In recent months the image of the medical profession has plummeted in the public view with the revelation of criminal acts and other transgressions committed by physicians. Although many varied investigations have been reported in the proceedings of the Discipline Committee of the College of Physicians and Surgeons of Ontario since they were opened to the media, none have caught the public attention like the cases of sexual assault of patients.

One such case involved a psychiatrist, who in the course of treatment of a female patient pressed her face into his groin as a form of therapy on several occasions. The Discipline Committee felt that the doctor’s behaviour was reprehensible, but due to a combination of factors was unable to recommend that he be stripped of his license to practice. Following the adverse publicity that the case received, the CPSO set up a Task Force to investigate sexual assault by doctors and to recommend ways of dealing more effectively with complaints.

Thus far, the task force has heard from many patients who have been assaulted at some time by a physician. While there are no figures about the prevalence of assault by physicians, it is estimated to be much higher than previously estimated.

Certainly, no one asks to be sexually assaulted. Why does it happen? We are advised that becoming sexually intimate with a patient is considered misconduct, regardless of how consenting the patient is. Even sending a patient to another physician before beginning a relationship may not be acceptable. Some might say that in general we are not taught about sexuality and relationships in medical school. In addition, many physicians have been on a fast-track into medicine and residency programs without having time to experience meaningful relationships and normal social interaction. Suddenly let loose on society, well-respected without necessarily having personally earned respect can be a heady experience. Is the answer that we are egocentric and have poor impulse control?

Physicians have always had a tendency to believe they know what is best for the patient regardless of what the patient wishes. That is the paternalistic approach, and basically, well-educated and informed patients have rejected it. However, we must remember that many patients have always inherently trusted their doctors and do not expect to be part of the decision-making process. These same patients may be most vulnerable to mistreatment by physicians.

Sexual misconduct by a physician in reality is no different than that by any other individual in a position of authority, such as an employer or a teacher. The difference is that physicians are more often in situations that are conducive to it occurring. We see many patients alone each day, in variable stages of undress. We perform many pelvic and rectal examinations and patients in general find them embarrassing, uncomfortable, demeaning and beyond their control. Add in any component that might make the experience seem at all sexual, and physicians may find themselves accused before the College and possibly the courts, as did one physician in Woodstock.

Sexual assault of a patient is a loathsome crime which should be punishable by all means available to the College and the courts. We must remember that our patients have rights that they do not give up when they take their clothing off. Each patient has the right to be treated with respect and with professionalism. The same way that we would like to be treated if the roles were reversed.

Connie Nasello Paterson, Meds '91
Editor

On the Cover
The Ego is the center of all our basic functions and desires, as Freud would say—broaden your horizons and turn to our article on page 12 to "expand your ego."

Design: David Fisman, Meds '94

The University of Western Ontario Medical Journal is published four times per year by the students of the U.W.O. Medical School. Established in 1930. Articles, letters, photographs and drawings welcome from the London medical community. Submissions should be typewritten and doubled spaced, or submitted on computer diskette. Correspondence should be directed to U.W.O. Medical Journal, Health Sciences Centre, U.W.O., London, Ontario, N6A 5C1.

Editors: Connie Nasello Paterson, Meds '91
Shirley Lee, Meds '92

Advertising: Caroline Meyer, Meds '92

Journal Reprints: Allan Garbutt, Meds '91
Jean Lipa, Meds '92
Barry Love, Meds '93
Justin Amann, Meds '94
Jeff Politsky, Meds '94

Faculty Liaison: Dr. Martin Inwood
Deadline for next issue: May 5, 1991

UWO Medical Journal 60 (3) April 1991
Dear Editors:

I object to the pedantic and presumptuous tone of Leslie Wright's article. I do not wish to take up the argument as to whether or not alcoholism is a biological trait or should be medicalized more than it is, but I object to the attack on one of the teachers of the University, who is a well respected specialist in liver disease. No matter how strongly Leslie Wright feels about alcoholism as a treatable disease (which often it is not), he should not lose sight of the obligation to respect a teacher and a senior colleague. I think Dr. Ghent is owed an apology.

Andrew Kertesz, M.D.
Clinical Neurological Sciences
St. Joseph's Hospital

Editors' Note:
It is the editorial position of the Medical Journal that in a University where independent thought and free speech are encouraged, that professors must be prepared to have their point of view challenged and to respond to it. That is the basis of fundamental change and creative discovery in academia.

Alcohol Abuse — Disease or Risk Behaviour?

Dear Editors:

I was surprised to read the comments about my "old ideas" regarding alcohol abuse and alcoholism by Leslie Wright in the November 1990 issue. As a teacher, I am flattered that I stimulated enough thought about the subject to provoke this response. However, I also realize that I failed in my purpose in the seminar which was to encourage students to think in a consistent and logical manner about the complex interaction of human behaviour with human disease. The essence of ethics is sound logic and consistency; the faulty logic in Mr. Wright's article requires a reply.

I can perhaps take some consolation in the fact that Mr. Wright not only regards my ideas and old (and therefore presumably invalid), but also regards all diagnostic criteria arising before 1987 as equally old and invalid. The DSM-II criteria of 1985 are considered outdated by the "more recent" DSM-III-R. This implicit faith that something new is ipso facto better is totally without any scientific basis and is hardly justified when applied to a problem which has plagued mankind since fermentation was first observed. Such worship of the present mode of thinking fails to consider the wisdom of centuries of thinkers, moral philosophers, religious leaders and mystics who have done more to put alcohol abuse and alcoholism into perspective than have modern arbitrary medical criteria.

Mr. Wright extols the virtues of the "inherent flexibility" of the modern era criteria for diagnosing alcoholism (or is the correct modern term alcohol addiction or alcohol abuse or "alcohol use problems"). He, however, objects to my suggestion that this "inherent flexibility" in the hands of "the physician trained to accept a patient's history at face value" leads to a large element of subjectivity in the labelling of someone as having this "disease".

Mr. Wright feels that it is inappropriate for me or families or social agencies to express any anger about the behaviour of an individual who is addicted to alcohol, as the recognition of the behaviour as "conflicted", whatever that means, should remove any need for emotional responses or value judgements. Such psychobabble should not be used to judge ordinary human responses to human behaviour as inappropriate. I would argue that after establishing rapport, my controlled anger about the behaviour mixed in appropriate proportions with empathy for the individual, is practically the only therapeutic tool that I have to treat this "disease"; it is much more effective if I, as a physician, have a tangible disease such as alcoholic cirrhosis to treat. I can then enlist the help of the individual to modify the underlying risk behaviour i.e. alcohol consumption. Without a real physical disease as a consequence of the risk behaviour, I as a physician have no more resources to treat the behaviour than does anyone else. Indeed, Mr. Wright acknowledges that lay people such as members of AA, with no particular medical training are more effective in treating alcoholism than are physicians, but illogically then insists that this is a "disease". The logical extension of this labelling is that physicians are the only professionals qualified to diagnose and treat alcoholism, even though they do so less effectively than do non-professionals.

