



GHAPP

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IBD Anticoagulation: Risk Factors for DVT/PE

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Disclosures

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Disclosures

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- Medical Science Liaison
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Case Study

- Natalie a 22-year-old female with history of ulcerative colitis (pancolitis) recently hospitalized for flare. Treated with IV solumedrol and Infliximab 5 mg/kg.
- Flex sig after 3rd Infliximab infusion shows mild inflammation – much improved.
- Presents for follow up in clinic. Pt mentions left calf pain and red patch on skin.
- What questions do we ask?

A Deeper Dive into Patient History:

1. Smoking history? She recently began smoking cigarettes to help her ulcerative colitis
2. Medications? Taking OCP (levonorgestrel 0.150mg and ethinyl estradiol 0.030mg)

What do you suspect is the cause of her leg pain and redness?

Venous Thromboembolism – VTE

Deep Vein Thrombosis

- IBD patients have a risk of VTE that is 2- to 3-fold greater than that of the general population.
- This risk is higher during disease flares, both for inpatients and outpatients.

DVT

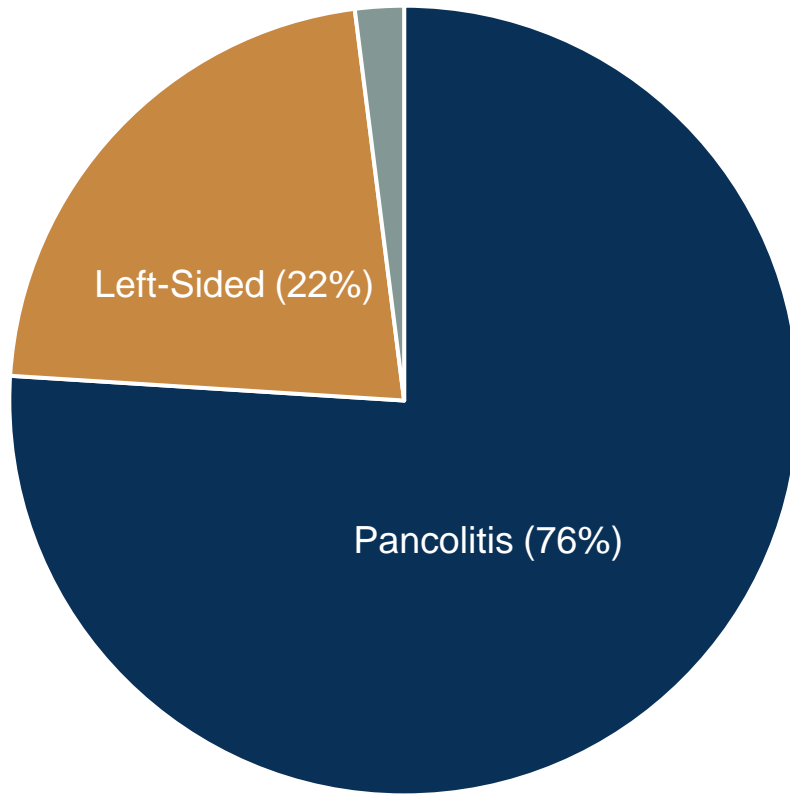
- DVT occurs when a blood clot forms in one of the large veins, usually in the legs, leading to either partially or completely blocked circulation.
- If left untreated, this clot has the potential to move into the lungs and produce a pulmonary embolism.
 - The classic signs of DVT, especially if it occurs in the lower extremities, are leg pain, swelling, tenderness, and redness or discoloration of the skin.
 - Typical symptoms of a pulmonary embolism are: shortness of breath, rapid pulse, sweating, sharp chest pain that worsens with deep breathing, low blood pressure, unconsciousness and coughing up blood.

