Expedition: Improving Medication Safety from the Patient’s Perspective
Session 5: Safe Management of Newly Released Anticoagulants and High-Alert Medications

L. Hayley Burgess, PharmD
Jamie Anderson, PharmD, BCPS
Frank A. Federico
Joelle Baehrend
Today’s Host

Dorian Burks
Project Coordinator
Institute for Healthcare Improvement
Phone Connection (Preferred)

To join by **phone**:

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WebEx Quick Reference

• Please use chat to “All Participants” for questions

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Expedition Director

Joelle Baehrend
Director
Institute for Healthcare Improvement
Today’s Agenda

• Welcome & Introductions
• Action Period Debrief
• Safe Management of Newly Release Anticoagulants and High-Alert Medications – L. Hayley Burgess, PharmD
• Action Period Assignment
Expedition Sessions

Session 1 – Improving Polypharmacy  
**Faculty**: Robert Feroli, PharmD and Amanda Brummel, PharmD, BCACP

Session 2 – Health Literacy and Medication Safety  
**Faculty**: Gail Nielsen, BSHCA, FAHRA

Session 3 – Improving Medication Adherence  
**Faculty**: William Strull, MD

Session 4 – Medication Reconciliation  
**Faculty**: Anne Myrka, RPh, MAT

Session 5 – Safe Management of Newly Released Anticoagulants and High-Alert Medications  
**Faculty**: L. Hayley Burgess, PharmD
Assignment:
Reflect on the audit and what you heard from Anne Myrka and identify two challenges and two affordances (things that help) in your medication reconciliation process.

Report out:
What did you learn? Please chat in any reflections on the exercise.
Survey Results - Current State

Safe Management of New Anticoagulants: My hospital has a process to ensure the safe management of newly released anticoagulants and high-alert medications:

- Do not know current status of this practice: 0%
- Do not currently have this practice in place: 10%
- Have a process that supports this practice: 50%
- Process is reliably applied: 25%
- Need further clarification on this practice: 15%
Faculty

Frank Federico, RPh
Executive Director, Strategic Partners
Institute for Healthcare Improvement
Faculty

L. Hayley Burgess, PharmD
Director of Clinical Pharmacy and Medication Safety
Hospital Corporation of America, Clinical Services Group
Jamie Anderson, PharmD, BCPS
Clinical Pharmacy Specialist - Anticoagulation
University of Kansas, School of Pharmacy
Direct Acting Oral Anticoagulants

Medication Management Strategies
Objectives

• Introduce direct acting oral anticoagulants

• Recall benefits and disadvantages to therapy

• Learn strategies to positively impact medication management processes
  • Procurement
  • Storage
  • Ordering
  • Administration
  • Monitoring
A 68 year old male is admitted to the hospital and has rivaroxaban 20 mg PO DAILY from his home medication reconciliation.

Is your system set up for safe medication management of a NOAC

- Indication specific
- Monitoring
- Storage
Anticoagulation Balancing Act

Clot

Bleed
Direct Thrombin Inhibitor: Pradaxa (dabigatran)

Xa Inhibitors: Xarelto (rivaroxaban) Eliquis (apixaban) Savaysa (edoxaban)

Vitamin K Antagonist: Coumadin (warfarin)
Indications

All direct acting oral anticoagulants:

- Afib – Stroke Prevention
- DVT/PE Treatment

Additional indication only for:
- Xarelto (rivaroxaban)
- Eliquis (apixaban)

Postop VTE Prophylaxis
Pros & Cons

Fixed dosing
No routine bloodwork
Rapid onset
Shorter half life
Few food and drug interactions

Lack of reversal agents
Renally dosed
BID dosing
Cost
Lack of data
Medication Management

- Procurement
- Storage
- Ordering
- Administration
- Monitoring
• Procurement

• Manage formulary to avoid therapy disruption

• Be prepared to convert to and from:
  ➢ Parental agents
  ➢ Warfarin
  ➢ Direct oral anticoagulants

Pradaxa (dabigatran) ↔ Enoxaparin
         ↔ Warfarin
         ↔ Eliquis (apixaban)
Swallow capsule whole. Once opened, the product must be used within 4 months.

