Living Liver Donor Pain Management Pathway

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Phase of Care	Pain Regimen	
Pre-op visit	Patient education with preoperative anesthesia resident (resident to review education key points with liver anesthesia attending prior to visit)	
Pre-op day of surgery	Acetaminophen 975 mg PO x 1 in PRA – order to be placed by Transplant Service Place and test thoracic epidural before induction	
Intra-operative	May include fentanyl with induction (no additional IV opioids unless significant suspicion for failed epidural) Dose epidural with 0.25% bupivacaine or 0.2% ropivacaine	
PACU	PACU anesthesia resident to monitor patient and check epidural post-extubation in conjunction with Acute Pain Service (APS) PACU anesthesia resident to give sign-out to overnight RP5 resident or fellow	
Post-operative days 0-2	Ketorolac	15 mg IV every 6 hours around-the-clock beginning intraoperatively (during closure) if urine output is adequate and there are no concerns for bleeding. Dose may be increased to 30 mg as needed Acute Pain Service to assess and document daily Consult Transplant PharmD if concern for renal insufficiency
	Acetaminophen	650 mg PO every 8 hours around-the-clock (standing; not PRN)
	PCEA: Bupivacaine 0.05% with fentanyl 2 mcg/ml	Initial dosing is 6/4/10. Dosing adjusted by APS. APS to assess on a daily basis APS to talk to Transplant Attending or Fellow if there is a concern about liver function and need to adjust dose
	Hydromorphone IV	One time dose of 0.2 mg IV may be ordered to temporize breakthrough pain **in addition to contacting APS fellow or resident and the Transplant Fellow**. If APS fellow or resident does not respond, contact APS attending

Post-operative day 3 until discharge	Ketorolac	15 mg IV every 6 hours around-the-clock. Dose may be increased to 30 mg if needed APS to assess and document daily Continue until diet is advanced and patient is able to take oral ibuprofen (maximum duration is 5 days). Consult Transplant PharmD if concern for renal insufficiency
	PCEA: Bupivacaine 0.05% with fentanyl 2 mcg/ml	Initial dosing is 6/4/10. Dosing adjusted by APS. Cap PCEA if pain is controlled on ketorolac plus acetaminophen and/or patient is tolerating regular diet and able to take PO pain meds. Continue epidural if providing good pain relief and patient is not taking diet APS to assess and document daily PCEA may be removed when INR is ≤ 1.5 **after discussion with the transplant team**
	Acetaminophen	650 mg PO every 8 hours around-the-clock Consider changing to PRN on POD5 if pain is adequately controlled
	Hydromorphone IV	One time doses of 0.2 mg IV may be ordered to temporize breakthrough pain **in addition to contacting APS and the Transplant Fellow**
	Oxycodone PO –or- Hydromorphone PO -or- Tramadol PO	To begin when diet is advancing & patient is able to take PO's: 5-10 mg PO every 4 hours per pain scale 2-4 mg PO every 3 hours per pain scale 50-100mg PO every 4 hours per pain scale
	Ibuprofen	To begin when ketorolac is discontinued: 600 mg PO every 6 hours as needed

<u>Contact chain for pain management issues:</u>

First contact APS resident or fellow and escalate to the APS attending if there is any issue reaching them. Transplant Surgery should be notified if there is any long delay in responding to patient or nursing concerns.

<u>Approach to pain management regimen failure:</u>

APS to assess if epidural is functional by checking a level and administering boluses or offering epidural replacement as needed. Okay to switch to a dilaudid PCA for those patients who are refusing epidural replacement and do not have adequate analgesia with 0.2mg dilaudid boluses as needed.

Note: Do not "split" PCA and PCEA without discussion and agreement between APS attending and Transplant Surgery attending