CARE PLAN
Liver Transplant Recipient of Deceased or Living Donor

(This document may be accessed on the liver transplant team protocol site)

Projected Length of Stay: 7 days

The Care Plan addresses key steps in patient care from the period through hospital discharge to home or transfer to a rehabilitation facility. It is expected that some patients may have more complicated clinical courses that may warrant changes in the Care Plan.

Liver Transplant Recipient Key Clinical Care Goals

***Begin discharge planning by POD#1*, with all team members involved in the process.**

1. Patient Care:

a. Remove central line before patient transfer to floor from ICU (or document clear need for ongoing CVC)
b. Remove Foley catheter by POD#2 unless there are appropriate, documented indications for continued use
c. Living Donor Recipients hands-on care to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students will perform unsupervised hands-on care for a Living Donor Recipient.

2. Patient Education:

a. Adequately educate patient and family prior to discharge
b. Patient education is the responsibility of all team members, and should address:
    i. Insulin/Diabetic teaching
    ii. Immunosuppressant medication teaching
    iii. Wound care management

3. Discharge Readiness Assessment and Planning:

a. Transplant APP coordinates with ambulatory pharmacy to order discharge medications
b. Recognize obstacles to early ambulation and initiate appropriate intervention (PT, OT, alternative discharge plan as appropriate)
c. Assess collaboratively patient safety and readiness for discharge
d. Ensure that the patient has resources to obtain adequate nutrition, access to medications, access to physician follow-up appointments
e. Ensure that patient support system is in place (rehabilitation facility, visiting nurse, transportation)

4. Communication:

a. Ongoing, daily discharge plan communication between inpatient/outpatient teams
b. Timely, detailed communication between team members and at change of shifts to ensure patient safety, and facilitate discharge planning.
c. Clear, concise communication between attending physicians will guide the plan of care
d. For recipients of LIVING donors clear, concise communication regarding plan of care and/or changes to plan of care to include attendings (surgical/medical) AND the living donor team (surgical/medical) involved with specific case to ensure ongoing, comprehensive care.

Pre-Operative Area

Orders: "Liver TXP PreOp Admission" order set:

- Please call transplant resident/fellow as soon as patient arrives
- All orders should be STAT
- Order peri-op antibiotics per protocol
- Order methylprednisolone per protocol
- PIV placement (do not allow placement to delay labs)
- Order all labs listed on order set
- CXR can be portable

***Order blood products on hold to OR (10 PRBC's and 10 FFP)**

Electronic Consents with iPad Welcome Application:

- Organ Donation Consent: Transplant Surgical Consent
- Organ Donation Consent PRN: Transplant from Donor with Possible Risk

CRRT in OR?

- Renal consult
- Notify SICU charge RN

Nursing (STAT):

- Vitals/Standing weights
- Labs (call phlebotomy as soon as patient arrives)
- EKG
- Hibiclens shower
- PIV
- Pregnancy test

PERI-OP ANTIBIOTIC, FLUCONAZOLE, OR METHYLPREDNISOLONE SHOULD BE GIVEN INTRA-OP (SHOULD GO TO SDS WITH PATIENT OR WILL BE SENT DIRECTLY TO SDS FROM PHARMACY)

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction

POD#0

Orders:**"Liver Txp Post Op Admission" order set:**

- Labs Post-op: CBC, renal function panel, LFTs, PT/INR, Magnesium, ABG, Fibrinogen, Lactic Acid
- Then, Labs q6: CBC, renal function panel, LFTs, PT/INR, Magnesium, Lactic Acid x 24 hours.
- Glucose as per insulin infusion protocol
- EKG done if any cardiac issues in OR

Medications:

- Maintenance IVF
- SQH TID
- Anti-rejection meds: Methylprednisolone/prednisone taper as per order set, Mycophenolate (Cellcept)
- Anti-infective meds: Peri-operative IV antibiotics continue x 48 hrs post-op, fluconazole (antifungal ppx) if indicated per ID ppx protocol
- General IP Insulin Infusion Protocol (insulin drip)
- Famotidine
- PCA once extubated
- Resume home meds as appropriate

Goals/parameters:

- Transfusion goals = hgb > 7
- CVP <10; MAP >65; SBP>120
- Notify transplant prior to bolus/transfusion

Lines/Drains: *Living Donor Recipient hands-on care to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students to perform unsupervised hands-on care for Living Donor Recipients.*

- Swan Ganz catheter
- MACx 2; Arterial line
- JP x 2; Foley
- ETT - Wean vent to extubation
- Discontinued NG/OG once extubated (unless roux en y)

