**Pharmacotherapy Core Curriculum**

**Mount Sinai Beth Israel Residency in Urban Family Medicine**

**Institute for Urban Family Health**

**Coordinators:**

Sharon See, Pharm.D., BCPS (inpatient pharmacotherapy curriculum)

Location: BIMC 14 Baird Hall Room 40; (O) 212-844-1955 (C) 201-320-4896

Regina Ginzburg, PharmD. (outpatient pharmacotherapy curriculum)

Location: 16 E 16th St, 5th Floor: (O) 212-206-5233 (C) 718-344-3849

**Table 1. Pharmacotherapy Core Curriculum1**

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| **Core Medical Conditions*** Cardiology (HTN, IHD, dyslipidemia, HF, Afib, thromboembolism)
* Dermatology (acne, skin infections)
* Endocrinology (DM, thyroid disease)
* Gastrointestinal (PUD, GERD, dyspepsia, constipation, diarrhea, cirrhosis)
* Infectious Disease (otitis media, UTIs, acute UR/LR illness)
* Mental health (depression, anxiety, bipolar disorder)
* Musculoskeletal (arthritis, gout, acute/chronic pain management)
* Neurology (headaches, stroke, Parkinson’s disease, dementia, epilepsy)
* Prevention (immunizations, smoking cessation, substance abuse, common poisoning/antidotes)
* Pulmonary (asthma, COPD, sinusitis, chronic rhinitis)
* Women/men’s health (contraceptive/pregnancy care, osteoporosis, menopause, sexual dysfunction)

**Basic Pharmacotherapy Principles*** Establish individualized therapeutic goals and evaluate therapeutic outcomes
* Practice cost-effective pharmacotherapy
* Recognize, avoid, and manage adverse drug reactions; drug allergies; drug-drug, drug-herb/supplement, and drug-food interactions
* Prescribe based on considerations in special populations (pediatrics, geriatrics, obstetrics)
* Dose appropriately based on hepatic and renal function
* Therapeutic drug monitoring (how and why to measure drug concentrations)
* Consider the use of complementary and alternative medicine
* Critically evaluate scientific literature and practice evidence-based medicine
* Discuss sources for accessing unbiased drug information
* Provide patient education as necessary
* Prescribe medications with consideration of insurance plan and hospital formularies
* Pharmacy regulations (prescriptionwriting, controlled substances)
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1. **Goals of a Pharmacotherapy Curriculum**
* To educate the resident in using the appropriate tools needed in managing drug therapy, which will ultimately lead to excellent, rational medical care.
* To train residents to justify their drug selection for their patients using evidence based medicine.
* To address the following competencies:

**B. Core Competencies1**

1. Medical Knowledge
	1. Select medications judiciously and rationally for each patient with appropriate dosing regimen
	2. Know and apply the basic principles of pharmacology and clinical pharmacotherapy (see core curriculum, Table 1)
2. Patient Care
	1. Treat all patients with respect; value diversity and commit to confidentiality and ethical practice
	2. Make informed pharmacotherapy decisions that are patient focused, evidence based, cost-effective, and clinically sound
	3. Critically evaluate appropriateness of patient medications
	4. Obtain an accurate and complete medication history
	5. Develop and carry out medication management plans
	6. Counsel and educate patients and their families about proper medication use
	7. Demonstrate proper use of common medications that require correct procedures
	8. Provide pharmacotherapy aimed at health maintenance and prevention
	9. Value expertise of other health professionals and collaborate in interdisciplinary teams
3. Interpersonal and Communication Skills / Professionalism
	1. Communicate effectively with health care professionals and patients concerning drug related issues
	2. Respect patient individuality and recognize social issues that affect optimal pharmacotherapy
	3. Demonstrate sensitivity by recognizing the influence of patient’s culture on their health beliefs
	4. Understands ethics of prescribing medications
4. Practice Based Learning and Improvement
	1. Analyze own medication prescribing habits and perform practice-based improvement activities using a systematic method
	2. Locate, appraise, and assimilate evidence from scientific studies on drug therapy
	3. Obtain and use information about own patient population and their communities that would affect pharmacotherapy decisions
	4. Use information technology to manage and access drug information
	5. Ability to educate others in appropriate pharmacotherapy management
	6. Maintains and regularly updates patient medication lists in EPIC
5. Systems Based Practice
	1. Practice cost-effective pharmacotherapy and advocate for quality patient care and assist patients in navigating the health system
	2. Familiar with adverse drug reactions (ADRs) reporting requirement and able to report ADRs via appropriate channels.

