Transport from MSJ: Urgent Life, Limb or Threatened Organ (LLTO) and Higher Level of Care (HLOC)

Site Applicability:

Mount Saint Joseph Hospital, St. Paul's Hospital

Practice Level:

RN: Advanced Skills; requires specialized education and/or training (i.e., minimum certificate in High Acuity Nursing Specialty, OR equivalent, AND BCLS and ACLS competencies, AND orientation to critical care inter-hospital transports).

Algorithms

- Appendix A: MSJ Code Blue to Life, Limb, or Threatened Organ (LLTO) Algorithm
- Appendix B: MSJ Higher Level of Care (HLOC) Transport Algorithm

Checklists

- Appendix C: LLTO & HLOC Transfer Checklist: MSJ Nurse Leader
- Appendix D: LLTO & HLOC Transfer Checklist: SPH Team

Need to Know

Mount Saint Joseph (MSJ) Hospital's highest in-patient care service level is a High Acuity Unit (HAU). Patients who are critically ill, especially those who require mechanical ventilation, and/or renal replacement therapy, are beyond the scope of the MSJ HAU. In the event a patient at MSJ requires more advanced critical care, they will be urgently transferred to the most appropriate critical care area at St. Paul's Hospital (SPH). SPH **cannot refuse or significantly postpone** urgent transfer of critically ill patients from MSJ to SPH.

This protocol/guideline outlines the procedures for two types of urgent transports: the Life, Limb or Threatened Organ (LLTO) transfer from MSJ to an appropriate critical care unit, and the Higher Level of Care (HLOC) transfer from MSJ to an appropriate critical care unit.

There are two types of patients who may require an LLTO that have additional considerations regarding the urgent transfer process:

- patients experiencing an acute stroke,
- patients experiencing an ST segment elevation myocardial infarction (STEMI)

While the general principles outlined in this guideline and the LLTO Algorithm can also be used to guide the transfer process for 'In-Patient Code STEMI' and 'In-Patient Code Stroke' patients, also refer to the relevant documents listed in the "related documents" for further information.

Also, stable MSJ PACU patients who require mechanical ventilation for a prolonged period (i.e. beyond the normal closing time of MSJ PACU), will need to be transferred to SPH PACU. While the general guidelines of the HLOC transfer protocol outline the transfer process, note that the teams responsible for transferring the patient, and the destination are different. Refer to the MSJ PACU transfer guidelines for further details. Unstable PACU patients that require an ICU admission should follow the MSJ LLTO transfer process outlined here.

All inter-hospital transports in BC are coordinated by the Patient Transfer Network (PTN). They use a "Red/Yellow/Green/Blue Patient Acuity Matrix" to classify patient transfers. "Red" transfers include LLTO transfers; "Yellow" include unscheduled, higher-level-of-care transfers; "Green" include scheduled, inter-facility transfers and "Blue" are for repatriation (Nickerson, 2014).

Equipment and Supplies

The MSJ team is to gather the following items in preparation for urgent transfer.

Documents to Gather

- ☐ Completed Critical Care Inter-Hospital Transport Orders (PHC-PH410)
- ☐ Complete Patient's Chart
- ☐ Any Medical Records or Thinned Charts

Transport Equipment/Supplies

- ☐ Critical Care Patient Transport Box/Bag
- ☐ Emergency Drugs for Transport (as per Transport Orders)
- ☐ Transport monitor/defibrillator with multifunction pads, NIBP, SpO2, transducer cables (if required) and spare batteries
- ☐ Specific emergency equipment, if required (i.e., for chest tubes, tracheostomy etc.)
- ☐ Portable ventilator if required
- ☐ IV infusion pumps if required
- ☐ Portable suction
- ☐ Taxi voucher if needed (i.e., for staff's return trip)

Patient Specific Items

- ☐ Patient's personal medications
- ☐ Patient's personal belongings (i.e., clothes, dentures, glasses, mobility aids, valuables etc.)

