Total Joint Clinic Pathway:  
Post Operative Care

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Care Team Goal

• Improve the quality of life of our patients by relieving their pain, improving their mobility, and restoring function so they may return to the activities they love more quickly.

• To achieve our goal, we need a specialized team of nurses, physical therapists, occupational therapists, social workers and case managers to focus on the preoperative, postsurgical, rehabilitation and emotional needs of patients

WHY WE COME TO WORK

Post Operative Care Begins With Understanding Total Joints Clinical Pathway

• Patient Education  
• Case Management  
• Pain Management  
• Nausea and Vomiting Prophylaxis  
• Blood Management  
• Anesthesia  
• Surgical Technique  
• Physical Therapy  
• Occupational Therapy  
• Orthopaedic Nursing  
• Communication

Total Joints Pathway Phases

• Preoperative:
  – Patient education and expectation setting
  – Comorbidity Assessment
  – Improve modifiable risk factors
  – Anemia detection and optimization
  – Preemptive pain management

• Intraoperative:
  – Good Surgical Technique
  – Multimodal analgesia
  – N/V Prophylaxis
  – Active Warming
  – Blood loss prevention
  – Anesthesia

• Postoperative:
  – Multimodal Pain Management
  – N/V Prophylaxis
  – PT/OT
  – Early Mobilization
  – Early Education
  – Medical Optimization
  – Early Safe Discharge

Patient Education

• Starts in the Office
  – Length of Stay is 0-2 days
  – Discharge to Home
  – Goal is fast, safe, return to function

• Reinforced by all staff and in written material
Patients Prepare for Surgery

- Pre-operative assessment by a Physical Therapist
  - Start exercises before surgery!
- Education about planned day of discharge
- Education about wound care and physical therapy
- Obtain any necessary equipment prior to admission
  - Walker, elevated toilet seat, shower chair, etc

Patients Prepare for Surgery

- Day of surgery
- Recovery room
- Hospital floor
- Reasonable Expectations
- An educated patient is a more satisfied patient
- Try to be consistent with communication across providers

Ortho/Anesthesia/PCP Communication

Comorbidity Assessment

Modifiable Risk Factors

- How do you handle-
  - Urinary tract infections?
  - Diabetics-Hgb A1-C?
  - MRSA screening or treatment
  - Preoperative anemia
  - Sleep Apnea

Pain Management

Pre-emptive analgesia/multimodal approach

- Begin pain management pre-operatively
- “Help control the pain before the pain is out of control”
  - NSAIDS
  - Anesthesia (Spinal)
  - Local Anesthetic during surgery
  - Tylenol
  - Opioids (Norco, Percocet, Roxicodone)
  - Central Acting (Ultram)

Total Joints Multimodal Pain Regimen

Pre-Op

- Pre-op exercises
- Celebrex 400 mg PO q D for 4 days

Pain Regimen- Morning of Surgery

- Celebrex 400 mg PO
- Oxycontin 10 mg PO
- Tylenol 1000 mg IV or PO
- Tramadol 50 mg PO
Intraoperative

- Local Anesthetic "cocktail" injection
  - Ropivicaine
  - Epinephrine
  - Depomedrol
  - Toradol
  - Morphine

Postoperative

- Scheduled Tylenol (<4 gm./day)
- Scheduled Ultram
- Scheduled Celebrex
- Narcotic (as needed) for breakthrough
- No PCA’s
- No indwelling catheters

Discharge to home- Day 0-2

- Celebrex post-op
- Ultram
- Norco (hydrocodone 5/325) as needed for pain

Nausea and Vomiting Prophylaxis

- Pre Op Holding
  - Scopolamine Patch 1.5 mg
- Intraoperative:
  - Zofran
  - IV steroid-anti nausea and pain control
  - Appropriate fluid management
- POD #1
  - Steroid IV vs PO

