Copyright © by The Journal of Bone and Joint Surgery, Incorporated Haskel et al. Opioid Stewardship in Orthopaedic Surgery. Principles and Practice http://dx.doi.org/10.2106/JBJS.RVW.19.00175 Page 1

# The following content was supplied by the authors as supporting material and has not been copy-edited or verified by JBJS. NYU ORTHOPEDICS DIVISION OF HAND SURGERY PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre-op	Intra-op	PACU	Discharge
Standard Soft Tissue (e.g. Carpal Tunnel, de Quervains, trigger finger, isolated tendon, etc)	Patient education and expectation setting re: post-op pain	Answer any remaining questions Ibuprofen 600 mg	Analgesic options:  APAP PO 1g	Local vs Regional anesthesia	Typically no pain meds given secondary to functioning regional or local anesthesia.	Outpatient:  APAP 1g PO BID Ibuprofen 600 TID Norco 5/325mg 0-6 pills
Minor Bone (e.g. isolated finger and metacarpal fractures)	Patient education and expectation setting re: post-op pain	Answer any remaining questions Ibuprofen 600 mg		Regional Anesthesia		Outpatient:  Ibuprofen 600 TID Percocet 5/325mg 10 pills (days 1-2) APAP 1g PO BID (after first two days)
Major Bone (e.g. multiple finger and metacarpal fractures or isolated distal radius, forearm or elbow fractures)	Patient education and expectation setting re: post-op pain	Answer any remaining questions Ibuprofen 600 mg		Regional Anesthesia		Outpatient:  Ibuprofen 600 TID Percocet 5/325mg 10 pills (days 1-2) APAP 1g PO BID (after first two days)

## Additional Items:

- 1. Tylenol 1000 mg TID and Ibuprofen 600 Tid for all patients unless contraindicated. (GI precautions)
- 2. Pre-operative counseling on what pain to expect, and strategies for minimizing pain (elevate, ice, motion), Ibuprofen 600mg PO day before surgery at surgeons discretion.
- 3. Narcotic and other pain meds are e-prescribed before the surgery so the patient has a chance to pick them up and know what to expect
- 4. Patients with anxiety about pain receive counseling from the NYU integrative health service
- 5. If significant pain issues are identified preoperatively a formal pain management consult will be arranged

# NYU ORTHOPEDICS DIVISION OF PEDIATRIC ORTHOPEDICS PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre- op	Intra-op	PACU	Post-op	Discharge
	N/A	N/A	Discuss regional block with anesthesia	Ketorolac 0.5 mg/kg (unless asthmatic) .25% plain Marcaine into incision (if no block)	In patients <4:  Attempt repositioning, parental soothing, distraction first.  PO Tylenol liquid In patients >age	N/A	Outpatient:  Acetaminophen 1g PO BID Ibuprofen 600 TID Norco 5/325mg 0-6 pills
Outpatient Fracture Care of Soft Tissue Procedures					4:  Mild pain (1-3): Repositioning, distraction Ice (if no cast) – q10 min skin checks		
					Moderate (4-6):  IV Tylenol (15  mg/kg up to 750  mg) if not taking  po  PO Tylenol if  taking PO		
					Severe (7-10): Check cast and perfusion. Call ortho team. If OK		

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					with team, Roxicodone 0.1mg/kg every 6 hours PRN		
Pelvic Osteotomy Long Bone Fractures	Stop all NSAIDs for elective cases	N/A	Discuss epidural anesthesia with anesthesia	Same as above	Same as above	Mild pain (1-3): Repositioning, distraction Ice (if no cast) – q15 min skin checks  Moderate (4-6):  Patients that cannot tolerate pills  Toradol IV 0.5mg/kg every 6 hours for 2 days (No toradol in patients with asthma)  Tylenol 10mg/kg every 6 hours  Ibuprofen 10mg/kg every 6 hours beginning Post operative day 3  Patients tolerating pills  Toradol IV 0.5mg/kg every 6 hours for 2 days  Tylenol 325mg-500mg (10mg/kg PO every 6 hours  Ibuprofen 200mg-400mg (10mg/kg) PO every 6 hours beginning post operative day 3  For severe (7-10) breakthrough pain:	With attg approval, Roxicodone 0.1mg/kg every 8 hours PRN