Nursing:

- Line care
- Foley care
- JP care
- Strict I&Os
- SCDs
- Bed rest
- Daily standing weights
- IS 10 times/hour while awake once extubated

Do not change dressing for 48 hours

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction

POD#1

Orders:

- Labs q12: CBC, renal function panel, LFTs, PT/INR, Magnesium x 24 hours.
- Glucose qAC/HS once drip transitioned
- CXR (needed?)
- POD#1 U/S – call U/S tech in AM
- Start diet once extubated
- PT/OT

Medications:

- SQH
- IVF to be weaned as diet increased
- Anti-rejection meds: Methylprednisolone/prednisone taper as per order set, Mycophenolate (Cellcept), Consider initiating Tacrolimus (Prograf) - order daily levels -8am in SICU/6am on 8CCP
- Anti-infective meds: Peri-operative IV antibiotics continue x 48 hrs post-op, fluconazole (antifungal ppx) and/or tenofovir (HBV ppx) if indicated per ID and HBV ppx protocols
- Resume home meds as appropriate
- Transition Insulin drip to NPH/SSI per SICU team once extubated and eating (see separate hyperglycemia protocol)
- Start to transition from PCA to tylenol/gabapentin/tramadol prn (unless on opioid for chronic pain pre-txp). Add IV dilaudid prn if patient experiencing breakthrough pain. See "POST LIVER TXP PAIN MANAGEMENT" order set
- Bowel regimen (Miralax, Senna-S)
- Famotidine

Lines/Drains: *Living Donor Recipient hands-on care to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students to perform unsupervised hands-on care for Living Donor Recipients.*

- MAC x 2 – D/C Swan and 1 MAC →Place PIV
- Arterial line
- JP x 2
- Foley – D/C with void check in 6 hours unless indication for continued use

Nursing:

- Line/Foley/JP care
- Strict I&Os
- SCDs
- OOB to chair
- Vitals per unit routine
- Daily standing weights
- IS 10 times/hour while awake

****Do not change dressing for 48 hours**

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction

Discharge: Update outpatient team.

POD#2

Orders:

- Labs q day: CBC, renal function panel, LFTs, PT/INR, Magnesium, Tacrolimus levels - 8am for SICU/6am for 8CCP
- Glucose qAC/HS
- D/C PT/INR when normalized
- Advance diet
- PT/OT
- Pend to floor?
- Initiate telemetry (if pended)

Medications:

- D/C IVF if tolerating diet
- SQH
- Insulin per SICU team
- Anti-rejection meds: Methylprednisolone/prednisone taper as per order set, Mycophenolate (Cellcept), Consider initiating Tacrolimus (Prograf) - order daily levels -8am in SICU/6am on 8CCP
- Anti-infective meds: Initiate ID prophylaxis (CMV/PJP) –based on CMV status of donor/recipient; continue fluconazole (antifungal ppx), tenofovir (HBV ppx) if indicated per ID and HBV ppx protocols
- Continue transition to oral pain medications as above. Consider switching to oxycodone if patient still requiring IV dilaudid prn
- Bowel regimen (Miralax, Senna-S)
- Famotidine

Lines/Drains: *Living Donor Recipient hands-on care to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students to perform unsupervised hands-on care for Living Donor Recipients.*

- MACx 1- DC once obtain PIV x 2 or re-wire to TLC
- A-line- DC when off insulin gtt and when no longer indicated for close hemodynamic monitoring
- JP x 2 – D/C lateral/right drain (unless frank blood/bile; —then discuss with attending prior to pulling)

Nursing:

- JP care
- Strict I&Os
- SCDs
- OOB - ambulate TID
- Vitals per unit routine
- Daily standing weights
- IS 10 times/hour while awake
- Telemetry

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction.

Discharge Planning: Routine medications ordered through Hoxworth pharmacy. Update outpatient team. Review placement/home care needs w/ social work.

