Aims of Presentation

- Therapists’ Role
- Techniques Used
- Different types of scarring
- Identifying those at risk of problem scarring
- Treatment for scars
Barbara Russell Children’s Unit Therapy Team

- Occupational Therapists
  - Alison Guy
  - Chriscelle Calladine

- Physiotherapists
  - Amanda Dufley
  - Beth Kershaw-Naylor
Therapists Role

- Maintain correct joint/postural positioning and protect wound as it heals
- Promote early mobility and play
- Prevent deformity from contracture
- Increase exercise tolerance
- Educate regarding skin care and desensitisation
- Liaise and educate community therapists in preparation for discharge and post discharge
- Assess for equipment needs
- Scar Management
Active Exercise Through Play Therapy

• Maintain/ improve function
• Encourage normal development
• Increase/maintain ROM
• Increase exercise tolerance
• Increase strength
ROM Exercises and Stretches

Movement of joints through range either actively or passively
Splints

- to position correctly
- to prevent contracture, deformity and loss of function

- Thermoplastic (mouldable at 60°) – keep away from heat
- Washed with soap in luke warm water
- Should not have any damage, or straps missing
- Should be comfortable and not cause swelling or pain.
Splints

- Hands, (POSI)
- Elbow, (extension)
- Knee, (extension)
- Ankles, (90 degrees dorsiflexion)
- Axilla, aeroplane splint, (90 degrees)
- Neck
Scar Management

Aims

- To control and treat problematic scarring
- To improve cosmetic outcome
- To prevent contractures and improve function
- To reduce pain and discomfort
How is a scar different to normal skin?

Scar: The fibrous tissue that replaces normal tissue destroyed by injury or disease.

- Quality and texture different
  - Collagen type and formation
  - Tendency to contract
- There are no hair follicles or sweat glands
- More susceptible to ultra violet radiation
Types of scarring

Flat Pale Scar -
normally slightly paler than the
surrounding skin, flat and soft

Atrophic –
sunken or
pitted scar
e.g. acne or
chickenpox
Problem Scarring

- **Hypertrophic Scar**
  A widened or red, raised scar
  Often itchy or painful
**Problem Scarring**

- **Keloid Scar**
  - An abnormal scar that grows beyond the boundaries of the original site of injury
    - Excessive Collagen
    - Scar much larger than original site of injury
    - Less responsive to treatment
Problem Scarring

- **Contracture Scar**

Problem scars can lead to contracture - where the scar causes tightening of the skin which in turn may effect movement.
Wound healing is different to scar maturation

- Problem scarring may not be seen until 2-4 months after wound healing has occurred.
- A problem scar can take up to 2 years to mature.
Who is at risk of problem scarring?

- Grafted burns 70% more likely
- Burn Injury taking longer than 3 weeks to heal
  - Infection
  - Depth of burn
- Site on body
- Skin Type
- History of scarring
Cream and Massage

Increased scar pliability and decreased scar banding have been reported - Roques (2002)

Reported benefits –
- Improved skin quality
- Decreased sensitivity
- Increased cutaneous hydration
- Improved scar quality

Various techniques - none validated
Silicone

- Cream, sheet, spray or elastomer
- Reasonable evidence exists of its efficacy but mechanism not well understood
- Graduates the oxygen and moisture flow of the skin (Niessen et al, 1998; Gilman, 2003)

Silicone Sheeting

- Can be washed in mild soap and warm water
- Should last up to 6 weeks

Silicone Gel

- Normally applied 2x daily
- Area should be washed before reapplication
- Check for rash
Pressure Therapy

The use of pressure garments to treat burns scars

- Used since 1860 in the form of elastic bandages
- Little scientific (but lots of experiential) evidence to support use
- Pressure controls collagen synthesis and encourages realignment of collagen bundles Aityeh (2007)

A pressure garment is a made to measure specially designed article of clothing that is worn over burn scars.

They are normally made from a fabric called PowerNet, a Lycra fabric which should fit like a second skin.
Pressure Therapy

Average pressure applied = 25mmHg

In order for the garment to work they must be:

- Applied as soon as possible after healing has occurred
- Worn 24 hours a day, removed only for creaming and bathing
- Washed regularly following the manufacturers guidelines to maintain elasticity
- Fitted accurately and reviewed regularly
Other scar management techniques

- Surgery
- Corticosteroid Injections
- Radiotherapy
- Laser Therapy
- Cryotherapy
- Micro pore tape
- Dermobrasion
- Camouflage

Anecdotal therapies

- Topical Vitamin E
- Hydrotherapy
- Ultrasound
- Pulsed electrical stimulation

Thomas A. Mustoe et al 2002
Assessment

- Commence assessment and appropriate treatment as soon as the wound has healed
- Assessment is carried out using a number of techniques and standardised scar scales
Considerations when selecting treatment

- Severity of scar
- Location and size of scar
- Length of time to heal
- Number of risk factors, e.g. previous problematic scarring
- PMH
- Allergies
- Age

- Lifestyle of patient
- Functional and cognitive ability of patient and available support network
- Patient preference
- Ability to attend appointments
- Cost
Management

- Follow-up for pressure therapy generally: Children every 2 months, Adults every 3 months
- Follow-up for patients using silicone only is judged on an individual basis
- Follow-up for 2 years or until scarring matures
- Aim for scarring to be soft, flat, pale, pain free and itch free and the individual to have returned to as close to their normal level as function as possible
Other considerations

- Pain Management
- Itch and hypersensitivity
- Psychological health
- Functional Ability
- Return to work/school/leisure
- Cosmetic techniques
References