

Lung Transplant Clinical Pathway

Day 0: Pre and Peri-Operative Milestones		
	Pre-OP	Intra-OP
Diet	<ul style="list-style-type: none"> NPO 	<ul style="list-style-type: none"> NPO
Medications	<ul style="list-style-type: none"> RN administer cyclosporine immediately prior going to OR/Pre- Op Holding Inpatient RN to notify pharmacy when the patient is going to the OR. Pharmacy will send medications to OR to be administered by CT Anesthesia 	
Labs/Pathology	<ul style="list-style-type: none"> Admission labs per order set Sputum Culture per order set 	
Vitals/ Monitoring	<ul style="list-style-type: none"> Vitals per standard of care 	
Pt Care/Nursing	<ul style="list-style-type: none"> Send Patient to OR/Pre-Op holding with SCDs on Bedside RN teach and have patient demonstrate back IS and deep breathing techniques 	
Other	<ul style="list-style-type: none"> Admitting provider confirm consent form in patient chart <ul style="list-style-type: none"> Lung Tx Surgery – single or bilateral Epidural placement Serial bronchoscopy and/or bronchoalveolar lavage and transbronchial biopsies, PHS higher than standard risk donor- if yes, consent form must include “PHS higher than standard risk donor” For patients with prior colonizing organisms, review peri-operative antibiotic plan with on-call transplant coordinator and/or ORCA note under “Outpatient Records,” “Infectious Disease.” 	

Lung Transplant Clinical Pathway

Inpatient Milestones: 5SA CTICU; Target Post-op LOS = 5-7 days			
	Anticipated Day 0	Anticipated Day 1-3	Anticipated Day 4-6
Pain	<ul style="list-style-type: none"> Consult APS regarding epidural 	<ul style="list-style-type: none"> Pain management per APS 	<ul style="list-style-type: none"> Pain management per APS
Diet/I&Os	<ul style="list-style-type: none"> NPO 	<ul style="list-style-type: none"> Bedside swallow by nursing when extubated Start clear liquids, advance as tolerated to regular Nutrition assessment by RDN Assure patient is having regular bowel movements Monitor UOP/creatinine – consider Nephrology consult if early/non-resolving AKI 	<ul style="list-style-type: none"> Advance diet as tolerated to regular Assure patient is having regular bowel movements Monitor UOP/creatinine – consider Nephrology consult if early/non-resolving AKI
Mobility	<ul style="list-style-type: none"> Dangle at bedside Initiate ICU mobility protocol 	<ul style="list-style-type: none"> PT and OT evaluation Initiate and progress activity when able PT & OT initiate patient and family education 	<ul style="list-style-type: none"> Progress activity if hemodynamically stable Ambulation 3x a day OT conducts ADL training within precautions and bathroom transfers
Vitals/ Monitoring	<ul style="list-style-type: none"> Per ICU standard 	<ul style="list-style-type: none"> Per ICU standard 	<ul style="list-style-type: none"> Per ICU standard
Respiratory	<ul style="list-style-type: none"> Wean ventilator settings and inhaled therapies per protocol 	<ul style="list-style-type: none"> Wean ventilator settings Extubate when able Start IS cough and deep breathing and acapella once extubated 	<ul style="list-style-type: none"> Start IS cough and deep breathing and acapella once extubated
Equipment	<ul style="list-style-type: none"> DVT Prophylaxis 		
Support Services	<ul style="list-style-type: none"> Consult Endocrine/Hyperglycemia team if patient has an insulin pump 		<ul style="list-style-type: none"> Nurse remind caregiver to be present during day time hours, especially for teaching Social work evaluation for post discharge needs If discharging to the VA: Send patient with microspirometer (order from MM # 315774). The VA will complete transplant and medication education.

Lung Transplant Clinical Pathway

Inpatient Milestones: 5NE Acute Care; Target LOS = 10 days		
	ICU to Acute Care Transfer Anticipated Day 0	Acute Care Anticipated Day 1-4 Chest Tubes to Suction
Pain	<ul style="list-style-type: none"> • Pain management per APS 	<ul style="list-style-type: none"> • Pain management per APS
Diet	<ul style="list-style-type: none"> • Tolerating regular • Assure patient is having regular bowel movements 	<ul style="list-style-type: none"> • Tolerating regular • Assure patient is having regular bowel movements
Mobility	<ul style="list-style-type: none"> • Out of bed 3x a day for meals, progressing each day with goal of 2hrs in the chair at a time • Ambulating 3-4x a day with progression each day 	<ul style="list-style-type: none"> • Out of bed 3x a day for meals, progressing each day with goal of 2hrs in the chair at a time • Ambulating 3-4x a day with progression each day • PT/OT initiate caregiver training for out of bed mobility/ADLs and discharge planning
Medications		<ul style="list-style-type: none"> • Pharmacist initiate prior authorization if needed • Pharmacist will work with patient /caregiver to identify their pharmacy for outpatient meds
Medication Education	<ul style="list-style-type: none"> • Nurse reviews medications purpose and side effects with patient and caregiver 	<ul style="list-style-type: none"> • Nurse reviews medications with patient and caregiver by setting out medications next to the medication calendar and reviewing each medication for purpose, dose, time, and potential side effects.
Patient Education	<ul style="list-style-type: none"> • Diabetes & transplant teaching by bedside RN. Document progress on teaching tool, transplant report sheet, and nursing progress note. 	<ul style="list-style-type: none"> • Nurse remind caregiver to be present during day time hours, especially for teaching • Diabetes & transplant teaching by bedside RN. Document progress on teaching tool, transplant report sheet, and nursing progress note. • Registered Dietician Education (including diabetes nutrition) with patient and caregiver
Equipment		<ul style="list-style-type: none"> • RN orders glucometer & diabetes supplies if indicated • RN determines if the patient has a blood pressure cuff, scale, and thermometer at home. If not assist caregiver in obtaining.
Respiratory		<ul style="list-style-type: none"> • RT to continue teaching IS cough and deep breathing and acapella
Support Services		<ul style="list-style-type: none"> • Social Work to confirm with patient plan for local housing • Consult Endocrine/Hyperglycemia team if patient with high insulin requirements and likely to need long-acting insulin
Other		<ul style="list-style-type: none"> • If discharging to the VA: Send patient with microspirometer (order from MM # 315774). The VA will complete transplant and medication education.

