# FIRST

Do No Harm

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Quality and Patient Safety Division, Board of Registration in Medicine | **Ambulatory Surgical Center Edition** | April 2014


## Deep Vein Thrombosis Risk Assessment


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Deep vein thrombosis (DVT) and pulmonary embolus (PE) continue to be major risk factors for patients undergoing surgical or other invasive procedures. Prevention of venous thromboembolism (VTE), which includes DVT and PE, is an important aspect of patient care before, during and after surgery. Risk factors for patients should be identified and used to guide pharmacological and/or mechanical thromboprophylaxis.

Though risks are less with shorter hospitalizations and early ambulation, VTE can occur, even following outpatient surgical procedures, and the risk can persist for weeks past discharge.[1] The American College of Chest Physicians (ACCP) recommends development of a formal strategy or protocol, addressing the prevention of thromboembolic complications.[2] The Association of periOperative Registered Nurses (AORN) approved recommendations for prevention of DVT, consistent with the ACCP's recommendation for a protocol that is inclusive of a preoperative patient assessment to determine DVT risk factors. The recommendations also addressed pharmacologic and mechanical intervention, and patient and caregiver education. AORN advised the inclusion of a computer-generated alert identifying patients at risk for developing DVT.[3] Our facility was already utilizing pre-op screening software intended to assess patients' prior medical and surgical history, and the software was revised to include this feature.

We initially set our parameters based on the Caprini VTE Risk Assessment Tool.[4] (*See sample Risk Assessment Tool, Figure 1, on page 2.*) We assigned a weight of points based on particular questions answered. Every patient coming into our facility completes our online pre-op screening, including the DVT Risk Assessment. The DVT risk assessment tool helps guide the providers in determining whether mechanical or pharmacological prophylaxis is indicated.

Our process is constantly being analyzed as new medications come to market that may have inherent hypercoagulable properties. In addition, our policy states that our providers are able to adjust the assessment's recommendation for prophylaxis, based on clinical judgment.

A quality study has been initiated for ongoing analysis in regards to our incidence of DVT, since initiation of our computer-generated risk assessment. The DVT risk in our patients is low and to date, results of the initiative have revealed no marked difference. However, clinical personnel rest easier knowing that there is a standardized process for assessing DVT risk in patients who undergo procedures at our facility.

### References:


1. Pannucci, CJ, et.al. *Identifying Patients at High Risk for Venous Thromboembolism Requiring Treatment after Outpatient Surgery.* Ann Surg. 2012 Jun; 255(6):1093-9.
2. *Antithrombotic therapy for VTE disease: antithrombotic therapy and prevention of thrombosis*, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines.
3. *Recommended Practice for Prevention of Deep Vein Thrombosis*. Association of peri Operative Registered Nurses. March 1, 2011.
4. *Caprini, JA. Risk Assessment as a Guide for the Prevention of the Many Faces of Venous Thromboembolism,* AM J Surg 2010; 199:S3.


*The most recent QPSD Advisory, **Venous Thromboembolism Risk Assessment and Prevention**, just published and available on the QPSD website, is a timely reference and supports Ambulatory Surgical Centers in their development of processes for pre-surgical VTE risk assessment.* Care coordination with accurate pre and post procedure assessment, as well as follow-up on patient compliance with instructions post discharge, are all important to address. The Advisory is available at: *http://www.mass.gov/eohhs/docs/borim/physicians/pca-notifications/vte-risk-assessment.pdf*.

FIGURE 1

Deep Vein Thrombosis (DVT)
Prophylaxis Orders
**Thrombosis Risk Factor Assessment**
**(Choose all that apply)**

**Patient Name:**
**DOB:** **Physician:**
**DOS:** **Account #:**

| Each Risk Factor Represents 1 Point | | |
|---|---|---|
| Age 41-60 years | Yes | No |
| Planned Minor Surgery | Yes | No |
| Major Surgery within the past month | Yes | No |
| Do you have varicose veins? | Yes | No |
| History of Inflammatory Bowel Disease (Ulcerative Colitis or Crohn's disease) | Yes | No |
| Do you have leg swelling/ edema? | Yes | No |
| BMI >25 | Yes | No |
| History of a Heart Attack/MI | Yes | No |
| History of Congestive Heart Failure (CHF) | Yes | No |
| History of Lung Disease (COPD/Emphysema) including pneumonia less than 1 month ago | Yes | No |
| Did you have a major infection/sepsis less than one month ago? | Yes | No |
| Are you currently on bed rest or restricted mobility? | Yes | No |
| Do you use Birth Control Pills (BCP) or Hormone Replacement Therapy (HRT)? | Yes | No |
| Are you pregnant or have you had a baby within the last month? | Yes | No |
| Do you have a history of an unexplained stillborn infant or a recurrent spontaneous abortion? | Yes | No |
| | Subtotal: | |

