



# HUNTSVILLE HOSPITAL

## **PGY-1 and PGY-2 PHARMACY RESIDENCY PROGRAMS**

### **HUNTSVILLE HOSPITAL • HUNTSVILLE, ALABAMA**

Thank you for your interest in Huntsville Hospital's pharmacy residency programs. We hope that you will find the information in this packet helpful in learning more about our facility and our residency programs as well as in making your decision about post-graduate pharmacy training.

Huntsville Hospital, an 881-bed tertiary care medical center located in the heart of the beautiful Tennessee River Valley, is seeking qualified candidates for our PGY-1 and PGY-2 pharmacy residency programs. Huntsville Hospital's Department of Pharmacy conducts three residency programs in the following areas:

- PGY-1 general pharmacy practice (ASHP accredited) – 5 positions
- PGY-1 with a focus in pediatrics (ASHP accredited) – 1 position
- PGY-2 critical care (ASHP accreditation pending) – 2 positions

Huntsville Hospital is a tertiary care regional referral center providing all major medical services except severe burn treatment and solid-organ transplantation. Huntsville Hospital is the flagship institution of a network of community-based hospitals and physician practices located across northern Alabama and south-central Tennessee. Huntsville Hospital is in the process of building a hospital in the nearby community of Madison, which will become the first new hospital in Alabama in more than 30 years.

The Department of Pharmacy is extensively involved in all aspects of the medication process at Huntsville Hospital. Pharmacists practice in a unit-based setting, with the majority of pharmacists stationed in the patient-care areas for order verification and provision of clinical services. Examples of pharmacy services offered are nutrition support, pharmacokinetics, pharmacotherapy monitoring (including automatic IV-to-PO conversion, automatic renal adjustment, automatic formulary interchanges, etc.), drug information/drug policy, medication utilization reviews, medication safety programs, medication reconciliation, pharmacoeconomics, medical team rounding, patient education, student and resident precepting, and many others. Over thirty preceptors from our unit-based pharmacists, clinical specialists, and leadership team are available to provide expert oversight and mentoring during the residency experience. Auburn University has stationed four full-time pharmacy members in Huntsville who provide both clinical rotations as well as a rotation in academia for our residents.

Our general practice residency has been ASHP-accredited since 1984 and we are approaching 100 residents trained through the program. The PGY-1 residency with a pediatrics focus was added in 2007 and we accepted our inaugural class of PGY-2 residents in 2010. Huntsville Hospital's residency program is designed around the concept that pharmacists are responsible for providing pharmaceutical care and for its resultant outcomes.

The Pharmacy Department recently has doubled in size (in terms of both physical space and staff) and has undergone extensive renovation. Our central pharmacy and IV admixture service are now state-of-the art facilities, along with our Drug Information Center, employee prescription service, and administrative offices. Renovation of all clinical office space as well as the pharmacy at the Women's and Children's Hospital was completed in the past 36 months. All sterile products preparation areas have been remodeled recently and are fully UPS <797> compliant.

The yearly stipend is approximately \$45,000 for PGY-1 residents and \$52,000 for PGY-2 residents. Additionally, residents are eligible for health insurance and other employee benefits. The start date is generally late June or early July, but is flexible. All residency applicants must be registered with the ASHP Residency Matching Program. Additionally, the following information should be submitted by late December or early January:

- Letter expressing your interest in our program (be sure to specify the program in which you are interested)
- *Curriculum vitae*
- Pharmacy school transcripts (for PGY-1 applicants only)
- Three letters of reference

An on-site interview is required and will be scheduled beginning January 2012 for qualified candidates. Interviews will be scheduled once the above-listed application requirements have been met; interview dates are limited and will be filled on a first-come, first-served basis.

If you have any questions or would like additional information about our program, please contact me at (256) 265-6741 or via e-mail at [david.collette@hhsys.org](mailto:david.collette@hhsys.org). If you are attending the 2011 ASHP Midyear Clinical Meeting in New Orleans, we will be participating in the Residency Showcase on Tuesday morning. I look forward to meeting you and discussing Huntsville Hospital's residency program.