Note: If the Transport team is coming from SPH, then the SPH team is to bring their transport equipment including the transport monitor. The MSJ team will put the patient on the MSJ transport monitor. Then SPH team will leave their transport monitor behind at MSJ and takes the patient with the MSJ transport monitor that is already attached. This minimizes delay and transfer and ensures MSJ always have a transport monitor on site.

MSJ Urgent Transfer Guideline*]*

Clinical Indication

Patients at MSJ who require mechanical ventilation, critical care, and/or urgent renal replacement therapy, and/or urgent medical interventions not provided for on-site. Examples include: rapidly deteriorating patients, patients who require ongoing advanced critical care, patients experiencing an acute stroke, or an ST-elevation myocardial infarction (STEMI), or post-operative patients who require prolonged mechanical ventilation extending after MSJ Post Anesthetic Care Unit hours.

Initiating an Urgent Transfer

Code Blue: In the event of a code blue, the MSJ switchboard will initiate 3 types of alerts: page the MSJ Code Blue Team, announce the code blue via the MSJ overhead announcement, which will alert the MSJ Clinical Site Coordinator (MSJ CSC), and page the SPH Charge Respiratory Therapist (RT) pager with the code “00000”. The SPH Charge RT will let the SPH Charge RN know of the alert. Both the MSJ Code Blue Team and the MSJ CSC attend the patient who is experiencing a Code Blue and determines if an urgent transfer is needed. Within 15 minutes, the MSJ CSC will contact the SPH ICU Charge RN to inform them if an urgent transfer is needed. If the team at SPH has not heard from MSJ within 15 minutes, the SPH Charge RN calls the MSJ CSC to follow up.

Deteriorating Patient: If the patient is deteriorating but a code blue has not been initiated, and the HAU team determines a non-arresting patient requires an urgent transfer to SPH, the HAU Charge RN inform the MSJ CSC who will alert the SPH ICU Charge RN of a pending transfer (i.e., text or call) and continue to coordinate the transfer with PTN (see LLTO and/or HLOC Algorithms).

Determining the type of urgent transfer: LLTO or HLOC

The LLTO and HLOC Transfer Algorithms outline similar processes, but differ in the alerting process, composition of transport team, and mobilization of the team. Also, while the LLTO algorithm is initiated by a code blue and the HLOC is not, this does not mean that all patients who experience a code blue require an LLTO transfer or that all non-code-blue patients are

HLOC transfers. The decision on how to classify an urgent transfer as either LLTO or HLOC is based on the patient's condition and made in collaboration with the sending team, receiving team and PTN. If there is conflict between the sending and receiving team, the PTN physician can also be consulted (Nickerson, 2014).

PTN Call Triage: PTN recommends holding a conference call with PTN, the sending team and the receiving team to share information and to determine the type of transfer (LLTO or HLOC) needed. PTN can coordinate this conference call, and it may take several minutes for PTN to connect the receiving team. Sharing the patient information during the conference call will ensure all three parties have the same information to base triage decisions on. (See Appendix A: Urgent Transfer Checklist for information PTN will require).

Should the patient's condition significantly change after the initial type of transfer decision was made, **DO NOT HESITATE to alert PTN** so they can alter their triage decisions as needed. (i.e., escalate to an LLTO as needed.)

Determining the Critical Care Transfer Team

Determining what personnel are needed to escort the patient is based primarily on the clinical needs of the patient. If the required care is within the HAU RNs' scope of practice, an HAU RN may escort the patient. However, a critical care RN (i.e., SPH ICU RN, MSJ ED, etc.) has advanced knowledge for caring for complex, critically ill patients. A critical care RN is preferred for more complex or unstable patients such as those requiring LLTO transfer. An RT escort is needed if the patient is intubated, mechanically ventilated, or has an unstable respiratory status. A physician may also join the team for very unstable patients. Every effort to stabilize a patient (i.e., intubation, resuscitation, central line insertion, and establishing hemodynamic monitoring) and complete a comprehensive handover to the transport team prior to transfer should be made.

An RT and/or ICU RN may need to be deployed from SPH for the transport. Deployment should occur as expeditiously as possible, to ensure little or no delay in transferring a patient AND maintaining one RT on site at MSJ.