| Each Risk Factor Represents 2 Points | | |
|---|---|---|
| Age 61-74 years | Yes | No |
| History of Cancer | Yes | No |
| Planned Major Surgery | Yes | No |
| Have you had laparoscopic surgery in the last month? | Yes | No |
| Have you been confined to bed rest for more than 72 hours? | Yes | No |
| Have you been treated with a plaster cast within the past month? | Yes | No |
| | Subtotal: | |

| Each Risk Factor Represents 3 Points | | |
|---|---|---|
| Age 75 years or older | Yes | No |
| Do you have a history of blood clots including previous DVT or PE? | Yes | No |
| Do you have a family history of blood clots including previous DVT or PE? | Yes | No |
| Do you have a family history of blood clot diseases? | Yes | No |
| | Subtotal: | |

| Each Risk Factor Represents 5 Points | | |
|---|---|---|
| Recent elective total hip or knee replacement surgery | Yes | No |
| Have you had a broken hip, leg or pelvis within last month? | Yes | No |
| Do you have a history of trauma within the last month? (fall, broken bone, car accident) | Yes | No |
| Stroke/CVA within the last month | Yes | No |
| | Subtotal: | |

**TOTAL RISK FACTOR SCORE:** ☐

**FACTORS ASSOCIATED WITH INCREASED BLEEDING**

Patient may not be a candidate for anticoagulant therapy & SCDs should be considered.
Active Bleed, ingestion of Oral Anticoagulants, Administration of glycoprotein IIb/IIIa inhibitors, History of heparin induced thrombocytopenia

**CLINICAL CONSIDERATIONS FOR THE USE OF SEQUENTIAL COMPRESSION DEVICES (SCD)**

Patient may not be a candidate for SCDs & alternative prophylactic measures should be considered.
Patients with Severe Peripheral Arterial Disease, CHF, Acute Superficial DVT

| Total Risk Factor Score | Risk Level | Incidence of DVT | Prophylaxis Regimen |
|---|---|---|---|
| 0-1 | Low Risk | 2% | ☐ Early ambulation |
| 2 | Moderate Risk | 10-20% | Please review with surgical staff. |
| 3-4 | Higher Risk | 20-40% | Please review with surgical staff. |
| 5 or more | Highest Risk | 40-80% | Please review with surgical staff. |

*Updated Date:10/25/2013 08:49:49*

**ADDITIONAL RESOURCE —**

A pamphlet for providers titled, "Patient Safety Toolkit: Ambulatory Surgery and VTE," is available on line from the AAAHC Institute for Quality Improvement. It could be helpful in training efforts. http://www.aaahc.org/Global/pdfs/AAAHC%20Institute%20content/Patient%20Safety%20Toolkits/PST_VTE_FINAL.pdf

## The Use of A Red Dot System to Identify Patients on Anticoagulation Having Endoscopic Procedures

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### Background

Postpolypectomy bleeding occurs in 1 to 6 per 1000 (0.1 – 0.6%) polypectomy procedures as demonstrated in various studies and clinical reports. The bleeding may occur immediately following a polypectomy or may be delayed for up to 29 days. The severity of bleeding can range from minor oozing to arterial pumping. The risks for post polypectomy bleeding are related to the type and size of the polyp, the technique of the polypectomy, and the coagulation status of the patient.[1] Anticoagulation is prescribed for a variety of reasons. Stopping the anticoagulation for an invasive procedure is dependent on many factors. If a decision is made to perform endoscopy in patients receiving anticoagulation, the need to stop or reverse these agents should be individualized. The risks of stopping anticoagulation must be considered, in balance with the risks of bleeding after invasive procedures.[2] Although bleeding can be controlled endoscopically in the majority of patients, studies are suggesting that bleeding is less of a problem when small polyps are removed. Bleeding is more common after removal of large polyps with a thick stalk, and sessile polyps.[3]

The physicians at New England SCOPE utilize the risk stratification, as listed by the American Society for Gastrointestinal Endoscopy guidelines. Procedures classified as high risk for hemorrhage include colonoscopic polypectomy, endoscopic dilatation of strictures in the upper or lower GI tract, and endoscopic therapy of varices. Procedures classified as low risk include diagnostic procedures, with or without biopsy.[4]