The issue of whether alcohol use, in whatever quantities or patterns are considered risky by a particular society at a particular point in time, should be considered a disease is central to the debate. In the traditional medical diagnostic approach, a disease is usually a physical ailment, whether caused by an individual's behaviour or not, or a clearly identified constellation of psychiatric symptoms. Mr. Wright acknowledges that there is usually no identifiable psychopathology underlying alcoholism, than argues that because of this absence of psychopathology, it should be considered as "a primary clinical syndrome in its own right". This same absence of underlying psychopathology has been used in other situations to remove the label of "disease" from other human behaviours, e.g. homosexual practices. By extension of the kind of logic used by Mr. Wright with respect to alcohol, anyone who ever did anything that posed a risk to their health should be considered as having a disease that caused that behaviour. Anyone eating excessive amounts of cholesterol could be considered to have a disease, rather than simply risking a disease. All playing of contact sports would have to be considered as a manifestation of disease. I would argue that we as professionals should consider alcohol use as a risk factor for the development of disease, rather than a disease itself, in exactly the same way that we refuse to label homosexuality as a disease (because of the absence of underlying psychopathology), but recognize it as a risk factor for the development of certain diseases. What is the difference? Everyone acknowledges that a gay man may risk developing disease because of his behaviour, and that society and medical professionals have an obligation to such individuals to educate and warn them about the risks. We have the same obligation with respect to alcohol use by our patients, but we do not need to provide them with a convenient medical diagnosis to relieve them of responsibility for their risk behaviour.

We, as professionals, must practice consistency and sound logic in defining and treating diseases.

C.N. Ghent, M.D.
Associate Professor of Medicine
Acquired immunodeficiency syndrome (AIDS) is a disease of extensive and diverse manifestations. It is an increasingly important disease that has become a social phenomenon. Although the therapeutic options for treating AIDS patients may be limited at present, radiologic investigations are often of critical importance in determining the extent and stage of opportunistic infections and neoplasms. Neurologic signs and symptoms are common in patients infected with the human immunodeficiency virus (HIV). Approximately 39% of patients have neurologic symptoms and 10% of these patients present with neurologic symptoms before other manifestations of AIDS (1). Neuropathologic evidence of central nervous system (CNS) disease is even higher. Numerous autopsy series have shown CNS pathology in up to 80% of all patients (2). A wide variety of infectious and neoplastic diseases have been found in these patients. Likely the most important form of infection is the HIV virus itself, which has been shown to be “neurotropic,” directly attacking brain and spinal cord tissue (3). As well as the direct effects of the HIV virus on the CNS, AIDS patients are also predisposed to develop opportunistic infections and neoplasms. The radiologic manifestations of the various diseases that affect the brains of AIDS patients fall into 4 categories. These 4 common patterns of CNS disease are demonstrated by computed tomography (CT) or magnetic resonance imaging (MRI). The most common finding is diffuse cortical atrophy, while the second most common finding is white matter disease, generally caused by viral infection. One or more mass lesions comprise the third most common finding. The least commonly observed pattern is leptomeningeal (pia mater and arachnoid) or ependymal disease, caused by either infection or metastatic tumor. Each of these patterns and the disease entities that produce them will be discussed.

Cerebral Atrophy

Diffuse cerebral atrophy is very common in AIDS patients, occurring in greater than 30% of these patients with neurologic symptoms (4). As mentioned earlier, HIV is a neurotropic virus, directly invading brain cells and causing a loss of brain substance. When it attacks brain tissue, it may produce a syndrome characterized by impaired memory and concentration, with a psychomotor retardation that progresses to dementia. The syndrome has been termed the subacute encephalitis syndrome and the “AIDS dementia complex” (5). Dementia is a common clinical finding in AIDS patients that occurs in greater than one-half of all cases. At autopsy, there is evidence of gross cerebral atrophy. Other disease processes such as Cytomegalovirus (CMV) infection, systemic dehydrating and cachexia may also result in diffuse cerebral atrophy but it is likely that the AIDS dementia complex caused by HIV infection is the most common cause for atrophy. Both CT and MRI are useful for demonstrating diffuse cerebral atrophy characterized by enlargement of the sulci and ventricles. Both supratentorial and infratentorial atrophy may be present. The extent of atrophy present typically correlates with the degree of intellectual impairment. However, some patients with severe dementia may exhibit little or no atrophy on CT or MRI studies. Patients with cerebral atrophy appear to be at greater risk for subsequent development of intracranial mass lesions (4). Recent studies suggest that early in the course of HIV-dementia, treatment with Zidovudine (Retrovir) may reverse some of the signs and symptoms of this illness.

White Matter Disease

Pathologic changes in CNS white matter, which are very common in patients infected with HIV, are more often seen at autopsy than clinically evident. These changes are usually due to viral encephalitis. Although HIV is the most common pathogen, CMV, herpes simplex virus, papovavirus, varicella-zoster virus and others have been implicated. Another less common cause is ischemic encephalopathy, which has been seen at autopsy in patients with severe hypoxia from opportunistic pneumonia (2). Radiologically, T2-weighted MRI is the most sensitive modality available for detecting white matter changes in AIDS patients. The demyelination produced by diseases of white matter manifests itself as high signal intensity on T2-weighted MRI and contrasts markedly with normal, low signal intensity white matter (Figure 1). CT Scans and T1-weighted MRI do not demonstrate white matter lesions well. CT may show white matter changes as areas of low attenuation without significant mass effect or contrast enhancement (6). The pathologic hallmark of HIV encephalitis is the presence of multinucleated giant cells that are especially prominent in the cerebral white matter. The giant cells are associated with focal areas of demyelination and white matter vacuolation (2). The most severely affected area is the subcortical white matter of the cerebral hemispheres - the centrum semiovale. However, any white matter tract may be involved, including the brainstem and cerebellum. The cerebral cortex is usually spared. At autopsy, these changes are evident in up to 28% of all AIDS patients (2). Although there has been no radiologicopathologic correlation in patients with HIV encephalitis, it is likely that HIV accounts for much of the white matter disease seen on imaging studies. Unfortunately, there are no distinguishing features yet described to distinguish the white matter changes of HIV encephalitis from other white matter diseases in patients with AIDS (6).