The proximity and availability of staff for the transport team is also a consideration. The risks of waiting for more highly qualified staff must be weighed against the benefits of getting the patient to the appropriate level of care quickly. If it is more expeditious to send an MSJ RN (HAU or ED) on transport, this may be in the best interest of the patient. To optimize this situation, the most knowledgeable MSJ RN should be chosen to accompany patient, the

transport team is to take the correct contact information for the MRP, and/or consider **adding** an MD to the transport team.

In extreme cases of rapidly deteriorating patients, or patients who need very urgent transfer for medical treatment (i.e. Code Stroke and Code STEMI) it is faster to deploy staff from MSJ, rather than waiting for the transport team from SPH to arrive. An RT may leave MSJ on transport in these extreme cases. To mitigate any risk for other patients at MSJ who may need RT care during the gap in RT coverage:

- The MSJ RT pager is given to the MSJ CSC;
- MSJ CSC consults with SPH Charge RT to ensure SPH RT is on route to cover RT service until the MSJ RT returns;
- MSJ CSC addresses RT pages until pager can be handed off to an RT.

Ongoing Coordination of Urgent Transfer

The MSJ CSC has a central role in ensuring ongoing and effective communication between the sending team, PTN, and the receiving team. The MSJ CSC is also responsible for determining the most appropriate transport team, coordinate with PTN and ensure the transport team is onsite prior to the arrival of the ambulance. This may be done by initiating the call to PTN early and "placing a hold" on releasing the ambulance until the transport team is on site (i.e., call PTN back to "release the hold," or by timing the initial PTN call with the arrival of the transport team.

Return of Equipment and Critical Care Transport Team to Home Base

Upon completion of the transfer, the transport team ensures all staff and equipment is returned to their appropriate location. Ensure all transport equipment has been cleaned, checked and plugged in as needed.

Debriefing

Every urgent transfer is also learning opportunity. Use the first page of the "Urgent Transfer Checklist" (Appendix A) to document each transfer, including specific time points that are used to evaluate each transfer, and to identify possible delays, and/or areas for improvement. At the completion of each urgent transfer, the MSJ CSC debriefs the HAU and SPH teams, and records any learnings identified on the Urgent Transfer Checklist so that it can be shared with both the MSJ and SPH ICU teams during safety huddles and bulletins.

Patient and Family Communication

It is the responsibility of the primary care team to inform the patient and their family about the patient's situation and pending transfer as soon as possible. Additionally the CSC has a role in supporting the primary care team to do so, and ensuring it has been done.

Documentation

Complete nursing documentation as needed. Ensure all documentation is completed and gathered in the chart prior to transfer.

Related Documents

1. Critical Care Inter-Hospital Transport Orders (PHC-PH410)
2. B-00-13-10082 - Code Blue Team Responsibilities and Response to Code Blue Calls: MSJ
3. B-00-13-10159 - Code Stroke (In-Patients): Protocol, SPH and MSJ
4. B-00-12-12078 - Regional Agreement on the Transfer of Ventilated Patients between VCHA / PHC Sites for Diagnostic Tests (Respiratory Therapy)
5. B-00-13-10204 - ST-Elevation Myocardial Infarction: Management of Inpatients at MSJ
6. MSJ PACU Transfer Guideline (In Development)

References

Nickerson, C. (2014). Air Ambulance and Critical Care Transport Resource Allocation Process Review (pp. 68). Vancouver BC: BC Emergency Health Services.

PHSA. (2018). BC Patient Transfer Network. Retrieved April 23, 2018, 2018, from http://www.bcehs.ca/our-services/operating-entities/bc-patient-transfer-network

Definitions

Critical Care Nurse: nurse who has received specialty training and/or practiced in a PHC critical care area, and has competencies in both basic life support (BLS) advanced cardiovascular life support (ACLS). Critical care areas include ICU, ED, CICU, CSICU and PACU. An RN with HAU training is not considered a critical care nurse although, unlike HAU RNs at other sites, MSJ HAU RNs are also required to maintain competencies in BLS and ACLS.