### Anticoagulated Patient Comorbidities

Anticoagulants are prescribed for low-risk conditions, including uncomplicated or paroxysmal nonvalvular atrial fibrillation, bioprosthetic valve, mechanical valve in the aortic position, and deep vein thrombosis; and higher risk conditions, including atrial fibrillation associated with valvular disease, prosthetic valves, and mechanical valves in the mitral position.[5]

### Limitations due to Anticoagulation

If a patient receiving anticoagulation therapy has an INR, above the recommended therapeutic level, the physician may elect to postpone the procedure. If the procedure is performed, the physician may refrain from taking any tissue samples to avoid the risk of excessive bleeding. Any significant active cardiopulmonary issues may necessitate cancellation.[6]

### Informed Consent

At the time of the consent for the procedure, the patient is informed that small polyps may be removed and tissue samples obtained. The physician instructs the patient that higher risk procedures, such as removal of large polyps or endoscopic dilatation of strictures will not be performed when the patient is anticoagulated. To perform the higher risk procedures, a discussion among the patient, GI physician, primary care provider, and/or cardiologist must take place to determine if holding the anticoagulation for 4 or 5 days pre-procedure is safe. This decision must be made on an individual basis, dependent on each patient's diagnosis and comorbidities, and in consultation with the patient's prescribing physician.

### New England SCOPE Initiative to Identify Patients on Anticoagulation

New England Scope's PCA (Patient Care Assessment) Committee recognized the importance of improving their processes for identifying patients on anticoagulation. An improved method of identifying anticoagulated patients would avoid inadvertent removal of large polyps and decrease the potential risk. A final resolution was agreed upon, which included the adoption of a "red dot" system. When a patient is identified during the admission process as being on anticoagulation therapy, the admitting nurse is responsible for placing a red dot on the flow sheet, medication reconciliation sheet, sticker sheet and manila folder housing the medical record. The presence of a red dot alerts all caregivers that the patient is currently taking anticoagulant therapy.

*(Continued on page 4)*

*(Continued from page 3)*

This "red dot" safety initiative was implemented in 2013. The process included education of all staff regarding the "red dot" system, as well as how its use would help in identifying all patients that are currently taking anticoagulant therapy. The initiative also included the surveillance of 20 patient medical records on a monthly basis. For a period of three months, the medical records were examined to determine the appropriate use of the "red dot" system. The information was documented on the staff peer reviews and was reported at monthly staff meetings. A policy and procedure was written and implemented to support this safety initiative. Corrective action plans will be performed as necessary to ensure that the policy is continued and carried out by each member of the team.

### Retrospective Audit

An audit was done for the charts of May and June of 2013 to determine the percentage of patients using anticoagulation and to determine how many of those patients had tissue samples taken. During the month of May, of the 911 patients seen, 33 were on anticoagulation medication (3.6%). Specimens were taken on 18 of the 33 anticoagulated patients (54%). There were no inadvertent snare polypectomies. During the month of June, of 826 patients seen, 36 were on anticoagulation medicine, (4.3%). Specimens were taken on 18 of the 36 (50%) anticoagulated patients. There were no inadvertent snare polypectomies.

### Conclusion

Our audit confirmed that no inadvertent snare polypectomies were performed since implementation of the Red Dot System, a finding that we attribute to its success.

### References

1) ASGE Guideline, *Complications of Colonoscopy, Gastrointestinal Endoscopy*. Volume 74, No. 4: 2011. Pg. 745-747.
2) ASGE Guideline, *Management of Antithrombotic Agents for Endoscopic Procedures*. Gastrointestinal Endoscopy, Volume 70, No. 6: 2009. Pg.1060- 1062.
3) ASGE Guideline (*Colonoscopy*), *op. cit*., Pg. 746.
4) Vietch, AM, Baglin, TP, Gershlick, AH, Harnden, SM, Tighe, R, and Cairns, S. *Guidelines for the management of anticoagulant and antiplatelet therapy in patients undergoing endoscopic procedures.* Gut 2008; 57:1322-1329.
5) ASGE Guideline, (*Antithrombotic Agents*), *op. cit*., Pg.1061.
6) ASGE Guideline, (*Antithrombotic Agents*), *op. cit*., Pg.1062.

