Partnership for Patients-National Priorities Partnership®
Patient Safety Webinar Series
Webinar #8: Averting Venous Thromboembolism (VTE) and
Catheter-Associated Urinary Tract Infections (CAUTI)
October 5, 2011

Today’s Moderator

Helen Darling
Co-Chair, National Priorities Partnership

Today’s Featured Speakers

- Bill Geerts, MD, Director, Thromboembolism Program, Sunnybrook Health Sciences Centre
- Sanjay Saint, MD, MPH, Director, VA/University of Michigan Patient Safety Enhancement Program
Today’s Reactor Panel
- Greg Maynard, MD, Senior Vice President, Society of Hospital Medicine, Center for Hospital Innovation and Improvement
- Mary Jo Skiba, RN, BSN, Project Manager, Quality Improvement and Research, Alpena Regional Medical Center

Welcome to the Patient Safety Webinar Series
The objectives of the series are to:
- Share strategies for “getting started” to accelerate improvements in national patient safety efforts
- Highlight the role of public-private partnership in achieving Partnership for Patients goals
- Describe NPP’s role in catalyzing action and enabling change

Objectives for Today’s Webinar
- Provide an opportunity for leaders in VTE and CAUTI prevention to share best practices, success stories, and strategies for getting started
- Generate action in organizations and communities nationwide
- Provide examples of public-private partnerships working collaboratively to achieve results
About the Audience

- Quality Improvement Organization: 9%
- Supplier Industry: 2%
- University / Academy: 1%
- Healthcare purchaser: 2%
- Consumer organization: 1%
- Clinician (non-hospital): 2%
- Healthcare provider (non-hospital): 7%
- Hospital: 62%
- Other: 14%

Audience Regional Location

- No Response: 11%
- West: 18%
- Midwest: 21%
- Northeast: 18%
- South: 32%

Affordable Care Act: Establishing a Framework and Resources for Measurement-Based Improvement

- HHS required to develop a National Quality Strategy (NQS) to make care safe, effective and affordable
- NQS to be shaped and specified with input from diverse healthcare leaders who can “hit and then skate to the puck”
- Coordination and alignment within the federal government and across the public and private sectors is key to the ultimate success of the NQS in transforming the U.S. healthcare system
NPP Input into the National Quality Strategy

- **October 2010**: NPP provides input to HHS to inform the development of the NQS
- **March 2011**: HHS issues NQS based on the triple aim
- **September 2011**: NPP input to HHS helps to make NQS more actionable:
  - Identification of goals and measures
  - Recommendation of strategic opportunities
  - Consensus across key leaders about where they should drive their organizations
  - Full report is available from the Links tab in the upper left corner of your screen

HHS’s National Quality Strategy Aims and Priorities

**NATIONAL PRIORITY**

**Patient Safety**

**Goals:**
- Reduce preventable hospital admissions and readmissions
- Reduce the occurrence of adverse healthcare associated conditions
- Reduce harm from inappropriate or unnecessary care

**Measure Concepts:**
- Hospital admissions for ambulatory-sensitive conditions
- All-cause hospital readmission index
- All-cause healthcare-associated conditions
- Inappropriate medication use and polypharmacy
- Inappropriate maternity care
- Unnecessary imaging
Partnership for Patients Goals

- Keep patients from getting injured or sicker. By the end of 2013, preventable hospital-acquired conditions would decrease by 40% compared to 2010.

- Help patients heal without complication. By the end of 2013, preventable complications during a transition from one care setting to another would be decreased so that all hospital readmissions would be reduced by 20% compared to 2010.

Partnership for Patients Nine Areas of Focus

- Catheter-associated urinary tract infections (CAUTI)
- Central line associated blood stream infections (CLABSI)
- Injuries from falls and immobility
- Adverse drug events
- Obstetrical adverse events
- Pressure ulcers
- Surgical site infections (SSI)
- Venous thromboembolism
- Ventilator-associated pneumonia (VAP)

Partnership for Patients: Goals for VTE and CAUTI

- Reduce 50% of preventable VTEs by 2013.

- Cut the number of preventable CAUTIs in half by 2013.
How Will Change Actually Happen?