Risk Factors for VTE in IBD Patients

Risk factor	Prevention/treatment modality
Active disease ("inflammatory burden")	Effective anti-inflammatory treatment
Smoking	Referral for smoking cessation
Oral contraceptive use	Advise alternative methods of contraception (progesterone only)
Hyperhomocysteinaemia	Assess the presence of vitamin deficiency (vitamins B6 and B12 and folic acid) and correct if necessary
Dehydration	Provide adequate hydration
Hospitalization / immobilization	Early mobilization, especially after surgery; graduated compression stockings or pneumatic devices. Medications.
Infections	Timely diagnosis and treatment of infections
Indwelling catheters	Limit the use of venous catheters; when possible, administer oral and enteral nutrition
Obesity	Encourage weight loss (diet, exercise)
Long-distance travel	Frequent ambulation, exercise, hydration, compression stockings

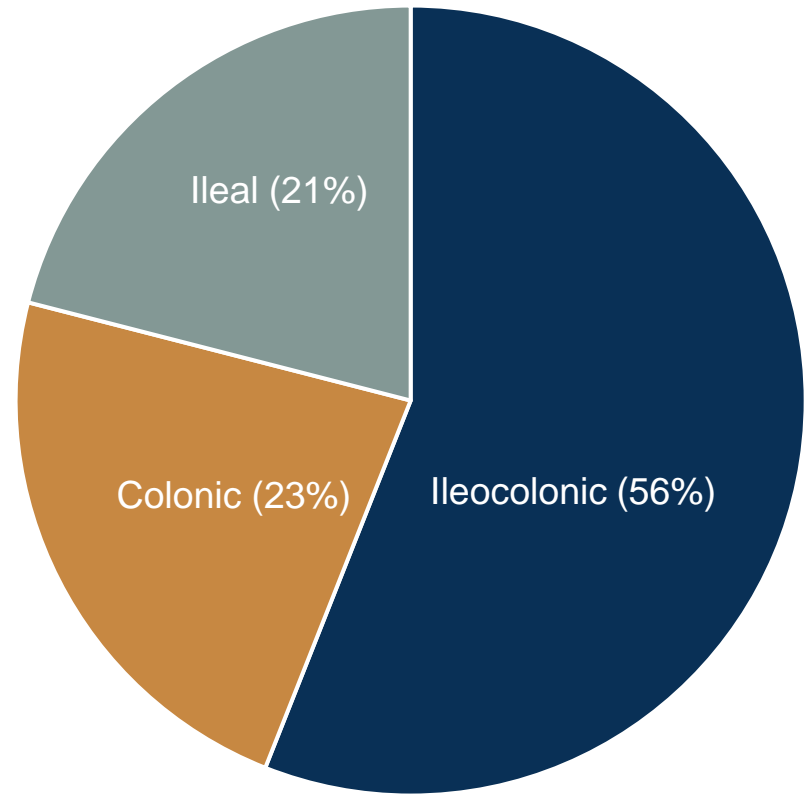
Thromboembolism With IBD: Mayo Clinic Rochester Experience

UC Extent (n=59)