### ASC Safety and Quality Reviews "Lessons Learned"

- Pulmonary embolism events were noted in the week following procedures. Related factors included: Age < 40, male sex, elevated BMI, anticoagulant medication noncompliance, and immobility.
- Return to surgery for wound bleed revealed anticoagulant bridge therapy had not been included in H&P information.
- Splenic injuries were noted during colonoscopies with polypectomies in the splenic flexure.
- Please review your policies for patient risk assessment, preoperative evaluations, discharge processes, and post discharge follow-up and reporting requirements, to confirm that they are consistent with evidence-based standards, and that you have mechanisms to ensure that these policies are routinely followed by all staff.
- When including information about credentialed providers in your SQR, please refer to the QPSD Guidelines for Collection, Analysis and Reporting of Performance Data. Submission of this information should evidence a review of the provider's involvement in a case. The guidelines are available in the QPS section of the Board's website: http://www.mass.gov/eohhs/docs/borim/physicians/pca-notifications/perform-data-guideline-may-2010.pdf.

## MANAGING ADVANCED DIRECTIVES IN THE AMBULATORY SURGICAL SETTING

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Valley Medical Group's Ambulatory Surgical Center is located in Western Massachusetts and performs an average of 2400 Endoscopy procedures annually. During our Accreditation Association for Ambulatory Health Care (AAAHC) re-certification in January 2013, the on-site reviewer pointed out that our protocols and consent forms did not include any language to address active Advanced Directives. Quite honestly, we hadn't thought of this scenario. The previous assumptions were that only patients at end of life had Advanced Directives. Given that assumption, why would someone with an active DNR order be seeking an endoscopic procedure? The reality is that older and sicker patients are having such procedures done, and more patients (both young and old) are making their wishes known well before end of life. We also took this opportunity to look at current practice and regulations in Massachusetts in regard to Advanced Directives. We found that some things had changed – including the transition from DNR orders to Medical Orders for Life Sustaining Therapy (MOLST).

The first step we took was to look at what our existing policies and procedures covered, including our consent forms. After review and research the policies and consent forms were revised to meet current standards. On the advice of our legal counsel, we added a clause in the Advanced Directive policy that we would not only screen all patients for Advanced Directives, but also screen for active DNR/MOLST orders. If a patient is found to have an active DNR/MOLST order, the patient will be asked whether the DNR order can be suspended during the procedure and the immediate post-procedure recovery period (while the patient is under care at our facility). We added this statement into all of our treatment consent forms. If the patient is unwilling to suspend the DNR/MOLST order during the procedure and immediate recovery period, the physician will assist the patient in making arrangements to have the procedure performed at another facility.

Once we had our policy and consent forms updated, the entire process was reviewed with the staff and physicians. The responsibility of discussing Advanced Directives starts with the physicians and mid-level providers at the pre-procedure office visit. The physician discusses Advanced Directives with the patient again on the date of procedure while completing consent for the procedure.

To date we have not had any patients who have alerted us to an active DNR/MOLST order that would need consent to be suspended during their endoscopy procedure. We are now prepared to manage a patient with an active DNR/MOLST order should this situation present itself in the future.

### QPSD COMMENT

The expectation is that the average ASC patient has few co- morbidities and little chance of an adverse event, but unanticipated events do occur and can result in the need for lifesaving interventions. We would be interested in having other ASCs share their experiences in developing processes for managing Advanced Directives and DNR/MOLST orders.

More information on this topic is available from the following sources:


- Massachusetts Medical Orders for Life - Sustaining Treatment. http://www.molst-ma.org/
- Massachusetts General Laws CHAPTER 201D, Section 14. Health Care Proxies. https://malegislature.gov/Laws/GeneralLaws/PartII/TitleII/Chapter201D.
- Federal Regulations. 42 CFR 489.100,102. Advanced Directives. http://www.gpo.gov/fdsys/pkg/CFR-2007-title42-vol4/pdf/CFR-2007-title42-vol4-sec489-102.pdf
- Massachusetts Medical Society. Health Care Proxies and End of Life Care. http://www.massmed.org/Patient-Care/Health-Topics/Health-Care-Proxies-and-End-of-Life-Care/Health-Care-Proxies-and-End-of-Life-Care/
- American College of Surgeons. Statement on Advance Directives by Patients: "Do Not Resuscitate" in the Operating Room. www.facs.org/fellows_info/statements/st-19.html
- Pennsylvania Patient Safety Authority. Advisory. Understanding Living Wills and DNR Orders. http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2008/Dec5(4)/Pages/111.aspx

## DIABETES MANAGEMENT

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Managing diabetic patients at an Ambulatory Surgery Center (ASC) can be a challenge. The staff at our ASC has had many discussions regarding proper management of the diabetic patient. Team members had discussed a variety of issues related to care, including: the parameters for reporting blood sugar levels; who to notify regarding an abnormal level; and whether the primary care physician should be notified, in addition to the surgeon and anesthesia staff. The need for clarification prompted our ASC to design a quality improvement study that would guide us in establishing a protocol for management of our diabetic patients.