Store in the original package in order to protect from moisture.
• Ordering

Create order sets for each indication

<table>
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<th>Dose</th>
<th>Directions</th>
<th>Inst</th>
<th>Admin Criteria</th>
<th>Taper</th>
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<tr>
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<td>C DIN</td>
<td>VTE</td>
<td>Post-Op Prophylaxis</td>
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<tr>
<td>15 MG</td>
<td>C BK DIN</td>
<td>VTE</td>
<td>Treatment (Initial 3 weeks)</td>
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<tr>
<td>15 MG</td>
<td>C DIN</td>
<td></td>
<td>Atrial Fibrillation (CrCl 15-50 ml/min)</td>
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</tr>
<tr>
<td>20 MG</td>
<td>C DIN</td>
<td></td>
<td>VTE Treatment (Maintenance dose post 3 weeks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 MG</td>
<td>C DIN</td>
<td></td>
<td>Atrial Fibrillation (CrCl &gt; 50 ml/min)</td>
<td></td>
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</tr>
</tbody>
</table>
**Administration**

- Pradaxa (dabigatran)
- Xarelto (rivaroxaban)
- Eliquis (apixaban)
- Xarelto (rivaroxaban) doses ≥ 15mg/day
- Xarelto (rivaroxaban) doses 10mg/day
- All others

- **DO NOT CHEW OR CRUSH. SWALLOW WHOLE.**

- Crushable for NG Tube

- Take with Food

- May be given without regard to meals
- Monitoring

- No routine coagulation testing

- Renal function
  - CrCl
  - SCr

- CBC (hemoglobin, hematocrit)
- Signs & symptoms of bleeding
“Drugs work only when patients take them.”

Is adherence dependent on delivery of Care?

Monitoring of NOAC helps with better patient adherence.
• Pharmacist-based activities improved patient outcomes.
• Pharmacist ensure appropriate medication selection.
• Pharmacist provide patient education.
• Pharmacist lead in patient monitoring.
Conclusion

- Direct acting oral anticoagulants are an emerging treatment option
  - Education is required
- Appropriate medication management is vital
  - Procurement: Formulary – avoid disruption, know conversion between agents
  - Storage: Per manufacturer, Pradaxa oddities
  - Ordering: Create order sets by indication
  - Administration: 5 Rights, crush, food
  - Monitoring: Renal function, bleeding
Questions/Comments?
References

- Dabigatran. In: Lexi-Drugs Online. Hudson (OH): Lexi-Comp, Inc.; [updated 03/30/15; accessed 04/02/15].
- Rivaroxaban. In: Lexi-Drugs Online. Hudson (OH): Lexi-Comp, Inc.; [updated 04/02/15; accessed 04/02/15].
- Apixaban. In: Lexi-Drugs Online. Hudson (OH): Lexi-Comp, Inc.; [updated 02/02/15; accessed 04/02/15].
- Boehringer Ingelheim Pharmaceuticals Medical Information. Pradaxa stability, storage, dispensing, shipping and disposal.
Questions/Discussion

Raise your hand

Use the chat
Action Period Assignment

Assignment: Run a PDSA (small test of change)

- Test using a Warfarin protocol (or other high-alert med for which you are not currently using a protocol)
  1. Educate staff about the small test of change.
  2. Either develop a protocol or use one developed by another organization.
  3. Identify who, what, where, and when of the test. (one physician, one nurse, one patient, one day)
  4. Complete the test.
  5. Huddle with the team to discuss.
When preparing your test, include your predictions of what will happen. After you conduct the test, answer questions about your predictions. For example, in this case:

- Physician will be able to use the protocol easily. Yes or No
- The protocol fits into the flow of our work. Yes or No
- The protocol does not add any time to the process. Yes or No

If the answer to any question is “No” find out why, modify the protocol and retest.

Share your test! Complete a PDSA worksheet and send to the listserv!  
http://www.ihi.org/resources/Pages/Tools/PlanDoStudyActWorksheet.aspx
Expedition Communications

- All sessions are recorded
- Materials are sent one day in advance
- Listserv address for session communications: medicationsafety@ls.ihi.org
- To add colleagues, email us at info@ihi.org
Thank You!

Please let us know if you have any questions or feedback following today’s Expedition webinar.

Joelle Baehrend  
jbaehrend@ihi.org

Dorian Burks  
dburks@IHI.org