■ Pancolitis ■ Left-Sided ■ Proctitis

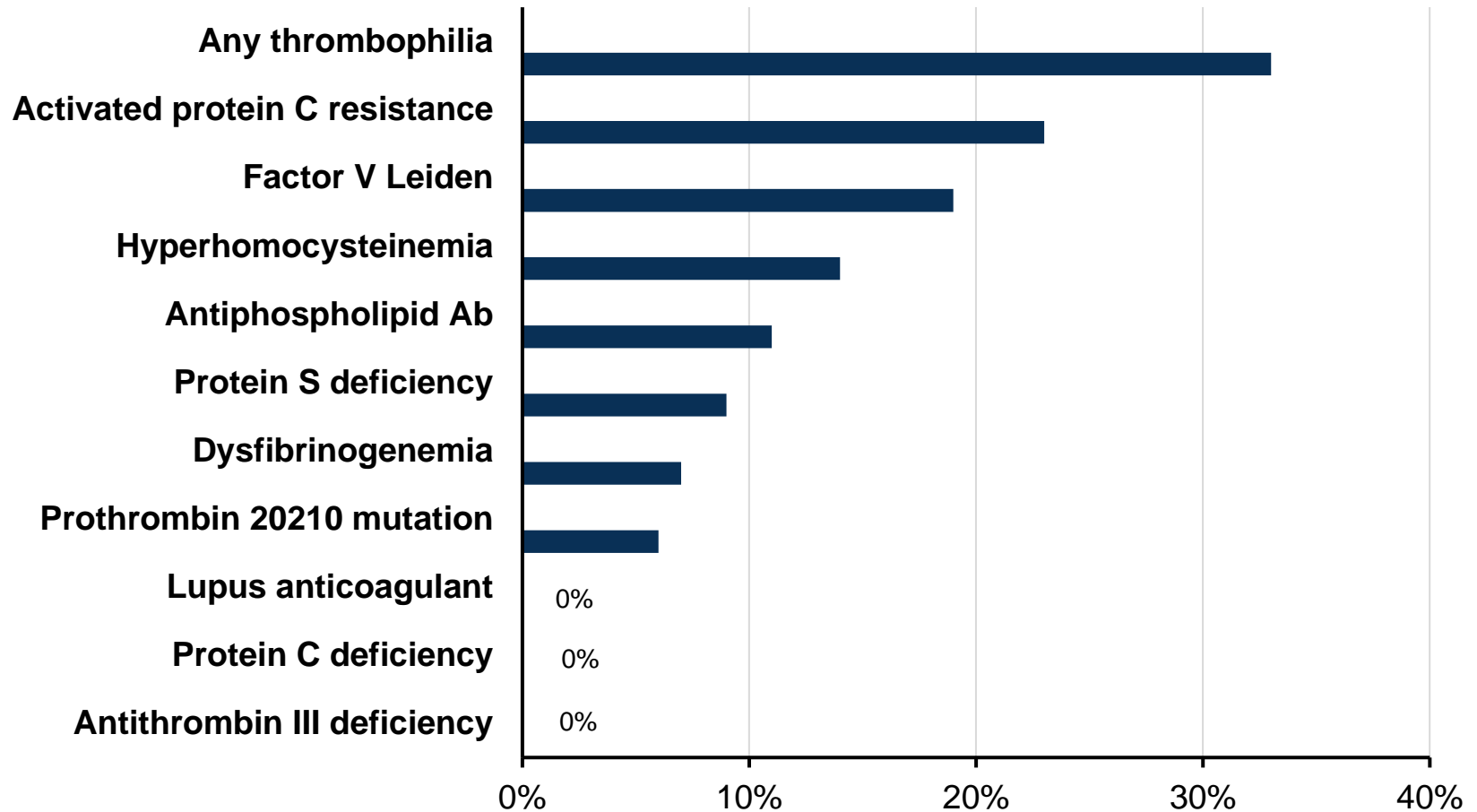
CD Extent (n=39)



