

Venothromboembolism in Hospitalised Patients

A Retrospective Cohort Study

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Introduction:

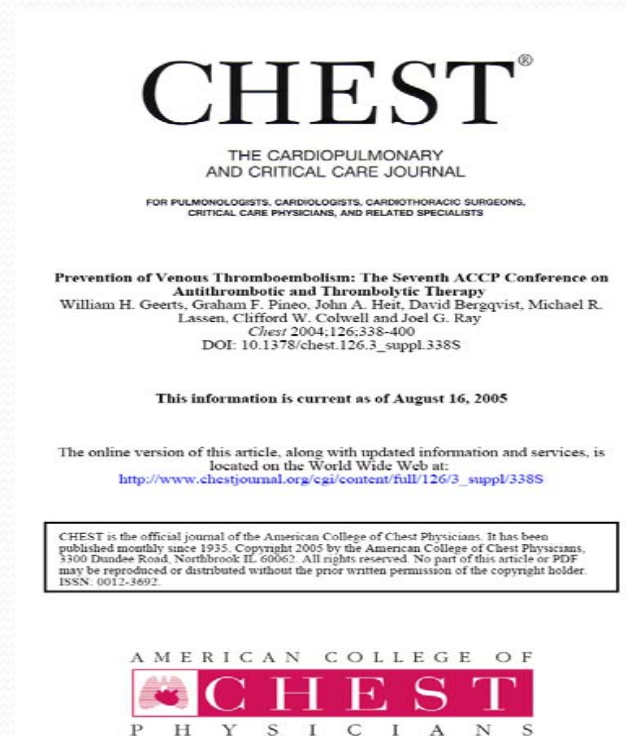
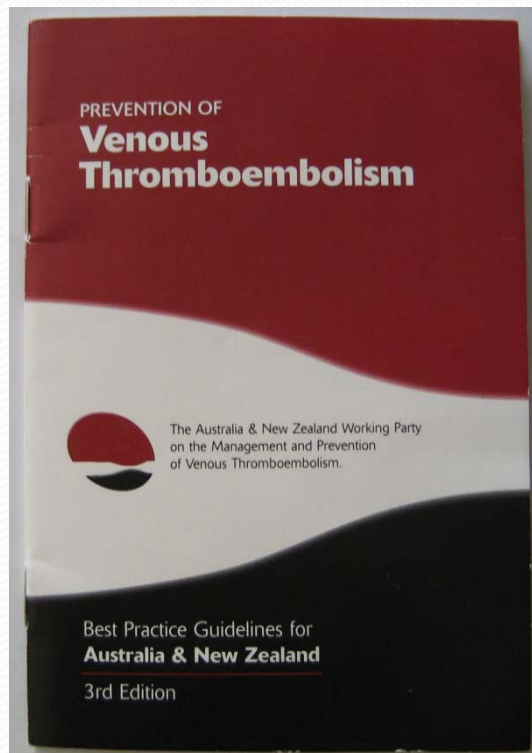
Venous thromboembolism (VTE):

- Major cause of morbidity and mortality in hospitalised patients.
- 32, 000 estimated events per year in Australia
- Mortality estimated at 10% ⁽¹⁾
- VTE cases in acute hospitals are attributable to both medical or surgical admissions.

1) Heit JA et al. Predictors of survival after deep vein thrombosis and pulmonary embolism: a population based cohort study. Archives of Internal Medicine 1999; 159; 445-53.

Evidence for VTE Prophylaxis:

- ACCP 2004
- Australasian Best Practice Guidelines for VTE prevention 2005



Aims:

- Analyse the management of VTE within Hutt Hospital.
- Compare current practices with Australasian Best Practice Guidelines.

