



# What are DVT and PE

By Krish Raina and Avaneesh Jadhav, The GTF Group

# Introduction

- DVT (Deep Vein Thrombosis) and PE (Pulmonary Embolism)
  are both serious medical conditions and should be treated as
  an emergency.
- The incidence of DVT and PE is very high, but often not acknowledged enough.
- Many people start off not knowing they have this condition.

## What is DVT?

- A condition which occurs when a blood clot forms in one or
  - more parts of the body
- Usually forms in the legs

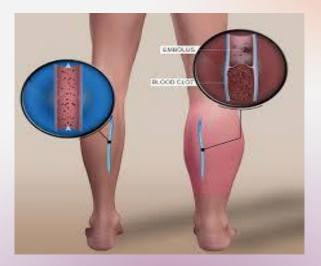


Figure 1

### What is PE?

 PE is a case in which a part of the DVT has broken off the clot, called a thrombus, traveling to the lungs causing several problems.

Figure 2A.

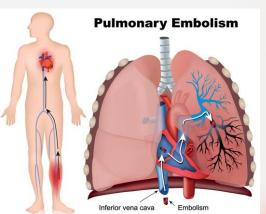
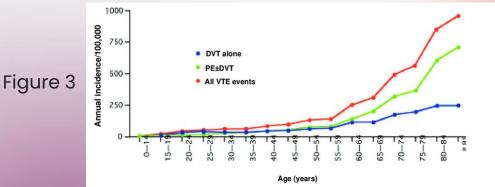


Figure 2B.

# **Incidence of DVT and PE**

- Each year over 200,000 people develop DVT in the U.S., with over a fourth of them having complications of PE
- 1 in 1,000 people every year in the US are affected by Pulmonary embolism.
- Both DVT and PE most commonly occur in people aged 60 and older, although can occur at any age



### Risk Factors of DVT and PE

A risk factor associated with PE is having a

DVT

#### Risks:

- Flying long hours
- Surgery
- Pregnancy
- Smoking
- Cancer
- Sedentary Lifestyle
- Injury
- Age
- Diet



#### **Chest pain**

# Symptoms of DVT and PE.

# Some symptoms of DVT include:

- Swelling in the leg
- Pain in the Leg
- A change in color of the leg - can become red or purple
- A feeling of warmth in the leg



Figure 5A.

# Some symptoms of PE include:

- Shortness of breath
- Acute chest pain
- Coughing with or without blood

# Complications of DVT & PE.

Potential Complications Include:

- Death
- Illness
- Disability
- Post thrombotic syndrome

Comment from Atul Laddu on slide # 11: Addition of the photo of the

anticoagulants is not adding anything on this slide, and should be removed.

# Diagnosis of DVT and PE.

DVT can be diagnosed by:

- Ultrasound
  - Absence of blood flow in ultrasound confirms DVT
- d- Dimer
  - A high presence of d-dimer shows that DVT is present
- PE can be diagnosed through d-Dimer, Chest x- rays, and pulmonary angiography
  - They can be diagnosed if either a small pleural effusion or an elevated diaphragm are spotted

#### Management/Treatment of DVT and PE

#### **Treatment Options Include:**

- Compression Stockings
- Anticoagulants
- Physical therapy post treatment
- Healthy diet and Moderate exercise
- Thrombectomy
- Embolectomy

#### Saturn

Saturn is a gas giant and has several rings Comment from Atul Laddu: You could bring the anticoagulant photo from slide # 11 to this slide.



## Conclusions.

- DVT causes blood clots to form.
- PE is caused by a DVT.
- These conditions usually occur in the elderly, and can appear at any age, gender, race, or nationality
- The conditions should be considered as emergencies and be treated immediately.

# Acknowledgements

We would like to thank our mentor Ms. Priya Lokasundaram, the Board of GTF, and our parents for their support throughout this project. We hope you learned a lot about these very important topics throughout this presentation.

# References.

- https://www.cdc.gov/ncbddd/dvt/facts.html
- https://www.mayoclinic.org/diseases-conditions/deep-vein-thrombosis/symptoms-causes/syc-20352557
- https://www.goodrx.com/health-topic/diagnostics/d-dimer
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4215485/#:~:text=D%2DDimer%20is%20used%20as,a%20m
   arker%20of%20endogenous%20fibrinolysis.
- https://www.stoptheclot.org/learn\_more/signs-and-symptoms-of-bloodclots/how\_dvt\_is\_diagnosed/#:~:text=Sound%20waves%20are%20bounced%20off,confirms%20the%20diagnosis%20of%20DVT.
- <a href="https://www.cdc.gov/ncbddd/dvt/data.html">https://www.cdc.gov/ncbddd/dvt/data.html</a>
- <a href="https://www.mayoclinic.org/diseases-conditions/deep-vein-thrombosis/diagnosis-treatment/drc-20352563">https://www.mayoclinic.org/diseases-conditions/deep-vein-thrombosis/diagnosis-treatment/drc-20352563</a>
- <a href="https://thrombosis.org/2021/10/physical-therapy-blood-clot-management/">https://thrombosis.org/2021/10/physical-therapy-blood-clot-management/</a>