Another viral infection that may cause white matter disease in AIDS patients is progressive multifocal leuкоencephalopathy (PML). Its incidence ranges from 2% to 7% in AIDS patients, which is much lower than the incidence of HIV brain infection. PML is caused by a papovavirus, the JC virus. It results in demyelination and necrosis of the white matter. As with white matter disease related to HIV encephalitis, the centrum semiovale is frequently affected, but extension into the cortical and subcortical areas of the cerebral hemispheres is more common with PML. Diffuse and focal neurologic findings may be seen, depending on the site of white matter involvement. Focal neurologic symptoms are common and include visual loss, aphasia and hemiparesis. The disease is relentlessly progressive and usually leads to death within 4 months. T2-weighted MRI is again more sensitive than CT in detecting the extent and number of white matter lesions. T2-weighted MRI shows areas of high signal intensity in the subcortical white matter.
The acute encephalitis seen in otherwise healthy studies. CMV is a common cause of encephalitis and white matter lesions in AIDS patients. Pathologically, it may produce glial nodules in the gray and white matter. Frank tissue necrosis is rare with CMV. For this reason, symptomatic CMV encephalitis is uncommon. Patients with documented CMV encephalitis usually have a normal CT or MRI. However, demyelination secondary to CMV has been reported and CT has shown demyelination in a severe case of CMV encephalitis.

Herpes simplex virus (Type I and II) and varicella-zoster virus are unusual infections occurring in 2% or fewer of AIDS patients at autopsy (2). Both viruses may produce white matter abnormalities. The acute encephalitis seen in otherwise healthy patients with herpes simplex infection is only seen in more immunocompetent patients with AIDS-related complex. The more immunosuppressed AIDS patients usually have a less acute, diffuse encephalitis that may be associated with white matter lesions on MRI (6). As well as causing a multifocal encephalitis affecting primarily white matter, varicella-zoster infections may produce a vasculitis in patients with ophthalmic zoster skin lesions. This vasculitis may result in cerebral infarcts.

Mass Lesions

Intracranial mass lesions due to infections or neoplasms commonly occur in AIDS patients. With neuroimaging studies, more than 20% of AIDS patients with neurologic symptoms are found to have mass lesions (4). Approximately 23% of autopsied patients have macroscopic focal masses with toxoplasmosis being almost twice as common as primary brain lymphoma (2). Other focal lesions are much less common and include Candida abscesses, tuberculosis, cryptococcosis, herpes, Kaposi sarcoma and bacterial abscesses.

Toxoplasmosis affects 10% of all AIDS patients throughout the course of their disease and is, by far, the most common treatable cause of CNS disease (1,2). Toxoplasma gondii is an obligate intracellular protozoan that is ubiquitous in the environment and causes a mild, subclinical infection in up to 70% of some general adult populations (1). In AIDS and other immunosuppressed patients, life-threatening illness results from reactivation of the previously acquired infection. In the brain, it causes a necrotizing encephalitis that may be focal or diffuse. Clinically, focal neurologic findings correspond to the portion of the brain that is affected, especially late in the disease. However, early in the disease, diffuse symptoms such as confusion and somnolence may be present in addition to the changes in mental state of the AIDS dementia complex. CT and MRI are useful for imaging patients with suspected toxoplasmosis. MRI may be slightly more sensitive but is not more specific than CT. Generally, T2-weighted MRI is the optimal screening technique. With CT, the lesions almost always enhance following intravenous contrast administration. Thus, the delayed double-dose contrast technique (using up to 80 gm of iodine intravenously) is more sensitive than the single-dose technique (using 40 gm of iodine intravenously). Ring or nodular enhancement is the most common pattern (7). With MRI, toxoplasmosis lesions are usually of low signal intensity on T1-weighted images and medium to high signal intensity on T2-weighted images (Figure 2). The surrounding vasogenic edema is of high signal intensity on T2-weighted images and may obscure the margins of the lesion. With both CT and MRI, multiple mass lesions with significant surrounding edema are usually seen. Solitary lesions are less common. The most common locations are the cerebral cortex and subcortical gray matter (basal ganglia) but any portion of the brain, including the cerebellum and brainstem may be involved (6). Biopsies are not routinely performed on patients with suspected toxoplasmosis and are reserved only for those who have failed to respond to antimicrobial therapy or have atypical clinical findings. Most patients with focal mass lesions, even with somewhat atypical radiographic features such as solid enhancement, are empirically treated with antibiotics because toxoplasmosis is the most likely cause and because the other sources have a grave prognosis. Toxoplasmosis is effectively treated with sulfadiazine and pyrimethamine, combined with anticonvulsants and corticosteroids. This usually leads to rapid clinical improvement and partial or complete resolution of radiologic abnormalities within 2 weeks (6). Therapy must

Continued on page 6
AIDS continued from page 5

continue for the duration of a patient's life to prevent recurrence.

Primary CNS lymphoma is the next most common mass lesion found in AIDS patients. It is found in approximately 6% of all AIDS patients at autopsy (2). Primary CNS lymphoma is so rare in immune competent individuals that it constitutes presumptive evidence of AIDS even when a patient's HIV status is unknown. Clinically, diffuse and focal neurologic findings may be found, depending on the site of involvement. The prognosis is extremely poor with death occurring in less than 2 months in most patients. Radiation therapy may produce tumor regression but it has not significantly changed the poor prognosis. In non-AIDS patients with primary CNS lymphoma the "classic" CT appearance is that of a solitary mass with an attenuation equal to or greater than that of surrounding tissue on scans obtained prior to the administration of contrast material. The mass enhances homogeneously after intravenous administration of contrast material (8). Ring enhancement and multiple lesions are less common. In AIDS, only about half of lymphoma lesions show uniform enhancement, while almost half show ring enhancement with central low attenuation from necrosis (Figure 3). Up to 50% of affected patients have multiple lesions. Most lesions are located peripherally in the supratentorial white or gray matter. Basal ganglia involvement is less common, especially in AIDS patients. In a majority of patients, lymphoma may spread diffusely along subependymal or white matter routes. With MRI, primary CNS lymphoma is low signal intensity on T1-weighted images and medium to high signal intensity on T2-weighted images (Figure 4). The borders of the lesions may be obscured by high signal intensity of surrounding vasogenic edema, which is usually of moderate severity (6).

