

# H&E DEEP VEIN THROMBOSIS (DVT)

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## PART I — HISTORY

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### I. Identifying Data

- Name
- Age
  - DVT more common in elderly
- Gender
  - OCP use in females increases risk
- Occupation
  - Prolonged sitting (drivers, office workers)
- Recent travel history

Why important?

Helps identify risk factors (Virchow's triad).

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## 2. Chief Complaints

Usually:

- Swelling of limb × duration
  - Pain in limb × duration
  - Redness or discoloration
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## HISTORY OF PRESENT ILLNESS (HOPI)

We now differentiate Acute vs Chronic DVT.

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## ACUTE DVT — HISTORY

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### 1. Onset

Sudden onset swelling (hours to days)

Why?

Acute thrombus formation → sudden venous obstruction.

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## 2. Pain

Ask SOCRATES.

Nature:

- Deep, dull, aching pain
- Worse on walking
- Worse on dorsiflexion (patient may say calf pain on movement)

Why?

Inflammation and venous congestion cause pain.

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## 3. Swelling

- Rapidly progressive?

- Unilateral or bilateral?

Why?

Unilateral acute swelling strongly suggests DVT.

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#### 4. Redness / Warmth

Patient may say:

- "Leg feels hot"

Why?

Inflammatory response.

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#### 5. History of Immobilization

Very important.

Ask:

- Recent surgery?
- Bed rest?

- Fracture?
- Plaster?
- Long flight?

Why?

Venous stasis component of Virchow's triad.

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## 6. History of Malignancy

Ask:

- Weight loss?
- Known cancer?

Why?

Malignancy → hypercoagulable state.

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## 7. OCP / Pregnancy

In females:

- Oral contraceptive pills?

- Recent delivery?

Why?

Estrogen increases thrombosis risk.

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8. Previous DVT?

Why?

Recurrence common.

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9. Symptoms of Pulmonary Embolism

Very important in viva.

Ask:

- Sudden breathlessness?
- Chest pain?
- Hemoptysis?
- Palpitations?

Why?

DVT → embolus → pulmonary embolism.

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## CHRONIC DVT — HISTORY

Now difference.

Chronic DVT = Post-thrombotic syndrome.

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### 1. Duration

Months to years.

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### 2. Swelling Pattern

- Persistent swelling
- Worse in evening
- Relieved by elevation

Why?

Chronic venous insufficiency.

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### 3. Skin Changes

Ask:

- Darkening of skin?
- Ulcer near ankle?

Why?

Venous hypertension → pigmentation → venous ulcer.

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### 4. Varicose Veins?

Secondary varicosities may develop.

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### 5. Recurrent Ulcers?

Suggests chronic venous disease.

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## PAST HISTORY

- Previous DVT?
- Surgery?
- Trauma?
- Coagulation disorders?

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## DRUG HISTORY

- Anticoagulants?
- OCP?
- Hormonal therapy?

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## FAMILY HISTORY

- Thrombophilia?
- Recurrent clotting?

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## PERSONAL HISTORY

- Smoking?
  - Sedentary?
  - Long sitting?
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## PROVISIONAL DIAGNOSIS

Example:

"Acute left lower limb DVT"

or

"Chronic post-thrombotic syndrome of right lower limb"

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## PART 2 — EXAMINATION

Compare BOTH limbs always.

Expose from groin to foot.

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## GENERAL PHYSICAL EXAMINATION

- Vitals
- Tachycardia (PE?)
- Cyanosis
- Pallor
- Signs of malignancy

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## LOCAL EXAMINATION

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### INSPECTION

Compare both limbs.

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### ACUTE DVT — Inspection

- Unilateral swelling

- Shiny skin
- Redness
- Dilated superficial veins
- Increased limb girth
- Possible mild bluish discoloration

Measure circumference at:

- 10 cm below tibial tuberosity

Difference >3 cm significant.

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### CHRONIC DVT — Inspection

- Persistent edema
  - Hyperpigmentation (hemosiderin)
  - Lipodermatosclerosis
  - Venous ulcers (medial malleolus)
  - Dilated superficial veins
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# PALPATION

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## 1. Temperature

Acute DVT → Warm limb

Chronic → normal or slightly warm

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## 2. Tenderness

Calf tenderness on deep palpation.

Important:

Do NOT forcefully squeeze calf (risk embolism).

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## 3. Pitting Edema

Press over shin.

Acute → pitting

Chronic → may become non-pitting later

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#### 4. Homan's Sign

Dorsiflex foot → calf pain.

Important:

Low sensitivity & specificity.

Mention in exam but say not reliable.

Examiners like that.

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#### 5. Peripheral Pulses

Always check:

- Dorsalis pedis
- Posterior tibial

Why?

To rule out arterial disease.

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## PERCUSSION

Usually not very significant.

May detect tenderness.

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## AUSCULTATION

Rarely useful.

But listen for:

- Bruits if suspect AV malformation (rare)
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## DIFFERENTIAL DIAGNOSIS

1. Cellulitis
2. Ruptured Baker's cyst
3. Lymphedema
4. Muscle strain
5. Superficial thrombophlebitis

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## COMPLICATIONS

1. Pulmonary embolism
  2. Chronic venous insufficiency
  3. Post-thrombotic syndrome
  4. Venous ulcers
  5. Phlegmasia cerulea dolens (massive DVT)
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## VIVA POINTS

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### Virchow's Triad

1. Stasis
  2. Endothelial injury
  3. Hypercoagulability
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## Investigations

- D-dimer
  - Duplex ultrasound (gold standard screening)
  - Venography (gold standard but invasive)
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## Wells Score Criteria for DVT

Clinical Feature	Points
Active cancer (treatment ongoing, within 6 months, or palliative)	+1
Paralysis, paresis, or recent plaster immobilization of lower limb	+1
Recently bedridden >3 days OR major surgery within 12 weeks under GA/regional anesthesia	+1
Localized tenderness along distribution of deep venous system	+1
Entire leg swollen	+1

Calf swelling $\geq 3$ cm compared to asymptomatic leg (measured 10 cm below tibial tuberosity)	+1
Pitting edema confined to symptomatic leg	+1
Collateral superficial veins (non-varicose)	+1
Previously documented DVT	+1
Alternative diagnosis at least as likely as DVT	-2

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## Interpretation

- ◆ Two-Level System (Most commonly used)
  - DVT Likely  $\rightarrow$  Score  $\geq 2$
  - DVT Unlikely  $\rightarrow$  Score  $\leq 1$
- ◆ Three-Level System (Original)
  - High probability  $\rightarrow \geq 3$

- Moderate probability  $\rightarrow$  1-2
  - Low probability  $\rightarrow \leq 0$
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## Clinical Use

- DVT Likely ( $\geq 2$ )  $\rightarrow$  Proceed directly to Compression Ultrasound
  - DVT Unlikely ( $\leq 1$ )  $\rightarrow$  Do D-dimer
    - If negative  $\rightarrow$  DVT ruled out
    - If positive  $\rightarrow$  Ultrasound
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$\rightarrow$  The End  $\leftarrow$