

Thromboprophylaxis: It's the **Right** thing

BC Patient Safety and Quality Council
March 2011



Thrombosis Program
Vancouver Coastal Health, University of British Columbia

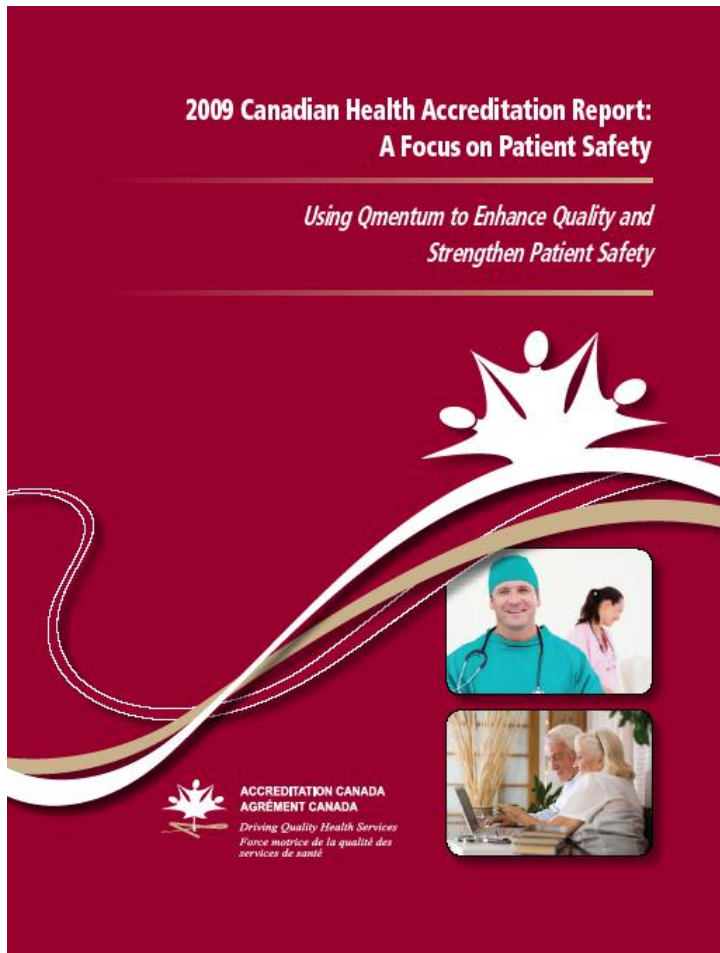


It's the **Right** Thing ...

Thromboprophylaxis is the
1-ranked patient safety
strategy in hospitalized patients



It's the Required Thing ...



ACCREDITATION CANADA
AGRÉMENT CANADA

*Driving Quality Health Services
Force motrice de la qualité des services de santé*

- Introduced VTE prophylaxis as a Required Organizational Practice
- Five tests of compliance
- Reviews started January 2011