Sincerely,

*David R. Collette*

David R. Collette, Pharm.D., FASHP  
Clinical Coordinator and Residency Program Director

P.S. - Visit us on the Internet: <http://www.huntsvillehospital.org/career/pgy1/>

# Huntsville Hospital PGY-1 General Pharmacy Residency Structure

*The purpose of Huntsville Hospital’s PGY-1 general pharmacy residency program is to train pharmaceutical care generalists to provide advanced medication-related services to a broad range of patients in a variety of healthcare settings.*

## REQUIRED DEFINED-LENGTH (generally one month) ROTATIONS

- Unit-based training (general overview of distributive and clinical services)
- Nutrition support and pharmacokinetics (pharmacy-managed clinical services)
- Cardiology (3 clinical pharmacy specialists in cardiology - medical, surgical, interventional; also includes investigational drug studies)
- Internal medicine (Auburn faculty member rounds with UAB medical teams)
- Critical care (one adult ICU rotation, chosen from surgical/trauma ICU, neurological ICU, medical ICU, or cardiovascular surgery ICU)

## “SELECTIVE” ROTATIONS

**(must choose two rotations from the options below – e.g., may choose two medicine-type rotations, two critical care rotations, or one of each)**

- Additional medicine-type rotation (infectious diseases, oncology, general pediatrics, ambulatory/primary care, repeat internal medicine or cardiology, others as approved by the RPD)
- Additional critical care rotation (any ICU rotation, adult or pediatric-based)

*[A minimum of these seven direct patient care rotations must be completed]*

### Longitudinal Rotations (required)

- Drug Information<sup>#</sup>
- Medication Safety<sup>#</sup>
- Management
- Staff development
- Major project
- Midyear poster
- AU Clinical Education Series
- Journal Club

*# - All residents undergo a one-week concentrated introduction to the informatics experiences during the first quarter of the residency.*

### Ambulatory Care Opportunities

- UAB Family Medicine Clinics
- CHF Clinic
- Anticoagulation Clinic
- Long-term Care Facility
- Employee Prescription Center
- HealthWorks Employee Clinic
- Community Free Clinic
- Huntsville Hospital Outpatient Departments (e.g., Pain Center, Heart Center, etc.)
- St. Jude Clinic
- Sickle Cell Clinic

### Elective Opportunities

- Repeat any required or “selective” rotation
- Convert any longitudinal rotation into a 4-6 week rotation
- Emergency Medicine
- Academia
- Anticoagulation
- Medication reconciliation
- Information technology
- Numerous medicine specialties
- Numerous pediatric-focused rotations
- “Experimental” rotations utilizing non-pharmacists as preceptors (requires RPD approval)

# Huntsville Hospital PGY-1 Pediatric Pharmacy Residency Structure

*The purpose of Huntsville Hospital’s PGY-1 pediatrics-focused pharmacy residency program is to train generalists in pediatric pharmacy practice to provide advanced medication-related services to pediatric patients in a variety of healthcare settings.*

## **REQUIRED DEFINED-LENGTH (generally one month) ROTATIONS**

- Unit-based/central pharmacy training (general overview of distributive and clinical services)
- Nutrition support and pharmacokinetics (pharmacy-managed clinical services)
- General pediatrics - HH – pediatric floor and pediatric ED focus (precepted by HH pharmacy preceptor)
- General pediatrics - UAB – UAB pediatric rounding team focus (precepted by AU faculty)
- Pediatric ICU (recommend at least 2 months in pediatric ICU or neonatal ICU, preferably both)
- Neonatal ICU (recommend at least 2 months in pediatric ICU or neonatal ICU, preferably both)

*[A minimum of these seven direct patient care rotations must be completed]*

### **Longitudinal Rotations (required)**

- Drug Information<sup>#</sup>
- Medication Safety<sup>#</sup>
- Management
- Staff development
- Major project
- Midyear poster
- AU Clinical Education Series
- Journal Club
- St. Jude Clinic

*# - All residents undergo a one-week concentrated introduction to the informatics experiences during the first quarter of the residency.*

### **Ambulatory Care Opportunities**

- UAB Family Medicine Clinics
- CHF Clinic
- Anticoagulation Clinic
- Long-term Care Facility
- Employee Prescription Center
- HealthWorks Employee Clinic
- Community Free Clinic
- Huntsville Hospital Outpatient Departments (e.g., Pain Center, Heart Center, etc.)
- St. Jude Clinic
- Sickle Cell Clinic

