Thromboprophylaxis
Case

- 61 year old undergoes TLH
- Surgical time is 65 minutes.
- BMI is 30
- She has a few varicose veins.
- Otherwise healthy.
- Pneumatic compression devices used.
POD 1

- Dies from massive PE
Why So Disastrous?

• Up to 14% of patients undergoing gynecologic surgery for benign conditions develop VTE. (Walsh J Obstet Gynocol Br Commonw 1974)

• Most deaths occur within 30 minutes of event.

• Pulmonary embolism often not suspected (70-80% of cases post mortem).
The Mechanism of Death

• DVT is most common source of PE

• PE is usually a result of an asymptomatic thrombus being released into pulmonary circulation

• If large enough, PE leads to cardiogenic shock, followed by circulatory collapse and death
Thromboprophylaxis

- Yes
- No

- Email orders for DVT in indicated cases
- VTE at 90 days
  - 4.9% in intervention group
  - 8.2% in control group
- PE reduced by 60%
- DVT reduced by 53%

(Kucher et al. NEJM 2005)
Thromboprophylaxis

“Why are we stuck in 1975?”

Clarke-Pearson Obstet Gynecol 2011
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Clarke-Pearson Obstet Gynecol 2011

- 40% of patients receive no VTE prophylaxis
- Assume:
  - 3% DVT rate
  - 0.5% fatal PE (without prophylaxis)
- 292,307 untreated women
  - 8,769 DVTs
  - 1,461 Fatal Pes
- Assume: 60% reduction (appropriate prophylaxis)
  - 5,261 DVTs prevented!
  - 876 fatal PEs prevented!
Caprini DVT Risk App

Be CLOT Aware

Know Your Caprini Score And Save Your Life
The Caprini deep vein thrombosis (DVT) risk score has been validated in clinical trials in more than 17,000 patients and can be used to predict the clinical incidence of DVT. It is endorsed by the CHEST consensus guidelines (2012).
## VTE Risk

Gould et al, CHEST 2012

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>% Risk / Bleeding Assessment</th>
<th>Caprini Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Very low VTE risk</td>
<td>&lt;0.5%</td>
<td>0</td>
</tr>
<tr>
<td>2. Low VTE risk</td>
<td>1.5%</td>
<td>1-2</td>
</tr>
<tr>
<td>3. Moderate VTE risk</td>
<td>3% / Low bleeding risk</td>
<td>3-4</td>
</tr>
<tr>
<td>4. Moderate VTE risk</td>
<td>3% / High bleeding risk</td>
<td>3-4</td>
</tr>
<tr>
<td>5. High VTE risk</td>
<td>6% / Low bleeding risk</td>
<td>&gt;5</td>
</tr>
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<td>6% / High bleeding risk</td>
<td>&gt;5</td>
</tr>
</tbody>
</table>

IPCs alone until bleeding risk is diminished, then LMWH or LDUFH
2012 CHEST Guidelines

• Focused on risk stratification balancing:
  – Patient’s VTE risk (Roger’s / Caprini scores)
  – Patient’s bleeding risk from therapy

• 3 major divisions: medical patients, orthopedic patients, other surgical patients

• “Consider these options as a guide in the decision making to individual circumstances”