■ Ileocolonic ■ Colonic ■ Ileal

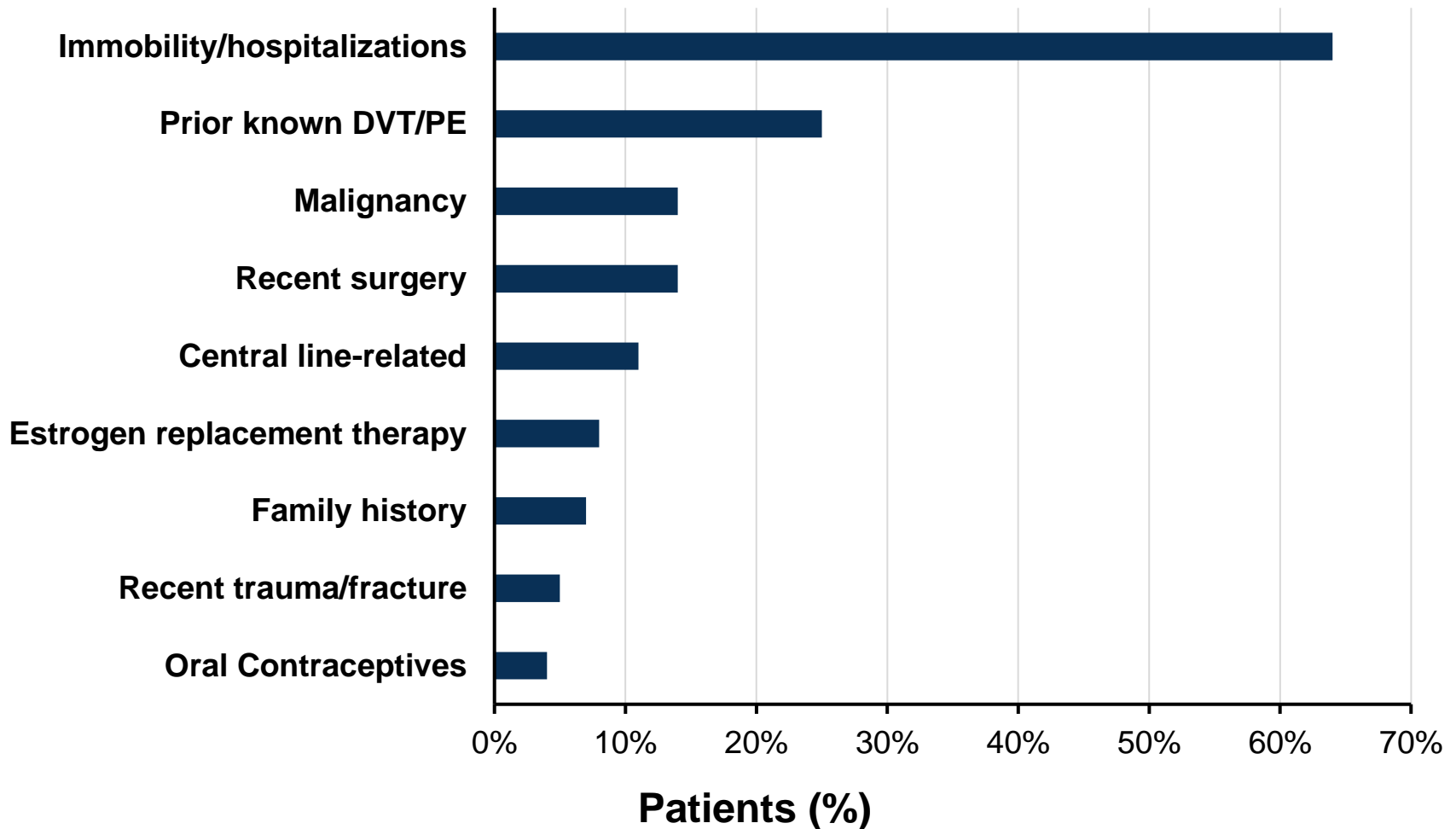
Thromboembolism With IBD: Mayo Clinic Rochester Experience

Thrombophilia Abnormality



Thromboembolism With IBD: Mayo Clinic Rochester Experience

Risk Factors for DVT/PE



How to Screen People for Risk of DVT

Illinois State Medical Society

Are You at Risk for DVT?

FOR PATIENTS

Complete this risk assessment tool to find out.



☐ Male
☐ Female Today's Date



Only your doctor can determine if you are at risk for Deep Vein Thrombosis (DVT), a blood clot that forms in one of the deep veins of your legs. A review of your personal history and current health may determine if you are at risk for developing this condition. Take a moment to complete this form for yourself (or complete it for a loved one). Then be sure to talk with your doctor about your risk for DVT and what you can do to help protect against it. Your doctor may want to keep a copy in your file for future reference.

Directions:

1. Check all statements that apply to you.
 2. Enter the number of points for each of your checked statements in the space at right.
 3. Add up all points to reach your total DVT Risk Score.
- Then, share your completed form with your doctor.