Precipitants/ Risk factors for VTE

Prevention strategies

Treatment

Morbidity and Mortality of VTE

Screening practices in Idiopathic VTE

Method:

Retrospective
review of
patients notes

VTE Patient
Questionnaire



Eligibility: VTE between August 2001 – August 2006

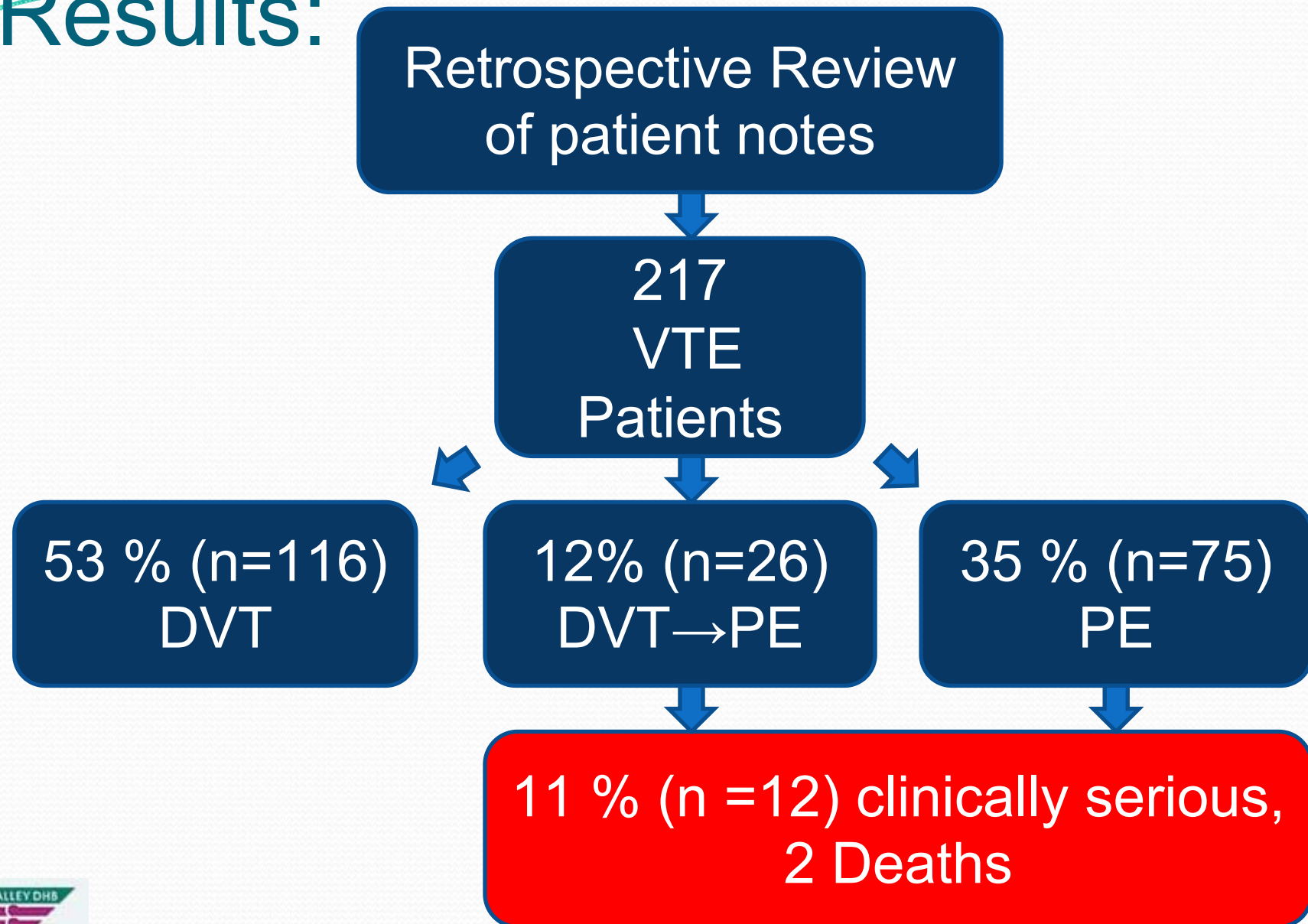
Data Collection: Hospital IBA Data base
District Nurse Data base

Ethical approval granted from Wellington Ethics Committee.