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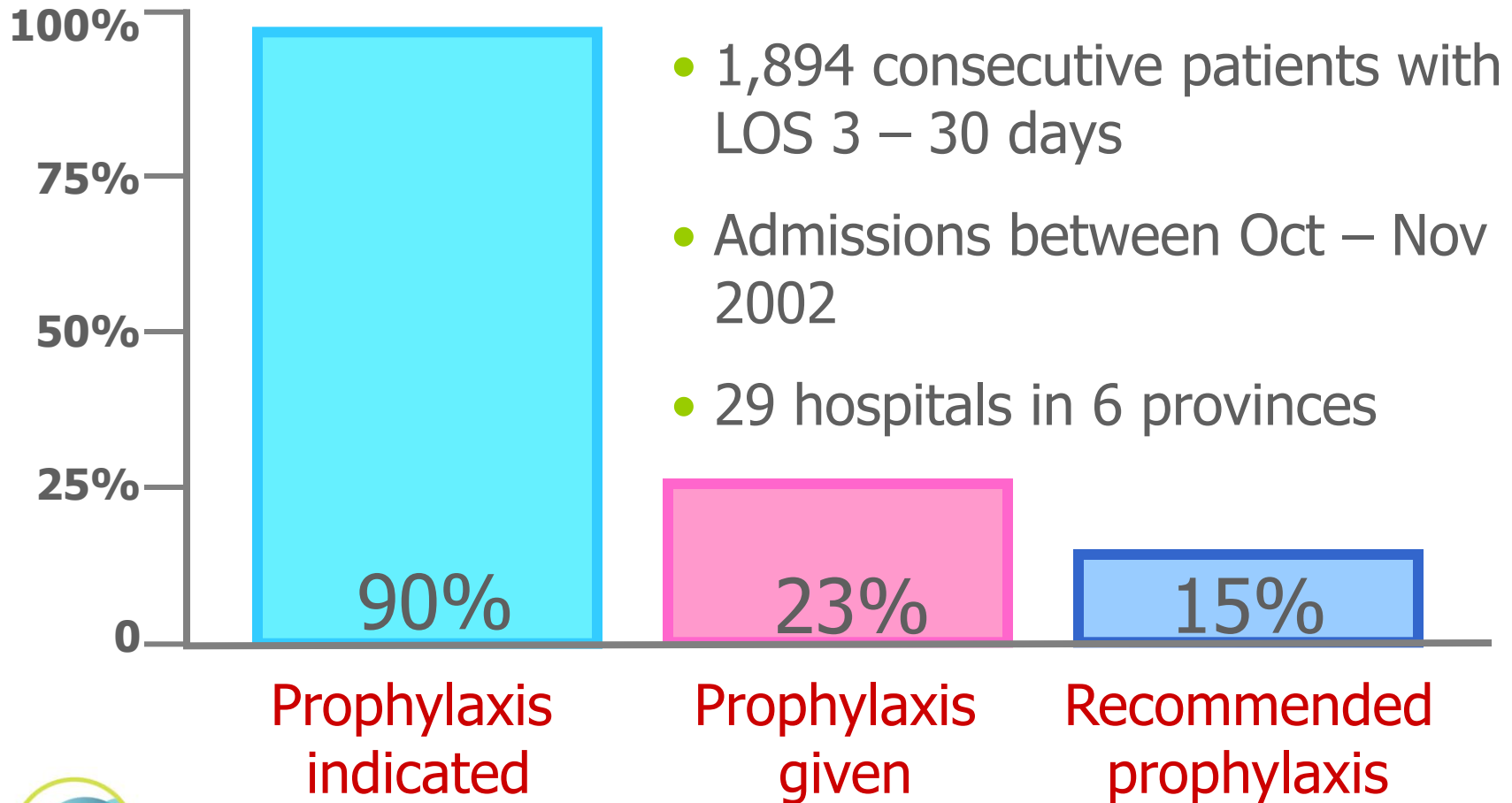
<http://www.accreditation.ca/uploadedFiles/CHAR-2009-EN.pdf>

Tests for Compliance

1. Establish an organization-wide, written policy or guideline on thromboprophylaxis
2. Identify clients at risk for VTE and provides appropriate evidence-based prophylaxis
3. Establish measures, audits and make improvements
4. Provide post-discharge prophylaxis for major orthopedic surgery
5. Provide info to health care professionals and clients about the risks of VTE and its prevention



Canadian prophylaxis practice in medical patients



Estimated VTE burden in BC

- Annual incidence of hospital-related VTE:
 - 1/1000 annual risk of VTE
 - ~60% of all VTE are related to hospitalization

	Population	Total VTE	Hosp VTE
Vancouver Coastal	1,092,358	1100	660
Fraser	1,541,479	1500	900
Island	741,299	740	444
Interior	722,556	720	432
Northern	283,911	280	168
Total	4,381,603	4400	2640

