

## **SimpliRED D-Dimer in the Diagnosis of DVT**

### ***Scenario 1***

A 62 year old woman presents to emergency with a sore leg. Past history reveals a vein stripping for varicose veins 4 years ago. The patient had a myocardial infarction two years ago. After the infarction she developed shortness of breath and was told that she had "fluid in her lungs". She underwent an echocardiogram and was told that the "front wall of the heart wasn't pumping right."

Since that time, she has been mildly short of breath on exertion, and has intermittent swelling of her ankles bilaterally. She is taking 81 mg of ASA, 10 mg of ramipril, 20 mg of atorvastatin, all once daily, and 50 mg metoprolol b.i.d.

She has recently visited Thailand, and arrived home after a plane trip. Her time in the air was about 20 hours, and she had another five hour wait sitting in an airport lounge. Three hours after arrival home her right calf began to get sore. Subsequently, she noticed redness and swelling, and came to the emergency room.

Examination reviews a regular pulse of 72, bp 120/75, RR 20, temp 37.6, and saturation 94% on room air. The right calf is 3 cm greater in diameter than the left and show mild pre-tibial edema.

The calf is diffusely erythematous and tender to palpation. The left leg shows trace edema. The jugular veins show 5 cm. of elevation. There are no extra heart sounds or murmurs, and the chest is clear.

The patient's d-dimer is elevated. What is the likelihood she has deep venous thrombosis? What if the patient's d-dimer had not been elevated. What then would have been her likelihood of DVT?

### ***Scenario 2***

You receive a second referral. A 28 year old man was previously well. Two days ago he sustained an abrasion of his right leg, bumping it on a table. The previous day he noticed some redness and soreness around the site of the abrasion. The problem worsened today, and he came to the emergency room.

You find a slightly flushed gentleman looking otherwise well. He has a regular pulse of 80, bp 110/70, RR 18, temp 38.3, saturation 97% on room air. Physical exam abnormalities are restricted to the the right leg. You find blanching erythema on the right calf to just below the knee, clearly demarcated. The leg is hot, and tender.

The patient's d-dimer is normal. What is the likelihood he has deep venous thrombosis? What if the patient's d-dimer had not been elevated. What then would have been her likelihood of DVT?