						<ul> <li>Roxicodone 0.1mg/kg         every 6 hours PRN</li> <li>Valium – May be added         on patient to patient         basis. 0.1mg/kg every 8         hours prn</li> </ul>	
Cerebral Palsy (bony surgery)	Stop all NSAIDs Continue outpatient Valium/Baclofen	N/A	Discuss epidural with anesthesia if no baclofen pump	Ketorolac 0.5 mg/kg (unless asthmatic)	Same as above  Valium 0.1mg/kg every 8hours prn for spasm	Same as above All patients on standing Valium	Same as above Valium 0.1mg/kg q8hrs x 2 wks

## NYU ORTHOPEDICS DIVISION OF ORTHOPEDIC TRAUMA PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre-op	Intra-op	PACU	Post-op	Discharge
Upper Extremity Fractures	Continue NSAIDs  Narcotics → Initiate Narcotic taper	Pre-op NSAIDs permitted Initiate Hydration Protocol  Acetaminophen 1gm, oral, every 6-8 hours (not to exceed 4gm daily)  Meloxicam 15mg. oral, daily	None	Regional + sedation  Acetaminophen 1gm  IV Ketorolac 30mg (15mg if >65years of age and/or renal impairment)	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): If tolerating oral, Tramadol 50mg oral, every 8 hours, PRN If not tolerating oral, Fentanyl 25mcg, IV, every 10 min for max of 3 doses, PRN (Administer only if resp rate > 10)  Severe (7-10): If tolerating oral, Tramadol 100mg, oral, every 8 hours, PRN. If not tolerating oral, Fentanyl 50mcg, IV, every 10 min for max of 3 doses, PRN	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): Tramadol 50mg oral, every 8 hours, PRN  Severe (7-10): Tramadol 100mg, oral, every 8 hours, PRN  Breakthrough: Oxycodone 5mg, oral, every 6 hours, PRN  Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm daily (Review liver function prior to administration)  Ketorolac 30mg	Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once daily (Aspirin 81mg, oral, once daily)  Ice therapy PRN (alternating 20 min on/off)  AVOID OXYCODONE RX IF POSSIBLE  Breakthrough: Tramadol 50mg oral, every 4-6 hours, PRN (24 tablets to be dispensed

						Inj, once daily in AM, starting POD1 (15mg >65years of age and/or renal impairment)  Pregabalin (Lyrica.) 50mg, oral every 8 hours (hold for sedation)	
Hip fractures	Continue NSAIDs	Pre-op NSAIDs permitted Initiate Hydration Protocol Acetaminophen 1gm, oral, every 6-8 hours (not to exceed 4gm daily) Meloxicam 15mg. oral, Daily Lovenox 40mg, on the evening before surgery	Meloxicam 15mg, oral	Spinal (opiate free)  Dexamethasone 10mg, IV  Fentanyl IV  Acetaminophen 1gm, IV	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): If tolerating oral, Tramadol 50mg oral, every 8 hours, PRN If not tolerating oral, Fentanyl 25mcg, IV, every 10 min for max of 3 doses, PRN (Administer only if resp rate > 10)  Severe (7-10): If tolerating oral, Tramadol 100mg, oral, every 8 hours, PRN. If not tolerating oral, Fentanyl 50mcg, IV, every 10 min for max of	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): Tramadol 50mg oral, every 8 hours, PRN Severe (7-10): Tramadol 100mg, oral, every 8 hours, PRN  Severe (7-10): Tramadol 100mg, oral, every 8 hours, PRN	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once Daily  Lovenox 40mg, Daily  AVOID OXYCODONE RX IF POSSIBLE  Breakthrough: Tramadol 50mg oral, every 4-6 hours, PRN (12 tablets to be dispensed)