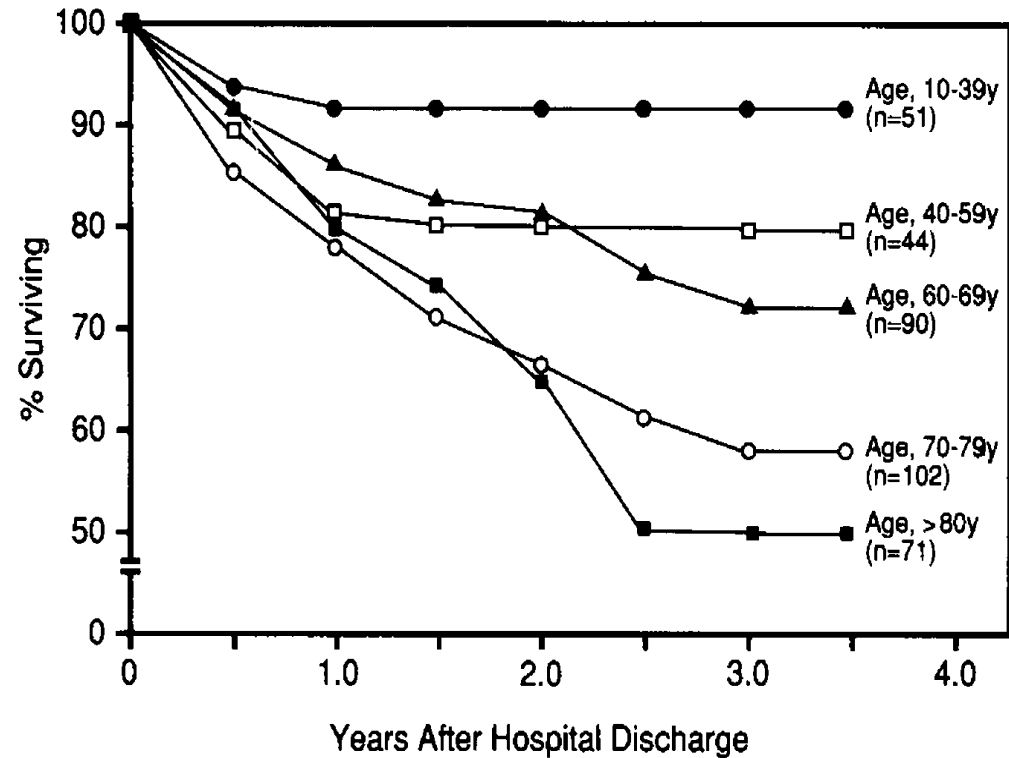
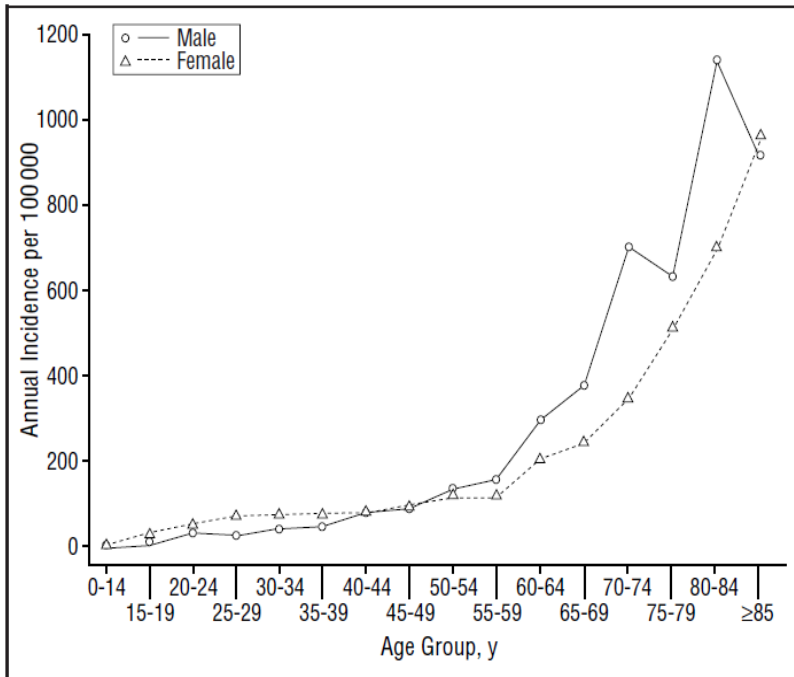


