

Please pass the strychnine: the art of Victorian pharmacy

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A medical consultation often ends with the physician issuing a prescription for a pharmaceutical product with instructions for the patient concerning its appropriate use. Today, physicians have a vast number of drugs of varying complexities at their disposal to minister to their patients. We were presented with the opportunity to examine the prescribing practices of physicians a century ago when we were given 2 large ledgers bound in crumbling leather, which contained prescriptions written by our medical forebears (Fig. 1). Perusing the musty old volumes was an education in itself; we were amazed at the extensive knowledge physicians at the turn of the 20th century required to treat their patients.

Many of the prescriptions were written by R.M.'s great-grandfather, Dr. James McGarry. "Old Dr. Jim" was born in Niagara Falls, Upper Canada, in 1834. He completed his medical degree at McGill University before joining the Union Army in 1862 where he served as the regimental surgeon in the 1st New York Engineers during the Civil War. He returned to Niagara Falls in 1865 to begin his general practice. Dr. Jim's son, James, was born in Niagara Falls, Ontario, in 1871. He completed medical school at the University of Toronto in 1894 and practised in Niagara Falls until his death in 1948; prescriptions written by the younger Dr. McGarry can also be found in the ledgers.

Thorburn's Drug Store was located on Main Street, about a block from Old Dr. Jim's home and office. After the pharmacist, A.C. Thorburn, compounded a prescription it was numbered and pasted into a ledger — an old hotel register. (Some of the pages beneath the prescriptions bear the signatures of those registered at the Rosli



Fig. 1: Prescription ledgers (old hotel registers) filled by pharmacist A.C. Thorburn, Niagara Falls, Ont. Each contains approximately 5000 prescriptions.

House Hotel in 1896.) Leafing through these ledgers, each containing approximately 5000 scripts (one covers the years 1899–1900 and the other, 1900–1904), was a humbling experience. Each prescription instructed the pharmacist on how to compound the appropriate medication, and it is done in an elegant and, to the untrained eye, sometimes incomprehensible way.

Understanding these prescriptions required a knowledge of some rudimentary Latin. In fact, R_x stands for the Latin word for recipe, meaning "take thou". It is also the symbol for the Greek god Jupiter, to whom ancient physicians would pray for divine intervention to make medicinal ingredients more efficacious.¹ An understanding of the apothecary system of weights and measures (Table 1) was required for the pharmacist to compound these medicines properly.

Many of the scripts incorporated Latin terms to describe how the drug should be dispensed (Tables 2 and 3). As is

Table 1: Apothecary weights and measures¹

Solid measures	Liquid measures
1 grain (gr) = 65 mg	1 minim (mi) = 65 mL
1 dram (dr) = 4 g	1 fl dr = 4 mL
1 oz = 30 g	1 oz = 30 mL
20 grains (gr) = 1 scruple (scr)	1 pint = 500 mL
3 scr (60 gr) = 1 dr	60 mi = 1 fl dr
480 gr (8 dr) = 1 oz	8 fl dr = 1 fl oz
5760 gr (12 oz) = 1 lb	16 fl oz = 1 pint (pt)
	2 pt = 1 qt
	4 qt = 1 gal

Note: Values are approximate.

the case today, each prescription included the quantity of each ingredient to be dispensed (the inscription), directions for compounding the ingredients (the subscription) and instructions for the patient (the signature). A common instruction to the pharmacist was to divide the medication into an equal number of powders and have the patient take each powder with a full glass of water at the times indicated. Often the patient's name on the prescription was incomplete; for example, we found scripts for "Mr. X's wife," "baby X" and "Italian baby." Although some scripts were little more than the torn-out corner of a notebook, some from the earlier years listed the physician's name, address and office hours in an elegant blue typeface (Fig. 2). (Family lore has it that when Old Dr. Jim was not in his office he made house calls by horse and buggy and that his horse would often deliver him home safely at the end of the evening while he slept in the back of the buggy.) Many scripts, most likely provided by the chemist free of charge, also indicated the name and address of the dispensing chemist to use.

We can gain some insight into the common maladies of the era by examining the medications that were prescribed. Although the physician had a large arsenal of agents to draw from, some were more commonly prescribed than

Table 2: Medical preparations, Latin terms and English equivalents¹

Preparations for internal use	Preparations for external use
Pulvis, powder	Unguentum, ointment
Pilula, pill	Cerate or ceratum, wax ointment
Capsula, capsule	Emplastrum, plaster
Tabella, tablet	Suppositorium, suppository
Trochiscus, lozenge	Lamella, lamella
Confectio, confection	Tinctura, tincture
Sterula, ampoule	
Charta, paper (i.e., to hold powder)	

Table 3: Latin abbreviations commonly used in prescriptions and their meaning

Abbreviation; Latin term	English meaning
gtt/gtts, gutta/guttae	Drop/drops
am, ante meridiem	Morning
pm, post meridiem	Evening
od, omni die	Once daily
om, omni mane	Every morning
on, omni nocte	Every night
m et n, mane et nocte	Morning and night
bid, bis in die	2 times daily
tid,* ter in die	3 times daily
qid,† quater in die	4 times daily
qh, quaque hora	Every h
q2h, quaque secunda hora	Every 2 h
q3h, quaque tertia hora	Every 3 h

*May also be written as tds, ter die sumendum.

