

ROTATION DESCRIPTION

ROTATION TITLE

Pharmacotherapy Clinic (PGY1)

PURPOSE:

Residents in PGY1 residency programs are provided the opportunity to accelerate their growth beyond entry-level professional competence in patient-centered care and in pharmacy operational services, and to further the development of leadership skills that can be applied in any position and in any practice setting. PGY1 residents acquire substantial knowledge required for skillful problem solving, refine their problem-solving strategies, strengthen their professional values and attitudes, and advance the growth of their clinical judgment. The instructional emphasis is on the progressive development of clinical judgment, a process begun in the advanced pharmacy practice experiences (APPE or clerkships) of the professional school years but requiring further extensive practice, self-reflection, and shaping of decision-making skills fostered by feedback on performance. The residency year provides a fertile environment for accelerating growth beyond entry-level professional competence through supervised practice under the guidance of model practitioners. Specifically, residents will be held responsible and accountable for acquiring these outcome competencies: managing and improving the medication-use process; providing evidence-based, patient-centered medication therapy management with interdisciplinary teams; exercising leadership and practice management; demonstrating project management skills; providing medication and practice-related education/training; and utilizing medical informatics.

LEARNING EXPERIENCE DESCRIPTION

The Pharmacotherapy Clinic provides the resident with the opportunity to provide continuity of care to patients who require anticoagulation, enhance patient care through education, monitoring, and close follow-up, and reduce adverse events associated with anticoagulation therapy. The pharmacist will meet with the patient for a 30 minute visit (new patient) or a 15 minute visit (existing patient) during which time the pharmacist will perform INR POCT testing, with an MUSC approved device, as well as provide the patient with medication counseling in regards to medication changes, dietary changes, and potential bleeding problems, dosage adjustments will be made as necessary.

LEARNING EXPERIENCE ACTIVITIES

- Provide patient specific medication management services to promote ethical, compassionate, trusted care and positive outcomes
(R2.7.1)
- Design therapeutic regimens and monitoring plans to achieve desired therapeutic patient goals
(R 2.4.1; R 2.4.2; R 2.4.3; R2.8.1; R 2.9.2)

- Establish collaborative professional and patient-centered relationships
(R1.1.1; R2.1.1)
- Effectively educate health care professionals, patients, students, and residents on drug related topics/issues
(R5.1.1)
- Use organizational and time management skills to fulfill practice responsibilities/duties
(R2.1.1; R2.2.1)
- Design therapeutic regimens and monitoring plans to achieve desired therapeutic patient goals
(R2.8.1; R2.9.2)
- Demonstrate leadership and practice management skills
(R2.2.1; R 7.1.1)
- Utilize effective and efficient communications skills
(R2.8.1; R5.1.1)

REQUIREMENTS OF LEARNING EXPERIENCE

Required hours

8:00am – 4:30pm

As patient care requires, the above listed times may vary

Required meetings for PGY1

Ambulatory Care Journal Club (3rd Monday of the month at 3:00pm)

Ambulatory Care Discussion Groups (Scheduled throughout the rotation month)

Bar and Grill Discussion Group (Scheduled throughout the rotation month)

Department of Pharmacy Meeting (monthly)

Suggested readings for PGY1

An extensive bibliography (see attachment) is provided to the resident.

ROTATION PRECEPTOR(S)

Pamela J Mazyck, PharmD, MSCR, BCPS, CDE

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The resident will also have significant interactions with the following pharmacist:

Jennifer N. Mazur, PharmD, CDE

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METHOD OF EVALUATION

Evaluation of residents will be based on the learning experience objectives outlined by the Residency Program Director (RPD). The RPD will identify the specific goals and objectives on which the resident will be evaluated (available in E-Value). The preceptor and resident will review the resident's customized plan and the learning experience introduction document on the first day of rotation. Feedback will include, but not be limited to, verbal and written mid-point and end of rotation evaluations.

Key References in Anticoagulation Therapy

Consensus Guidelines

Scheife RT, Vanscoy GJ editors. Consensus on contemporary issues with unfractionated heparin: Challenges in Variation and Responsiveness. *Pharmacotherapy* 2004;24(part2):S101-164.

Hirsh J, Guyatt G, Albers GW, et al. The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004 126:172S-173S.

Hirsh J, Raschke R. Heparin and Low Molecular Weight Heparin: The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004 126:188S-203S.

Schunemann HJ, Munger H, Brower S, et al. Methodology for guideline development for the Seventh American College of Chest Physicians Conference on Antithrombotic and Thrombolytic Therapy. The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004 126:174S-178S.

Schunemann HJ, Cook D, Grimshaw J, et al. Antithrombotic and Thrombolytic Therapy: From Evidence to Application. The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004 126:688S-696S.

Anticoagulation prior to Surgery

Dunn AS, Turpie AG. Perioperative management of patients receiving oral anticoagulants: a systematic review. *Arch Intern Med.* 2003 Apr 28;163(8):901-8.

Kearon C: Perioperative management of long-term anticoagulation. *Semin Thromb Hemost* 1998; 24(Suppl 1): 77-83.

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Madura JA, Rookstool M, Wease G: The management of patients on chronic Coumadin therapy undergoing subsequent surgical procedures. *Am Surg* 1994 Jul; 60(7): 542-6; discussion 546-7.

LMWH Safety

Hull RD, Pineo GF, Francis C, Bergqvist D, Fellenius C, Soderberg K, et al. Low-molecular-weight heparin prophylaxis using dalteparin in close proximity to surgery vs warfarin in hip arthroplasty patients: a double-blind, randomized comparison. The North American Fragmin Trial Investigators. *Arch Intern Med.* 2000;160:2199-207.