Surgical Technique

- Preserve soft tissue planes
- Minimize soft tissue trauma
- Control bleeding- especially leaving the wound!!
- Proper soft tissue tensioning, implant sizing and positioning, secure implant fixation

Anesthesia

- Spinal/Epidural anesthesia
- Hypotensive anesthesia-MAP 60 or below
- Intraoperative Zofran- anti nausea
- Intraoperative IV Steroid
- IV Tranexamic acid:
  - 1 gm. with abx
  - 1 gm. at closure
VTE Prophylaxis

- New ACCP/AAOS guidelines allow for greater flexibility in regimens
  - Use multimodal prophylaxis
  - Use mechanical compression
  - Chemoprophylaxis - not sure which is best?
  - Don’t routinely screen with ultrasound
- Jan 2014, SCIP now allows ASA for THA and TKA

VTE - What do I do?

- Risk Stratification
  - High risk
    - Prior DVT/PE
    - Protein C & S deficiency, Factor V Leiden
    - Cancer
  - Standard risk

VTE - What do I do?

- Multimodal
  - Regional anesthesia
  - Mechanical compression
    - TKA-foot pumps or SCD in hospital
    - THA-foot pumps or SCD in hospital
  - Early and frequent mobilization
  - Chemoprophylaxis
    - Standard risk - ASA 325 mg PO BID
    - High risk - Eliquis, Coumadin, Lovenox,

Blood Management

Comprehensive Blood Program

- Preoperative
  - Iron Supplementation starting 30 days pre op
  - Check Hgb, if anemic - refer for evaluation, postpone (Hgb<10 or 11)
  - Rare epogen (Jehovah’s witness)

Comprehensive Blood Program

- Intraoperative
  - Regional anesthesia
  - Hypotension (MAP 60 mm/hg or less)
  - Tranexamic acid
  - Careful surgical technique
    - Respect the tissues
    - Know where the bleeders are
  - Efficient surgery
  - Bipolar sealant device
  - Topicals: epi soaked sponges, thrombin spray, TA
**Comprehensive Blood Program**

- **Postoperative - CHANGE TRIGGERS**
  - < 7 mg/dl: Transfuse 1 U PRBC
  - 7-8 with symptoms: Volume crystalloid vs. colloid, evaluate meds
  - Persistent orthostasis, dizziness, fatigue: Transfuse 1 U PRBC

**Total Joints Pathway Inpatient Post Operative Care**

- Physical Assessment and Treatment
- Psychosocial Assessment
- Tests/Labs
- Pain Control/Medication
- Nutrition
- Elimination
- Activity and Therapy
- Education
- Discharge Planning

**Physical Assessment and Treatment**

- Morning, mid day, evening assessments
- VS done Q4
- VS normal, temp <101
- Cough and deep breathing Q4h IS if indicated
- Lungs clear, non-productive cough no dyspnea
- I/O Q shift
- N/V Assessment
- BM? Bowel Sounds?
- Voiding?
- Skin without breakdown
- Wearing TEDS
- TEDS removed x ½ hour, heels w/o redness
- Pneumatic stockings while in bed
- Alert and oriented x 3, speech clear
- Normal neurovascular checks per protocol
- Wound bandage clean, dry and intact
- IV patent, site without redness
- Pain Assessment

**Psychosocial Assessment**

- Morning, mid day, evening assessment
- Coping effectively
- Sleeping?
  - With meds?
  - Without meds?

