A collaborative project to improve pain outcomes in vascular patients

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Aim

- To achieve better analgesic control during bedside wound debridement in patients with diabetic foot ulcers
- To reduce the need for wound debridement to be performed in the operating theatre under general anaesthesia due to poorly controlled pain, as better analgesic control allows for possibility of bedside wound debridement instead. This allows for greater cost and time savings as well as better allocation of OT time

Background

Diabetes Mellitus is a growing health concern with significant impact on financial cost, morbidity and mortality. Diabetic patients undergoing amputations had 6.8% times higher hospital costs as well as complications such as recurrent foot infections needing multiple surgical debridements. Poor pain control during bedside debridements may result in ineffective debridement.

Perineural catheters in major limb amputations have shown to reduce postoperative pain scores and opioid requirements. Hence, a multidisciplinary team was set up to better manage these group of diabetic foot patients.

Team Members

Name	Designation	Department
Felicia Tan Su-Yen	Consultant	Anaesthesia
Bin Wern Hsien	Senior Consultant	Anaesthesia
Leong Chuo Ren	Senior Consultant	General Surgery
Dexter Chan Yak Seng	Consultant	General Surgery
Claudia Quek Sock Ling	Nurse Clinician	APN and Specialty Nurse
Lee Xin Yi	Nurse Clinician	APN and Specialty Nurse
Cing Suan Lian	Senior Staff Nurse	APN and Specialty Nurse
Nadiah Raman	Senior Podiatrist	Podiatry Department

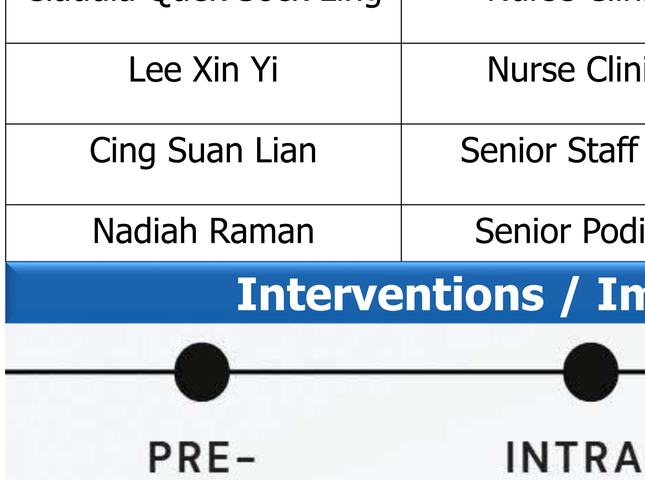
Interventions / Implementation

PRE-PROCEDURE
Identification of suitable patients

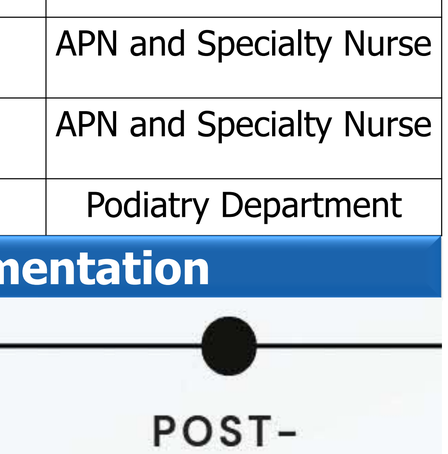
INTRA-PROCEDURE
Insertion of peripheral nerve catheters (femoral/sciatic catheters)

POST-PROCEDURE
Pain scores, ability to sleep, catheter related complications, efficacy of the block and use of opioids were documented

