

what's happening

Maine Medical Center
Portland, Maine 04102

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Drug therapy depends on the Pharmacy

Medication is one of the key ingredients in the treatment and care of patients at Maine Medical Center. The 4 million doses used to treat patients each year are prepared, packaged, and dispensed by the Pharmacy Department. Everything from pain killers to clot-dissolving drugs, in the form of tablets, capsules, and IVs originates there.

This volume demands the support of 51 pharmacists, technicians, and staff members, each with separate responsibilities to ensure that patients receive the proper medication.

As an illustration, consider the pediatric patient with a recurrent flare-up of cystic fibrosis. His physician prescribes multiple drugs to treat the disease, which affects his pancreas and respiratory system: antibiotics to destroy the bacteria that cause infection; Pancrease to replace the deficient enzymes responsible for the break-down of fats; and vitamin supplements essential to normal metabolic activity.

To optimize treatment and minimize the side effects for this particular patient, his physician may request a consult from Gil Fraser, Pharm.D., one of the pharmacy's three clinical pharmacists. Dr. Fraser uses the science of pharmacokinetics to determine the proper amount of each drug.

"The antibiotic Tobramycin, commonly given to cystic fibrosis patients, is very effective against infections," says Fraser, "but only if the amount in the bloodstream is kept within a very narrow range. Too much, and the patient risks kidney and middle ear damage. Too little, and it's not effective in killing bacteria. You have to strike a balance between them to have it work effectively."

To gauge an adequate dosage, the patient is given a test dose of Tobramycin.



PEGGY RANDALL, unit dose technician, makes a routine delivery on R4 pushing a cart full of trays that contain capsules, tablets, and bottles of patient medication. (A/V Photo)

Later his blood is tested to check levels of Tobramycin, determining how quickly the drug is eliminated. Then, using a computer, Fraser factors in the patient's age, weight, and kidney function to calculate how much Tobramycin to give the patient and how often, to keep levels at a safe and effective range.

Pediatric patients with cystic fibrosis often require a daily nutritional supplement to make them stronger and improve their resistance to infection. In this case, the physician consults the nutrition pharmacist Maurice Fortin, R.Ph., to recommend a TPN (Total Parenteral Nutrition) formula as part of the patient's diet. Most formulas contain protein, carbohydrates, sugars and electrolytes, and

MMC advances perinatal care

Portland obstetrician Harry W. Bennert, M.D., has been named Director of the Perinatal Medicine Division within MMC's Department of Obstetrics and Gynecology. The new program represents a "significant step forward in the care of high-risk pregnancies," according to Dr. Bennert.

"This program will make available to the entire state today's most advanced prenatal diagnosis, high-risk pregnancy management, and reproductive health services," Dr. Bennert says. "It will greatly enhance our ability to manage pregnancies in which there is a significant risk for less than optimal outcome, for instance in mothers with diabetes or where an abnormality has been identified in the fetus."

Bennert explains that the Perinatal Service is a further evolution of the high-risk pregnancy services he and others have provided at MMC for some years. "This is a reshaping and formalization of our high risk program," he says, "with the addition of state-of-the-art testing and genetic counseling. By next year, we will have a perinatologist, a physician subspecialist with specific expertise in issues surrounding high-risk pregnancy.

"Already in Maine," Bennert says, "we've made significant strides in improving the outcome of high-risk pregnancies. The cooperative efforts of physicians throughout the state, in programs like the Diabetes in Pregnancy Project and the Maine Fetal Risk Project, has lowered the rate of mortality and morbidity dramatically.

"The next major improvements in perinatal care," he says, "will likely come in the area of morbidity: lingering disease or defects such as Down Syndrome or spina bifida. The prenatal testing com-

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are administered to patients through an IV line.

"Because the nutritional requirements are different for every patient," says Fortin, "formulas are made to meet their specific needs. The cystic fibrosis patient needs a high concentration of sugar in his diet, and a TPN formula can be made to provide this."

(The pharmacy has yet another clinical pharmacist. Steve D'Amato, R.Ph., is responsible for monitoring the drug therapy of all cancer patients in the hospital. He presents in-service programs for the Department of Nursing on all aspects of cancer drug therapy, acts as a resource for the medical house staff, and provides oncology resource information upon request.)

Once drug therapy for the patient is decided upon, the medication order is entered into the hospital computer system at the nursing station terminal and transmitted to a printer in the pharmacy. A pharmacist makes a quick assessment for gross errors before the order is filled. As a reference for drug protocols, he uses various books as well as a microfiche that provide information on potential drug interaction, allergies, adverse reactions, and inappropriate use of drugs.