HLOC Transfer: classified as urgent priority but considered less urgent than LLTO (i.e., category Yellow). Therefore ambulance arrival time less predictable, as they may be diverted to more urgent calls. If patient's condition deteriorates while waiting for HLOC transfer, sending team call PTN to escalate to LLTO transfer if needed.

LLTO Transfer: one of the most urgent priorities for patient transports. Only a few types of patient transfer calls may supersede an LLTO transfer (i.e., major car accident, choking or extreme short of breath, explosions etc.). The ambulance team typically arrives within 5 to 30 minutes.

Patient Transfer Network (PTN): provincial service responsible for all inter-facility transfers in BC which provides 24/7 clinical oversight, communication and coordination of patient transfers between the sending/receiving teams and BC ambulance service (PHSA, 2018).

Persons/Groups Consulted

Clinical Nurse Specialist Cardiology

Clinical Site Coordinators MSJ

Clinical Supervisor ICU SPH

Medical Resident

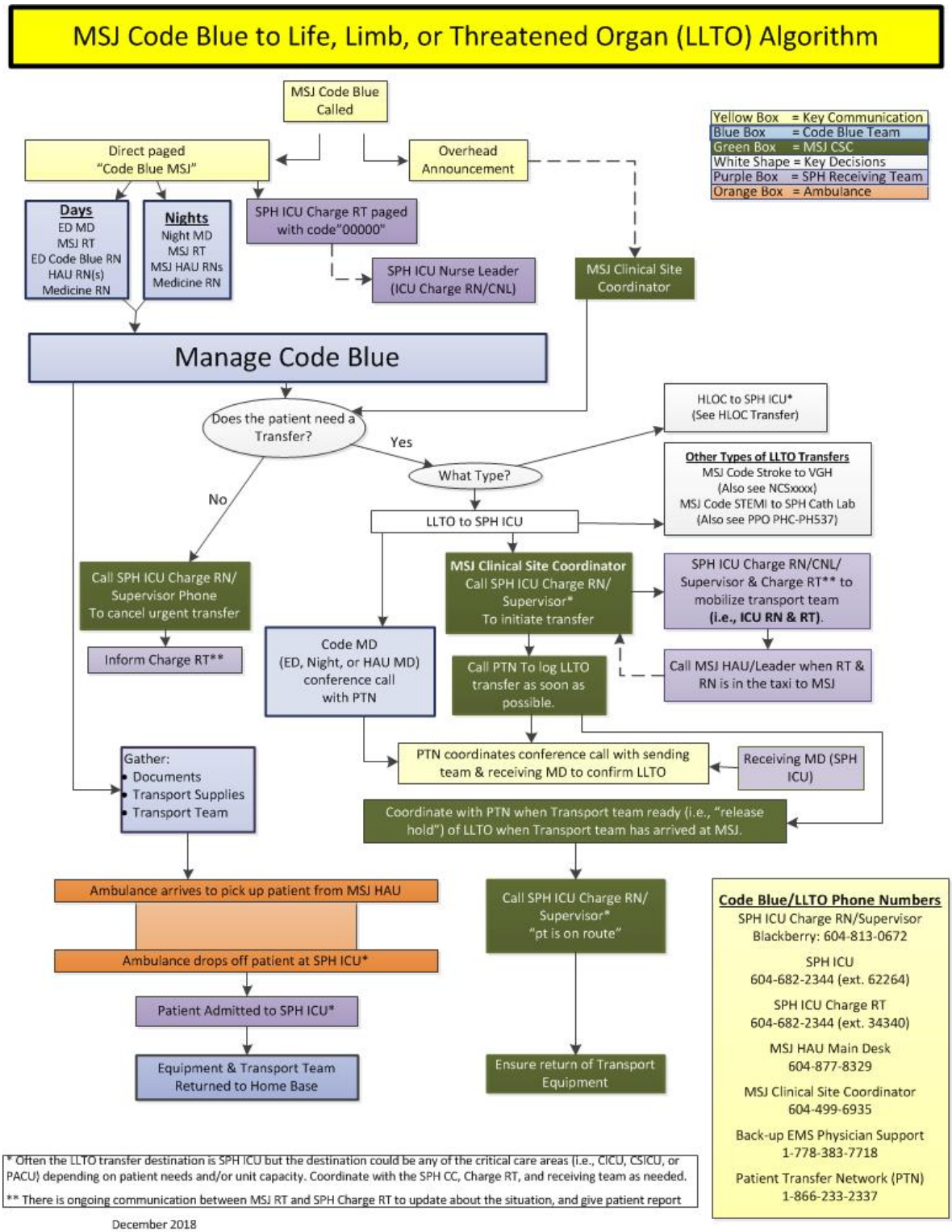
Nurse Educator HAU MSJ

Nurse Educators ICU SPH

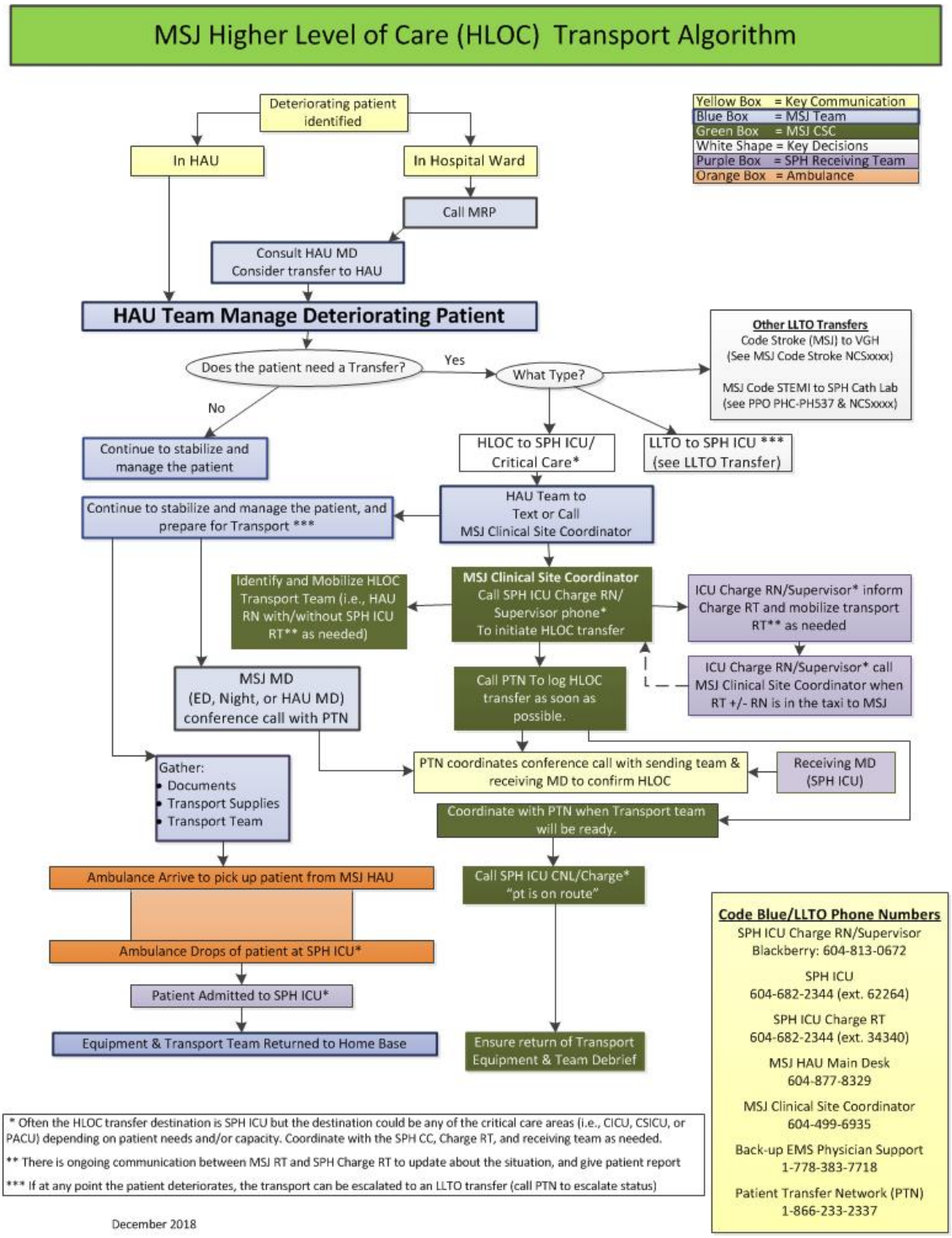
Patient Transfer Network

Effective Date:	08-JAN-2019
Posted Date:	08-JAN-2019
Last Revised:	
Last Reviewed:	
Approved By: *(committee or position)*	PHC
	Professional Practice Standards Committee
Owners: *(optional)*	PHC
	Critical Care