Retrospective review of patients notes

- Control Group established
 - ➔ VTE patients best matched 1:1 for:
 - Age
 - Gender
 - Admission date
 - Hospital Unit
 - Co-morbidities (Charlson Co-morbidity Index)

Results:

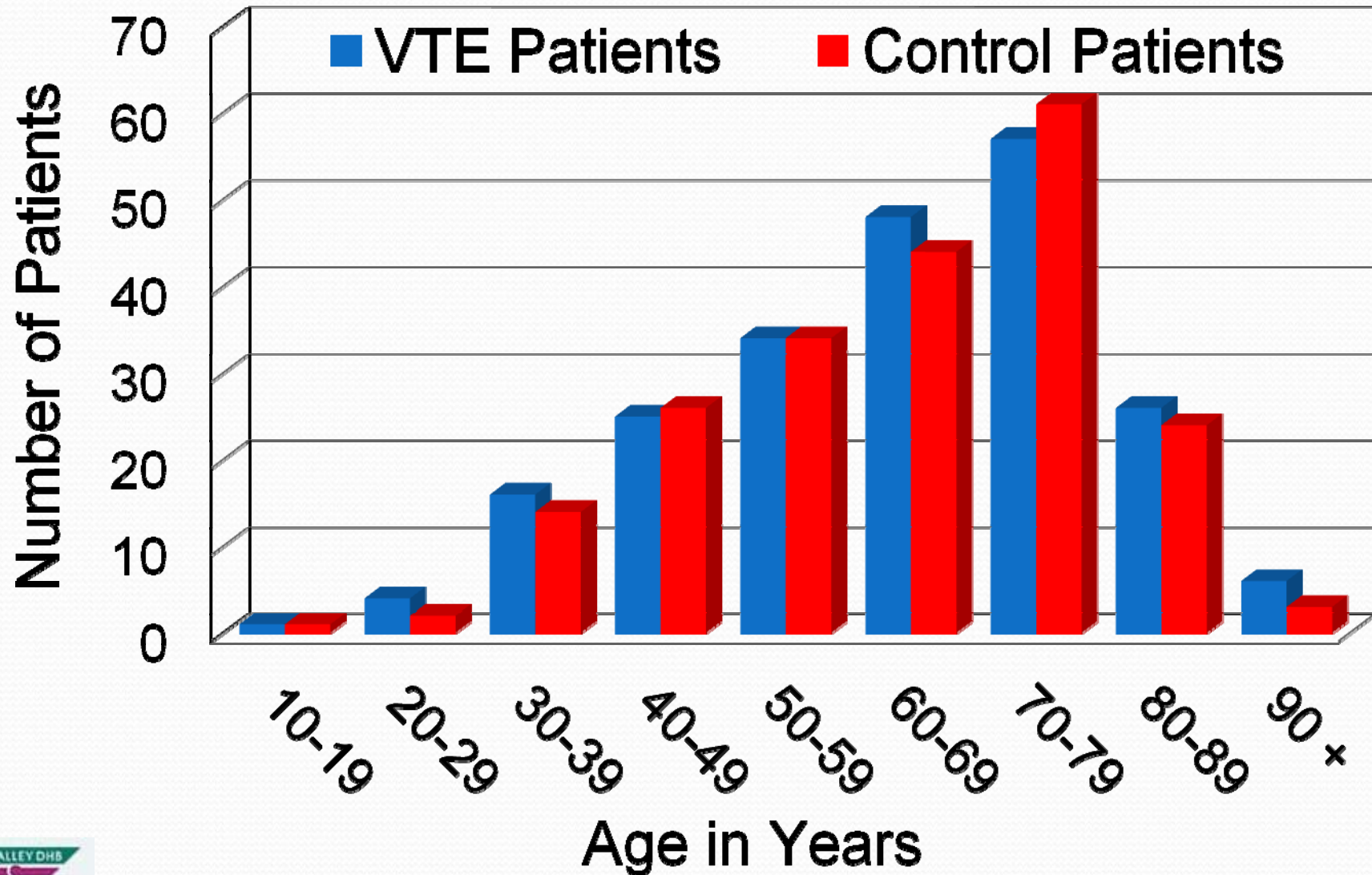


Patient Demographics:

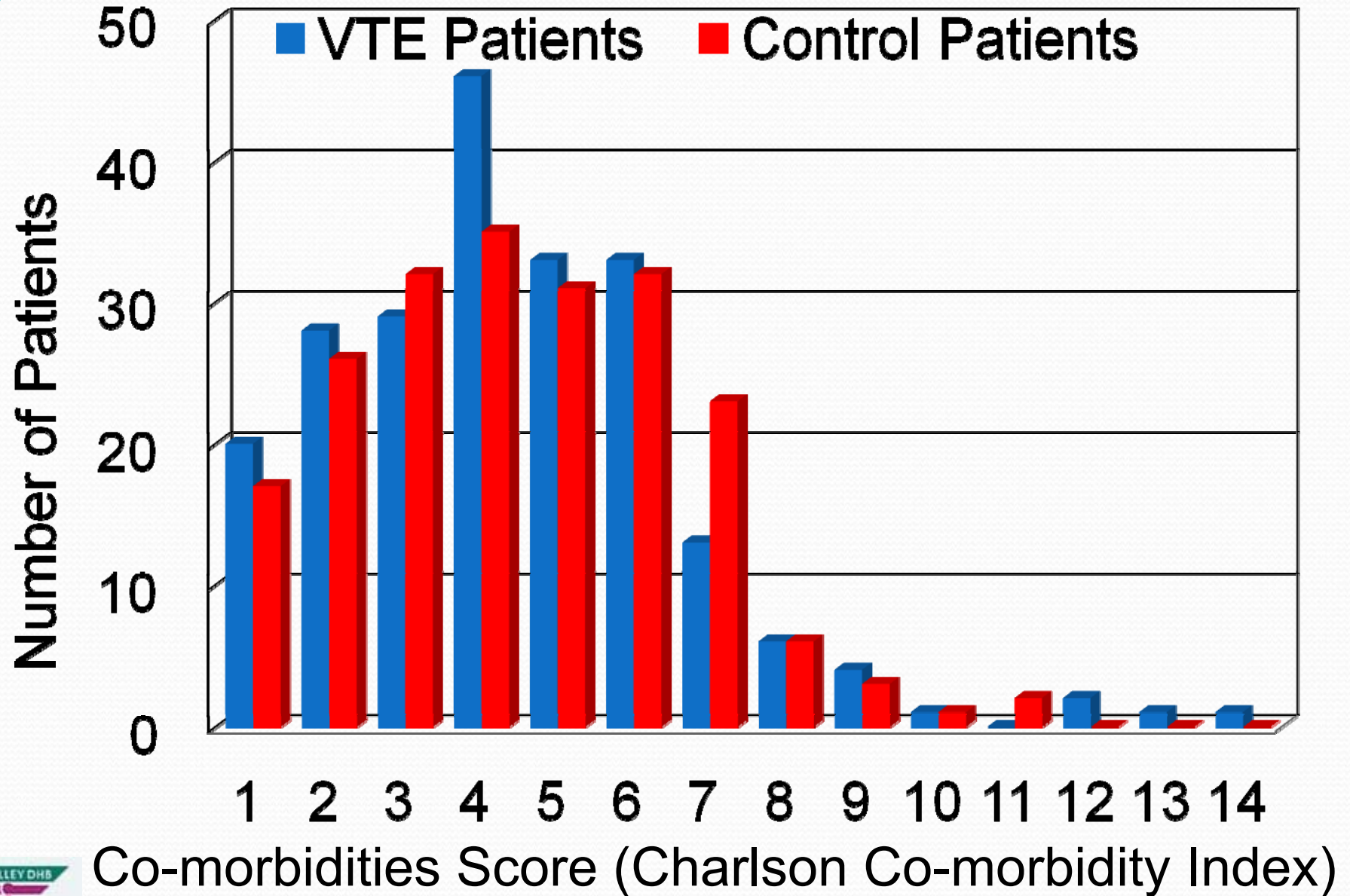
Gender	VTE Patients	Control Group
Male	90	82
Female	127	127