**C. Teaching Methods**

1. *Prescription Competency Evaluation of Family Medicine Interns*

* Interns starting the Beth Israel Family Medicine Residency are not given their prescription writing credentials until they fulfill the following:
	+ Prescription Writing 101 lecture given during Orientation
	+ Written exam (during Family Medicine month): Case scenarios, true/false, matching; may use any reference needed but may not ask anyone for assistance
	+ Semi-annual evaluation: faculty will discuss each intern’s level of prescription competency and progression to independent prescribing
	+ If all 3 criteria are fulfilled and intern has been approved to see patients on their own in clinic, then intern can prescribe independently
1. *Inpatient Teaching*
* Inpatient Rounds
* Dr. See rounds on the inpatient service most days of the week to teach residents the optimal, rational and appropriate use of medications in hospitalized patients.
* Dr. See or her pharmacy students provide in-services to the inpatient team and help with medication reconciliation or pharmacy calls to obtain medication histories
* Dr. See is available by cell phone for any medication related questions
* Resources
* Lexicomp (mobile access available through MSBIMC)
* Up-to-Date (mobile access available through MSBIMC)
* MSBIMC Levy Library: http://icahn.mssm.edu/about-us/services-and-resources/levy-library
* Dynamed (mobile available through IFH)
* http://facpub.stjohns.edu/~sees/FMsite/Readings.shtm (inpatient review articles and guidelines available)
* Tertiary references available (Pharmacotherapy, Applied Therapeutics, Brigg’s Pregnancy & Lactation)
1. *Outpatient Teaching*
* Precepting
	+ Dr. Ginzburg is available most afternoons to assist in medication therapy management
	+ Dr. Ginzburg is available by cell for any medication related questions
	+ Pharmacy students are available to
		- fill out Medication Health Cards for patients
		- assist in updating medication list in patient chart
		- provide drug information
		- make recommendations related to patient’s medication regimen (all precepted with Dr. Ginzburg)
* Pharmacotherapy Clinic
	+ Dr. Ginzburg runs a pharmacotherapy clinic which provides a venue for residents to learn the appropriate, rational use of medications.
	+ Family Medicine residents may shadow Dr. Ginzburg during patient sessions.
	+ Services include:
		- polypharmacy review
		- adherence assessment and counseling
		- asthma education
		- device use demonstration
		- diabetes education
		- nutrition counseling
		- smoking cessation counseling
		- warfarin management
* Resources
* Micromedex
* Dynamed, Uptodate
* MD Consult
* Tertiary references available (Pharmacotherapy, Drug Information Handbook, Brigg’s Pregnancy & Lactation, Nonprescription Product Therapeutics, etc.)
1. *Other*
* Intern Orientation (last week in June)
	+ Explanation to family medicine interns of pharmacotherapy curriculum
* Didactic lectures
	+ Drs. See and Ginzburg provide didactic lectures to the Beth Israel Family Medicine program for
		- Family Medicine Month
		- Grand Rounds
		- Wednesday afternoon lectures (Pharmacy Pearls, Core Curriculum lectures, Morbidity & Mortality, Integrative Case Conference)
	+ Attending physicians/preceptors also provide didactic lectures in above settings
* Scholarly Activity
	+ Dr. See is an advisor for Journal Club for PGY-2 residents; PICO for PGY-1 residents
	+ Drs. See and Ginzburg coordinate and assist Medication Use Evaluations as part of Continuous Quality Improvement
* OSCE (Observed Structural Clinical Exam)
	+ Annual OSCE scenario must consist of at least one medication-related topic in which a clinical pharmacy faculty should be the observer
* Pharmacy-related policy/procedures
	+ Drs. See and Ginzburg provide inpatient and outpatient pharmacy-related policies and procedures to aid the Residency in Urban Family Practice program in prescribing for specific disease states

References:

1. Bazaldua O, Ables AZ et al. Suggested Guidelines for Pharmacotherapy Curricula in Family Medicine Residency Training: Recommendations from the Society of Teachers of Family Medicine Group on Pharmacotherapy. *Fam Med* 2005; 37(2): 99-104.

2. Gray J, Lewis L and Nierenberg D. Clinical pharmacology education in primary care residency programs. *Clin Pharmacol Ther* 1997;62:237-240.