Appendix A: MSJ Code Blue to Life, Limb, or Threatened Organ (LLTO) Algorithm



Appendix B: MSJ Higher Level of Care (HLOC) Transport Algorithm



Appendix C: LLTO & HLOC Transfer Checklist – MSJ Nurse Leader

LLTO & HLOC Transfer Checklist – MSJ Nurse Leader

Event Initiation: • Date (DD/MM/YYYY): _____ • Time (24 hour format) : _____ Trigger: ☐ Code Blue ☐ Deteriorating Patient ☐ PACU vent Location: ☐ HAU ☐ Ward ☐ PACU	Attach Patient Label here
Action Items	**Event Notes**
☐ Attend patient & Assess situation	
☐ Does the patient need urgent transfer?	
☐ No • If a Code Blue event, Call SPH ICU Charge RN to cancel transfer. • If a deteriorating patient, continue to monitor.	
☐ Yes What type of transfer needed? ☐ Code Stroke MSJ* ☐ Code STEMI MSJ* ☐ MSJ PACU Ventilated Patients ☐ Urgent Transfer (LLTO or HLOC)	
☐ Notify SPH Charge RN/Charge RT that an urgent transfer is needed (i.e., text/call/delegate as needed)	Time SPH Notified:
☐ Facilitate Conference Call with PTN, sending team & receiving team. Conference Call Participants: **SENDING TEAM** ☐ HAU MD ☐ Night MD ☐ PACU MD/Anesthesia ☐ Other _____ **RECEIVING TEAM** ☐ ICU MD ☐ PACU MD/Anesthesia ☐ Other _____ **Type of transfer:** ☐ LLTO ☐ HLOC	Time PTN Called:
☐ Co-ordinate Transport Team and Ambulance Arrival Transport Team: ☐ SPH RT ☐ MSJ RT ☐ Other _____ ☐ SPH RN ☐ MSJ RN ☐ Other _____ ☐ Ensure family is notified of transfer ☐ Call SPH when Patient is on route	Taxi wait time for Transport Team: Time of transport team arrival: Time of ambulance arrival: Time of ambulance departure: Time of ICU/Critical Care admission: MSJ without RT coverage at any time? ☐ No ☐ Yes, estimate RT coverage gap time:
☐ Ensure Transport Team & Equipment is returned	Time staff returned: Time equipment returned & checked:
☐ Facilitate Transport Debrief with staff (notes from staff feedback)**	

Note: * Refer to the appropriate algorithms (i.e., Code Stroke MSJ Algorithm, Code STEMI MSJ Algorithm). Add any additional information, comments, or ideas about how to improve the process. Drop off forms in the ICU Survey box outside Kevin & Louise's office.

PTN Call Information

Patient Identifying PTN Questions **Information from Patient Label:** • First & Last Name • Gender • Date of Birth • PHN #	Attach Patient Label here if needed

PTN Questions about Sending and Receiving Teams		
Sending hospital and unit (i.e., MSJ HAU, PACU, Ward etc)		
Sending MD (i.e., HAU MD, Night MD, etc.)	Dr. _____	
Accepting MD if known (i.e., SPH ICU MD, SPH Anesthesia, etc) Or consulting service (i.e., Neuro, Cardiology etc.)	SPH ICU MDs	
	Dr. Najib AYAS	XXX-XXX-XXXX
	Dr. John BOYD	XXX-XXX-XXXX
	Dr. Del DORSHEID	XXX-XXX-XXXX
	Dr. Ken KAILA	XXX-XXX-XXXX
	Dr. Greg GRANT	XXX-XXX-XXXX
	Dr. Ruth MACREDMOND	XXX-XXX-XXXX
	Dr. Gary MILLER	XXX-XXX-XXXX
	Dr. Adam PEETS	XXX-XXX-XXXX
	Dr. Demetrios SIROUNIS	XXX-XXX-XXXX