					2 doses DDN	Ema oral	
					3 doses, PRN	5mg, oral,	
					(Administer	every 6 hours,	
					only if resp rate >	PRN	
					10)		
						Standing:	
					Breakthrough:	Acetaminophen	
					Oxycodone 5mg,	1gm, oral, every	
					oral,	6-8 hours, not	
					once PRN	to exceed 4gm	
						daily	
						(Review liver	
						function prior to	
						administration)	
						,	
						Ketorolac 30mg	
						Inj, once daily in	
						AM, starting	
						POD1 (15mg	
						>65years	
						of age and/or	
						renal	
						impairment)	
						impairment	
						Pregabalin	
						(Lyrica.) 50mg,	
						oral every 8	
						hours (hold for	
						Sedation)	
	Continue	Pre-op NSAIDs	None	Regional + sedation	Mild (1-3):	Mild pain (1-3):	Standing:
	NSAIDs	Permitted	THORIC .	Regional i sedation	Ice therapy PRN	Ice therapy PRN	Acetaminophen
	NUMIDS	Terrificed		Acetaminophen	(alternating 15 min	(alternating 15	1gm, oral, every
	Narcotics →	Initiate Hydration		1gm, IV	on/off for skin	min (alternating 15	6-8 hours, not to
Lower Extremity	Initiate Narcotic	Protocol		-0,	evaluation)	on/off for skin	exceed 4gm total,
Fractures		FIOLOCOI		Ketorolac 30mg IV,	Evaluation)	-	(Total of 7-10
Fractures	taper	Acataminanhan		(15mg >65years of	Moderate (4-6):	evaluation)	'
		Acetaminophen 1gm, oral, every 6-		age and/or renal	If tolerating oral,	Moderate (4-6):	days)
				impairment)	_		Molevicem
		8 hours		1	Tramadol 50mg oral,	Tramadol 50mg	Meloxicam
		(not to exceed 4gm			every 8 hours, PRN	oral, every 8	15mg, oral, once

daily)	If not tolerating oral,	hours, PRN	Daily
	Fentanyl 25mcg, IV,		
Meloxicam 15mg.	every 10 min for	Severe (7-10):	(Aspirin 81mg,
oral, daily	max of 3 doses, PRN	Tramadol	oral, once daily)
	(Administer only if	100mg,	
	resp rate > 10)	oral, every 8	Ice therapy PRN
		hours, PRN	(alternating 20 min
	Severe (7-10):		on/off)
	If tolerating oral,	Breakthrough:	
	Tramadol 100mg,	Oxycodone 5-	Breakthrough:
	oral, every 8 hours,	10mg, oral,	Oxycodone 5-10mg,
	PRN	every 6 hours,	oral, every 6
	If not tolerating oral,	PRN	hours, PRN
	Fentanyl 50mcg, IV,		
	every 10 min for	Standing:	
	max of	Acetaminophen	
	3 doses, PRN	1gm, oral, every	
		6-8 hours, not	
		to exceed 4gm	
		_ ·	
		Ketorolac 30mg	
		-	
		impairment)	
		Pregahalin	
		6-8 hours, not to exceed 4gm daily (Review liver function prior to administration)  Ketorolac 30mg Inj, once daily in AM, starting POD1 (15mg >65years of age and/or renal impairment)  Pregabalin (Lyrica.) 50mg, oral every 8 hours (hold for	

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			Sedation)	

## NYU ORTHOPEDICS DIVISION OF SHOULDER/ELBOW SURGERY PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre-op	Intra-op	PACU	Post-op	Discharge
Shoulder Arthroscopy and Subacromial Decompression Elbow Arthroscopy	Patient education and expectation setting re: post-op pain	May continue NSAIDs PRN Hydrate adequately with water	Tylenol 1000 mg PO Meloxicam 15 mg	Interscalene nerve block + sedation  Bupivicaine (0.5%)  Adjuvants: dexamethasone IV 4-10 mg as per anesthesia  Interscalene nerve block catheter: narcotic dependent patients with high narcotic requirements)	Mild (1-3): Ice pack  Moderate (4-6): Fentanyl 25mg IV or tramadol 50mg 1 tab PO  Severe (7-10): Fentanyl 50mg IV or Tramadol 50mg 2 tabs PO  No Toradol in the PACU	N/A	50 mg Tramadol 1-2 tabs PO Q4-6h PRN breakthrough (20 tabs)  Tylenol 500mg 2 tabs PO q8 → 3 g total (7-10 days)  15 mg Meloxicam QD for 7 days then PRN (30 tabs) or 600 mg Motrin q6-8h for 7 days then PRN (60 tabs)  Ice therapy  Breakthrough: If necessary, oxycodone 5 mg every 6 hours as needed (12 tabs)

