

# Streamlining Stump Management in Amputee Care

What is Stupid? Why is it Stupid?	What was Implemented?
<ul style="list-style-type: none"> <li>Rigid Removable Dressing (RRD) technique had limited applicability but required extensive training</li> <li>Custom knee extension splints were time-consuming to create and often uncomfortable for patients</li> <li>Desensitisation therapy lacked structure and consistent follow-up</li> </ul>	<p><b>Existing interventions were improved by introducing more accessible stump care techniques, user-friendly equipment, and structured therapy protocols, thereby eliminating the lack of consistency in pain management techniques.</b></p> <div> <div> <p><b>Before</b></p> <ul style="list-style-type: none"> <li>RRD used for stump shaping and edema control, but only for a small subset of patients</li> <li>Custom thermoplastic knee extension splints created for each patient</li> <li>Unstructured approach to desensitisation therapy with poor patient compliance</li> </ul> </div> <div> <p><b>Now</b></p> <ul style="list-style-type: none"> <li>Collaboration with external experts (P&amp;O team at Tan Tock Seng Foot Care &amp; Limb Design Centre.)</li> <li>Introduced more accessible interventions like stump bandaging and tubigrip application</li> <li>Switched to user-friendly knee gaiters instead of custom splints</li> <li>Implemented a structured, protocolised approach to desensitisation therapy</li> </ul> </div> </div> <p><b>Impact</b></p> <p>From 1 Jan 22 - 31 Aug 25: At least 228 patients with below knee amputation / above knee amputation benefitted from the new workflow</p> <div> <div> <p><b>RRD vs Stump Bandaging</b></p> <ul style="list-style-type: none"> <li>Previously it took ~1 year to train 2 staff in RRD</li> <li>Stump bandaging allowed us to train 3 times the number of staff in 1 year</li> <li>Training budget saved by ~90% for each staff</li> </ul> </div> <div> <p><b>Knee extension splint vs Knee Gaiter</b></p> <ul style="list-style-type: none"> <li>31.5% of BKA patients (45 out of 143) was prescribed a knee gaiter</li> <li>83.5% reduction in total staff time per patient (from 2 staff-hours to 0.33 staff-hours)</li> <li>50% reduction in staff required (from 2 staff to 1 staff)</li> <li>67% reduction in application time (from 60mins to 20mins)</li> </ul> </div> </div> <div> <div> <p><b>Protocolised desensitisation</b></p> <ul style="list-style-type: none"> <li>70.2% of patients (59 out of 84) were assessed to have stumps ready for prosthesis casting during initial assessment</li> <li>Of the 86.9% of patients not immediately fitted (13 out of 15), their stumps were ready for prosthesis casting but mainly limited by other medical / functional / financial considerations.</li> </ul> </div> <div> <p><b>Staff satisfaction</b></p> <ul style="list-style-type: none"> <li>Triple the number of competent staff, allowing for better distribution of workload</li> <li>Increased flexibility in scheduling due to shorter treatment times</li> <li>Reduced physical and mental fatigue due to shorter, less complex procedures</li> </ul> </div> </div>

**#839** NTFGH Rehabilitation

# Streamlining Stump Management in Amputee Care

Existing interventions were enhanced by implementing more accessible stump care methods, patient-friendly devices, and structured therapy protocols, effectively replacing labour-intensive management techniques while improving patient outcomes and rehabilitation efficiency