Additional PTN Questions	
Is transfer result of a trauma? (i.e., Yes/No)	Diagnosis
Lines (i.e, IVs, CVCs, etc.)	Medications running (i.e., continuous infusions)
Tubes (i.e., chest tubes, drains etc.)	Other attachments (i.e., cardiac monitor, oxygen, etc.)
Intubated (i.e., Yes/No)	Infection Control Precautions
Dialysis Requirements	Transport Team/Patient Escort
Any Psychiatric or safety concerns	Patient's Weight

Gathering Supplies for Transport	
Documents	Critical Care Inter-Hospital Transport Orders
	Complete Patient's Chart – photocopy it if leaving Providence
Equipment	Patient Transport Bag/box
	Transport monitor/defibrillator with multifunction pads, NIBP, SpO2 probe
	Extra battery for transport monitor
	Portable ventilator if required
	IV infusion pumps if required
Medications	Appropriate drugs for the transport as indicated by the transport orders
	Patient's personal medications
Communication/Miscellaneous	Alert receiving unit of departure and possible ETA
	Inform patient and family of transfer and which unit the patient is going to
	Taxi Voucher and phone number
	Patient's personal belongings and valuables

Appendix D: LLTO & HLOC Transfer Checklist – SPH Team

LLTO & HLOC Transfer Checklist – SPH Team

Event Initiation: • Date (DD/MM/YYYY): _____ • Time (24 hour format) : _____ Trigger: ☐ Code Blue ☐ Deteriorating Patient ☐ PACU vent Location: ☐ HAU ☐ Ward ☐ PACU	Attach Patient Label here
Action Items	**Event Notes**
☐ Attend patient & Assess situation	
☐ Does the patient need urgent transfer?	
☐ No • If a Code Blue event, Call SPH ICU Charge RN to cancel transfer. • If a deteriorating patient, continue to monitor.	
☐ Yes What type of transfer needed? ☐ Code Stroke MSJ* ☐ Code STEMI MSJ* ☐ MSJ PACU Ventilated Patients ☐ LLTO or HLOC	
☐ Notify SPH Charge RN/Charge RT that an urgent transfer is needed (i.e., text/call/delegate as needed)	Time SPH Notified:
☐ Facilitate Conference Call with PTN, sending team & receiving team. Conference Call Participants: **SENDING TEAM** ☐ HAU MD ☐ Night MD ☐ PACU MD/Anesthesia ☐ Other _____ **RECEIVING TEAM** ☐ ICU MD ☐ PACU MD/Anesthesia ☐ Other _____ **Type of transfer:** ☐ LLTO ☐ HLOC	Time PTN Called:
☐ Co-ordinate Transport Team and Ambulance Arrival Transport Team: ☐ SPH RT ☐ MSJ RT ☐ Other _____ ☐ SPH RN ☐ MSJ RN ☐ Other _____ ☐ Ensure family is notified of transfer ☐ Call SPH when Patient is on route	Taxi wait time for Transport Team: Time of transport team arrival: Time of ambulance arrival: Time of ambulance departure: Time of ICU/Critical Care admission: MSJ without RT coverage at any time? ☐ No ☐ Yes, estimate RT coverage gap time:
☐ Ensure Transport Team & Equipment is returned	Time staff returned: Time equipment returned & checked:
☐ Facilitate Transport Debrief with staff (notes from staff feedback)**	

Note: * Refer to the appropriate algorithms (i.e., Code Stroke MSJ Algorithm, Code STEMI MSJ Algorithm). Add any additional information, comments, or ideas about how to improve the process. Drop off forms in the ICU Survey box outside Kevin & Louise's office.