Shoulder Arthroscopy and Labral Repair	Patient education and expectation setting re: post-op pain	May continue NSAIDs PRN Hydrate adequately with water	Tylenol 1000 mg PO Meloxicam 15 mg	Interscalene nerve block + sedation  Bupivicaine (0.5%)  Adjuvants: dexamethasone IV 4-10 mg as per anesthesia  Interscalene nerve block catheter: narcotic dependent patients with high narcotic requirements)	Mild (1-3): Ice pack  Moderate (4-6): Fentanyl 25mg IV or tramadol 50mg 1 tab PO  Severe (7-10): Fentanyl 50mg IV or Tramadol 50mg 2 tabs PO  No Toradol in the PACU	N/A	50 mg Tramadol 1-2 tabs PO Q4-6h PRN breakthrough (20 tabs)  Tylenol 500mg 2 tabs PO q8 → 3 g total (7-10 days)  15 mg Meloxicam QD for 7 days then PRN (30 tabs) or 600 mg Motrin q6-8h for 7 days then PRN (60 tabs)  Ice therapy  Breakthrough: If necessary, oxycodone 5 mg every 6 hours as needed (12 tabs)
Shoulder Arthroscopy and distal clavicle resection  AC Joint Reconstruction  Rotator Cuff Repair	Patient education and expectation setting re: post-op pain	May continue NSAIDs PRN Hydrate adequately with water	Tylenol 1000 mg PO  Meloxicam 15 mg	Interscalene nerve block + sedation  Bupivicaine (0.5%)  Adjuvants: dexamethasone IV 4-10 mg as per anesthesia  Interscalene nerve block catheter: narcotic dependent patients with high	Mild (1-3): Ice pack  Moderate (4-6): Fentanyl 25mg IV or tramadol 50mg 1 tab PO  Severe (7-10): Fentanyl 50mg IV or Tramadol 50mg 2 tabs PO	N/A	50 mg Tramadol 1-2 tabs PO Q4-6h PRN breakthrough (24 tabs)  Tylenol 500mg 2 tabs PO q8 → 3 g total (7-10 days)  15 mg Meloxicam QD for 7 days then PRN (30 tabs) or 600 mg Motrin q6-8h for

				narcotic requirements)	No Toradol in the PACU		7 days then PRN (60 tabs)  Ice therapy  Breakthrough: If necessary, oxycodone 5 mg every 6 hours as needed (20 tabs)
							Optional: Lyrica (50 mg HS x 30 days) or Gabapentin (300 mg HS) for patients who have sleeping issues on recliner
Total Shoulder Arthroplasty	Patient education and expectation setting re: post-op pain	N/A	Tylenol 1000 mg PO Celebrex 200 mg PO Lyrica 50 mg PO	Interscalene nerve block + sedation  Bupivicaine (0.5%)  Adjuvants: dexamethasone IV 4-10 mg as per anesthesia  Interscalene nerve block catheter: narcotic dependent patients with high narcotic requirements)  Intraoperative	Ice therapy	Standing: Meloxicam 15 mg daily  Tylenol 1000 mg oral every 8 hours  Lyrica 50 mg daily  Moderate (4-6): Tramadol 50 mg every 8 hours  Severe (7-10): Tramadol 100	Standing: Meloxicam 15 mg daily x7 days  Tylenol 1000 mg every 8 hours x7 days  Ice therapy  Breakthrough: Tramadol 50 mg every 8 hours (30 tabs maximum)  Alternate breakthrough (poor

		bupivacaine	mg every 8	pain control, history
		infiltration at the	hours	of seizures, patients
		time of wound		on SSRIs):
		closure.	Breakthrough:	
			Oxycodone 5	Oxycodone 5 mg
			mg every 6	every 6 hours (first
			hours PRN (first	line)
			line)	
				Hydromorphone 2
			Hydromorphone	mg, every 8 hours
			2 mg every 8	(alternate)
			hours PRN	
			(alternative)	