The pharmacist dispenses unit dose medications available in the so called "picking area". A unit dose technician must prepare and package those drugs that are not available in unit dose form from the manufacturer. To package the Pancrease order, for instance, the technician must redistribute capsules from a bulk supply into small unit dose packages. Using a prepacking computer, he generates a drug label that seals the plastic container.

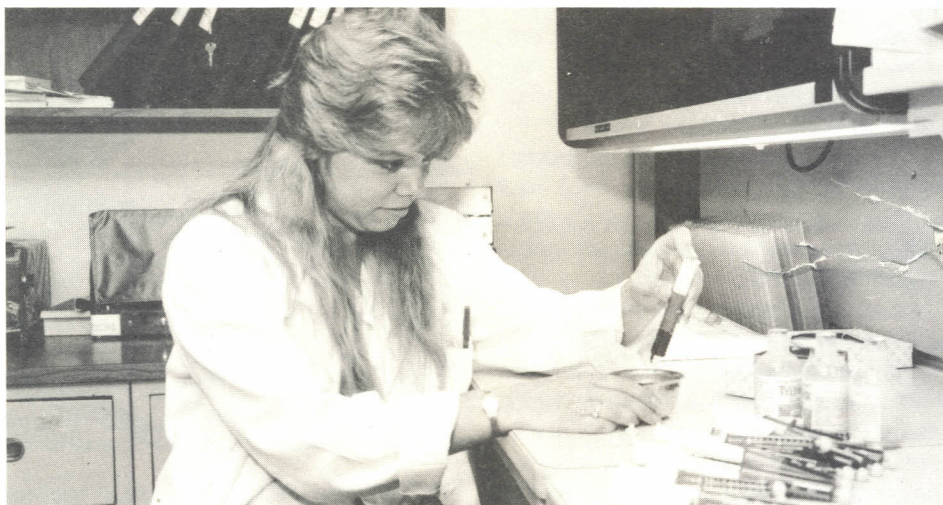
The TPN formula must be made up specially for the patient. A pharmacist in the IV room mixes 10 to 15 ingredients in a bulk bottle in a special bacteria free environment. The bottle is placed in a holding area along with the patient's other medications.

Since this is the patient's first order of medication, a unit dose technician delivers it to the unit on the next hourly run. Technicians make special deliveries to the units as they are needed, and routine deliveries every hour. In addition, they make daily deliveries to each unit with a 24 hour supply of all the drugs needed for each patient during that day.

The daily computer printout serves as



PHARMACIST Susan Poulin audits a tray of patient medication before it's delivered to the unit to ensure the patient receives the correct prescription as well as the proper dosage. (A/V Photo)



PREPARING AND PACKAGING drugs is just one of the unit dose technician's jobs. Shown above, technician Andrea Knapp fills bottles of liquid tylenol using a syringe to draw up the accurate dosage. (A/V Photo)

a record for that patient. If there are any new orders entered for that patient between the daily printouts, the pharmacist sends it to the unit the next hourly run.

"If a physician changes drug therapy for a patient, a new drug or IV solution will be made and sent to the unit promptly," says pharmacist Paul Zolla, R.Ph. "Prior to delivery, he audits the cart to make sure it contains the correct drugs for the patients on that unit."

The cart is also filled with aspirin, antacids, disinfectants, and other basic medication needed to restock nursing unit supplies.

"The technicians rotate between filling carts, making deliveries to the units, and preparing orders," says Zolla. "It's a continuous cycle all day long."

The pharmacy also services outpa-

tients and MMC employees with nearly 170 prescriptions daily. Outpatient records are maintained on a computer system that provides information on every prescription, such as number of refills, quantity, and dosage. Outpatient prescriptions are filled in the same manner as inpatient prescriptions: carefully and efficiently.

"The functions of the pharmacy are broad," says Pharmacy Director Bob Auger. Our guiding philosophy is that we share in responsibility for the proper use of drugs from the time they enter the stockroom through the time they are taken by patients. This responsibility encompasses a broad range of distribution, informational, and clinical services involving the close cooperation and team spirit of our entire staff."



As Chairman of the 1988 United Way Campaign, I would like to ask each and every employee to complete and return a pledge card during this year's campaign (October 4–November 3).

The United Way serves our community by helping to fund a large number of public services throughout the area, for the benefit of all. It doesn't matter whether a person is rich or poor. United Way services help those in need.

Helping the homeless and hungry by providing shelters and food; addressing the problems of illiteracy through tutoring and employment counseling; helping victims of alcoholism and drug abuse through counseling, support services, crisis intervention, and education; offering comprehensive day-care programs designed to meet the special needs of working parents. These are some of the many services the United Way supports in its effort to help the people of our community.