Ethnicity	VTE Patients	Control Group
NZ Europeans	187	182
Maori	13	12
Other	17	15

Age Distribution

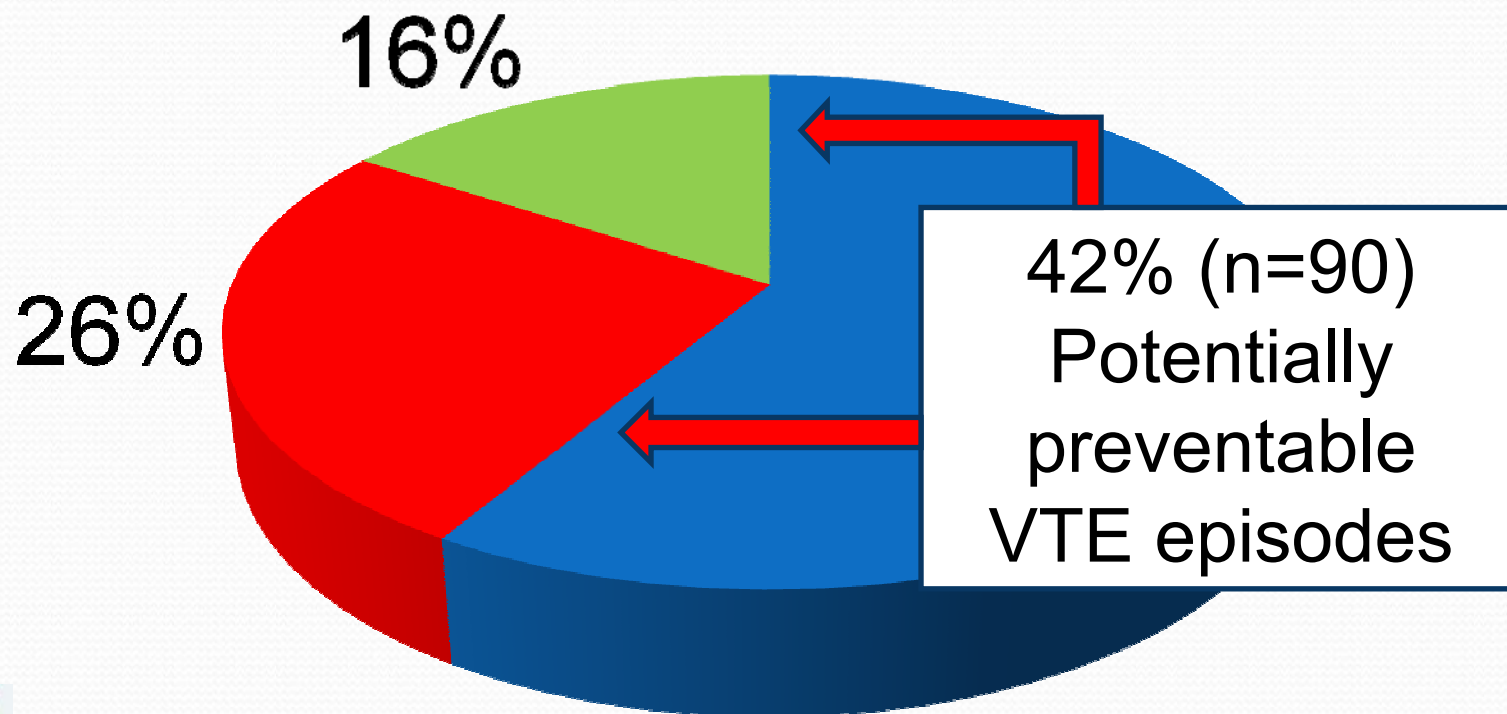


Co-morbidities



VTE Presentations:

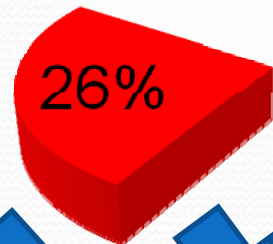
- VTE Presenting Complaint
- Readmitted with VTE
- VTE Developed as IP



Potentially preventable VTE episodes 42% (n=90)

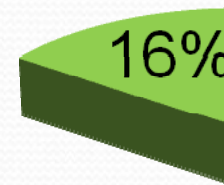
Readmitted with VTE

n=56



Developed VTE as IP

n=34



Surgical n=49	Medical n=7
Orthopaedics n=29	
Gen Surgery n=7	
Other n=13	

Surgical n=27	Medical n=7
Orthopaedics n=13	
Gen Surgery n=5	
Plastics n=5	
Other n=4	

Current Thromboprophylactic Practice vs.

Australasian Best Practice Guidelines:

- 42% n=90 Potentially preventable VTE episodes

Risk Criteria	Any Prophylaxis	Ideal prophylaxis	Relative C.I. to heparin
High n=48	24	0	3
Mod n=40	13	1	2
Low n=2	0	0	0
Totals n=90	n = 37 (41%)	n = 1 (1%)	n = 5 (6%)

Major Risk Factors for VTE:

- Multi-variant logistic regression analysis comparing VTE group with control patients.

Risk Variable	Odds Ratio (OR)	Significance
Previous DVT	OR 32.7	(CI 4.3 – 247.7)
History of Cancer	OR 4.87	(CI 2.0 – 11.8)
Surgery	OR 3.2	(CI 1.86 – 5.57)

VTE Treatment:

- Largely followed consensus Guidelines

Pre-discharge