## NYU ORTHOPEDICS DIVISION OF SPINE SURGERY PAIN MANAGEMENT PROTOCOL

Patient Population	Pre-op (Surgeon's Office)	Pre-op (Holding Room)	Intra-op	Post-op PACU	Post-op Floor	Discharge
Outpatient spine	Patient education and expectation setting re: post-op pain Pain Management consultation as needed*	APAP PO 1g Lyrica 50 mg Celebrex 200 mg	Ketamine bolus 0.5mg/kg up to a max dose of 50mg (after induction)	Opioids ordered per routine management based on clinical judgment (typically morphine for non-opioid-dependent patients and hydromorphone for opioid-dependent patients)  Pain consult PRN	Opioids ordered per routine management based on clinical judgment :  Standing: APAP 1g PO q8 hrs standing.  Zanaflex 2mg BID PRN	Outpatient:  Meloxicam: 15mg 7- 10 days (Hold for fusions)  APAP: 1000 mg PO q 8 hours 7-10 days  Tramadol 50 (20 tabs) or Oxycodone 5 mg (25 tabs)
Inpatient Spine (IP procedures)	Patient education and expectation setting re: post-op pain Pain Management consultation as needed*		BMI less than 35: Lidocaine infusion 1.5mg/kg/hr  Ketamine bolus 0.5mg/kg up to a max dose of 50mg (after induction)  Ketamine infusion 0.25mg/kg/hr  BMI greater than or equal to 35: Lidocaine infusion 1mg/kg/hr	T am Sonoak T Text	Mild pain: Ice  Moderate pain: Oxycodone 2.5 mg for moderate pain q 4 hours PRN  Severe pain: oxycodone 5mg for severe pain q4hrs PRN  Breakthrough pain:	Inpatient Fusion/Non- fusion, Opioid-naïve:  No NSAIDS (except for non-fusion) APAP: 1g PO q 8 hours 7-10 days Oxycodone or Hydrocodone: 5 -10 mg # 40 tabs  Zanaflex: 2 mg BID PRN (Muscle Spasm)  Lyrica if continued neuropathic pain
Inpatient Opioid Dependent	Patient education and expectation setting re: post-op pain Pain Management consultation*		Ketamine bolus 0.5mg/kg up to a max dose of 50mg (after induction)  Ketamine infusion 0.15mg/kg/hr		Oxycodone 5 mg q4h prn  Titrate oxycodone up if necessary  Continue the periop multimodal regimen while in hospital which includes Lyrica, Celebrex	Inpatient fusion DC as per pain service

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		(Nonfusion) Pain consult PRN
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## NYU ORTHOPEDICS DIVISION OF ADULT RECONSTRUCTION PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre-op	Intra-op	PACU	Post-op	Discharge
THA	Pre-op  Continue NSAIDs  Narcotics  → Initiate narcotic taper	Pre-op NSAIDs Permitted  Initiate Hydration Protocol  Acetaminophen 1gm, oral, every 6-8 hours (not to exceed 4gm daily)  Meloxicam 15mg. oral, daily  Aspirin 81mg, oral, on the evening before surgery	Meloxicam 15mg, oral	Spinal (opiate free)  Dexamethasone 10mg, IV  Fentanyl IV  Acetaminophen 1gm, IV  Liposomal Bupivacaine (Exparel.), Inj  Cocktail: 40ml Epinephrine + Bupivacaine (0.25%w/v) + Ketorolac 15mg	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): If tolerating oral, Tramadol 50mg oral, every 8 hours, PRN  If not tolerating oral, Fentanyl 25mcg, IV, every 10 min for max of 3 doses, PRN (Administer only if resp rate > 10)  Severe (7-10): If tolerating oral, Tramadol 100mg, oral, every 8 hours, PRN  If not tolerating oral, Fentanyl 50mcg, IV, every 10 min for max of 3 doses, PRN	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm daily (Review liver function prior to administration)  Ketorolac 30mg Inj, once daily in AM, starting POD1 (15mg >65years of age and/or renal impairment)  Pregabalin (Lyrica.) 50mg, oral every 8 hours (hold for sedation)  Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once daily  Aspirin 81mg, oral, twice daily  AVOID OXYCODONE RX IF POSSIBLE  Breakthrough: Tramadol 50mg oral, every 4-6 hours, PRN (12 tablets to be dispensed)
						Moderate (4-6):	

						Tramadol 50mg oral, every 8 hours, PRN  Severe (7-10): Tramadol 100mg, oral, every 8 hours, PRN  Breakthrough: Oxycodone 5mg, oral, every 6 hours, PRN	
TKA	Continue NSAIDs  Narcotics  → Initiate narcotic taper	Pre-op NSAIDs Permitted  Initiate Hydration Protocol  Acetaminophen 1gm, oral, every 6-8 hours (not to exceed 4gm daily)  Meloxicam 15mg. oral, daily  Aspirin 81mg, oral, on the evening before surgery	Meloxicam 15mg, oral	Spinal (opiate free)  Dexamethasone 10mg, IV  Fentanyl IV  Acetaminophen 1gm, IV  Liposomal Bupivacaine (Exparel.), Inj  Cocktail: 40ml Epinephrine + Bupivacaine (0.25%w/v) + Ketorolac 15mg  NO TOURNIQUET IF POSSIBLE	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): If tolerating oral, Tramadol 50mg oral, every 8 hours, PRN  If not tolerating oral, Fentanyl 25mcg, IV, every 10 min for max of 3 doses, PRN (Administer only if resp rate > 10)  Severe (7-10): If tolerating oral, Tramadol 100mg, oral, every 8 hours, PRN	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm daily (Review liver function prior to administration)  Ketorolac 30mg Inj, once daily in AM, starting POD1 (15mg >65years of age and/or renal impairment)  Pregabalin (Lyrica.) 50mg, oral every 8 hours (hold for	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once daily  Aspirin 81mg, oral, twice daily  Breakthrough: Tramadol 50mg oral, every 4-6 hours, PRN (36 tablets to be dispensed)  Oxycodone 5 mg,