### **Elective Opportunities**

- Repeat any “required” rotation
- Convert any longitudinal rotation into a 4-6 week rotation
- Emergency Medicine
- Academia
- Anticoagulation
- Medication reconciliation
- Numerous medicine specialties
- Information technology
- Any adult-focused rotation (see list on PGY-1 general practice residency page)
- “Experimental” rotations utilizing non-pharmacists as preceptors (requires RPD approval)

# Huntsville Hospital PGY-2 Critical Care Residency Structure

*The purpose of Huntsville Hospital’s PGY-2 Pharmacy Residency in Critical Care is to transition PGY-1 residency graduates from generalist to specialist practitioner in the care of critically ill patients. Further, skills will be enhanced (as they relate to critical care practice) in the areas of short-term research, teaching of healthcare practitioners and students, and leadership.*

**REQUIRED DEFINED-LENGTH (generally one month) ROTATIONS**

- Orientation
- Surgical/Trauma ICU
- Medical ICU – 2 months recommended
- Cardiology (including Coronary Care Unit, CVICU, and Interventional Cardiology) – at least 2 months recommended
- Emergency Medicine
- Pharmacy Management and Medication Safety

**“SELECTIVE” ROTATIONS [must choose at least one rotation (and preferably at least two) from the list below]**

- Neurological ICU
- Pediatric Critical Care (consists of pediatric and neonatal ICU, pediatric ED)
- Medicine-type elective (infectious diseases, internal medicine, oncology, etc)
- Repeat any ICU rotation listed above
- Academia

*[A minimum of seven months of rotations from the above lists must be completed]*

**Longitudinal Rotations (required)**

- Major project
- Midyear poster
- AU Clinical Education series

*It is expected that the critical care resident will spend as much time as possible in environments with critically ill patients. Therefore, the number of rotations that do not focus on such patients should be minimized. The program executive committee recommends that at least 7-8 months be spent providing direct patient care, with as many experiences in critical care as possible.*

**Elective Opportunities**

- Repeat any “required” rotation
- Emergency Medicine
- Academia
- Anticoagulation
- Numerous medicine specialties
- “Experimental” rotations utilizing non-pharmacists as preceptors (requires RPD approval)

# Opportunities for a PRACTICE AREA EMPHASIS during your PGY-1 General Pharmacy Residency

*Huntsville Hospital affords its PGY-1 general pharmacy residents numerous opportunities to gain added experiences in several areas of pharmacy practice. These areas of emphasis are offered due to our high patient load and/or number and level of expertise of preceptors in these areas. Residents may choose to concentrate in one of the areas listed or to complete a more traditional PGY-1 pharmacy practice residency with no particular emphasis. Areas available for added emphasis include:*

## **CARDIOLOGY:**

With over 150 beds (including 34 in three cardiology ICUs) and three clinical pharmacy specialists dedicated to patients with cardiac-related illnesses, Huntsville Hospital is a major cardiac center. Highlights of our cardiac program include:

- More than 6,000 cardiac catheterizations and approximately 2,000 Percutaneous Coronary Interventions per year
- Anticoagulation and Heart Failure Clinics
- 500 active patients in the Heart Failure Clinic, 25 infusion chairs
- Over 1,000 cardiothoracic surgeries annually
- 34 Cardiac ICU beds; 5 cardiac step-down units
- Chest Pain Center in ER w/ an accompanying Cardiac Observation Unit
- Cardiac Recovery Unit
- Clinical Trials
- Electrophysiology Lab; Stress Testing
- Cardiovascular Service Line and Cardiac P&T
- 30 cardiologists and 4 cardiothoracic surgeons

## **CRITICAL CARE/TRAUMA:**

With a Level II trauma designation, nine intensive care units, and numerous “step-down” and specialty care units, Huntsville Hospital is a major critical care and trauma center. All intensive care units have a dedicated clinical pharmacy specialist assigned. In 2010, we added a PGY-2 critical care pharmacy resident in response to our emphasis on and commitment to critically ill patients. Examples of our critical care/trauma services include:

- Level II trauma designation, with a twenty-five-bed surgical trauma ICU and an eighteen-bed neurological-trauma ICU (including a Stroke Alert Team)
- Two ten-bed coronary care ICUs, with active Heart Alert Team
- Fourteen-bed cardiovascular surgery ICU
- Ten-bed medical ICU
- Ten-bed pediatric ICU
- Adult ICU at Women’s and Children’s facility
- State-of-the-art neonatal ICU and step-down unit (50+ beds)
- Ten-bed Pediatric ICU
- MedFlight helicopter providing service to northern Alabama and south-central Tennessee
- Numerous progressive care and specialty practice areas, including neurology, surgery, cardiology, pulmonology, pediatrics, nephrology, oncology, and others.

## **ACADEMIA:**

Auburn University Harrison School of Pharmacy has placed four full-time faculty members at Huntsville Hospital. These faculty members practice in pediatrics, ambulatory/primary care, and internal medicine. Residents have the opportunity to round with these preceptors in addition to gaining further experience in the area of academic pharmacy practice. Opportunities for added experiences in academia include:

- Precepting of students assigned to the Huntsville region (generally, 18 or more students are on rotation at Huntsville Hospital in a given month)
- Delivery of didactic lectures on the Auburn campus or via webcam
- Facilitation in Auburn's case-based pharmacotherapy course
- Oversight of "early practice" experiences through group discussions
- Site visitation with the experiential program coordinator
- Seminars with both distance and campus faculty regarding academic issues and practices

## **PEDIATRICS: (please see separate information for our PGY-1 residency with an emphasis in pediatrics)**

Huntsville Hospital for Women & Children (HHWC) is connected by automated tram to the main facility. The HHWC Pharmacy's dedicated staff of pharmacists and technicians is augmented by a pediatric clinical specialist, a neonatal clinical specialist, a pediatric ER specialist, and a full-time pediatric faculty member stationed at Huntsville Hospital by Auburn University. Opportunities exist in:

- General inpatient pediatrics
- Pediatric ICU (10 beds)
- Pediatric outpatient clinic
- Neonatal ICU (50+ beds)
- Pediatric ER
- Affiliated St. Jude outpatient clinic
- Sickle Cell Clinic
- Numerous pediatric specialty practices



*Residents should note that this "added emphasis" will be accomplished within the framework of our accredited PGY-1 Pharmacy Residency. If an area of special emphasis is desired, the resident should notify the program director within the first three months of the residency so that a decision can be made regarding this request. The resident's certificate will NOT indicate a special focus, but the emphasis on a specific practice area will be evident on the resident's curriculum vitae.*