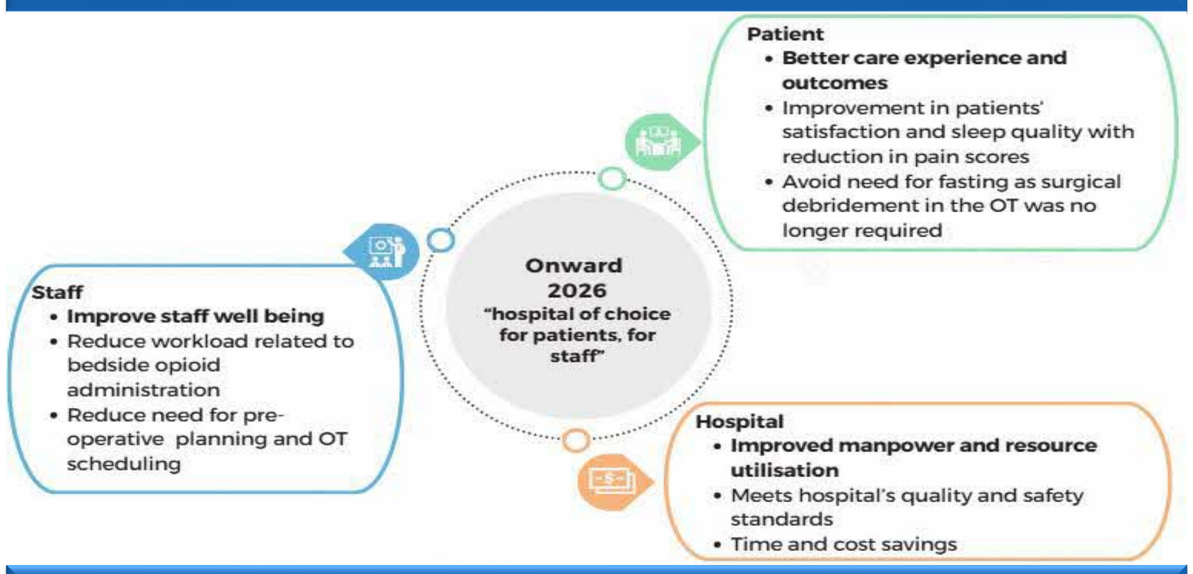
Work Flow (Pre-Implementation)



Work Flow (Post-Implementation)



Onward 2026



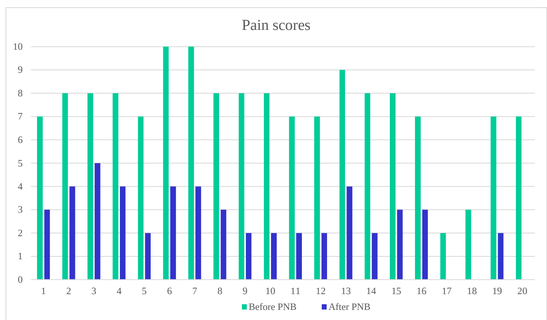
Results & Outcomes

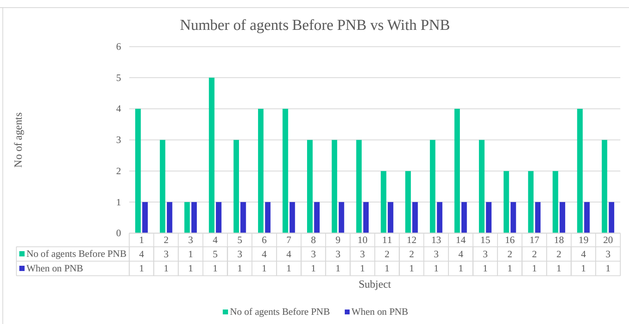
Clinical outcomes and patient satisfaction

100%
REDUCTION IN PAIN SCORES WITH IMPROVEMENT OF SLEEP

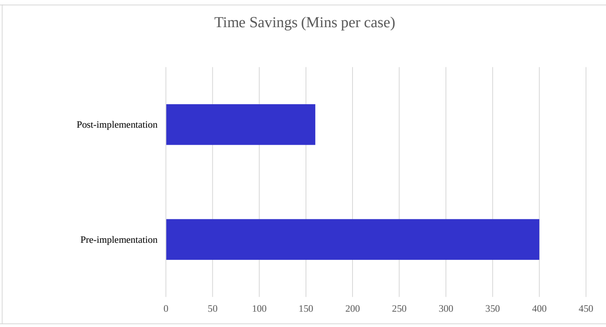
100%
REDUCTION IN OPIOID REQUIREMENTS WITH A DROP IN THE NUMBER OF ANALGESIC AGENTS FROM MAXIMUM OF 4 AGENTS (PRIOR TO PERINEURAL CATHETER INSERTION) TO 1 AGENT

16 OUT OF 20
Did not require analgesia during bedside wound debridement





Cost and time savings



Quality and patient safety

NO Complications
There was no reported incidence of local anesthetic systemic toxicity, bleeding as well as infection.

Conclusion

The aim of our project is in line with KTPH & YCH's onward 2026 goal of becoming a "**hospital of choice for patients, for staff"**. This collaborative project between the vascular, anaesthesia and podiatry departments show that perineural catheters result in better analgesic control, allowing for bedside wound debridements (with associated time/cost savings as well as manpower utilisation).