Add 1 point for each of the following statements that apply now or within the past month:

- ☐ Age 41–60 years
- ☐ Minor surgery (less than 45 minutes) is planned
- ☐ Past major surgery (more than 45 minutes) within the last month
- ☐ Visible varicose veins
- ☐ A history of Inflammatory Bowel Disease (IBD) (for example, Crohn's disease or ulcerative colitis)
- ☐ Swollen legs (current)
- ☐ Overweight or obese (Body Mass Index above 25)
- ☐ Heart attack
- ☐ Congestive heart failure
- ☐ Serious infection (for example, pneumonia)
- ☐ Lung disease (for example, emphysema or COPD)
- ☐ On bed rest or restricted mobility, including a removable leg brace for less than 72 hours
- ☐ Other risk factors (1 point each)**

**Additional risk factors not tested in the validation studies but shown in the literature to be associated with thrombosis include BMI above 40, smoking, diabetes requiring insulin, chemotherapy, blood transfusions, and length of surgery over 2 hours.

For women only: Add 1 point for each of the following statements that apply:

- ☐ Current use of birth control or Hormone Replacement Therapy (HRT)
- ☐ Pregnant or had a baby within the last month
- ☐ History of unexplained stillborn infant, recurrent spontaneous abortion (more than 3), premature birth with toxemia or growth restricted infant.

Add 2 points for each of the following statements that apply:

- ☐ Age 61–74 years
- ☐ Current or past malignancies (excluding skin cancer, but not melanoma)
- ☐ Planned major surgery lasting longer than 45 minutes (including laparoscopic and arthroscopic)
- ☐ Non-removable plaster cast or mold that has kept you from moving your leg within the last month
- ☐ Tube in blood vessel in neck or chest that delivers blood or medicine directly to heart within the last month (also called central venous access, PICC line, or port)
- ☐ Confined to a bed for 72 hours or more

Add 3 points for each of the following statements that apply:

- ☐ Age 75 or over
- ☐ History of blood clots, either Deep Vein Thrombosis (DVT) or Pulmonary Embolism (PE)
- ☐ Family history of blood clots (thrombosis)
- ☐ Personal or family history of positive blood test indicating an increased risk of blood clotting

Add 5 points for each of the following statements that apply now or within the past month:

- ☐ Elective hip or knee joint replacement surgery
- ☐ Broken hip, pelvis or leg
- ☐ Serious trauma (for example, multiple broken bones due to a fall or car accident)
- ☐ Spinal cord injury resulting in paralysis
- ☐ Experienced a stroke



Add up all your points to get your total Caprini DVT Risk Score

What does your Caprini DVT Risk Score mean?

- Risk scores may indicate your odds of developing a DVT during major surgery or while being hospitalized for a serious illness.
- Airplane passengers who fly more than five hours may also be at risk for DVT.
- Studies have shown if you have 0-2 risk factors, your DVT risk is small. This risk increases with the presence of more risk factors.
- Please share this information with your doctor who can determine your DVT risk by evaluating all of these factors.

For more information call ISMS at 1-800-782-4767, ext. 1678
www.isms.org

Adapted with permission. Our thanks to ISMS members J. A. Caprini, MD, associated with NorthShore University HealthSystem February 2013

Caprini Risk Assessment Model

Are You at Risk for DVT?

Only your doctor can determine if you are at risk for Deep Vein Thrombosis (DVT), a blood clot that forms in one of the deep veins of your legs. A review of your personal history and current health may determine if you are at risk for developing this condition. Please take a moment to complete this form for yourself (or complete it for a loved one). Then be sure to talk with your doctor about your risk for DVT and what you can do to help protect against it.

1. Please select your AGE:

- ☐ 0 - 40 years old (0 points)
- ☐ 41 - 60 years old (1 point)
- ☐ 61 - 74 years old (2 points)
- ☐ Age 75 or older (3 points)

Score: _____

2. Add 1 POINT for each statement that applies to you:

- ☐ Within the last month, I have had surgery under general or regional anesthesia that lasted for MORE THAN 45 minutes.
- ☐ Within the last month, I have had or currently have varicose veins. (NOT spider veins)
- ☐ Within the last month, I have had or currently have swollen legs.
- ☐ Within the last month, I have had a heart attack.
- ☐ Within the last month, I have had or currently have a serious infection and was hospitalized, for example pneumonia, cellulitis, etc.
- ☐ I have a history of inflammatory bowel disease (includes Crohn's or ulcerative colitis).
- ☐ I have or have had congestive heart failure.
- ☐ I have a chronic lung disease (for example COPD, emphysema) NOT including asthma.