## Clinical Pharmacy Specialists / Preceptors at Huntsville Hospital

<p><b>Jack Adams, B.Sc. Pharm.</b>  Operations Manager, Huntsville Hospital Main  Area of Practice: Pharmacy Administration  BS: University of Mississippi</p>	<p><b>Michele Durda, Pharm.D.</b>  Area of Practice: Medication Safety, Drug Utilization  Pharm.D.: University of Texas  Residency: Scott and White Medical Center</p>
<p><b>Richa Airee, Pharm.D.</b>  Area of Practice: General Pharmacotherapy,  Emergency Department, Medication Reconciliation  Pharm.D.: University of Tennessee  Residency: University of Maryland Medical Center</p>	<p><b>Rebecca Ginn, Pharm.D.*</b>  Supervisor, Central Pharmacy and Technicians  Area of Practice: Central Pharmacy and Administration  Pharm.D.: Mercer University  Residency: DeKalb Medical Center</p>
<p><b>Miranda Andrus, Pharm.D., BCPS</b>  Associate Clinical Professor, Auburn University  Area of Practice: Primary Care  Pharm.D.: Samford University  Residency: VAMC-Durham/UNC School of Pharmacy</p>	<p><b>Matthew Eckley, Pharm.D., BCOP</b>  Area of Practice: Oncology/Hematology  Pharm.D.: Auburn University  Residency: PGY1 General, University of Tennessee  PGY2 Oncology, UAB</p>
<p><b>Sharon Baty, Pharm.D.</b>  Area of Practice: Cardiology  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>	<p><b>Jonathan Edwards, Pharm.D.</b>  Area of Practice: General Pharmacotherapy  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>
<p><b>Ann Birkenstock, Pharm.D.</b>  Area of Practice: General Pharmacotherapy,  Outpatient Services, Medication Reconciliation  Pharm.D.: University of Wisconsin  Residency: Huntsville Hospital</p>	<p><b>Ed Eiland, Pharm.D., MBA, BCPS (AQ-ID), CGP</b>  Clinical Practice and Business Supervisor  Area of Practice: Medical ICU, Infectious Diseases  Pharm.D.: University of Texas  MBA: Auburn University  Residency: VAMC – San Antonio</p>
<p><b>David Collette, Pharm.D., FASHP</b>  Clinical Coordinator &amp; Residency Program Director  Area of Practice: Internal Medicine  Pharm.D.: Mercer University  Residency: Georgia Baptist Medical Center</p>	<p><b>Lea Eiland, Pharm.D., BCPS</b>  Associate Clinical Professor and Associate Department  Head, Auburn University  Area of Practice: Pediatrics  Pharm.D.: University of Texas  Residency: Texas Tech University</p>
<p><b>Richard Cramer, Pharm.D., FASHP</b>  Areas of Practice: Drug Information, MUE, Formulary  Pharm.D.: University of Kentucky  Residency: University of Alabama Hospital</p>	<p><b>Melissa O’Neill Hunt, Pharm.D.</b>  Area of Practice: Pediatric ICU  Pharm.D.: St. Louis College of Pharmacy  Residency: Kosair Children’s Hospital</p>
<p><b>Mary Dang, Pharm.D.</b>  Pharmacist Supervisor  Area of Practice: Institutional Pharmacy Practice  Pharm.D.: University of the Pacific  Residency: Huntsville Hospital</p>	<p><b>Gregg Knowles, Pharm.D.</b>  Area of Practice: Cardiology  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>

<p><b>Michael McDaniel, B.Sc. Pharm., MBA, FASHP</b>  Director of Pharmacy  Area of Practice: Pharmacy administration  B.S.: University of Oklahoma  MBA: Amberton University</p>	<p><b>Jerry Robinson, Pharm.D.</b>  Area of Practice: Surgical/Trauma ICU  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>
<p><b>Rob Nelson, Pharm.D.</b>  Area of Practice: General Pharmacotherapy, Renal  Member, Alabama State Board of Pharmacy  Pharm.D.: Samford University  Residency: Saint Thomas Medical Center</p>	<p><b>Pam Schindler, Pharm.D.</b>  Area of Practice: Information Technology  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>
<p><b>Patrick Newman, Pharm.D., BCPS</b>  Area of Practice: Neonatology/Neonatal ICU  Pharm.D.: Samford University  Residency: Children’s Hospital of Alabama</p>	<p><b>Berkley Stewart, Pharm.D.*</b>  Supervisor, Pharmacy Sterile Products  Area of Practice: Pharmacy Sterile Products  Pharm.D.: Auburn University</p>
<p><b>Haley Phillippe, Pharm.D.</b>  Assistant Clinical Professor, Auburn University  Area of Practice: Primary Care  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>	<p><b>Mickala Thompson, Pharm.D., BCPS</b>  Area of Practice: General Pharmacotherapy  Pharm.D.: University of Florida  Residency: PGY-1 General, UNC  PGY-2 Internal Medicine, MUSC</p>
<p><b>Jeremy Ray, Pharm.D.</b>  Area of Practice: Emergency Medicine  Pharm.D.: Auburn University  Residency: PGY-1 General, Huntsville Hospital  PGY-2 Critical Care, Huntsville Hospital</p>	<p><b>Kurt Wargo, Pharm.D., BCPS (AQ-ID)</b>  Associate Clinical Professor, Auburn University  Area of Practice: Internal Medicine  Pharm.D.: Creighton University  Residency: Memorial Hermann Hospital</p>
<p><b>Nellie Rittase, Pharm.D.</b>  Area of Practice: Neurological ICU  Pharm.D.: University of North Carolina  Residency: Huntsville Hospital</p>	<p><b>Nikki Wargo, Pharm.D.</b>  Area of Practice: Cardiology  Pharm.D.: Creighton University  Residency: St. Luke’s Episcopal Hospital</p>
<p><b>Linda Rist, Pharm.D.*</b>  Area of Practice: General Pediatrics  Pharm.D.: Auburn University  Residency: Huntsville Hospital</p>	<p><b>Michael Weaver, Pharm.D.*</b>  Pharmacist Trainer  Area of Practice: General Pharmacotherapy  Pharm.D.: Samford University</p>
<p><b>Susan Robbins, B.Sc. Pharm.</b>  Operations Manager, Women’s and Children’s Hospital  Area of Practice: Pharmacy Administration  B.S.: Auburn University</p>	<p><b>Amanda Williams, Pharm.D.</b>  Area of Practice: Pediatric Emergency Medicine  Pharm.D.: Samford University  Residency: PGY-1, University of Virginia  PGY-2, University of Virginia</p>

