Rehabilitation of Paediatric Palm Burns

Jaimee Shepherd (Physiotherapist), Rhianydd Thomas (Physiotherapist), Claire Toose (Physiotherapist), Cheri Templeton (Physiotherapist), Rebekah Shirt (Physiotherapist). The Children’s Hospital, Westmead, NSW, Sydney, Australia

Introduction
Palm burns are very common in the paediatric population.

In 2007 317 palm burns presented to the Burns unit at The Children’s Hospital Westmead (CHW) for treatment. Of these 59 either required skin grafting or took over 14 days to heal and hence required scar management.

Standard physiotherapy management of palm burns at CHW involves pressure, softening, exercises and splinting.

It has been hypothesised that end of range splinting for large durations of the day and long time periods results in loss of hand function.

Our clinical experience appears to be in contrast to this.

Aim
To analyse the range of movement (ROM) and hand function in children post physiotherapy treatment for palm burns, that includes long term end of range splinting.

Method
Patients presenting to the burns unit at CHW with palm burns were identified between January 2007 and July 2007. Any burn that healed in under 14 days with conservative management was excluded. Their treatment and outcomes were reviewed at 3, 6 and 12 months post burn injury. Extension ROM of the palm and digits was assessed, as well as hand function. Between January 2007 – July 2007 we identified 25 patients with a palm burn that took longer than 14 days to heal and/or required grafting. Of these 25 patients, 12 were grafted.

Results
We assessed palm and IP joint extension ROM at 3, 6 and 12 months post burn injury.

3 months – 23/25 patients had full ROM
1/25 had restricted ROM
1/25 was lost to follow up

6 months – 22/25 patients had full ROM
1/25 had restricted ROM
1/25 was lost to follow up

12 months – 20/25 had full ROM
2/25 had restricted ROM
1/25 was lost to follow up

One patient had restricted ROM at 3 months.

Poor compliance with any treatment and a failure to wear the given splint resulted in a contracture of the palm that required release surgery 18 months post initial injury.

Another patient had full ROM at 3 months but failure to comply with the splinting regime resulted in a contracture of the palm and digits at 6 months.

Serial casting was commenced for 6 weeks until full ROM was achieved then a splinting was recommenced.

We conducted a review of hand function at 3, 6 and 12 months post burn injury.

Children were also observed playing, feeding and dressing self by the physiotherapist.

No loss of hand function was reported or observed.

Discussion
One of our most powerful tools in scar management is the ability to splint palm burns into end of range extension for long time periods. Our clinical experience suggests that this is an effective way of maintaining full ROM without any reported loss of hand function.