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# Effects of Early Ambulation in Prevention and Treatment of VTE

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# Effects of Early Ambulation in Prevention and Treatment of VTE

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## PATIENT CARE ISSUE

### Background & Significance

- Clinical problem is a discrepancy in the methods of prevention and treatment of VTE
- VTE (venous thromboembolism) is a first event in approximately 100 out of 100,000 people<sup>1</sup>
- VTE is the synthesis of DVT (deep vein thrombosis) which can ultimately lead to pulmonary embolism<sup>2</sup>
- DVT occurs when a clot forms in the peripheral veins, possibly dislodging and journeying to the lungs<sup>2</sup>
- PE (pulmonary embolism) is a blockage in an artery of the lungs and causes permanent tissue damage<sup>2</sup>
- 1 in 5 individuals with PE die almost immediately and a further 40% die within three months<sup>3</sup>
- PE can develop 3-7 days after diagnosis of deep vein thrombosis<sup>4</sup>
- A thrombus may possibly detach due to muscle contraction<sup>5</sup>
- Patients often die within one hour after symptoms appear<sup>4</sup>
- Traditionally, health care providers recommend bedrest<sup>6</sup>
- Prolonged bedridden time increases the risk of PE<sup>4</sup>

## EVIDENCE-BASED PRACTICE QUESTION

**Question:** What does current research deems to be the evidence based practice concerning the use of bed rest compared with early ambulation when either method is combined with thrombolytic therapy in the prevention and treatment of VTE?

**P-** At-risk hospital patients over the age of 18

**I-** Ambulation

**C-** Bedrest

**O-** Efficacy of preventing the progression of a DVT, of developing a new PE, or of death from any component of VTE

## REGISTERED NURSE INTERVIEW

### Interview with Nurse Mike

- Ambulate patient if clinically able to get out of bed
- Consider patient, disease process, and personal ability

### Grandview Hospital Policy for Early Ambulation

- *Lippincott Williams & Wilkins* journal article used for policy  
-Provided by Nurse Corine
- Progressive ambulation used to improve the patient's self-image and confidence
- Progressive ambulation used to prevent complications resulting from long periods of inactivity

## METHODS

### Literature Search Record

Database	Date	Strategy	Number of Articles	Percentage of Relevance
CINAHL	09/26/2012	Searched "ambulation" and "pulmonary embolism" in the title/abstract	8	37.5%
Pubmed	09/12/2012	Searched "pulmonary embolism" and "ambulation" in the title	6	16.6%
Pubmed	09/26/2012	Searched "pulmonary embolism" and "ambulation" in the title/abstract	59	8%
MedLine	09/30/2012	Searched "pulmonary embolism" and "ambulation" in the title	6	16.6%
MedLine	09/30/2012	Searched "pulmonary embolism" and "ambulation" in the abstract	52	9.3%

## ACKNOWLEDGEMENTS

A special thank-you to Nurse Mike and Nurse Corine for their assistance in learning hospital policy.

## SYNTHESIS OF EVIDENCE

### Organization

- Data organized according to:
  - Authors/year of publication
  - Purpose
  - Sample
  - Measurement of results
  - Results
  - Findings
  - Level of evidence
- The evidence was then used as a guide to understanding the research, formulating a conclusion, and synthesizing the findings into an integrated review

## RESULTS

**Aim 1:** To describe current methods in the prophylaxis of deep vein thrombosis and pulmonary embolism

**DVT/VTE Risks Stratification Table<sup>7</sup>**

Score	Risk Categories	Interventions
< 6	Minimal Risk	Ambulation and education
7-10	Low Risk (<10%)	Ambulation, education, and/or GECS
>11	Moderate Risk (11%-40%)	Ambulation, education, GECS, IPC and medical attention

**Aim 2:** To determine if there is a greater risk of developing pulmonary embolism with early ambulation or with bed rest

- Bed rest is prescribed because of the fear that deep vein thrombosis will progress to a pulmonary embolus due to a clot entering the bloodstream<sup>6</sup>
- Early ambulation reduces clot growth and does not increase the risk of PE<sup>8</sup>
- Early ambulation decreases pain and promotes an increased quality of life<sup>7</sup>
- Ambulation provides an increase in ejection ability, decreased edema, and improvement in muscle perfusion<sup>5</sup>

## EVIDENCE-BASED PRACTICE RECOMMENDATIONS

### Conclusions from Research

- Ambulation does not increase the risk of VTE<sup>6</sup>
- Important to encourage early ambulation
- Early ambulation is key to progressing toward a more independent and healthier individual<sup>7</sup>

### Application in Grandview Hospital

- Nursing staff should continue the practice of early ambulation in the prevention and treatment of VTE

## LIMITATIONS

- Small number of participants in some studies
- Inability to isolate just bedrest or just ambulation in experimentation
- Use of sources >5 years old since publishing date of some articles used as references

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