Fungal infections, mycobacterial infection and metastatic tumors may occasionally present as mass lesions in AIDS patients. Fungal infections may occur in as many as 15% of all AIDS patients (2) but these infections usually appear as meningitis as opposed to mass lesions. There have been reports, albeit rare, of fungal abscesses found at autopsy (2,3). Most of these lesions are small and are not diagnosed before death, hence the scarcity of radiology literature on the imaging characteristics of fungal abscesses in AIDS. Tuberculomas and tuberculous abscesses are also rare in AIDS patients but they have been reported, primarily in intravenous drug abusers. With CT, ring-enhancing lesions with vasogenic edema are seen. The MRI appearance of a tuberculoma has not been described. Intracranial metastatic lesions in AIDS patients are unusual. The most common neoplasm metastasizing to the brain is non-Hodgkin's lymphoma, occurring in approximately 2% of cases (2). Kaposi's sarcoma only rarely metastasizes to the brain (1).

Leptomeningeal and Ependymal Disease

Leptomeningeal and ependymal disease is the least commonly observed neuroimaging pattern in AIDS patients. However, pathologic evidence of disease of the leptomeningeal and ependymal linings is common and accounts for symptoms such as meningismus, photophobia, headache and nuchal and lumbar tenderness in AIDS patients. Contrast-enhanced MRI is more sensitive than contrast-enhanced CT in detecting leptomeningeal and ependymal disease (9,10). If positive, contrast-enhanced MRI shows exaggerated enhancement of the leptomeninges, usually at the base of the brain, or of the ependymal lining of the ventricles. Meningeal disease can result in communicating hydrocephalus due to obstruction of the arachnoid granulations and infarcts from occlusion of arteries at the base of the brain. Hydrocephalus and infarcts are both detectable with CT or MRI (6). The most commonly identified cause of meningitis is a fungal infection, usually caused by Cryptococcus neoformans. Cryptococcal meningitis occurs in approximately 15% of all AIDS patients (2). Diagnosis is confirmed by elevation of cryptococcal antigen titers in serum and cerebrospinal fluid (CSF) and the organism is identified on microscopic examination of CSF. Treatment consists of intravenous amphotericin B. This may control the infection but must be continued for the patient's lifetime. It is limited by a high cumulative toxicity.

Aseptic meningitis is diagnosed in as many as 13% of AIDS patients and HIV is likely the responsible pathogen as it is frequently cultured from CSF (1). Mycobacterial infections can produce meningitis in AIDS patients, especially in intravenous drug abusers. Other viruses and fungi are uncommon causes of meningitis and do not respond well to existing therapies.

Lymphoma, leukemia and carcinoma may also cause leptomeningeal or ependymal enhancement. Peripheral non-Hodgkin's lymphoma may metastasize to the brain and spread along leptomeningeal or ependymal pathways, as may primary CNS lymphoma. Although the pattern on CT or MRI may suggest meningitis, clinical meningitis is rarely due to neoplasms.

Summary

The radiologist and clinician are faced with an enormous challenge when it comes to the management of patients with AIDS. The spectrum of radiologic abnormalities and the many organ systems that may be involved are overwhelming. It is humbling to come to the realization that much remains to be learned and that further advances may render these observations superficial and incomplete.

Acknowledgement: I am grateful to Dr. David Pelz and Dr. Alan Fox for reviewing the manuscript and to Dr. Don Lee for providing the figures.

References


UWO Medical Journal 60 (3) April 1991
Future Health vs. Future Destruction
by Les Wasilewski, Meds '92

At the present time, the end of the Cold War notwithstanding, the world's superpowers - the United States, USSR and Great Britain - along with the rest of the world, continue to spend close to 900 billion dollars a year building and developing military arms (including nuclear weapons). There still exists on Earth the firepower equivalent of 15 billion tons of TNT - 3 tons of TNT for every human being alive on the planet.

As the world’s wealthier countries continue to commit large portions of their Cross National Product towards military overkill, money that can be used to provide better health care, school education and preservation of the environment is lost. A startling example of this waste of funds is the realization that only half a day’s military spending could pay for the full immunization of all the world’s children against the common infectious diseases.

Medical Students for Social Responsibility (MSSR) would like to highlight a local example of the need for diversion of military funds to the area of health care.

The Neonatal Intensive Care Unit at St. Joseph’s Health Centre currently faces a shortage of government funding over the next five years. MSSR would like to raise approximately $5000 to pay for the upgrading of services offered by the NICU. The money will be used to furnish a “quiet room” where the parents of a sick infant can go to be alone or to talk with their child’s doctor. During crucial times of decision in the care of infants it is important that families be in a warm, supportive and private environment rather than in the harsh atmosphere of a hospital corridor. In this way dignity is maintained at all times for both the family and their sick child.

By raising much-needed money for a local health care project, we hope to show how $5000 can be more wisely used for the benefit of our society rather than for the possible destruction of it. We are presently holding a raffle with several special prizes being offered, including a free weekend for two at the Radisson Hotel, a CD player, a mountain bike and clothing vouchers. For ticket information please contact the people listed below:

Les Wasilewski, Meds ‘92 433-3984 Elyse Lackie, Meds ’93 433-6446
Gillian Buckley, Meds ‘94 438-1524

Leeches, lister and liver
by Shobhana Patel, Meds '94

Where does one find a Lister Antiseptic Atomizer, mortar and pestle and leeches all under one roof? How about in your 19th century doctor’s office? Comforting thought, isn't it? These items, along with other interesting medical artifacts, are housed in University Hospital, Room 1-AD54.

The Medical Museum has exhibitions that will attract anyone interested in the history of medicine. It is set up as a Victorian physician’s office of the late 19th - early 20th century. These early physicians performed the tasks of pharmacist, bookkeeper, nurse and surgeon. The sign on the front door displays the office hours: 8-10 a.m., 1-3 p.m., 6-8 p.m. Not mentioned are the house calls and hospital visits made after 8 p.m. (There was no time to even think about golf; let alone play it.) Medical equipment of that century was portable, since much of the medical care occurred in the patient’s home. Consultations cost $2-54, not including mileage charges - $1 for the first mile and 50¢ for every additional mile. These doctors worked for peanuts! Well, maybe not peanuts, but turnips, chickens, etc. For many patients this was the form of payment.