Levine M, et al. A comparison of low-molecular weight heparin administered primarily at home with unfractionated heparin administered in the hospital for proximal deep-vein thrombosis. *New Engl J Med.* 334:677-681, 1996

McKean, S. Enoxaparin (Lovenox ®)-Home DVT Treatment Program, Harvard Community Health Program, 1998.

Spandorfer JM, Lynch S, Weitz HH, Fertel S, Merli GJ. Use of enoxaparin for the chronically anticoagulated patient before and after procedures. *Am J Cardiol.* 1999;84:478-80, A10.

Weitz J. Low-Molecular-Weight Heparins. *N Engl J Med* 1997;337:688-698.

Anticoagulation for Prevention of DVT/PE

Geerts, W.H; et al. Prevention of Venous Thromboembolism: The Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004;126:338S-400S.

Goldhaber, S.; Turpie, A; Prevention of Venous Thromboembolism Among Hospitalized Medical Patients. *Circulation.* 2005;111: e1-e3.

Air Travel & DVT/PE Risk

Ansell JE. Air Travel and Venous Thromboembolism -- Is the Evidence In? *N Engl J Med.* 2001 Sep 13;345(11):828-9.

Lapostolle F, Surget V, Borron SW, Desmaizieres M, Sordelet D, Lapandry C, Cupa M, Adnet F. Severe pulmonary embolism associated with air travel. *N Engl J Med.* 2001 Sep 13;345(11):779-83

Martinelli, I.; et al: Risk of Venous Thromboembolism After Air Travel: Interaction With Thrombophilia and Oral Contraceptives *Arch Intern Med* 2003 163: 2771-2774.

Anticoagulation – Therapeutic Considerations

Ansell JE. Optimizing the efficacy and safety of oral anticoagulant therapy: high-quality dose management, anticoagulation clinics, and patient self-management. *Semin Vasc Med.* 2003 Aug;3(3):261-70.

Beyth RJ, Quinn LM, Landefeld S. Prospective evaluation of an index for predicting the risk of major bleeding in outpatients treated with warfarin. *Am J Med.* 1998;105:91-99.

Bussey, H; Managing Excessive Warfarin Anticoagulation. *Ann Intern Med.* 2001;135:460-462.

Crowther MA, Donovan D, Harrison L, McGinnis J, Ginsberg J. Low-dose oral vitamin K reliably reverses over-anticoagulation due to warfarin. *Thromb Haemost.* 1998;79:1116-8.

Cortelazzo S, et al. Thrombotic and hemorrhagic complications in patients with mechanical heart valve prosthesis attending an anticoagulation clinic. *Thromb Hemost.* 1993;69:316-320.

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Gitter MJ, Jaeger TM, Petterson TM, Gersh BJ, Silverstein MD. Bleeding and thromboembolism during anticoagulant therapy: A population based study in Rochester, Minnesota. *Mayo Clin Proc.* 1995;70:725-733.

Handin RL Anticoagulant, fibrinolytic, and antiplatelet therapy. In: Braunwald E et al. (eds) *Harrison's principles of internal medicine.* McGraw-Hill, NY, 758-761 Anticoag. Therapy 2001.

Hirsh J, Dalen JE, Anderson DR, Poller L, Bussey H, Ansell J, et al. Oral anticoagulants: mechanism of action, clinical effectiveness, and optimal therapeutic range. *Chest.* 1998;114:445S-469S.

Kelly JJ et al. Safety, Effectiveness, and Efficiency: A Web-Based Virtual Anticoagulation Clinic. *Joint Commission Journal on Quality and Safety,* December 2003, Volume 29, Number 12.

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Launbjerg J, Egeblad H, Heaf J, Nielsen NH, Fugleholm AM, Ladefoged K. Bleeding complications to oral anticoagulant therapy: Multivariate analysis of 1010 treatment years in 551 outpatients. *J Intern Med.* 1991;229:351-355.

Lubetsky A, Yonath H, Olchovsky D, Loebstein R, Halkin H, Ezra D.: Comparison of oral vs intravenous phytonadione (vitamin K1) in patients with excessive anticoagulation: a prospective randomized controlled study. *Arch Intern Med.* 2003 Nov 10;163(20):2469-73.

Palareti G, Leali N, Coccheri S, et al. Bleeding complications of oral anticoagulant treatment: An inception-cohort, prospective collaborative study (ISCOAT). *Lancet.* 1996;348:423-428.

Pengo V, Banzato A, Garelli E, Zasso A, Biasiolo A. Reversal of excessive effect of regular anticoagulation: low oral dose of phytonadione (vitamin K1) compared with warfarin discontinuation. *Blood Coagul Fibrinolysis.* 1993;4:739-41.

Pettiti DB, Strom BL, Melmon KL. Duration of warfarin anticoagulation therapy and the probabilities of recurrent thromboembolism and hemorrhage. *Am J Med.* 1986;81:255-259.

Phan, TG, et al. Safety of Discontinuation of Anticoagulation in Patients With Intracranial Hemorrhage at High Thromboembolic Risk. *Arch Neurol.* 2000;57:1710-1713.

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Wahl MJ. Myths of dental surgery in patients receiving anticoagulant therapy. *J Am Dent Assoc.* 2000;131:77-81.

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Wells PS, Holbrook AM, Crowther NR, Hirsh J. Interactions of warfarin with drugs and food. *AnnIntern Med.* 1994;121:676-83.

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Age-related risks

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Clinic Settings

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