Score: _____

3. For WOMEN ONLY, add 1 POINT for each statement that applies to you:

- ☐ I currently use birth control (oral contraceptive pills, skin implantable devices, hormonal patches, IUD with hormones, depo shot) or hormone replacement therapy. Not including condoms or barrier devices.
- ☐ I am pregnant or had a baby within the last month.
- ☐ I have a history of an unexplained stillborn infant, THREE (3) or more spontaneous abortions, premature birth with preeclampsia, or baby born smaller than appropriate (low weight at birth).

Score: _____

4. Add 2 POINTS for each statement that applies to you:

- ☐ My doctor told me I have cancer, leukemia, lymphoma, or melanoma.
- ☐ In the last month I have had a non-removable plaster cast or mold that has kept me from bending and/or walking normally on this leg.
- ☐ In the last month, I have had or currently have a PICC line, Port, or central venous access catheter in my neck or chest that delivers blood or medicine directly into my heart.

Score: _____

5. Add 3 POINTS for each statement that applies to you:

- ☐ I have had a blood clot in my legs, arms, abdomen, or lungs.
- ☐ Has anyone in the family (parents, grandparents, aunts, uncles, siblings, cousins) suffered from a blood clot?
- ☐ Have you or any blood relative ever been told that you have an abnormal blood test indicating an increased risk of blood clotting?

Score: _____

6. Please select points for each statement that applies to you

- ☐ I have been in bed for LESS than THREE (3) DAYS associated with sustained walking of fewer than 30 feet. (1 point)
- ☐ I have been in bed for THREE (3) or MORE DAYS associated with sustained walking of fewer than 30 feet. (2 points)

Score: _____

7. Add 5 POINTS for each statement that applies to you:

- ☐ Within the past month, I have had a hip or knee joint replacement surgery. (include if scheduled surgery)
- ☐ Within the past month, I have had a broken hip, pelvis, or leg.
- ☐ Within the past month, I have had a serious trauma (for example multiple broken bones due to fall or car accident).
- ☐ Within the past month, I have had a stroke (clot or hemorrhage) in the brain, transient ischemic attack).
- ☐ Within the past month, I have had a spinal cord injury with paralysis

Score: _____

8. If you have a SCHEDULED SURGERY coming up, please select an option.

- ☐ I have a scheduled surgery under general or regional anesthesia for LESS THAN 45 minutes. (1 point)
- ☐ I have a scheduled surgery under general or regional anesthesia for MORE THAN 45 minutes, including laparoscopic or arthroscopic. (2 points) (EXCLUDING total joint replacement - already included in the score of 5)

Score: _____

(over)

Add up all your points to get your total Caprini DVT Risk Score

Risk scores indicate your odds of developing a DVT during major surgery/hospitalization.

Score 0-2 DVT risk is small.

Patient Follow-Up

- Natalie was sent to ED from clinic and managed by hematology
 - D-dimer, duplex ultrasound, IV heparin then enoxaparin then PO for 3 months.
- Tight management of IBD (may add labs, stool test, flex sig)
- Referred for smoking cessation
- Changed OCP
 - Options include: progestin OCP, progestin injection, progestin implant, progestin IUD. Need to monitor for bone loss q 2 years; Copper IUD

Conclusions

- DVT and PE occur more frequently in IBD patients
 - Patients with chest pain need immediate evaluation, even if they are younger, female, good health, etc.
 - Increased risk likely due to increased inflammation
 - No one specific thrombophilia is increased
 - Hospitalized patients should be on VTE prophylaxis for 30 days post op