			sedation)	oral every 6-8 hours
		If not tolerating		PRN (14 tablets to
		oral, Fentanyl	Mild (1-3):	be dispensed)
		50mcg, IV, every 10	Ice therapy PRN	
		min for max of 3	(alternating 15	
		doses, PRN	min on/off for	
		,	skin evaluation)	
			,	
			Moderate (4-6):	
			Tramadol 50mg	
			oral, every 8	
			hours, PRN	
			110013,1100	
			Severe (7-10):	
			Tramadol	
			100mg,	
			oral, every 8	
			hours, PRN	
			Hours, Frin	
			Duoolathuough.	
			Breakthrough:	
			Oxycodone	
			5mg, oral, every	
			6 hours, PRN	

# NYU ORTHOPEDICS DIVISION OF FOOT & ANKLE SURGERY PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre-op	Intra-op	PACU	Post-op	Discharge
Bony Procedures	Continue NSAIDs  Narcotics → Initiate Narcotic taper	Pre-op NSAIDs permitted Initiate Hydration Protocol  Acetaminophen 1gm, oral, every 6-8 hours (not to exceed 4gm daily)  Meloxicam 15mg. oral, daily	None	Regional + sedation  Acetaminophen 1gm  IV Ketorolac 30mg (15mg if >65years of age and/or renal impairment)	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): If tolerating oral, Tramadol 50mg oral, every 8 hours, PRN If not tolerating oral, Fentanyl 25mcg, IV, every 10 min for max of 3 doses, PRN (Administer only if resp rate > 10)  Severe (7-10): If tolerating oral, Tramadol 100mg, oral, every 8 hours, PRN. If not tolerating oral, Fentanyl 50mcg, IV, every 10 min for max of 3 doses, PRN	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): Tramadol 50mg oral, every 8 hours, PRN  Severe (7-10): Tramadol 100mg, oral, every 8 hours, PRN  Breakthrough: Oxycodone 5mg, oral, every 6 hours, PRN  Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm daily (Review liver function prior to administration)  Ketorolac 30mg	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once daily (Aspirin 81mg, oral, once daily)  Ice therapy PRN (alternating 20 min on/off)  AVOID OXYCODONE RX IF POSSIBLE  Breakthrough: Tramadol 50mg oral, every 4-6 hours, PRN (24 tablets to be dispensed

						Inj, once daily in AM, starting POD1 (15mg >65years of age and/or renal impairment)  Pregabalin (Lyrica.) 50mg, oral every 8 hours (hold for sedation)	
Soft Tissue Procedures	Continue NSAIDs  Narcotics → Initiate Narcotic taper	Pre-op NSAIDs Permitted  Initiate Hydration Protocol  Acetaminophen 1gm, oral, every 6-8 hours (not to exceed 4gm daily)  Meloxicam 15mg. oral, daily	None	Regional + sedation  Acetaminophen 1gm, IV  Ketorolac 30mg IV, (15mg >65years of age and/or renal impairment)	Mild (1-3): Ice therapy PRN (alternating 15 min on/off for skin evaluation)  Moderate (4-6): If tolerating oral, Tramadol 50mg oral, every 8 hours, PRN If not tolerating oral, Fentanyl 25mcg, IV, every 10 min for max of 3 doses, PRN (Administer only if resp rate > 10)  Severe (7-10): If tolerating oral, Tramadol 100mg, oral, every 8 hours, PRN If not tolerating oral, Fentanyl 50mcg, IV, every 10 min for	N/A	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once Daily  (Aspirin 81mg, oral, once daily)  Ice therapy PRN (alternating 20 min on/off)  Breakthrough: Oxycodone 5-10mg, oral, every 6 hours, PRN