People helping people. That's what it's all about. Without our help, vital services will suffer. Every dollar is a much needed dollar. Please give what you can, if you can, and get those cards turned in during the campaign.

I would be happy to speak to any department about this year's campaign, x6096 or beeper 735. Come to the Fun Run and see the large number of people and organizations supporting our United Way. The turnout is impressive. The cause is extremely important to the existence of many vital community services.

Thank you for your help.
Cordially,
Patrick J. Caporino

Nutrition Symposium

Wednesday, October 12

10:00 AM–4:00 PM

Dana Center, Classroom 7
To register call ext. 2511
by October 3, 1988

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ponent of our program, operated in cooperation with Dr. Alan Donnenfeld and the Foundation for Blood Research in Scarborough, will enable early detection, prevention, and perhaps treatment of conditions that might result in morbidity."

Dr. Donnenfeld will be providing several new diagnostic services at MMC, including Chorionic Villus Sampling (CVS) and Percutaneous Umbilical Blood Sampling (PUBS). Both tests aid in the detection of abnormalities in developing fetuses.

The Perinatal Division became official September 1. In addition to becoming Director of the division, Dr. Bennert has assumed the position of Assistant Chief of the OB/GYN Department.

New Employees

NURSING: Patience Buckley, Wanda Cox, Stacia Ekholm, Deborah Fralich, Cindy Frost, Sharon Hale, Jo-Ellen Hardy, Bridget Kenny, Sheila Locke, Maryann Miller, Maureen Morin, Donna Perkins, Carol Poston, Kerry Van-Devanter.

HOUSEKEEPING: Lamar Alexander, Rose Johnson, Patrick Myatt, Pamela Wildes.

FOOD SERVICE: Robert Berthaume, Shirley Dame, Andrew Hartman, Dan Lingard, Claudius Simms.

MATERIEL MANAGEMENT: Molly Bedocs.

PRINT SHOP: Mark Daley.

PHARMACY: Steven Gaudreau.

Volunteer Opportunities Open House

Tuesday, October 18, 1988
9:30 AM - 11:30 AM

at the

Dana Health Education Center

Please help us by calling in or sending us the names and addresses of any relatives, friends, neighbors or acquaintances whom you feel might be interested in attending.

871-2205



Marketplace

FOR SALE: 1979 Pontiac Grand Lemans, 4 door sedan, automatic, A/C, 76,418 miles. Asking \$1,800 or best offer. Call 799-8364.

FOR RENT: Professional yet very comfortable and attractive office suite for rental. Parking, adjacent to doctors park in West End. Easy access to 295 and hospitals. Call 775-3786.

FOR RENT: Newly remodeled 3 BR apartment with kitchen and bath, all new appliances. Also includes heat, laundry, porch and limited parking. \$650/mo. plus references and security deposit. Call 775-1677.

FOR SALE: 1982 Plymouth Reliant, automatic, power steering, power brakes, cruise, new shocks, new struts, 64K, excellent condition, asking \$2,600. Call 871-7102.

FOR SALE: 1980 Olds Delta 88 Royale. 4 door, automatic, power steering, power brakes, A/C, AM/FM, good condition. Asking \$1,300. Call 774-9231.

FOR SALE: Honda Prelude, silver, 5 speed, A/C, stereo, great shape, 55,000 miles, \$7,500. Call 774-2642 days, or 774-5674 evenings.

FOR RENT: 1 BR efficiency apartment on Congress Street. Walking distance to MMC. \$380/mo. includes all utils. and parking. Call 773-2696 evenings.

FOR RENT: Room for rent with house privileges. Cape Elizabeth near South Portland. Female non-smoker preferred. \$75/wk includes utils. Call 767-1743. Available 10/1.

FOR SALE: 2 drawer filing cabinet, excellent condition with lock, \$75; 1983 Saab Turbo, 4 door, excellent condition, 85,000 miles, ski rack, \$7,500. Call 871-4038, 8 AM-4:30 PM.

FOR RENT: 1 BR Victorian, heated, hot water, parking. Western Promenade area. Non-smoker preferred. Call 998-2373.

FOR SALE: Antique glass china cabinet, \$325; bookcase, \$200. Call 775-1213.

FOR SALE: 1981 Mercury Cougar, very little rust, good transportation, \$1,900. Call 797-8901.

FOR SALE: Kenmore, 30 pint dehumidifier, 3 years old, in good condition. Call 775-6061 and leave message.