†May also be written as qds, quater die sumendum.



Fig. 2: The elegant typeface on some of the earlier prescriptions. Note the physician's office hours (top left).

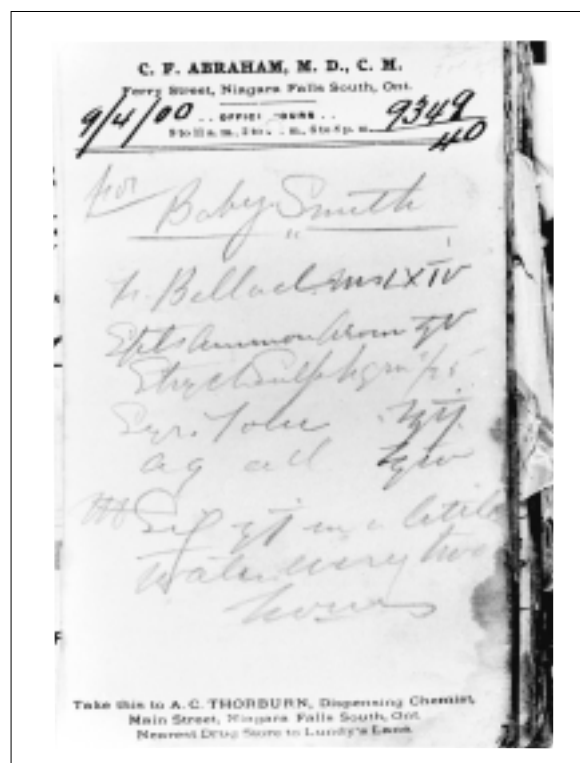


Fig. 3: Prescription for "Baby Smith," who was prescribed a combination of belladonna, strychnine aromatic ammonium and syrup tolu balsam, with the signa, "1 teaspoon in a little water every 2 hours." The cost, \$0.40.

Table 4: Medicines commonly prescribed in the early 1900s

Class of drugs	Drug, reasons drug was prescribed
Bitter tonics/stimulants	Quinine sulfate – to stimulate appetite; a "specific" for malaria; for amebic dysentery, reducing fever and hyperthyroidism Nux vomica (1.25% strychnine) – stimulant for shock; to improve muscle tone, increase appetite, ("tonic" effect), and stimulate weak bladder and as an antidote for narcotic overdose Cocaine muriate – stimulant; local anaesthetic; used to relieve coryza, vomiting and hiccup
Analgesics	Morphine sulfate – to relieve pain; as a hypnotic; for gall stones and kidney colic; general anesthetic with scopolamine/atropine; diarrhea control; cough suppressant; to relieve asthma Ethyl ether – anticonvulsant; antiasthmatic; anti-anginal but also given internally to lessen gas in the stomach (colic) Chloroform – anticonvulsant; internally as an antidiarrheal; anticolic; and in liniment for local pain
Cardiotonics	Caffeine citrate – heart stimulant Digitalis (foxglove) – atrial fibrillation/flutter; "weak heart;" shock and cardiovascular collapse
Diuretics/purgatives	Calomel (mercury chloride) – laxative; antisiphilitic; antihelminthic Cascara sagrada – laxative
Miscellaneous	Ipecac – small dose, expectorant; larger dose, emetic Pilocarpine – principally to produce sweating for waste elimination; for edema in nephritis; glaucoma; hair tonic; for eczema, scleroderma, urticaria and dizziness due to labyrinthitis; stimulation of lung secretions Belladonna (deadly nightshade) - contains atropine and used to treat asthma attacks, gastric ulcer, hiccoughs and biliary colic; cardiac stimulant

others (Table 4). It is interesting that many of the medications used a century ago, including ipecac, digitalis, atropine and the opiates, are still in use today.^{1,2} Analgesics were, and still are, the most commonly prescribed agents (e.g., codeine and coal-tar salicylates). Narcotic analgesics were also prescribed, often not for pain control but to suppress coughs or, in the form of a paregoric, to treat diarrhea. Although attempts to regulate narcotic use in Great Britain date back to 1868, the regulation of narcotics did not begin in earnest in North America until 1915 when the *Harrison Act* was passed in the United States.

Another commonly prescribed medication, nux vomica (essence of bachelor button), contained strychnine, a highly toxic central nervous system stimulant. Given that "the biters" was prescribed for a multitude of ailments, one wonders how many cases of strychnine poisoning there were. Similarly, it is somewhat hard to understand why a combination of belladonna, strychnine, aromatic ammonium and syrup of tolu balsam was prescribed for "Baby Smith," to be given with a little water every 2 hours (Fig. 3). Other practices we would consider unusual today include the use of

turpentine and castor oil as an antihelminthic and chloroform and ethyl ether (internally) for various complaints.

These rare, century-old documents provide a unique glimpse into our medical history. We were extremely impressed with both the broad range of pharmaceuticals the physician was required to know intimately and the number of compounds still used today that were discovered through trial and error in the era before evidence-based medicine.

This article has been peer reviewed.

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