



## Venous Update March 2018 DVT

March is National DVT Awareness Month, hence this update will focus on DVT diagnosis and prevention.

As you are probably well aware, Deep Venous Thrombosis (DVT) and Pulmonary Embolism (PE) combined are called Venous Thromboembolism or VTE. The annual incidence of VTE in the US is estimated to be 350,000- 900,000 of which approximately 100,000 die. Of those that survive, 30-50% will go on to develop post thrombotic syndrome and as high as 30% will develop a second DVT within 5 years<sup>1</sup>. As one can imagine, with such a large societal impact, the literature on VTE is extensive and thus summarizing it adequately in a short update is difficult.

For diagnosing DVT, a thorough history and physical will lead to clinical suspicion. I have found that the Wells criteria is a useful tool in identifying patients at higher risk for DVT and it can help determine who best to send on for additional testing. The Wells score incorporates signs, symptoms and risk factors for DVT and will categorize patients as having a low, moderate or high probability of having a DVT. Like most things these days, there is an app for that. MDCalc offers the Wells criteria as well as many other useful formulas. D-dimer is another useful lab in excluding DVT as it is very sensitive but not specific. For patients with moderate or high probability based on their Wells scores or elevated D-dimer, a compression duplex ultrasound is the most widely used imaging tool to confirm or rule out DVT<sup>2</sup>. We do offer DVT rule out ultrasounds in our office.

To best determine risk for DVT and therefore need for chemoprophylaxis, I like the Caprini DVT risk score which has been validated in clinical studies and endorsed by the CHEST consensus guidelines in 2012. For your convenience, I have attached a copy of the Caprini scoring questionnaire. It can also be found online at <https://venousdisease.com/dvt-risk-assessment-online/>. Like MDCalc, there is also a Caprini app available in the app store.

You will note that in the Caprini risk assessment, the only truly controllable risk factors are weight, varicose veins and use of oral contraceptives. I have long postulated that treating varicose veins is easier than getting someone to lower their BMI to 25 or less. Furthermore, treating those veins may improve their tolerance to, and compliance with, exercise. It is also noteworthy that data presented at the 2012

American Academy of Orthopedics Meeting showed higher rates of DVT in patients undergoing total hip arthroplasty prior to treating their veins than in those who had their veins treated prior to joint replacement surgery<sup>3</sup>.

While this update and the included Caprini risk assessment tool barely scratch the surface of the available VTE literature, I hope you find it useful. As always, if you have further questions or if there is a topic you would like covered in a future Venous Update, please feel free to contact me at my office (231)946-1488, on my cell (231) 920-4970 or via email at [bheeringa@miveins.com](mailto:bheeringa@miveins.com)

#### References:

1. CDC Morbidity and Mortality Weekly Report. Grand Rounds: Preventing Hospital Associated Venous Thromboembolism Weekly March 7,2014/ 3(09); 190-193
2. Bates, S et al. Antithrombotic Therapy and Prevention of Thrombosis, 9<sup>th</sup> ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest Feb 2012; 141(2) Supplement: e351S-e418S
3. Dua A, Nieva SS, Sutherland AG. Is previous varicose vein surgery associated with deep vein thrombosis within 90 days of hip and knee replacement? Paper #32. Presented at the American Academy of Orthopaedic Surgeons 2012 Annual Meeting. Feb. 7-11. San Francisco.