**2011-2012 PGY-1 Residents**

- Amy Francis, Pharm.D. (Southern Illinois) - Peds
- Samuel Myers, Pharm.D. (Ole Miss) - General
- Chris Newlin, Pharm.D. (Auburn) - General
- Ryan Novosad, Pharm.D. (Texas Tech) - General
- Adam Sawyer, Pharm.D. (Tennessee) - General
- Jacqueline Tower, Pharm.D. (Florida) - General

**2010-2011 PGY-2 Critical Care Residents**

- Suzanne Morrow, Pharm.D. (Auburn University, Huntsville Hospital)
- Julie Wilbeck, Pharm.D. (Samford University, Texas Tech University)

\* denotes residency instructor who interacts with residents in his/her area of expertise, but who is not required to meet ASHP preceptor requirement

# Huntsville Hospital - Employee Benefits

## **HEALTH/DENTAL INSURANCE**

Employees are eligible to purchase either single or family insurance coverage through the hospital's health plan, administered by Blue Cross/Blue Shield of Alabama. This plan covers wellness programs, hospitalization, emergency care, prescription drugs, vision care, home health, and other services. Premiums are deducted from your payroll check monthly. The hospital also offers a dental reimbursement plan administered by Ameritas.

## **LIFE INSURANCE**

Employees are given a free life insurance policy at an amount equal to one year's salary. Additional units of coverage can be purchased at group rates. Premiums (if additional insurance is desired) are deducted from your payroll check monthly.

## **DISABILITY INSURANCE**

The hospital provides free disability insurance for all employees. This free policy guarantees employees 50% of their monthly earnings for the entire disability period. Employees can purchase an additional 10% (total of 60%) of their monthly earnings at group rates. The waiting period for new employees is 90 days. Premiums (if additional insurance is desired) are deducted from your payroll check monthly.

## **EARNED TIME OFF**

All employees accrue earned time off (ETO) based on their years of service - new employees accrue 23 days annually. ETO is to be used for any absence, including holidays, sick days, bereavement, or vacation. Unused ETO is paid at your final hourly rate upon severance.

## **401(k) and 457 PLANS**

The hospital contributes 5-8% of your annual income into your 401(k) account. Additionally, the hospital will match employees' contributions at a rate of 0.35% for each 1% contributed (up to an additional 1.75%). Employees may also contribute up to a tax-deferred 457 plan, but receive no employer match for these contributions. Employees may contribute up to the IRS limit into both their 401(k) and 457 accounts annually. You may participate in either/both programs after 12 months of service. Both plans are administered by Fidelity Investments.

## **FLEXIBLE SPENDING PLAN**

After one year of service, employees can contribute pre-tax dollars to an account that is used to pay child-care and medical expenses.

## **PARKING**

The hospital provides free parking for all employees.

## **MEAL DISCOUNTS**

The hospital cafeteria offers a reasonably priced employee special each day. Additionally, the hospital operates a food court featuring various fast food eateries and snack shops throughout the facility (no discount is offered in the food court or snack areas).

## **CHILD CARE CENTER**

The hospital provides an on-site child care center for ages eight weeks to six years.

## **TRAVEL EXPENSES**

Limited funds are available to support travel to educational meetings. Residents will receive funding to attend the ASHP Midyear Clinical Meeting and the Southeastern Residency Conference.

## **FITNESS CENTER**

Employees can join the hospital Wellness Center for a low monthly fee. The center contains weight machines, free weights, stair climbers, treadmills, a pool, sauna, dressing rooms, etc.