As you walk through the museum, don’t miss the examination chair designed for vision testing, gynecology, dentistry, major and minor surgery. The surgery equipment is also of interest. During the 19th century, operations were usually amputations. The Lister Antiseptic Atomizer sprayed carbolic acid on the physicians hands and instruments to reduce infection. Chloroform was used as an anesthetic. Major operations cost $25-500. Included in the exhibition is a 90-year-old wooden leg, to replace a lost limb. Another must is the display of bleeding instruments, which included leeches. These creatures were used in illnesses such as cholera and congestive heart disease. This method of treatment was used until the early 20th century! The use of medical leeches after microsurgery is a practice revived from our medical ancestors.

One can spend hours in the Medical Museum learning about history. It is amazing to see how medical instruments and equipment have evolved. It is truly an enlightening experience.
As I looked at my calendar the other day I was shocked to discover that February and Tachy ’95 were now in the past! For whatever reason - the fact approaching LMCC’s, all of my new-found spa-time or simple repression - Tachy seems like a lot of time ago. I had always wondered what it would feel like to do the last show. Sad? Happy? Proud? Relieved? Empty?

Tachycardia was a big success both onstage and off. I would like to reflect on that success and thank all of those who participated. The month preceding Tachy were riddled with family headaches: bookings, rehearsals, advertising, ticket sales, programmes etc. However, I was impressed with the relative preparedness of most of the class compared with previous years. I, nonetheless, cherished an impending sense of doom the week before the show.

Meds ’94, what can I say? It was funny, had scene changes, was cleverly written, well-acted and choreographed - what can I say? All this, despite the fact that you guys were over the 20 minute barrier. Meds I, well done, you are destined for greater things.

Meds ’95 put on an impressive and elaborate version of “Sweeney Todd”. This was somewhat a departure from the traditional Tachy production utilizing vocal and acting talents, costumes, choreography and set design and a whole bunch of little fake meat pies that seemed to turn up everywhere backstage. It was evident that they put in a lot of hard work and long hours to pull off something truly grand. Congratulations. In the years to come, bigger things may be expected (except of course terms of stage props!) Just keep in mind that having fun is the main thing.

Meds ’92 battled the time constraints of clerkship call to produce “Doc Tracy”, their slimy vision of mafia medicine. Effective sets, some great or liners and the much loved cheap visual effects helped to make it part of a very strong second half. Whatever you guys are dreaming up for next year I’m sure it’ll be good...slimy, but good.

Well, that leaves my classmates, Meds ’91, who really came into their own this year with an impressive and very entertaining “Little Shop of Hormones”. The Costumes were great as were the visual effects, choreography and sets. There were some very strong individual performances, but the real strength of the show was in the long hours put in by more than a few and a big turnout over. I’m sure few will forget that brief instant when Jimmy thrilled the audience and drove the scooter hog directly into the plant people, laying it down the finest Knievel fashion, and then pulled up leather collar, and got up to sing. Yes, we’ve come a long way, but then again, we had a long way to go.

As people become more involved with Tachy
by Matt Millard, Tachy Host

They realize the enormous impact that the “behind-the-scenes” personnel play in the ultimate success of the production. This year was no exception, and while I’d like to thank everyone who helped out in each class in this manner, quite a few people also deserve special mention for their part in the show. They are: Gary Burt, Connie, Derrick, Jeff, Dr. Nisker, Barb, Bob K., Al G., Tim, Akira, Allison, Jacqueline, Steve B., Tracy, Scotty, the Tachy band, and Ambrose. To all those mentioned, as well as everyone who participated from all the classes, thanks from Jeff and myself.

Speaking of Jeff Stal, I can truly say it was great to have such an enthusiastic, hard-working and reliable co-host. It was also with just reward that I ‘watched’ him ‘shit his pants’ and sink into despair during the Monday night rehearsal, much like I had done a year before. While we clearly have different styles (organized vs disorganized - guess who’s which), Jeff was easy to work with both offstage and on. I feel confident that I leave the show in his capable hands - mostly because he has already done just about everything for next year - good luck Jeff, I was fun.

Yes, it was fun. God knows it wasn’t always fun, though, and I’m sure many of you know that too. Tachy can be hard work, no doubt about it, and as the show improves each year, the work required to outdo the previous year becomes greater. Handling hundreds of mid-school sized egos, classes, exams, sets, costumes, rehearsals, call, sleeping and eating seems a bit overwhelming. That Tachy has progressed to such a professional level is truly a tribute to all who were involved.

Tachy gives the faculty of medicine a lot of positive exposure in the community. It is the main fundraiser for the Hippocratic Council and sponsors charities. It brings people from each class out and gets them to meet other classes and even other faculties. It is the main source of non-academic interaction between faculty and students. It is something that Western Meds have become known for, other than being a very good academic medical school, and it is responsible for many of the best memories we will have of our time here. I guess what I’m trying to say is that as popular and important as Tachycardia has become, the most important thing is to just get involved, have a good time and enjoy yourself. As I ponder leaving medical school and becoming a doctor, and never again being on a stage facing hundreds of people, I realize, as we all will, that Tachy was a unique and challenging experience. I’m sad, relieved, proud and happy, but the emptiness is dissipating to be replaced by the satisfaction one usually feels after having been involved in a rewarding event. Thanks to everyone who made this one of the strongest shows ever and to all the merrymakers for their hard work.
**Class Reports**

**The JJ Report**

by Justin Amann & Jeffrey Politsky, Meds '94

Jeff: Okay, Justin, this is our big chance as class reps and journalists—to report objectively on all things of relevance we have been privy to since our career as medical students began.

Justin: I think we should fabricate as many mistruths as possible—leading our readers into a frenzied state of disbelief.

Jeff: Fair enough. First question: To date what has been the highlight of your first year?

Justin: It hasn't happened yet, but it will have happened by the time this thing goes to print.

Jeff: What's that?

Justin: The end of histology. I used to like pink.

And you?

Jeff: Quite simply, pubs. Big pubs, little pubs, any pub at all; they're always highlights. There's something incontestably gratifying about waking up on the weekend in a haze, with a curious urge to consume as much of Ontario's water supply as possible.

Justin: Speaking of drink and merriment, in the past few months, I haven't witnessed anyone achieving the level of inebriation that Ted L. managed during the Christmas semi-formal. Boy, what a prize he was that night, acting up in the emergency department like he did.

Jeff: I'm sure he'll be thrilled by your amazing recall.

Justin: Next question: What's been the most difficult concept for you to grasp so far this year?

Jeff: That would have to be the thermo-regulatory capacity of people who wear med jackets. At first I thought that they wore the jackets to let everybody know they were in medicine—but in the medical sciences building. Probably not! Then I thought those truly fashionable garments were worn to woo women. But as our cohort Zane has so profoundly stated on numerous occasions: "Chicks dig style." Thus, I eliminated this possibility as well.