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Risk and Prognosis

- Risk of thrombosis escalates with age
- Case-fatality rate and survival worse with increasing age



Vancouver Coastal Health VTE Prophylaxis Policy and Guidelines

- Timeline and process
- Policy and Guideline
- Things I did wrong
- Things I did right
- Things that I wish I knew about ...



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Policy and Guideline Development

- Apr 2009
 - First met with Dr. Patrick O'Connor
- Sep 2009
 - Presented proposal at HAMAC
- Oct 2009
 - Consulted with stakeholders
 - Bill Geerts presentations to Medicine and Surgery
- Nov 2009
 - Submitted first draft of policy and guidelines to Regional P&T
 - Greg Maynard presentation
- Dec 2009 – Feb 2010
 - Met with MAC, RSEC, Medical Council, Surgery, Anesthesia, ICU
 - Received feedback from stakeholders
- Mar 2010
 - Submitted revised guidelines to Regional P&T



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Policy and Guideline Development

- Apr 2010
 - First meeting of VTE Prevention Program
- Mar – May 2010
 - Further revisions to policy, guidelines and PPO after more stakeholder feedback and meetings
- May 2010
 - Final versions of policy, guideline and PPO reviewed and approved by Regional P&T
- Jul 2010
 - Approval of policy by SET and posting on intranet
- Sep 2010
 - Implementation process ongoing
 - Identifying working groups
 - Meeting with various services
 - Reviewing existing PPOs and accessibility
 - Clarification of “essential” components of PPO
 - Identifying auditing tools and outcome measures
 - Developing educational materials
- to now

VTE prophylaxis policy

- Approved July 26, 2010
- At the time of hospital admission and transfer between services or units:
 - **evaluate** risk of VTE
 - **prescribe** prophylaxis
 - **document** deviation from guideline
- Include VTE assessment and prophylaxis orders in **pre-printed orders**



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Evidence-based guideline

- Based on review of major evidence-based guidelines and practice guidelines from specific societies, associations or organizations
 - ACCP 2008
 - AUA 2008
 - AAOS 2007
 - NICE 2010
 - ACOG 2007
 - EAST 1998
 - ASCO 2007
 - SOGC 2000
 - ASIA 2002
 - ASRA 2010
 - SGES 2007
 - AORN 2009
- Search on Cochrane Systemic Review
- Consult with international content experts