Our study was limited to patients receiving insulin and oral glycemic medications. Diet controlled patients and all diabetics who were having YAG laser procedures and not required to be NPO, were exempt from the study. We looked at: when and under what circumstances blood sugars were drawn; how and to whom the results were communicated; and how patients with abnormal blood sugars were managed. The findings helped to re-define our ASC's diabetes management policies and procedures.

The review showed that there was inconsistency among staff in the manner in which they reported results. For example, sometimes the abnormal results were reported to the surgeon, while at other times the results were reported to the CRNA. It was also noted that there was never a time during the study when a result was reported to the primary care physician. The actual results did not play a role in how the staff would report the blood sugar readings.

The findings prompted our ASC to develop a set of procedures to enhance patient safety. The goal was focused on achieving the lowest glycemic level that is safest in terms of hypoglycemic risk for each patient, and to ensure a consistent approach for all the team members in following the process for reporting abnormal blood sugar results.

The following protocols were implemented as a result of our findings:

- **All fasting blood glucose results on all oral and insulin dependent diabetics will be performed in the Pre-Op area.** These results will be recorded in a log book and in the electronic medical record.
- **All insulin dependent diabetics and any other patient who warrants a repeat in a fasting blood sugar will have an additional blood glucose level performed before having a snack in the PACU area.**
- **All blood glucose values less than 70mg/dl or greater than 250mg/dl will be reported to the surgeon and CRNA. Values greater than 350mg/dl will be reported to the surgeon, CRNA, and the primary care physician.** The patient will then be further assessed and a treatment plan, if any, will be ordered.
- **Glucose levels will be re-assessed on any patient requiring treatment for hypo/hyperglycemia. If necessary, further testing may be required depending upon a patient's signs and symptoms, as well as the possibility of further treatment.**
- **Interview/assess the patient for further signs and symptoms of hypo/hyperglycemia.** Report the assessment findings to the surgeon and CRNA.
- **If applicable, and if the patient has his/her own insulin, the staff will obtain orders from the surgeon, advising the patient to independently administer his/her own insulin. The RN will supervise the patient technique to assure proper administration of the insulin. The RN will NOT administer the insulin UNLESS the insulin is ordered by the surgeon and the insulin is in its original container and properly labeled. Insulin orders will be at the surgeon's direction depending upon the individual's signs and symptoms of hyperglycemia. No orders will be obtained from the primary care physician due to the impracticality of having those orders signed in a timely manner.** The RN may obtain a verbal recommendation from the primary care physician. The RN will then inform the surgeon regarding the primary care physician's recommendations. However, the surgeon is ultimately responsible for giving all insulin orders at the ASC.

The implementation of this policy has improved the quality of care that our diabetic patients receive. Our ASC is now utilizing a standard protocol for all diabetic patients, which includes guidance on the management of those patients with hypo/hyperglycemia. This policy has clarified the many questions that the staff once had relating to the proper management of diabetic patients.

## QPSD Committee Members

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## Reminders:

- The **Annual and Semi Annual Reports were due March 30th.**
- **We rely on your contact information**. By regulation, QPSD must be notified of any changes to contact information for PCA Coordinators **within 10 days**. The contact form is available online for fax submission. http://www.mass.gov/eohhs/docs/borim/physicians/asc-contact-form.doc.

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To be added to the QPSD Newsletter and advisory mailing list, update facility contact information, submit an article, request an SQR form, or obtain additional information, contact QPSD: Jennifer.Sadowski@state.ma.us or (781) 876-8296.

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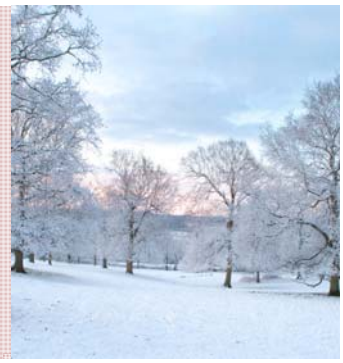

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