And how will it happen at scale?

© National Priorities Partnership

There is no “silver bullet,” but we know we must:

- Work together
- Provide thoughtful incentives
- Engage patients and families, authentically
- Engage leadership
- Assist in the painstaking work of improvement

© National Priorities Partnership

Preventing VTE in Hospitalized Patients: Progress and Remaining Challenges

Bill Geerts, MD, FRCPc
Director, Thromboembolism Program, Sunnybrook HSC
Professor of Medicine and Faculty, Centre for Patient Safety, University of Toronto
National Lead, VTE Prevention, Safer Healthcare Now!
**Rationale for Thromboprophylaxis**

1. VTE is common in hospital patients
2. VTE is bad (acutely and long-term)
3. VTE is preventable (safely and inexpensively)
4. Preventing VTE is standard of care for almost all hospital patients in 2011

**We also need to be aware that . . .**

- 60% of all VTE is hospital-acquired
- VTE is a major public health priority
- More than 400 randomized studies prove that VTE CAN be prevented safely and inexpensively
- Guidelines have recommended routine prophylaxis use for 25 years

**Burden of Hospital-Acquired VTE**

- Population of USA, 2011: 312,000,000
- 1/1,000/yr
- Annual national VTE rate: 312,000
- 60%
- Hospital-acquired VTE rate: 187,000/year
**Thromboprophylaxis Options in 2011**

<table>
<thead>
<tr>
<th>Patient Group</th>
<th>Options</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>LMWH</td>
<td>Discharge</td>
</tr>
<tr>
<td>General, gynec., urology, thoracic, vascular, bariatric</td>
<td>LMWH [low dose heparin]</td>
<td>Discharge</td>
</tr>
<tr>
<td>Major orthopedics</td>
<td>rivaroxaban, LMWH</td>
<td>14-28 days</td>
</tr>
<tr>
<td>Major trauma</td>
<td>LMWH</td>
<td>Discharge</td>
</tr>
<tr>
<td>High bleeding risk</td>
<td>mechanical</td>
<td>Until anticoagulant can start</td>
</tr>
</tbody>
</table>

**The Specific Prophylaxis Matters!**

*21,001 patients who received thromboprophylaxis*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Non-ACCP prophylaxis (n=15,865)</th>
<th>ACCP prophylaxis* (n=5,136)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital-acquired VTE</td>
<td>1.9% &gt; 1.4%</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Hospital-acquired PE</td>
<td>0.9% &gt; 0.5%</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Major bleeding</td>
<td>0.4% &gt; 0.1%</td>
<td>0.002</td>
<td></td>
</tr>
<tr>
<td>Anticoagulant costs/pat</td>
<td>$308 &lt; $577</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Total costs/patient</td>
<td>$23,823 &gt; $17,386</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

*According to 7th ACCP

**Which Hospital Patients Don't Need Thromboprophylaxis?**

- Fully mobile **AND**
- Hospital stay < 2 calendar days

"Patients without risk factors for VTE are called outpatients."

G. Maynard (2010)
National Strategies to Improve Thromboprophylaxis

- National body endorsement: SHM, ASCO, ACP
- National standards of care: NQF/TJC
- Public reporting of quality of care: hospitalcompare
- Pay-for-reporting: SCIP
- Pay-for-performance: CMS
- Hospital accreditation: TJC
- “No pay” events: CMS
- Shared guidance, tools: Soc Hosp Med, AHRQ, IHI
- National patient safety campaign: SG, SSCL, IHI, Partnership for Patients, CDC
- Others

Implementation – National Level

1. Coordinated national strategy required – each federal organization “sings from the same song sheet”
2. Use a single set of guidelines (ACCP)
3. Must be “legislated” as standard of care
4. Standardized resources available (policies, local guidelines, order sets, measurement tools)
5. Consequences of adherence – accreditation, transfer payments, public reporting