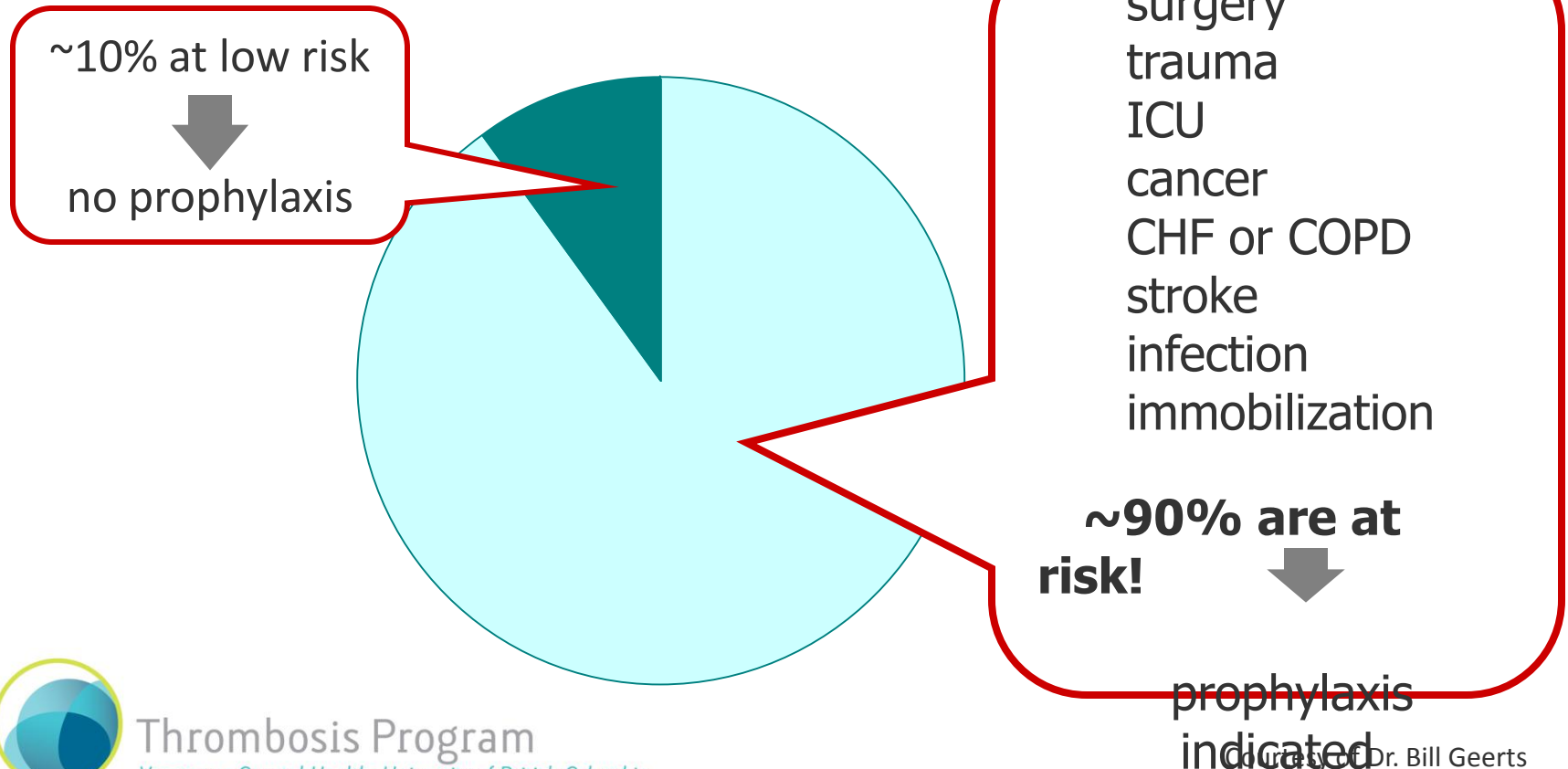
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Risk Stratification

“One size fits all”

- Almost **EVERYONE** admitted to hospital is at risk



Risk Stratification

“Lumping the Likes”

Low risk

- Ambulatory patient without VTE risk factors
- Observation patient with LOS < 2 days
- Same day surgery or minor surgery

Moderate risk

- All other patients (non-low or non-high)

High risk

- Lower extremity arthroplasty or fracture
- Acute spinal cord injury with paresis
- Multiple trauma
- Abdominal or pelvic surgery for cancer



Risk Stratification

“Personalized”

- VTE rate 11% in high-risk patients with score of 4 or higher:

Baseline Feature	Score
1. Active cancer (metastasis and or treatment for cancer within 6 mos)	3
2. Previous VTE (with the exclusion of superficial vein thrombosis)	3
3. Reduced mobility (bedrest with BR privileges for 3 days or longer)	3
4. Already known thrombophilic condition	3
5. Recent (< 1 month) trauma and/or surgery	2
6. Elderly age (> 70 years)	1
7. Heart and/or respiratory failure	1
8. Acute myocardial infarction or ischemic stroke	1
9. Acute infection and/or rheumatologic disorder	1
10. Obesity (BMI > 30)	1
11. Ongoing hormonal treatment	1



Prophylaxis guideline summary

- Two VTE risk categories: low and mod/high
- Low risk group: no pharmacological prophylaxis
- Moderate or High group:
 - LMWH is first choice
 - UFH for renal insufficiency (eGFR < 10 ml/min)
 - Rivaroxaban in orthopedics
- Limit use of mechanical devices to those with contraindication to anticoagulation



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VTE risk factors

- Age 60 years or older
- Cancer or cancer treatment
- Previous VTE
- Critical care admission
- BMI > 30 kg/m²
- Known thrombophilia or first degree relative with VTE
- Estrogen compounds
- Medical condition: sepsis, heart disease, respiratory pathology, inflammatory condition, nephrotic syndrome, antiphospholipid syndrome

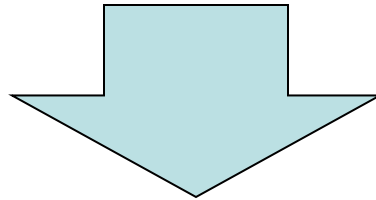


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Low risk patients

- Day surgery with no VTE risk factors
- Total anesthetic and surgical time less than 60 minutes with no VTE risk factors



No anticoagulant prophylaxis indicated
Encourage early ambulation

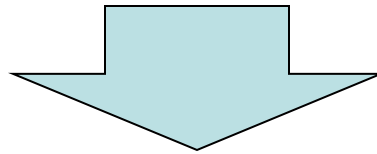


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Moderate/high risk patients

- Total anesthetic and surgical time 60 min or longer
- Acute surgical admission with an inflammatory or intra-abdominal condition
- Significantly reduced mobility for 3 days or more
- Having one or more risk factors for VTE



LMWH (UFH in renal failure) indicated



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Medical patients

- Dalteparin 5000 U SC once daily
- Heparin 5000 U SC bid if eGFR < 10 mL/min
- Mechanical prophylaxis if anticoagulant is contraindicated (optional)
- Hold dalteparin 12 hr before invasive procedure
- Continue dalteparin until discharge



Surgical patients

- Heparin 5000 U SC pre-op
- First dose start to be specified by surgeon:
 - Dalteparin 5000 U SC once daily
 - Heparin 5000 U SC bid if eGFR < 10 mL/min
 - Mechanical prophylaxis if anticoagulant is contraindicated
- Hold dalteparin 12-22 hr before epidural catheter removal and restart no sooner than 2 hr after
- Continue dalteparin until discharge



PPO

- Regional template developed
- Contains 3 essential elements:
 - Risk assessment
 - Pharmacological prophylaxis
 - Contraindications for anticoagulants
- Additional information:
 - Risk categories and risk factors
 - Mechanical prophylaxis and contraindications
 - Details on anticoagulant utilization



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Prophylaxis after discharge

- Prophylaxis for 30 days post-op for major orthopedic surgery
 - Total knee replacement
 - Total hip replacement
 - Hip fracture repair
- Consider prophylaxis up to 30 days for:
 - cancer patients undergoing major surgery
 - Previous history of VTE
 - Multiple risk factors



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Preventing Hospital-Acquired VTE

Preventing Hospital-Acquired Venous Thromboembolism

A Guide for Effective Quality Improvement



AHRQ

Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Safer Healthcare Now! Campaign
How-to Guide: Prevention of Venous Thromboembolism

safer healthcare
now!

