TEDS!
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Venous thromboembolism (VTE) is a collective term for both deep vein thrombosis (DVT) and pulmonary embolism (PE). A DVT is a blood clot in the deep veins of the leg. A PE is when all or part of the DVT breaks off, travels through the body and blocks the pulmonary arteries.

Most hospital-acquired VTE occur AFTER discharge – the average DVT after surgery is on day seven, the average pulmonary embolism is on day 21.

25,000 people in the UK die from preventable VTE
Yang (2005) considers PE as a result of untreated DVT, the most preventable reason for in-hospital mortality.

Cost of VTE £26.3 million annually UK

VTE is the single, most common, preventable cause of death in hospital patients (Lifeblood - The Thrombosis Charity; NICE).

One in three surgical patients can develop a DVT if no preventative measures are given (Lifeblood - The Thrombosis Charity; NICE).
How do clots form?

- **Stasis:**
  - The slowing of the flow of circulating blood.
    - Cochrane 2008 \( P<0.001 \)

- **Venous Wall Trauma**
  - Microtears to the endothelium wall.
    - Cochrane 2007- \( P<0.0001 \)
    - Thrombo Embolic Deterrent stockings \{18,14,8,10,8\} mmHg

- **Coagulation Changes:**
  - Alterations in blood viscosity.
WHERE DO CLOTS FORM?

• The most significant DVTs do not begin in the calf, but instead arise in the proximal thigh or groin.

• 49% of thrombi occur in the veins of the thigh and popliteal space without calf involvement.

• 57% of thrombi originate in the femoral vein.
Consequences of DVT

DVT

resolve

permanent

embolus
- Roughly half of patients with DVT involving the thigh will go on to develop a pulmonary embolism
- One person in three patients who suffer a pulmonary embolism will die
- One in every 1,000 women will develop deep vein thrombosis during pregnancy. (RCN, 2014).
- Women are affected by DVT roughly twice as often as men.
- Most often in patients over 40 years old (Moll & Severson, 2004).
The National Institute for Clinical Excellence (NICE, 2010) recommends that all patients should be assessed for risk of developing thrombosis (blood clots) on a regular basis, as follows:

- Every patient should be assessed on admission to hospital
- Every patient should be assessed again, 24 hours after admission to hospital
- Every patient should be assessed again, whenever their medical condition changes
- Every patient should be assessed again before discharge
- Every patient should receive information on how to continue preventative measures at home.
RISK FACTORS FOR VTE

- Surgical procedure with a total anaesthetic and surgical time of more than 90 minutes, or 60 minutes if the surgery involves the pelvis or lower limb
- Active cancer or treatment
- Age over 60 years
- Critical care admission
- Dehydration
- Known thrombophilia's
- Obesity (body mass index (BMI) over 30 kg/m²)
- One or more significant medical co morbidities (for example: heart disease; metabolic, endocrine or respiratory pathologies; acute infectious disease; inflammatory conditions.
- Personal history or first degree relative with a history of VTE
- Use of hormone replacement therapy
- Use of oestrogen-containing contraceptive therapy
- Varicose vein with phlebitis
It is suggested that evidence of the value of compression stockings in preventing VTE dates back to 1952. They are considered an effective method of DVT prevention. Anti-embolism stockings have been shown to reduce the incidence of DVT considerably when worn by patients undergoing abdominal surgery and when used in conjunction with low dose anticoagulant therapy. Health professionals realise the importance of anti-embolism stockings, however there is inadequate initiation and documentation regarding their use (Meneilly and Cutcheon, 2013).
Improper application of stockings may potentially cause problems such as DVT, arterial ischemia and gangrene (Arnold, 2002).

Used alone, they reduce the incidence of DVT by over 68% and when used as an addition to mechanical or pharmacological method of prophylaxis they reduce the incidence further up to 85% (Autar, 2009).
T.E.D.™ Anti-embolism Stockings: Sigel Profile

- This graduated compression profile promotes blood flow back to the heart rather than allowing it to pool in the legs.

- Using this compression profile, average femoral vein blood flow velocity is increased to 138.4% of baseline.¹

CONTRAINDICATIONS FOR TEDS

Stockings are not recommended for patients with the following:

- Any local leg condition in which stockings would interfere, such as: dermatitis, vein ligation (immediately postoperative), gangrene, or recent skin graft
- Severe arteriosclerosis or other ischemic vascular disease
- Massive oedema of legs or pulmonary oedema from congestive heart failure
- Extreme deformity of leg
- Recently had a stroke
- Peripheral arterial disease
- Peripheral neuropathy (damage to the sensory nerves)
- An allergy to the stocking material
- A good stocking fit is not possible (NICE, 2010)
The Shocking Stocking Audit....
An Audit on the Use of TEDS for Patients having Surgery at Sligo Regional Hospital
Aims and Objectives

- To determine if current practice is adhering to the recommended guidelines regarding TED Stocking use, application and documentation for patients admitted to the operating room for surgery
- Develop recommendations from the audit findings if practice is not meeting the recommended standard
- To improve the quality and safety of the care the patient receives in the OR
CRITERIA/STANDARDS

- All patients coming to theatre should be wearing TEDS unless contra indicated
- All patients should be measured for correct size of TEDS
- All patients should be offered post operative advice regarding TEDS
- All patients should have size of TEDS recorded in their nursing notes and signed by nurse
METHODOLOGY

- This concurrent audit was undertaken by the Clinical Nurse Manager 2 in the General Operating Theatre over a 4 week period.
- Data was collected on 30 surgical procedures.
- Information was gathered on:
  (a) Type of surgery
  (b) Was patients leg measurements taken
  (c) Was patients leg measurements recorded in the nursing notes
  (d) Was patient given information on TEDS post operatively
  (e) Did patient put TEDS on lying down
TYPE OF SURGERY
Was patient wearing TEDS and was measurements taken for the TEDS
**Wearing and Measurement of TEDS**

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<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Was the patient’s leg measurements signed by nurse</td>
<td>17%</td>
<td>83%</td>
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<td>Was TEDs explained to the patient</td>
<td>73%</td>
<td>27%</td>
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<tr>
<td>Did the patient put on TEDs lying down</td>
<td>40%</td>
<td>60%</td>
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<tr>
<td>Did the patient get information on post op use of TEDs</td>
<td>43%</td>
<td>57%</td>
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STOP AND THINK.......

If you have forgotten
Go back, measure and
fit the stocking!
THANK YOU

Any questions
Teresa/Sally/Bernie