**Tests/Labs**

- Cultures (in revision cases)
- H&H > 8/25
- Transfusion given if ordered
  - # of units given
- Other abnormal labs (BMP)
  - BUN/CR
  - K+
  - Plts (if taking lovenox)

**Pain Control/Medication**

- Oral meds for pain 30 minutes before therapy prn
- Patient reported pain level <3 (0-10)
- Cold Therapy to surgical site
**Nutrition/Elimination**
- Usual Diet
- No Nausea/Vomiting
- Voiding QS
- Normal Bowel Sounds
- Normal BM
- If no BM, laxative provided

**Foley-To Use or Not To Use**
- Foley insertion not benign:
  - Traumatic injury
  - UTI risk
- No Foley Post op not benign:
  - Urinary Retention
  - Neurogenic Bladder if missed
  - 10% incidence of straight cath, foley insertion

**Activity and Therapy**
- Heels elevated while in bed
- Dressed in gym clothes
- OOB for 2 of 3 meals
- Ambulates to BR with walker or crutches/assist

**Activity and Therapy**
- Supine to sit
- Transfer to EOB
- Sit to Stand
- Gait on level surface
- Device Used:
  - Distance:
  - Stair Climbing
- Toilet Transfer
- Toilet Hygiene
- Wash UE/trunk/LE
- Dressing Change
- Shower/tub transfer
- Home training

**Activity and Therapy: Exercises in gym:**
- Ankle pumps
- Quad/Glut sets
- Heel slide
- Straight Leg Raise
- SAQ (short arc quad)
  - Right
  - Left
- Abduction/Adduction
- Extension
- Hamstring Stretch
- Sitting Flexion
- Quad Lag
- Endurance
- Instruction to set up elevated toilet seat
- Car transfer at D/C

**Education**
- Pt. instructed/ demonstrates understanding of:
  - Cough, deep breaths, IS
  - Pain Management
  - Medications and side effects
  - Weight Bearing
  - Dressing
  - Bathing
  - Coumadin Teaching if applicable
  - Coach/family present for hands on teaching
  - Home Exercises
Discharge Planning
- D/C destination/transportation identified (CM)
- Ongoing needs at discharge document as variance (CM)
- Referrals completed for ongoing care (CM)
- Home equipment delivered to patient
- Written discharge instructions provided
- Patient/Family agree with discharge plans

Other
- Patient Safety Maintained
- Falls Risk Assessment completed Q day and PRN

POD #0 Goal is Early Ambulation: What stops patient from ambulating POD #0
- Pain Management
- N/V Prophylaxis
- Voiding/Bladder Scan Protocol
- Hypotension Management

Post Operative Care: POD #0
Know your patient: Comorbidity Optimization
- Diabetes?
  - Tight glycemic control post op
  - Infection Risk
- Sleep Apnea?
  - Pulse Oximetry +/- tele
- BPH?
  - Increase risk of urinary retention
  - Bladder Scan Protocol
- Preoperative Narcotic Usage?
  - Difficulty with pain control
  - May need high narcotic dosing
- Age greater than 80?
  - Watch for cognitive impairment with anesthesia/pain management
- Anticoagulant home meds?
  - Ensure patient not placed on multiple blood thinners by providers

Why is the patient in hospital today?
- Not what brought them in the first place; buy why TODAY?
  - Organ dysfunction (surgical stress)
  - Hypothermia-induced morbidity
  - Pain
  - Nausea/Vomiting/Constipation/Irns
  - Cognitive dysfunction (delirium)/sleep deprivation
  - Immobility
  - Blood Management
  - Fatigue
  - Discharge Planning

Comprehensive rapid recovery program for Total Hip replacement
- Walk with walker: 1-2 weeks
- Walk with cane: 1-3 weeks
- Walk unassisted: 3-6 weeks
- Drive: 4 weeks (faster for left leg)
- Return to work: 3-6 weeks
- Golf: 2-3 months
- Ski/Hike/Run/etc: 4-6 months
Recovery after Knee Replacement

- Hospital stay 1-3 days, then to home vs. rehab hospital
- You will often stand and begin walking the same day of surgery. May initially use a walker, crutches or a cane.
- Some temporary pain (surrounding muscles are weak from inactivity, tissues are healing). It will end in a few weeks or months.
- Exercise is an important part of the recovery process.
- After your surgery, you may be permitted to play golf, walk, swim, bike and dance.
- The motion of your joint will generally improve. The extent will depend on how stiff your joint was before the surgery.

Thank You