Implementation - Local Level

1. Adequate local commitment/resources
2. Organization-wide policy (standardized, simple)
3. Minimize variation in practice – everyone rows in the same direction
4. Embed in order sets with opt out approach
5. Everyone’s responsibility – MD, RN, pharm, etc
6. Mandatory audits and feedback
7. “Measure-vention” – hospital-acquired VTE
8. Consequences of adherence – public reporting, performance rating, top down
Improving DVT Prophylaxis Locally

1. Simplify and standardize it
2. Build it into practice
3. Audit it
4. Keep at it!

Step 1: Simplifying Thromboprophylaxis 2011 Success Story:

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Prophylaxis</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>LMWH</td>
<td>discharge</td>
</tr>
<tr>
<td>General surgical</td>
<td>LMWH</td>
<td>discharge</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>LMWH</td>
<td>disch +10d</td>
</tr>
<tr>
<td></td>
<td>rivaroxaban</td>
<td>15 days</td>
</tr>
<tr>
<td>Trauma/SCI</td>
<td>LMWH</td>
<td>rehab d/c</td>
</tr>
<tr>
<td>ICU</td>
<td>LMWH</td>
<td>discharge</td>
</tr>
<tr>
<td>High bleeding risk</td>
<td>TEDs until risk ↓</td>
<td>LMWH</td>
</tr>
</tbody>
</table>

Step 2. Build it into practice

- Hospital-wide policy/guidelines
- Routine order sets
- Opt-out policy
Embed Prophylaxis into Order Sets

DVT Prophylaxis

Choose one option below:
- enoxaparin 40 mg SC once daily
- enoxaparin 30 mg SC once daily if creat clearance <30 mL/min or weight <40 kg
- For high bleeding risk patients only, apply properly measured, bilateral, below-knee support stockings – reassess daily for conversion to enoxaparin
- No prophylaxis – state reason

Signature of nurse

Improving DVT Prophylaxis Locally
Step 3: Audit it

2011 Hospital-Wide 1-Day Thromboprophylaxis Audit

<table>
<thead>
<tr>
<th>Unit type</th>
<th>No.</th>
<th>Excl.*</th>
<th>Prophylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Indicated</td>
</tr>
<tr>
<td>Surgical</td>
<td>205</td>
<td>39</td>
<td>166</td>
</tr>
<tr>
<td>Medical</td>
<td>185</td>
<td>47</td>
<td>138</td>
</tr>
<tr>
<td>Major ICU</td>
<td>42</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>All</td>
<td>432</td>
<td>95</td>
<td>337</td>
</tr>
</tbody>
</table>

*receiving therapeutic anticoagulation or prophylaxis not indicated

Sunnybrook Thromboprophylaxis Success Story

100% of patients at risk receive appropriate prophylaxis 100% of the time
Adequate Thromboprophylaxis

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2007</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients at risk</td>
<td>9,720</td>
<td>11,207</td>
<td></td>
</tr>
<tr>
<td>Appropriate prophylaxis</td>
<td>58%</td>
<td>98%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hospital-acquired VTE</td>
<td>131</td>
<td>92</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Preventable hospital-acquired VTE</td>
<td>44</td>
<td>7</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Risk assessment tool linked to recommended prophylaxis options
Active monitoring, feedback and interventions to improve adherence

Polling Question

In your hospital, care facility, or community, what is the principal barrier to preventing VTE?
Preventing Catheter-Associated Urinary Tract Infection

Sanjay Saint, MD, MPH
Professor of Medicine
Ann Arbor VA Medical Center
University of Michigan Medical School

Catheter-Associated Urinary Tract Infection (CAUTI)

- UTI causes ~35% of hospital-acquired infections – most due to urinary catheters
- About 20% of inpatients are catheterized
- Leads to increased costs and morbidity
- Annual cost of CAUTI is ~$400 million
- Up to 380,000 infections and 9000 deaths related to CAUTI per year could be prevented

(Centers for Disease Control and Prevention)

The Indwelling Urinary Catheter: A “1-Point” Restraint?

