Safety Spotlight: Managing Anticoagulation therapy in Orthopaedics

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In September 2008, the Acting Surgeon General issued a *Call to Action* to reduce the number of cases of deep vein thrombosis (DVT) and pulmonary embolism (PE) in the United States.[1] Since that time, new anticoagulants have been developed that offer efficacy, safety and convenience when compared to traditional anticoagulants.

Total arthroplasty is one of the most common orthopedic procedures performed in the United States, with approximately 719,000 total knee arthroplasty (TKA) surgeries performed annually and 332,000 total hip arthroplasty (THA) performed annually.[2] With the tremendous amount of patients undergoing total knee and hip arthroplasty and the risk of developing DVT, managing anticoagulation therapy in orthopedics can be challenging. The goal of which, is to prevent as much as possible, the occurrence of PE and DVT following total hip and knee arthroplasty.

Effective thromboprophylaxis after total knee or hip arthroplasty is essential in hospital and outpatient settings and clinical practice guidelines have been developed to help define optimal prophylactic strategies.[3] [4] Clinical practice guidelines to consider when performing total knee or hip arthroplasty include:

- American Academy of Orthopedic Surgeons (AAOS)
According to the AAOS clinical treatment guidelines; “Preventing Venous Thromboembolic Disease in Patients Undergoing Elective Hip and Knee Arthroplasty”, “in the absence of prophylaxis, DVT occurs in about 37 percent of patients, as detected by imaging.”

An additional resource to consider is a guideline synthesis written in 2009, revised in 2014. The document compares the AAOS, the ACCP and the Scottish Intercollegiate Guidelines Network (SIGN) addressing venous thromboembolic disease. Key elements of the synthesis include areas of agreement and difference, major recommendations, corresponding strength of evidence and recommendation rating schemes, and a comparison of guideline methodologies.

Also included in the guideline synthesis are the benefits and/or harms of implementing the recommendations and any associated contraindication. The document can be found at: [3]

Risk Management Considerations:

- Consider all total knee/hip arthroplasty patients as “high risk” for DVT or PE
- Obtain a thorough H & P prior to prescribing anticoagulation therapy
- Review and consider the published guidelines when prescribing anticoagulation therapy
- Discuss and document history of “fall risk”
- Take into consideration acquired factors, i.e. exposure to steroid hormones, oral contraceptive use, etc.
- Inquire about prior DVT or PE
- Conduct medication reconciliation at each patient encounter
- Instruct patients on anticoagulation therapy to communicate any changes in medication regime
- Discuss and document the risks, benefits and alternative treatments including the duration and type of preventative treatment
- Provide patients and their caregivers with educational tools. Consider a handout describing blood clot prevention. A sample video and handout can be found at: [4]
- Effectively communicate the medication regimen and any specific needs of the patient with other care providers, i.e. nursing home, physicians, home health, family, etc.
- As appropriate,
  - Order laboratory testing to monitor effects of anticoagulation therapy
  - Track all laboratory testing and communicate results
  - Discuss drug and food interactions including potential side effects of anticoagulation therapy with the patient and family
  - Discuss dental care management

Additional physician and patient resources can be found at:


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