FOR RENT: 1 BR efficiency, all utils., parking, near Western Promenade, non-smoker preferred. Call 998-2373.

FOR SALE: Contax 139 quartz camera, lenses, haze filters, dedicated flash, carrying case; 18 piece magnet and grape with frosted leaf glassware; Necchi sewing machine with mahogany case. Call 892-3519.

FOR RENT: 27 West Street, spacious Brownstone, semi-furnished, living room, dining room, kitchen, pantry, 3 BR, backyard, \$250/mo. per person plus utils. Female applicants only. Call 729-3686 or 878-0289.

FOR RENT: Beautiful ocean view, Pine Point beach, year round home, 3 BR and loft, 2 baths, new furnishings, W/D, 15 minutes to MMC. Plenty of parking. \$825/mo. plus utils. Call 883-6270.

ROOMMATE WANTED: To share 3 BR Cape with professional male and female. \$285/mo. plus 1/3 utils. Non-smoker and no pets please. Call 846-0854.

FOR RENT: Prouts Neck, small furnished house, 3-4 bedrooms, 1 1/2 bath. October through May. \$600/mo. plus utils. Call 799-1867 evenings.

FOR SALE: 2 BR townhouse, 1 1/2 bath, fully appliance kitchen. Quiet, convenient location, 5 minutes to downtown Portland. \$85,900. Call 871-1460 after 2 PM.

WANTED: Rooms to wallpaper. Experience, references, estimates given. Call 878-2131 evenings.

FOR SALE: Utility trailer, \$200; Singer portable sewing machine, \$40; 2 table lamps, \$10 each; new large snowmobile suit, \$60. Call 657-3915.

FOR SALE: 1978 Horizon, still running, \$200. Call 883-4485.

ROOMMATE WANTED: Female non-smoker to share 2 BR townhouse at Back Cove Estates. \$287.50 plus 1/2 utils. Call 775-7147, leave message.

YARD SALE: Gorham-Buxton line, Rte. 202, Sat. and Sun. October 1 and 2, 9 AM-4 PM.

FOR RENT: 27 West Street, spacious Brownstone, unfurnished, 3 BR, living, dining, kitchen, pantry, backyard. \$750/mo. plus utils. Call 879-0289.

FOR SALE: 1985 Mercury Lynx. 4 speed standard shift. Excellent condition. 52,000 miles. \$2,600 or best offer. Call 865-9444 after 6 PM or on weekends.

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WHAT'S HAPPENING is published every Wednesday at Maine Medical Center, Portland, Maine for members of the hospital community and for friends of the institution throughout Maine and northern New England. Comments, questions and suggestions may be addressed to Public Information Office, MMC, Portland, ME 04102. Telephone: (207) 871-2196.

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WANTED: Houses to clean. Dependable thorough housecleaning. Lots of references. Call 799-2137.

FOR SALE: 4 Pirelli 195/60 R15. Very little wear and priced to sell. Call 883-9228 after 8 PM.

FOR SALE: Jotul woodstove, classic model 118, airtight, excellent condition. Green enamel finish. 2 foot logs fit easily. \$350. Call 761-1688 or 774-6921.

FOR SALE: Westbend humidifier, walnut colored cabinet, 15 gallon capacity. \$25; boy's bike 16" wheel, \$10; girl's bike, pink colombia, \$35. Call 799-8014.

Disc belt sander with 1 hp motor, enclosed steel stand, discs and belts, \$250. Call 799-8014.

FOR SALE: Ladies 10 speed bike, \$75; wooden toddler's swing, \$5; infant seat, \$5; new hand mixer, never out of box, \$10. Call 799-2793.

WANTED: Persons for a massage. You deserve a massage. Therapeutic massage, including Swedish, stress reduction techniques, foot reflexology, and more. Opening rate \$25/massage. Hours by appointment. Call 773-0217.

FOR RENT: 4 BR house, living room, kitchen, dining room, sunroom. Garage, hardwood floors, fireplace, W/D hookup. Belmeade Street, 3 blocks from USM and UMSL. Will rent to 4 students, \$300 each plus all utils. \$1000 security deposit and references required.

FOR RENT: 2 BR home at Wildwood in Cape Elizabeth. Quiet neighborhood, pool and tennis court, near golf course. \$950/mo. plus utils. Call 772-2794, x45 days.

CHILDCARE: Mother of 18 month old will care for your child in my Cape Elizabeth home. Lots of experience and references. Call 799-3565.

FOR SALE: 2 infant walkers, \$7 each; 1 graco stroll-a-bed, \$40. Call 773-1558 between 10 AM-2 PM.

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