Satisfaction survey of 100 catheterized VA patients:

- 42% found the indwelling catheter to be uncomfortable
- 48% stated that it was painful
- 61% noted that it restricted their ADLs
- 2 patients provided unsolicited comments that their catheter “hurt like hell”

(Saint et al. JAGS 1999)
UTI Prevention Rule #1: Make Sure the Patient Really Needs the Catheter

**Appropriate Indications**
- Bladder outlet obstruction
- Incontinence and sacral wound
- Urine output monitored
- Patient’s request (end-of-life)
- During or just after surgery

(Wong and Hooton - CDC 1983)

---

One Reason Catheters Are Used Inappropriately

<table>
<thead>
<tr>
<th>Level</th>
<th>Proportion Unaware of the Catheter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical students</td>
<td>18%</td>
</tr>
<tr>
<td>House officers</td>
<td>25%</td>
</tr>
<tr>
<td>Attending physicians</td>
<td>38%</td>
</tr>
</tbody>
</table>


---

4 Recent Guidelines on CAUTI Prevention

---
CAUTI Prevention: Concise Summary of Recommendations

- Adherence to infection control principles (aseptic insertion, proper maintenance, education) is vital
- Bladder ultrasound may avoid catheterization
- Condom or intermittent catheterization in appropriate patients
- Do not use the indwelling catheter unless you must!
- Early removal of the catheter using reminders or stop-orders appears warranted

(Saint et al. Jt Comm J Qual Saf 2009)
“ABCDE”

- Adherence to infection control principles (aseptic insertion, proper maintenance, education) is vital
- Bladder ultrasound may avoid catheterization
- Condom or intermittent catheterization in appropriate patients
- Do not use the indwelling catheter unless you must!
- Early removal of the catheter using reminders or stop-orders appears warranted

(Saint et al. Jt Comm J Qual Saf 2009)

Preventing CAUTI

Technical

Socio-adaptive

Why Some Hospitals are Better than Others in Preventing Infection

- National mixed-methods study to understand why some hospitals are better than others
- Phone interviews and site visits to hospitals across the United States
- Identified barriers to – and facilitators of – the use of evidence-based practices to prevent infection
**Key Barriers**

- **Active Resisters:** people who prefer doing things the way they have always done them  
  (Ford et al. Acad Manag Rev 2008)

From an Infection Preventionist: The main urologist “who everybody knows and loves thinks the whole Bladder Bundle is just stupid. There is no one who is passionate about getting Foley catheters out of our patients.”

A bedside nurse: “…[nursing] convenience unfortunately is a high priority …especially with urinary catheters… the workload will be increased if you have to take [patients] to the bathroom or you have to change their bed a little more often ….”

**Key Barriers**

- **Active Resisters:** people who prefer doing things the way they have always done them  
  (Ford et al. Acad Manag Rev 2008)

- **Organizational Constipators:** passive-aggressives who undermine change without active resistance  
  (Saint et al. Joint Comm Journal Qual Safety 2009)
Key Facilitator

Leadership… At All Levels

- Applies not only to the Director...
- Works well with other disciplines
- Examples: infection prevention personnel, patient safety officers, hospitalists, ED docs, CMOs, nurse managers...

4 Key Behaviors of Effective Infection Prevention Leaders

1) Cultivated a culture of clinical excellence
   - Developed a clear vision
   - Successfully conveyed that to staff

2) Inspired staff
   - Motivated and energized followers
   - Some, not all, were charismatic
4 Key Behaviors of Effective Infection Prevention Leaders

3) Solution-oriented
   – Focused on overcoming barriers rather than complaining
   – Dealt directly with resistant staff

4) Thought strategically while acting locally
   – Planned ahead leaving little to chance; politicked before crucial issues came up for a vote in committees

“If not for the great variability among individuals, medicine might as well be a science and not an art.”

- Sir William Osler (1892)

Conclusions

• CAUTI is a common and costly problem
• Several practices appear to decrease CAUTI
• Socio-adaptive components as important as the technical since requires behavior change
• Leadership is important in preventing infection
• Preventing CAUTI is a team sport!
Thank you!

www.catheterout.org

Polling Question

What systems are in place in your organization to prevent CAUTI?

Audience Feedback

Tell us about your experience in reducing VTE or CAUTI

To provide questions or comments, please type into the chat box at the bottom left corner of your screen. To dial into the discussion, call 1-800-768-6569 confirmation code 9894074 and press *1 to ask a question.

