH is appropriate.

Most injuries to the lower leg and foot will be managed at primary level. More severe injuries will need review by general surgery or orthopaedics depending on the presence of an associated fracture.

Infections

Infections of the hand and foot can easily be underestimated. Sepsis in these compartments tends to spread along the tendon sheaths and can lead to long term functional loss if not managed appropriately.

Infections with collections below the level of the elbow should be discussed and urgently referred to the on-call orthopaedic surgeon covering hands at RCWMCH.

Infections of the foot and lower leg should be assessed for osteomyelitis by way of a x-ray and then should be referred to general surgery for assessment and further management. In cases with osteomyelitis, referral to the orthopaedic team is appropriate.

Infected ingrown toenails are not common in the paediatric population. Assessment by general surgery is appropriate if initial management has failed. Usual management is a trial of antibiotic therapy, reserving surgical intervention for those cases with recurrence or poor response to therapy.