Justin: Zane also thinks chicks 'dig' raindrops, being called sugar plum, the snowy-tailed egret, and the Heimlich manoeuvre.

Jeff: Great, I hope it rains. Anyways, it finally came to me; they wear them because they're cold. After all, they wear them in class, in the histology lab, in the cafeterias, and inside bars. These are places most people opt not to wear such articles of clothing.

Justin: I wonder how they survived before they got into medicine. They probably sat next to medical students for body heat. To change topic, isn't it amazing how tedious studying becomes as exam time approaches?

Jeff: Quite. I often sit with my anatomy notes in front of me only to begin wondering what I could be doing instead of what I should be doing—suddenly a goddess appears before me; she smashes my anatomy notes and whoops them into the Thames river; she seductively takes my histology slides and crashes them under her spiked heels; she grabs my nasal insufflator bulb in a way I'd never imagined (I cannot again think of Welch Allyn as merely diagnostic); she smirks at me—"smile back, she winks—"I wink; she gazes piercingly into my eyes—I look away cooly—only to marvel at the awe-inspiring feat I see through my window of a squirrel scaling the seemingly smooth wall of a neighbouring apartment building. I look back for my goddess, but alas, all I see is a veritable smorgasbord of cranial fissures, foramina, fossae, nerves, vessels, and fibblodlgoop, complicated by a hooping helping of sexually oriented pneumatic devices, which is bloody well what got me off track in the first place.

Justin: Wea then young buck. You might want to get that problem checked out—I don't usually have my fantasies interrupted by a nodent. You might also want to get rid of that insufflator bulb. Anyway, what did you think about Tachy?

Jeff: Of everything, I enjoyed listening to the medley of songs performed by Jacqueline, Allison, and Akira. He's an incredible pianist. Of the plays, I was partial to Doc Tracy.

Justin: Even despite that rap thing they did?

Jeff: Nothing's perfect. They're clerks—their minds are cluttered, they're confused, and they've lost their objectivity. We'll be just like them in two years.

Justin: Well, I must be loyal. I liked our play the best. It had everything—comedy, song, suspense, murder, suicide, dead people that laughed, magical daggers, a bewildered Hamlet with an odd personality configuration, and of course, women, lustful women. Oh, how I long to meet a lady named Elizabethan.

Jeff: Psyche! On that note I think that that's all the space we have. Until next journal, Justin.

Justin: Good day, eh.

**Clerkship here we come!**

by Barry Love, Meds '93

Those of you keeping tabs on Meds '93 know that we are wearing a perpetual smile now. Just a few short months of second year left and then CLERKSHIP. We are most looking forward to running around in green pajamas all day.

To reminisce a little on the last few months... February was an exciting month for our class. Our class certainly enjoyed working hard on Tachy. Many of us had our first opportunity to sing without a bar of soap in one hand and a washcloth in the other. Meds '93 owes a big thank-you to our merrymakers Steve Goddard and Doug Bergstrom who managed to turn our entropy into a show of which we could be proud. We hope you who had the opportunity to see our performance enjoyed the show as much as we enjoyed putting it on.

February excitement also included the Ontario Medical Students' Weekend (OMSW), held here in London. OMSW was a welcome chance to meet students from other medical schools and listen to some interesting talks on medical subjects that are not covered in the standard medical school curriculum. Letting loose at the social events didn't hurt either! Many thanks to Elise Lackie, Kathy Wise, and Stephanie Winsor from Meds '93 who chaired the weekend - we appreciate all the hard work you three put in!

In more personal class news... We will have a new addition to our happy Meds '93 family. Congratulations to Lisa Fischer the proud soon-to-be-mother. In other good news — to James and Corinne Francis, congratulations on your marriage.

That's all the news for now. Stay tuned to this journal for further updates. In the next exciting episode: Meds '93 rocked by four marriages in one summer - where did all the singles go?

**Ann Slanders**

Dear Ann:

I'm coming up to the homestretch of my clerkship and I still have palpitations every time the beeper goes off. I am, however, getting very good at ordering Tylenol and Ativan. And I know that I've been in the hospital for too many hours when I go out to dinner and follow the signature on my credit card slip by 'Meds II'. It's become a part of my being!

Choosing fourth year electives and selectives has been a traumatic event. It essentially amounted to choosing the direction of my career...choosing what I want to do for the rest of my life! 'Psych? Paeds? Medicine? Surgery?' I'm too young to have to make these decisions!

When will I get to the point where I feel more like Dr. Ben Casey and less like Doogie Howser?

Joe Clerk

Dear Joe:

Cheer up. You're probably ever so slight-

Continued on page 11

UWO Medical Journal 60 (3) April 1991
ly) more competent than you make yourself out to be. There is no one event that makes you suddenly feel comfortable with major decisions and able to go on. Here's to all classmates and his congratulations to Ed White and his decisions and responsibilities, but rather the whole process of clerkship. Take, for example, the collective life experiences of your classmates from this year.

More babies! Now that's responsibility. Congratulations to Ed White and his wife on the birth of their boy, Noah Aaron; Rob Briggs and his wife on the birth of their girl, Courtney Nicole; and Rob Eddington and his wife on the birth of their (the tie-breaker) boy, Phillippe Michael.

Another season of Tachycardia has come and gone. Here’s to all class members involved in Doc Tracy and to Meds '92's own, Jeff Stal.

Spring Break saw many of the Crew (including Dave's Winnebago Vacation Enterprises Inc.) bronze their bodies in the southern climes. And with the start of the excellent weather in sunny London, Ontario, they'll even be able to keep up their tans. Ah, yes, life is sweet! (Now if you can only have a weekend without call to soak up those rays.)

And a few more things to look forward to: The Meds Formal, being organized by Bob, Dave and Rosalie's "social get-together", and fourth year. Maybe by that time you'll feel like a doctor. If not, I hear they're looking for a star for a new TV sitcom.

Well, we were back, and now we're gone again. Some were happy to see the classroom again, while others are ecstatic to be back on the wards. Regardless, we all got experiences last fall that will last us a lifetime.

We dispersed widely last fall, with some of the more exotic locales including Angola, Papua New Guinea (watch out for mosquitoes and malaria, eh Bevin?), Australia, and Hawaii. Others went to Detroit, Waterloo, and Toronto. Many members of Meds '91 visited the western meccas of Calgary and Vancouver. We dealt with problems ranging from sunburn to gunshot, from URTI to TB, and we learned. Boy, did we learn.

