



Development of the RBWH Neurovascular Observation Chart

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Purpose

To develop a more sensitive chart for neurovascular observations of lower limbs to support monitoring and escalation of care for patients with neurovascular conditions.

Methods

An interdisciplinary team: vascular, surgical, and orthopaedic clinicians, and Human Factors expert. Multiple iterations before trialling in surgical services inpatient ward.

Results

An audit of 19 charts trialled revealed:

- 100% compliance with plotting for skin colour and temperature, movement and sensation, capillary refill, and pulses.
- In 68% of charts, lower limb pain was plotted.
- In 77% of charts, observation frequency was appropriately escalated.
- Poor compliance for modifications, particularly from medical staff treating vascular patients with chronic venous pathologies (e.g, pulseless limb).

Conclusions

- ✓ Good usability ratings.
- ✓ Trending line helps early detection of deterioration.
- ✓ Satisfied the patient safety risk in monitoring and appropriate escalation of care.

TRIAL

DO NOT WRITE IN THIS BINDING MARGIN

W012-000201 - TRIAL
V010-000001

Nerve Block: Yes No If Yes, Date: / / Time (24hr): : : Type of block:

Lower Limb to be assessed: Date: 1/8/21 15:00
 LEFT RIGHT

Lower Limb Pain
 (Score at rest and movement)
 • Rest
 • Movement
 Escalate on the highest pain score

| | | | |
|----------|----|---|----------|
| Severe | 10 | 9 | Severe |
| 8 | 8 | 8 | |
| 7 | 7 | 7 | |
| 6 | 6 | 6 | |
| Moderate | 5 | 4 | Moderate |
| 4 | 4 | 4 | |
| 3 | 3 | 3 | Mild |
| Mild | 2 | 2 | Mild |
| 1 | 1 | 1 | Nil |
| None | 0 | 0 | Nil |

Skin Colour
 Mottled/dusky
 Pale
 Natural
 Hot
 Cold

Skin Temperature
 Warm/Cool
 Warm/Cool

Movement
 Peroneal: Absent, Impaired, Fullnormal
 Tibial: Absent, Impaired, Fullnormal

Sensation
 Peroneal: Absent, Numb, Pins and needles, Normal
 Tibial: Absent, Numb, Pins and needles, Normal

Capillary Refill
 24 seconds, 22 seconds, 22 seconds

Pulses
 Posterior tibial (PT): Absent, Present
 Dorsalis pedis (DP): Absent, Present
 Popliteal: Absent, Present
 Femoral: Absent, Present

If applicable
 Site Circumference (cm): Thigh, Calf, Ankle
 Medical review if \geq cm: Calf, Ankle

Modifications (M)

Notification Performed (refer to page 3)
 Interventions/Comments (refer to page 3)
 Initials: [Signature]

Assessment
 • Escalate for any of the following, or escalate to medical review or Emergency Call if criteria isn't met but you are concerned about the patient's condition.

| Lower Limb Pain | Skin Colour | Skin Temperature | Movement | Sensation | Capillary Refill | Pulses | Site Circumference | Observations | Notify | Escalate |
|------------------------------------|---|------------------|---|-----------------------------|------------------|--------------------|--------------------|--------------|---|---|
| Severe - unrelieved by analgesia | — | — | — | — | — | Newly absent pulse | — | 15 minutely | Team Leader, Surgical Registrar and APMS to review within 30 minutes | Registrar is to ensure SMO consultant is notified |
| Moderate - unrelieved by analgesia | Any new change to colour or mottled/dusky | Cold/hot | Unable to perform due to pain or numbness | Any new change absent | 24 seconds | — | \geq 4 cm | 1/2 hourly | Team Leader, Surgical Registrar to review within 30 minutes unless modifications in place | If no review call Consult |
| — | Pale | — | — | Numb/it or pins and needles | 3 seconds | — | \geq 3 cm | 1 hourly | Team Leader and RMO to review within 30 minutes unless modifications in place | If no review call Registrar |

Notification Legend
 Document the letter(s) in the Notification row on page 2 in appropriate time column.

| | | | |
|-----|--------------------------|------|-----------------------------------|
| N | Nil Required | SR | Surgical Registrar |
| TL | Team Leader | PHO | Principle House Officer |
| RM | Nurse Manager | APMS | Acute Pain Management Service |
| RMO | Resident Medical Officer | SMO | Senior Medical Officer/Consultant |
| Reg | Registrar | E | Emergency Call |

(Affix identification label here)
 URN: 4262489
 Family name: XXXXX
 Given name(s): XXX
 Address: XXX
 Date of birth: 21/7/64
 Sex: M F O

Interventions/Comments (relating to observations from page 2-3)
 If a comment or intervention is recorded below, note the letter in the Interventions/Comments row on page 2-3 in the appropriate time column.

A continue by OBS.
 B
 C
 D
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 J
 K
 L
 M
 N
 O

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