May 2008

**Quebec
Campaign**
*Together, let's improve
healthcare safety!*

Getting Started Kit Venous Thromboembolism Prevention How-to Guide



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“ABCs” for VTE prophylaxis

- **A**udit current and ongoing status
- **B**ig Stick
 - Have a written hospital policy on prophylaxis
- **C**onsistency
 - Across disciplines, preprinted orders, keep it simple
- **D**ecision must be mandatory
- **E**ducate and involve everyone
- **F**eedback



Things I did wrong ...

- Not understanding the process or my role
- Assuming that others know the evidence and the process
- Not delivering the right message
- Picking too many battles
- Not utilizing the expertise and tools available
- Not having a clear timeline or specific aim
- Underestimating the scale, the scope and the slope
- “Failing to plan is planning to fail”



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Things I did right ...

- Review available evidence
- Getting support from THE BOSS
- Ask questions
- Squeak, squeak, squeak ...
- Sticking to my guns ...
- Keeping my eye on the prize ...



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Things I wish I knew about ...

Preventing Hospital-Acquired Venous Thromboembolism

A Guide for Effective Quality Improvement



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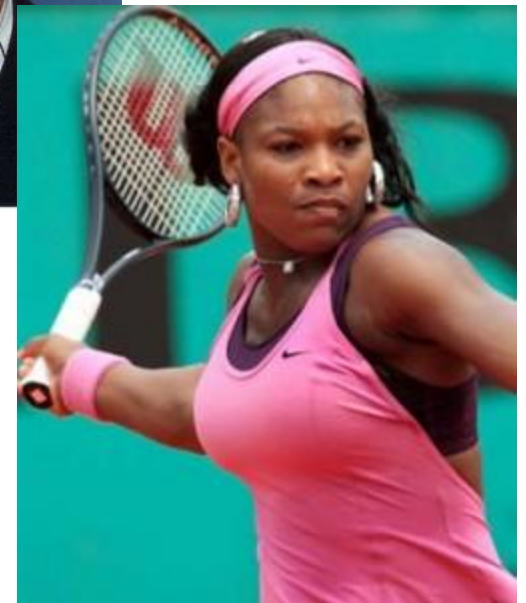
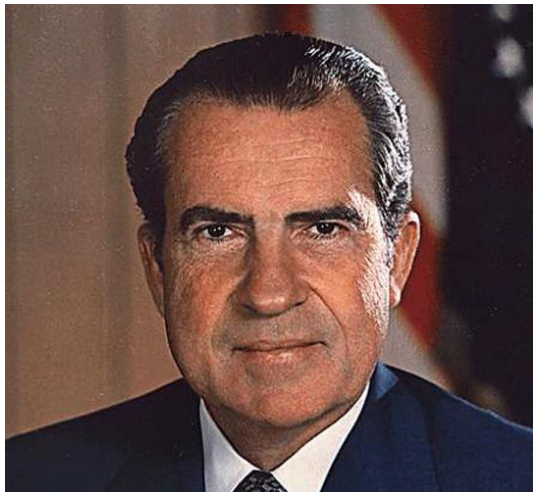
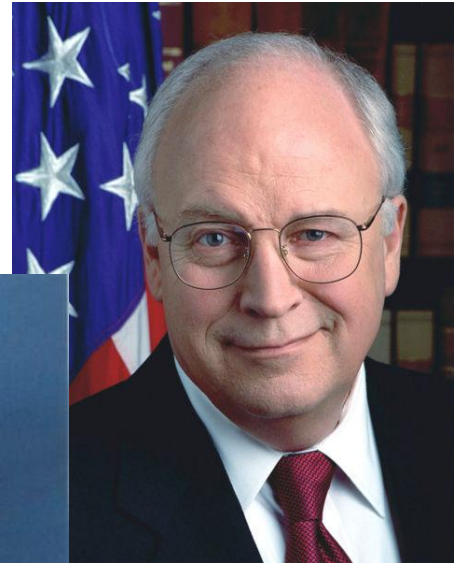
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Questions?



Thank you!



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