

# Preventing Heel Ulcers Due to Immobility in Patients' Post Hemiarthroplasty Surgery Care

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## Current Conditions

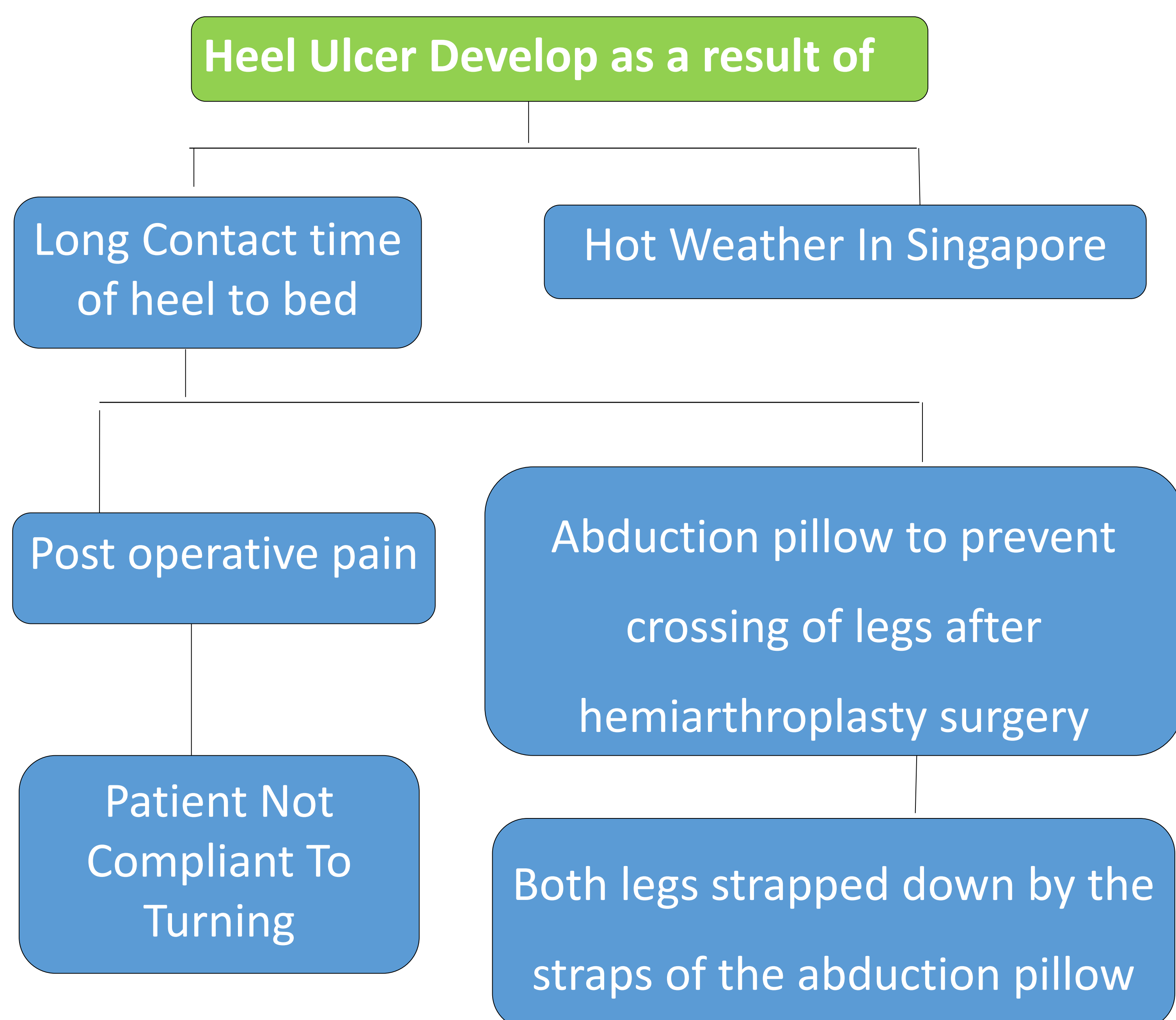
After hemiarthroplasty surgery, patients will be nursed on abduction pillows in the ward. Abduction pillows are applied to prevent patients from crossing their legs, as crossing of legs can result in dislocation of the hip implant. In the ward, approximately 4 to 5 patients need the abduction pillow per week. Out of this number, approximately 10% to 15% of patients develop heel redness, and some ended up with heel ulcers. This is due to prolonged immobility as their legs were being strapped down; especially those who have frail skin and nursed in non air conditioned room.



Figure 1 Front View    Figure 2 Side View    Figure 3 Top View    Figure 4 Old Application

Figure 1- 4 : The Old Abduction Pillow Used In The Ward

## Analysis:



## Goals / Targets

To reduce the incidences of orthopaedic patients with hemiarthroplasty surgeries from developing heel ulcer to 0% within 6 months.

## Countermeasures Done

As the operated limb cannot be elevated too high, extra foam in gradual elevation was added to our old abduction pillow. This is designed such that even when heels are nursed free for patients using the abduction pillow, it is at an appropriate height that will not cause the implant to be dislodged (figure 5-8).

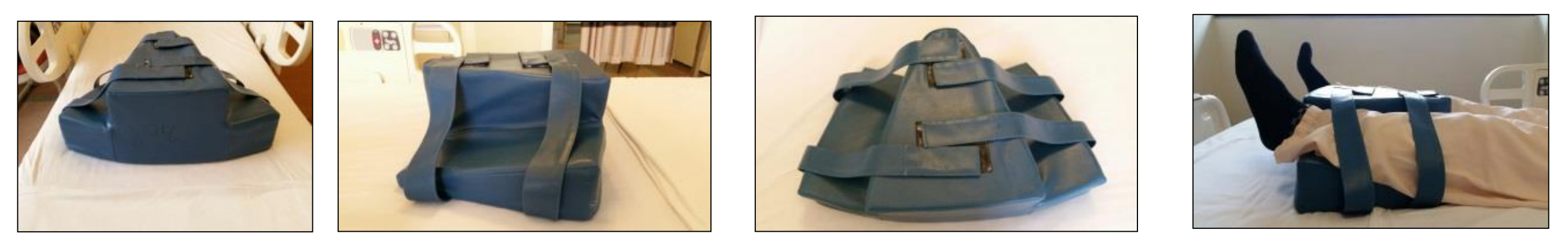


Figure 5 Front View    Figure 6 Side View    Figure 7 Top View    Figure 8 'Heels Free Application'

## Implementation Plan

S/No	Implementation Plan	Responsible	Date
1	Data collection on post hemiarthroplasty patients developing heel ulcers	SSN Toh JY	1 Oct 2014
2	Redesign abduction pillow	SNM Chiew SF and SSN Toh JY	10 Oct 2014
3	Implement the design and introduce to the ward	SNM Chiew SF and SSN Toh JY	2 Nov 2014

## Results / Follow up

After implementation of this new abduction pillow, feedbacks from nurses were positive in that:

- Those with existing heel redness were resolved;
- No more new cases of heel redness seen.

We achieved our target of 0%, as such, there will not be anymore improvements on the abduction pillow after this. We have rolled out this new implementation to other orthopaedic wards for patients with total hip revision done, and feedback received has also been positive.

For approximate 16 patients over 1 month	Old Abduction Pillow	New Abduction Pillow
Cost Savings	\$30 per piece of prophylactic dressing X 16 patients = \$480	\$0
Time Savings	144mins per day for 4 patients X 28 days = 4032mins (approx. 67 hours)	0 minutes needed