Pamela Lee

Chua Huey Yi Gina

**NUHS Get Rid of “Stupid” Stuff Success Story**

# Refine Urgent Care Flow: Timely Transfer of Hyperacute stroke patients to NUH

What is Stupid? Why is it Stupid?	What was Implemented?																															
<p>Hyperacute Stroke is a <b>medical emergency</b> which requires rapid intervention therefore, streamlining the process for expediting transfer to NUH is crucial. <b>Every minute leads to irreversible loss of brain tissue. At present, the treatment is centralised at NUH</b></p> <p><b>Inefficient processes causing delays:</b></p> <ol style="list-style-type: none"> <li>At least 5mins calling time to different staff for an ambulance to send patient to NUH: <ul style="list-style-type: none"> <li>Ward nurse calls ED nurse for ambulance.</li> <li>Wait for ED consultant's approval for ambulance.</li> <li>Ward nurse calls security officer for ambulance.</li> <li>Ward nurse calls porter.</li> </ul> </li> <li>During peak hours, ambulance driver waits at least 15mins for the lift with frequent stops at each level, to fetch patient from Ward to ambulance bay at Level 1.</li> </ol>	<div> <div> <h2>ACT FAST: Saving patients with Quicker Transfers to NUH</h2> <table> <thead> <tr> <th>Before</th><th></th><th>Now</th></tr> </thead> <tbody> <tr> <td>1. Hyperacute stroke team will be activated</td><td></td><td>1. Hyperacute stroke team will be activated</td></tr> <tr> <td>2. Send patient for urgent CT brain</td><td></td><td>2. Send patient for urgent CT brain</td></tr> <tr> <td>3. Patient will go back to ward after CT brain</td><td></td><td>3. Neurologist review CT brain at CT room and call NUH Stroke Team for transfer to NUH</td></tr> <tr> <td>4. Neurologist review CT brain at CT room and call NUH Stroke Team for transfer to NUH</td><td></td><td>4. Ward nurse calls security officer for ambulance.</td></tr> <tr> <td>5. Ward nurse will call ED Nurse I/C and ED nurse will ask ED consultation for ambulance approval</td><td></td><td>5. Ambulance driver fetches patient from Radiology Level 1 and transfer to NUH</td></tr> <tr> <td>6. Ward nurse calls security officer for ambulance.</td><td></td><td></td></tr> <tr> <td>7. Ward nurse call portering service for porter and order in Portering system</td><td></td><td></td></tr> <tr> <td>8. Wait for ambulance driver and porter to arrive in the ward.</td><td></td><td></td></tr> <tr> <td>9. Send patient to ambulance bay (ED) at level 1 and transfer to NUH.</td><td></td><td></td></tr> </tbody> </table> </div> <div> </div> </div>		Before		Now	1. Hyperacute stroke team will be activated		1. Hyperacute stroke team will be activated	2. Send patient for urgent CT brain		2. Send patient for urgent CT brain	3. Patient will go back to ward after CT brain		3. Neurologist review CT brain at CT room and call NUH Stroke Team for transfer to NUH	4. Neurologist review CT brain at CT room and call NUH Stroke Team for transfer to NUH		4. Ward nurse calls security officer for ambulance.	5. Ward nurse will call ED Nurse I/C and ED nurse will ask ED consultation for ambulance approval		5. Ambulance driver fetches patient from Radiology Level 1 and transfer to NUH	6. Ward nurse calls security officer for ambulance.			7. Ward nurse call portering service for porter and order in Portering system			8. Wait for ambulance driver and porter to arrive in the ward.			9. Send patient to ambulance bay (ED) at level 1 and transfer to NUH.		
Before		Now																														
1. Hyperacute stroke team will be activated		1. Hyperacute stroke team will be activated																														
2. Send patient for urgent CT brain		2. Send patient for urgent CT brain																														
3. Patient will go back to ward after CT brain		3. Neurologist review CT brain at CT room and call NUH Stroke Team for transfer to NUH																														
4. Neurologist review CT brain at CT room and call NUH Stroke Team for transfer to NUH		4. Ward nurse calls security officer for ambulance.																														
5. Ward nurse will call ED Nurse I/C and ED nurse will ask ED consultation for ambulance approval		5. Ambulance driver fetches patient from Radiology Level 1 and transfer to NUH																														
6. Ward nurse calls security officer for ambulance.																																
7. Ward nurse call portering service for porter and order in Portering system																																
8. Wait for ambulance driver and porter to arrive in the ward.																																
9. Send patient to ambulance bay (ED) at level 1 and transfer to NUH.																																
	<h3>Impacts</h3> <ul style="list-style-type: none"> <li><b>Achieved a 34% reduction (from 67mins to 44mins)</b> in transfer time to NUH to 5 patients in 2025</li> <li><b>Streamlined transfer</b> workflow led to <b>1.92 hours saved annually</b> (= 23 mins x 5 patients annually)</li> <li><b>Enhanced patient flow</b> and <b>significant operational gain in transfer time</b> to NUH</li> </ul>																															

#905 NTFGH Nursing

# Refine Urgent Care Flow: Timely Transfer of Hyperacute stroke patients to NUH

The transfer process for hyperacute stroke patients to NUH was streamlined by eliminating unnecessary steps and reducing delays, particularly getting rid of the multiple calls to different staff for ambulance approval and arrangement.

- Achieved a 34% reduction (from 67 minutes to 44 minutes) in transfer time to NUH to 5 patients in 2025
- Streamlined transfer workflow led to 1.92 hours saved annually



NC Maznah Marmin,  
SNC Toh Lay Cheng



SSN Yong Yen Ling



Dr Aftab Ahmad



Mr Meslee Eni

**NUHS Get Rid of “Stupid” Stuff Success Story**