- 209/217 (96%) patients treated with LMWH

Upon discharge

- 208/217 (96%) received warfarin
- 35/142 (25%) DVT patients received compression stockings upon discharge.

Adverse Clinical Outcomes:

Adverse Outcome	n	%
Anticoagulation:		
Major Bleeding	9	4%
Minor Bleeding	20	9%
Recurrent VTE:		
DVT	19	9%
PE	6	3%

Morbidity and Mortality:

Outcome	VTE Group	Control Group	O.R.	C.I.
Developed Malignancy	n=20	n=4	5.02	1.63–20.4
Overall Mortality	n=29	n=12	2.42	1.16–5.36

Screening for Malignancy in Idiopathic VTE patients:

Idiopathic VTE n=60/217 (28%)



Screening for Malignancy
n=17/60



Diagnosis of new Malignancy
n=8/17

4 other patients subsequently developed
Malignancy that did not undergo the initial
screening

Screening for Thrombophilia in Idiopathic VTE patients:

Idiopathic VTE n=60/217 (28%)



Screening for Thrombophilia
n=27/60



Diagnosis of new Thrombophilia
n=5/27

Conclusions:

- Significant room for improvement in VTE management.
- Study raised awareness of VTE as significant health problem.
- **Implications:**
Future plans for hospital wide VTE risk assessment and thromboprophylactic strategies.

Acknowledgements:

- All patients that participated in the study
- Dr. Sisira Jayathissa – Supervisor
- Jenny Hudson 4th year medical student