Then, back to the classroom for the first time in 18 months. What a change. Regular hours, no beepers, no consultants, no patients; and the major problems were how to squeeze a bit of studying around the Tachy preparations, and the occasional pub (for a good cause, of course). We obviously struck the right balance, as we pulled off a great Tachy presentation with less than two months to prepare. We even managed to defeat classes that had been slaving over their roles for 8-10 months.

Most of the class were heavily involved in a myriad of tasks that helped make our adaptation of "Little Shop of Horrors" the smash hit of Tachy '91.

At the same time, we were busy with interviews for those all-important PGY1 slots (more familiarly called internship positions). As those
Ego Expandability: a Neologistic Investigation

by Jeffrey Politsky, Meds '94

It has long been known that Egos can, over time, grow and develop. A problem that has perplexed scientists, however, is where the Ego performs this so-called developmental expansion. It has been found that the Ego, which grows in accordance to arbitrarily defined positive-life experiences, first binds to receptors in the hypothalamus and subsequently expands to occupy a position in the universe. Accumulation of Egos beyond the degenerative capacity of the system may jeopardize the universe.

In psychoanalytical terminology, the Ego is that part of the psyche which, developing from the id, experiences the external world through the senses and consciously controls the impulses of the id. Supposedly, in its principle role, the ego acts as a mediator between our instinctual urges and the surrounding environment. The Ego decision is dictated by realistic considerations rather than by moral judgement. Philosophically speaking, the Ego is the self, variously conceived as an absolute spiritual substance on which experience is superimposed—the series of acts and mental states introspectively recognized.

Combining these two schools of thought, it is conceivable that the concept of the Ego develops in accordance with how well or how poorly the Ego operates as a mediator. In the normal condition, integrity of the Ego is maintained by accurate perceptions of the Ego decision. Although inaccurate assessments of the Ego decision have been observed on numerous occasions, the underlying mechanism of such judgemental errors remains unclear. One possible result of such misinterpretations is an inflated Ego. Thus, an investigation of the events leading to an inflated (or inflated) Ego would be helpful to further understand this component of the conscious subject. Are the processes leading to an inflated Ego pathological, psychological, or both? Furthermore, how does the environment cope with the inflated Ego?

Because the development of the Ego rests on the perception of the Ego's ability to mediate between urges and societal norms, it may be assumed that the Ego is an aspect of the conscious mind (rather than the body). Not only would a discussion of mind and body interactionism yield little more than an epistemological nightmare, but, fortunately, such rhetoric is beyond the scope of our discussion of mind and body interactionism. Fortunately, explicitly, at an unde-

fined stage of development, takes to occupy an area of space-time in the universe. Interestingly, there is a critical level of positivity the Ego experiences when the expression occurs. The measure of positivity is the "Puff" (not to be confused with that nutty dragon), where 12 Puffs is the Egox threshold. Thus, when a positive experience measures 12 Puffs, for instance, the Ego expands proportionately by 1 F. As an example, consider an individual who is assertive, confident, and successful (such as a newly graduated law student who has just been hired by the second largest law firm in Chicago for a ridiculous sum of money). Such a person will likely be exposed to many positive experiences measuring many Puffs, causing the Ego to expand at a rapid rate to a size of many Inflations and therefore occupy a large area of the universe.

Before the Ego can occupy a space within the universe, it must first be present as a physiological entity in the brain. Just as there are neurotransmitters (e.g. amino acids) and neuromodulators (e.g. catecholamines), so there is a neuroexpansive (i.e. the Ego). It has been shown that there is a bimodal distribution of neuroexpansive receptor densities in brains of Ego-compatible individuals. Binding studies performed on post-mortem brain tissue from 252 subjects, 1 of which were Ego compatible (each 5 subjects), revealed that in these 254 subjects there was a bimodal distribution of hypothalamic neuroexpansive binding sites (Politky et al., J. Scientific Confabulation, 1990). No such distribution was seen in control tissue, or in other brain regions. One mode occurred at 36% above the control density, and one occurred at 1.9 times greater than the control density.

The low density mode may be a population of E2 receptors that is normal but elevated by long-term Ego development. [There are also E1 receptors, but their function remains unclear.] It was also found that there were two flip-flop states of E3 receptors. The E2(High) receptor (K_D = 0.53 nM) occupies a position on the pre-synaptic membrane. The E2(Lo) Receptor occupies a position on the post-synaptic membrane and has a lower affinity (K_D = 0.05 μM). Apparently, by binding the Ego in high concentration (and with high affinity) in the pre-synaptic membrane, only a low concentration of neuroexpansive is capable of being transported across the synaptic cleft and binding to the E2(Lo) receptors and subsequently becoming free Ego and expanding into the universe. In other words, we have an internal preventative mechanism against Ego-toxicity.

Various research and field studies have shown that levels of free Ego in the universe are tightly controlled by a negative feedback mechanism, much like body temperature. When Egos first enter the universe they move about randomly. As more Egos enter the universe, the Ego molecules begin to collide with increasing frequency, proportionate to the amount of Egos present. The unit size of the Ego has a large bearing on the collision rate. Large Egos repel each other, as do small Egos repel each other. When universal space becomes limited, however, larger Egos have the ability to adjoin to smaller Egos, until one enormous Ego Gigantocellular Complex (EGC) is formed (Politsky et al., Can. J. Neurropsychopharmacology, 1990). This occurs because the smaller Ego molecules have tiny surface projections (E-cell markers, comprised of glycoprotein, hydroxy-yapette, string, sealing wax, and other fancy stuff) which are successfully probed by the larger Ego molecules. As universal space fills to capacity, the metabolic system of the universe biodegrades the oldest and innermost layer of Ego molecules (some texts refer to this as the "Leggo my Ego" process). Degradation is facilitated by the fact that as Ego molecules age, they lose affinity for the EGC. The enzyme responsible for carrying out this formidable task is the "helminadase" enzyme. Varying reports (and those who vary) suggest that "helminadase" can breakdown 52 million Ego molecules/day. The rate of 52 million Ego molecules/day is represented by the SI unit of 1 "Wow, You've Got To Be Kidding" (WYGTBK, on your FM dial). The end-stage of this lysis involves excretion of saline Egos by trans-migration of the paleocomplex into a mass. The exact mechanism by which this efflux materializes is completely unknown (to date no researcher has been willing to find out)—a decaying Ego is after all rather smelly.