Your questions will be addressed during the audience discussion later on in the webinar.
CAUTI Prevention
Implementation in a Community Hospital

Mary Jo Skiba RN BSN
Project Manager QI/Research

Keys to Success

Go Back to Basics
Establish/Maintain Insertion Competency
Educate on Catheter Indications

Take It To the Bedside
Front Line Caregivers
Train the Trainers
Catheter Patrols

Keys to Success

Prioritize and Give Feedback
Outcomes Visible & Consistently Reported
From Board Room to Dept Staff Monthly Dashboard/Routine Agenda Item

Build your Culture
High Level Performance as Norm
Emphasize Patient Comfort and Dignity
Regular Updates
Vary the Learning Experiences

Maintain Vigilance
Build Education/Competency into Established Programs
Build Consistency Into Tracking of Indication/Removal Rates
Immediate Follow-up/Investigation When Rates Rise
### Mistakes in VTE Prevention Orders

- Too Complicated (Point Based models)
- No real guidance (Prompt ≠ Protocol)
- Failure to revise old order sets
- Too many categories of risk
- Allowing mechanical prophylaxis too much
- Failure to pilot, revise, monitor
- Failure to position order set optimally
- Linkage between risk level and prophylactic choices are separated in time or space
Even simpler, if you can get it done:

Two bucket model- OPT OUT

- Default: LMWH DVT order box is pre-checked.
- Doctor can change choice to alternate AC agent and/or add mechanical prophylaxis

OR
- Doctor can OPT OUT by either:
  - Declaring patient to be at low risk
  - Specifying a contraindication to AC and placing patient on mechanical prophylaxis
- Focus concurrent review on those that opt out and verify rationale for it

Measure-vention – Measures that matter

28 patients:
- 20 on anticoagulation
- 4 on mechanical prophylaxis with lab contraindication
- 3 on Nothing (RED)
- 1 mechanical

Improving VTE Prophylaxis

Elements of Success

- Institutional Support
  - Will to Standardize, Measurement, Prioritization
- Physician led, empowered, steering group – team approach
- Standardize – policies and protocols
- SIMPLIFY protocol guidance built into admission and transfer order sets, make it hard to bypass the order set guidance. Pilot order set with cases / docs.
- Reinforce protocol guidance using multiple methods
  - Checklists, education, etc
- Measurement / Audits
- Devise method to detect those without prophylaxis in real time and intervene using multiple methods.
- Join a collaborative improvement effort
Questions for the Panelists

1. In your work, how are you actively engaging patients and families to prevent VTE or CAUTI?

2. What policy or environmental supports are needed to accomplish your goals?

Audience Discussion

Tell us about your experience

To provide questions or comments, please type into the chat box at the bottom left corner of your screen. To dial into the discussion, call 1-800-768-6569, confirmation code 9894074.

Polling Question

In your organization, who takes primary responsibility for assessing patients’ catheter usage?
Polling Question

Does your organization have a system in place for educating patients and their families about their role in their care?

---

Audience Discussion

Talking About Your Experience

What tools and resources do you need to accelerate change in your organization?

To provide questions or comments, please type into the chat box at the bottom left corner of your screen. To dial into the discussion, call 1-800-768-6569, confirmation code 9894074, and press *1 to ask a question.

---

Conclusion

Next Steps, Further Resources, and Concluding Remarks
Polling Question

When do you plan to act on the information provided in this webinar?

Polling Question

Did you find tangible actions and practices you can put to use in your organization or community in this webinar?

Further Resources

Resources, links and PDF documents are available now in the top left corner of your screen in the Links tab, including:

- Partnership for Patients website
- National Priorities Partnership (NPP) website
- National Quality Forum patient safety webpage
- John M. Eisenberg Patient Safety and Quality Award – (application period open from Aug. 1 – Oct. 3)
Concluding Remarks

Helen Darling, NPP Co-Chair

Thank You

A recording of this webinar will be available on the National Quality Forum website within 48 hours. When you exit, you will automatically be directed to an evaluation about this webinar.

For further questions, please contact priorities@qualityforum.org