POD#3

Orders:

- Labs q day: CBC, renal function panel, LFTs, Magnesium, Tacrolimus levels
- Glucose qAC/HS
- POD#3 U/S (recipients of LIVING donor only) – call U/S tech in AM
- VTE screening: duplex UE & LE
- Advance diet
- PT/OT

Medications:

- SQH
- Oral pain medications
- Insulin dosing per Transplant Surgery team once stepdown or floor status
- Bowel regimen (Miralax), Colace
- Anti-rejection meds: tacrolimus- adjust per level ; continue methylprednisolone/prednisone taper, mycophenolate (Cellcept)
- Anti-infective meds: ID prophylaxis (CMV/PJP) –based on CMV status of donor/recipient; continue fluconazole (antifungal ppx), tenofovir (HBV ppx) if indicated per ID and HBV ppx protocols
- Famotidine

Lines/Drains: *Recipient of Living Donors hands-on care/procedures to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students to perform unsupervised hands-on care for Living Donor Recipients.*

- PIV x 2 or TLC x 1
- JP x 1

Nursing:

- JP care
- Strict I&Os
- SCDs
- OOB - ambulate TID
- Vitals per unit routine
- Daily standing weights

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction. Coordinator teaching . Diabetes education (arrival on 8CCP). Pharmacist self-med teaching.

Discharge Planning: Routine medications ordered through ambulatory pharmacy (30-day supply if possible) with APP's addressed by outpatient staff. Update outpatient team. Review placement/home care needs w/ social work.

Orders:

- Labs q day: CBC, renal function panel, LFTs, Magnesium, Tacrolimus levels
- Glucose qAC/HS
- Advance diet
- PT/OT

Medications:

- SQH
- Oral pain medications
- Bowel regimen (Miralax, Colace)
- Anti-rejection meds: tacrolimus- adjust per level ; continue methylprednisolone/prednisone taper, mycophenolate (Cellcept)
- Anti-infective meds: ID prophylaxis (CMV/PJP) –based on CMV status of donor/recipient; continue fluconazole (antifungal ppx), tenofovir (HBV ppx) if indicated per ID and HBV ppx protocols
- Famotidine

Lines/Drains:

Recipient of Living Donors hands-on care/procedures to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students to perform unsupervised hands-on care for Living Donor Recipients.

- PIV x 2 or TLC x 1
- JP x 1

Nursing:

- JP care
- Strict I&Os
- SCDs
- OOB
- Vitals per unit routine
- Daily standing weights
- IS 10 times/day while awake
- Telemetry

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction. Coordinator teaching. Diabetes education. Pharmacist self-med teaching.

Discharge Planning: Routine medications ordered through Hoxworth pharmacy. Update outpatient team. Review placement/home care needs w/ social work.

POD#5 (or later)

Orders:

- Labs q day: CBC, renal function panel, LFTs, Magnesium, Tacrolimus levels
- Glucose qAC/HS
- Advance diet
- POD#5 U/S – call U/S tech in AM
- PT/OT

Medications:

- Continue subQ heparin TID
- Oral pain medications
- Bowel regimen (Miralax, colace)
- Anti-rejection meds: tacrolimus- adjust per level ; continue methylprednisolone/prednisone taper, mycophenolate (Cellcept)
- Anti-infective meds: ID prophylaxis (CMV/PJP) –based on CMV status of donor/recipient; continue fluconazole (antifungal ppx), tenofovir (HBV ppx) if indicated per ID and HBV ppx protocols
- Famotidine

Lines/Drains:

Recipient of Living Donors hands-on care/procedures to be performed by the Fellow, Senior Resident or APP on the Transplant Service. No medical students to perform unsupervised hands-on care for Living Donor Recipients.

- PIV x 2 or TLC x 1
- JP x 1 – D/C medial/left drain on POD#5 (unless frank blood/bile—then discuss with attending prior to pulling)

Nursing:

- Strict I&Os
- SCDs
- OOB - ambulate TID
- Vitals per unit routine
- Daily standing weights
- IS 10 times/day while awake
- DC Telemetry

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction. Coordinator teaching. Diabetes education. Pharmacist self-med teaching.

Discharge Planning: Update outpatient team. Review placement/home care needs w/ social work – complete COC or HC form. Med rec completed. Discharge instructions. Pharmacist pack pill box. Arrange f/u with outpatient team and other services involved in patient care.

POD ≥ #30

August 2023

Care for recipients with extended hospital stay ≥ 30 days will be individualized as indicated.

Orders:

- Per standard of care
- Acute risk labs (POD #28-56): HIV NAT, HBV NAT and HCV NAT

Communication: Clear, concise communication between attending physicians will guide the plan of care; for recipients of living donors involve living donor team to ensure ongoing, comprehensive care.

Education: Responsibility of all members of team to make sure all questions from family/patient answered to their satisfaction. Coordinator teaching. Diabetes education. Pharmacist self-med teaching.

Discharge Planning: Update outpatient team. Review placement/home care needs w/ social work – complete COC or HC form. Med rec completed. Discharge instructions. Pharmacist pack pill box. Arrange f/u with outpatient team and other services involved in patient care.