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			max of 3 doses, PRN		

# NYU ORTHOPEDICS DIVISION OF SPORTS MEDICINE PAIN MANAGEMENT PROTOCOL

Procedure	Pre-op	Day Before Surgery	Immediate Pre-op	Intra-op	PACU	Discharge
Meniscectomy	Stop narcotics, initiate narcotic taper if applicable  Patient education and expectation setting re: post-op pain  *Pain Management consultation as needed	Pre-op NSAIDs permitted Initiate Hydration Protocol	Meloxicam 15 mg Tylenol 1000mg	20 cc 0.5% Marcaine @ portal site (and intraarticular based on surgeon preference)  NO TOURNIQUET FOR KNEE SCOPE IF POSSIBLE	Mild (1-3): Ice pack  Moderate (4-6): Fentanyl 25mg IV or tramadol 50mg 1 tab PO  Severe (7-10): Fentanyl 50mg IV or Tramadol 50mg 2 tabs PO  No Toradol in the PACU	Standing: Acetaminophen 1gm, oral, every 6-8 hours, not to exceed 4gm total, (Total of 7-10 days)  Meloxicam 15mg, oral, once daily or 600 mg Motrin q6-8h for 7 days then PRN (60 tabs)  Ice therapy PRN (alternating 20 min on/off)  AVOID OXYCODONE RX IF POSSIBLE  Breakthrough: Tramadol 50mg oral, every 4-6 hours, PRN (10 tablets to be dispensed

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	Stop parcetics	Pre-op NSAIDs	Molovicam 1E ma	Appropriate blocks	Mild (1-3):	Ctanding:
	Stop narcotics, initiate narcotic	permitted	Meloxicam 15 mg	Appropriate blocks and anesthetic	• •	Standing:
		•	Tulo mal 1000ma	and anesthetic	Ice pack	Acetaminophen
	taper if applicable	Initiate Hydration	Tylenol 1000mg	Mataurius adioosat	0.0 - d - m-t - (0. C).	1gm, oral, every
	Patient education	Protocol		Ketamine adjuvant	Moderate (4-6):	6-8 hours, not to
	and expectation			0.5mg/kg up	Fentanyl 25mg IV or	exceed 4gm total,
	setting re: post-op			to 50mg	tramadol 50mg 1 tab	(Total of 7-10
	pain			(anesthesiologist discretion)	PO	days)
	*Pain Management			discretion,	Severe (7-10):	Meloxicam
	consultation as			Zofran and	Fentanyl 50mg IV or	15mg, oral, once
	needed			Decadron	Tramadol 50mg 2	daily or 600 mg
<b>ACL Reconstruction</b>					tabs PO	Motrin q6-8h for 7
				20 cc 0.5%		days then PRN (60
Multi-ligamentous					No Toradol in the	tabs)
Knee				Marcaine @ portal	PACU	
Reconstruction				site (and		Ice therapy PRN
				intraarticular based		(alternating 20 min
MPFL				on surgeon		on/off)
Reconstruction,				preference)		
AMZ						AVOID
				MINIMIZE		OXYCODONE RX
Knee Osteotomy				TOURNIQUET USE		IF POSSIBLE
Open				IF POSSIBLE		
Osteochondral						Breakthrough:
Graft Implant						Tramadol 50mg
-						oral, every 4-6
						hours, PRN (24
						tablets to be
						dispensed
						If necessary,
						oxycodone 5 mg
						every 6 hours as
						needed (20 tabs)
						,

#### Contraindications for medications

## A. Tylenol 1000 mg

## **Absolute Contraindications –**

- Hypersensitivity
- Severe hepatic impairment
- Active liver disease

## B. Meloxicam /Celebrex /Ibuprofen/Toradol

## **Absolute Contraindications**

- Hypersensitivity to aspirin, other NSAIDs, or any component of the formulation
- Patients who have experienced asthma, urticaria, or allergic-type reactions after taking aspirin or other NSAIDs;
- History of active GI bleed, GI ulceration, IBD, CDs
- Setting of CABG surgery, recent MI, stroke and ischemic heart disease
- Pregnancy

## Lyrica (50 mg)

#### **Absolute Contraindications**

- Hypersensitivity
- Pregnancy

Considerations: use with caution in patients with

- Severe CV disease including heart failure
- Renal failure