Lung Transplant Clinical Pathway

Inpatient Milestones: 5NE Acute Care; Target Post-op LOS = 10 days

	Anticipated Day 5-9 Chest Tubes to Water Seal/Removal	Day of Discharge
Pain	<ul style="list-style-type: none"> Transition to oral pain medication when chest tubes removed Remove epidural 	<ul style="list-style-type: none"> Pain managed on home medication doses. Education provided on how to wean narcotics over time and use of non-narcotic therapies.
Diet	<ul style="list-style-type: none"> Tolerating regular Assure patient is having regular bowel movements 	<ul style="list-style-type: none"> Tolerating regular Assure patient is having regular bowel movements
Mobility	<ul style="list-style-type: none"> Out of bed 3x a day for meals, progressing each day with goal of 2hrs in the chair at a time Ambulating 3-4x a day with progression each day OT conducts shower training 24hrs after all chest tubes removed 	<ul style="list-style-type: none"> Able to get self out of bed 3x a day for meals with goal of 2hrs in the chair at a time Ambulating independently 3-4x a day with progression each day
Medications	<ul style="list-style-type: none"> Pharmacist sends outpatient prescriptions and communication sheet to outpatient pharmacy 1-2 days prior to discharge Pharmacist helps patient/family/caregiver identify outside pharmacy for DME, particularly diabetes test strips, if needed Family/caregiver pick up DME supplies, particularly diabetes test strips, at outside pharmacy if needed Nursing confirms pharmacy prior authorizations completed 	<ul style="list-style-type: none"> Pharmacist works with outpatient pharmacy on any updates or changes to outpatient prescriptions and to communicate time prescriptions are needed Family/caregiver pick up 1st month of medication in Outpatient Pharmacy
Medication Education	<ul style="list-style-type: none"> Nurse reviews medications with patient /caregiver by setting out medications next to the medication calendar and reviewing each medication for purpose, dose, time, and potential side effects. 	<ul style="list-style-type: none"> Nurse reviews medications with patient and caregiver by setting out medications next to the medication calendar and reviewing each medication for purpose, dose, time, and potential side effects. Pharmacist will fill the mediset with 7 days of medications with patient and caregiver.
Patient Education	<ul style="list-style-type: none"> Diabetes & transplant teaching by bedside RN. Document progress on teaching tool, transplant report sheet, and nursing progress note with goal to have education/teaching tool complete day PRIOR to discharge. Registered Dietician Education (including diabetes nutrition) Transplant education session with transplant coordinator including resource manual and vital signs monitoring book. Patient and caregiver start reporting vital signs in Log Book 	<ul style="list-style-type: none"> Final review of diabetes & transplant teaching by bedside RN to patient and caregiver. Complete documentation on teaching tool. Transplant coordinator follow up with patient appointments
Equipment	<ul style="list-style-type: none"> RN orders micro spirometer once chest tubes removed RN notifies RT to conduct microspirometer teaching PT/OT orders any needed equipment for discharge RN confirms that BP cuff, scale, and thermometer have been obtained 	<ul style="list-style-type: none"> RN confirm patient received any discharge equipment
Respiratory	<ul style="list-style-type: none"> RT to conduct microspirometer teaching with patient and caregiver once chest tubes are removed 	

Lung Transplant Clinical Pathway

Support Services	<ul style="list-style-type: none"> • Once chest tubes are out RN notifies RT to conduct microspirometer teaching • Interdisciplinary communication for Discharge Planning Meeting (Thursday) 	<ul style="list-style-type: none"> • Patients needing long acting in addition to sliding scale coverage insulin must have follow up scheduled with Endocrine/Hyperglycemia clinic
Other	<ul style="list-style-type: none"> • Once chest tubes are removed, MD to order PFT's 	<ul style="list-style-type: none"> • If being discharged on the weekend, MD must page Pulmonary Transplant to discuss and review • If discharging to Rehab, inpatient unit will: • Order the microspirometer and notify RT to provide teaching. • Complete transplant teaching (teaching tool). • Pharmacy will update medication calendar but will not provide final education and fill mediset until day of discharge from Rehab. • Transplant coordinators will complete their teaching with patient and provide appointments closer to the patients discharge from Rehab.

Lung Transplant Clinical Pathway

Post-Discharge Outpatient Follow Up Milestones			
	24-72 hours	Week 1	Week 2
Follow-up	<ul style="list-style-type: none"> • 5NE nursing post-discharge phone call 		
Vitals/ Monitoring	<ul style="list-style-type: none"> • Patient complete daily Log Book 	<ul style="list-style-type: none"> • Patient complete daily Log Book 	<ul style="list-style-type: none"> • Patient complete daily Log Book
Clinic Visit		<ul style="list-style-type: none"> • Lung Transplant Clinic Appointment 	<ul style="list-style-type: none"> • Lung Transplant Clinic Appointment • RD nutrition assessment & education • Thoracic Surgery Clinic Appointment