The possibility exists that the degenerative capacity of the universe may be exceeded by a rapid influx of Egos. Such an event may also cause obstruction of the excretory mechanism. Unfortunately, there is no such thing as a Maytag Repairman or a Liquid Plumber in the universe. Without a functional excretory system, the EGC will grow to toxic levels of near permanency. This was illustrated, reliably, in an in vitro experiment in which the lifespan of three samples of universe were examined. In the control sample (intact universe without Ego) the universe survived indefinitely. In the second sample (intact universe plus Ego complexes) the universe also survived indefinitely. In the third sample, however, where the excretory system of the universe was destroyed by electrolytization followed by the addition of Ego complexes, the universe died (Politsky et al., unpublished). Mean lethal toxin Ego levels ranged from 13-16 Phoecys, where 1 Phoe cy is 1 unit of space-time (in or out of the lab). In the ante-mortem period, the universe entered a state of general senility accompanied by hallucinations, delusions of grandeur, contralateral rigidity, increased rates of apomorphine-induced rotation, and sudden outbursts of reminisced rap versions of "If I were a Rich Man." It is assumed that these symptoms signal impending fatality. The contribution of the latter symptom toward the progression of senility is dubious, however, as a number of research scientists (all classified as mentally coherent) have been observed to engage in uncontrolled vocalizations of the subtle rifts and lyrical nuances of the tune "It's Shifty, it's Shicky, it's fun, it's a wonderful town..." Nonetheless, this period of ante-mortem senility is the last stage where therapeutic intervention may be successful.

Continued on page 13
as shown when a universe transplant was performed on sample 3. In this instance, provided that there were no post-operative complications or an immunological graft-versus-host response, the universe survived after a short recovery period.

Many intriguing questions have arisen from this research. Could it be that the universe will come to a catastrophic ending if either the normal homeostatic mechanism of the universe breaks down or Ego complexes become so prevalent that an impending breakdown is inevitable? What does the future hold? Will we be reduced to mere ids (although the thought of immediate gratification does seem quite intriguing)? Until further answers are provided, prophylactic mechanisms must be implemented—use the Ego sparingly. Laboratory data suggest that Ego growth in excess of 30 inflations/day may have deleterious effects on the environment and universe as a whole.

Although current research on the role of Ego Complexes in the maintenance of universe homeostasis is intensive, under-funding from federal and international levels of scientific jurisdiction limits investigative approaches (raw materials are rather expensive you know). Basically, we need money—lots and lots of money. Please send your healthy research donations to:

Save the Universe Fund, c/o UWO Meds Journal; London, Ontario.

Thank you for your patronage. Nutrition information available upon request. [union made] Acknowledgements: I would like to thank all those little people with big egos, who made this research possible.

Prescription for Success

As you begin, and throughout your medical career, you will face a variety of situations which even the most comprehensive medical training does not address. Knowing where to turn for assistance and professional advice can help.

The lawyers of our Health Services Group have extensive experience and in-depth knowledge of the legalities and business issues facing your practice. We can help you understand the complex legislation governing the medical profession and assist in a wide variety of health disciplines advocacy.

For further information, please contact the head of our Health Services Group:

Tracey Tremayne-Lloyd
(416) 597-4088

The Amazing neighbourhood Drug Store
**FIRST YEAR**

**VERDA TAYLOR VINCENT SCHOLARSHIPS**  
Awarded annually to the students achieving the highest, second and third highest standings in the examinations at the conclusion of first year Medicine:  
- Highest standing: $700 - Lisa Y-Yee Yip  
- Second highest standing: $450 - Narenda Armogan  
- Third highest standing: $200 - John Chia-Hua Yang

**THE ALAN C. BURTON MEMORIAL PRIZE IN BIOPHYSICS**  
Awarded to the first year medical student obtaining the highest marks in the course in Biophysics. $250 - Lisa Y-Yee Yip

**J.B. CAMPBELL MEMORIAL SCHOLARSHIP IN PHYSIOLOGY**  
Awarded to the first year medical student obtaining the highest marks in the examinations in Physiology. $250 - Craig Markle

**THE HIPPOCRATIC COUNCIL ANATOMY AWARD**  
The Hippocratic Council Award shall be awarded to the student in First Year Anatomy who demonstrates lab performance as evidenced by marks and enthusiasm. $75 - John Yang

**C.V. MOSBY COMPANY SCHOLARSHIP AWARDS**  
A book to the value of $50 will be given to the student obtaining the highest standing in each of the following first year subjects:  
- Biochemistry - Robert Stuparyk  
- Histology - Narenda Armogan

**LANGEL AWARDS**  
Prizes of books published by Lange Medical Publications to each of two outstanding students in each year.  
- Michael McGinley  
- Glen Pederson

**THE DR. MARVIN L. KWITKO SCHOLARSHIP IN ANATOMY**  
Awarded to the student with the highest grade in first year of Anatomy at the University of Western Ontario. $300 - Lisa Y-Yee Yip

**SECOND YEAR**

**PROFESSIONAL ASSOCIATION OF INTERNS AND RESIDENTS OF ONTARIO (PAIRO) TRUST FUND AWARD**  
To be awarded to a student at the end of Second Year of the Program in Medicine who has demonstrated academic achievement and has made a significant contribution towards improving the general welfare of medical students. $1,000 - Saurin Popat

**THE RACHAEL SLOBASKY KAPLAN SCHOLARSHIP**  
Awarded annually to the student achieving the highest standing in the examinations at the conclusion of second year of the medical course. $500 - Irvin Kumar Pathak

**THE MARTIN AND MARY LEBOLDUS AWARD**  
Awarded annually to the second year student showing the most promise as a Clinician, as demonstrated by performance in Clinical Science, Clinical Methods and the Introduction to Clinical Clerkship. $300 - Irvin Kumar Pathak

**THE ALEXANDER HOTSON MEMORIAL SCHOLARSHIP**  
Awarded to the student achieving the second highest standing in the examinations at the conclusion of the second year of the medical course. $300 - Joan Elizabeth Lipta

**THE UPJOHN ACHIEVEMENT AWARD IN PHARMACOLOGY**  
Awarded to the second year student who obtains the highest marks in the Basic and Clinical Pharmacology course. $500 and a plaque - Wendy McCurdy

**THE MERCK, SHARP AND DOHME AWARDS IN THERAPEUTICS**  
Awarded to three second year students, on the basis of performance in the course Therapeutics as determined by the Therapeutics Course Committee.  
- 1st prize - Tariq Lone  
- 2nd prize - Judy Hindsoung

**THE CIA PRIZE**  
This prize, consisting of a set of the Ciba Collection of Medical Illustrations, is awarded to a student in the second year, at the discretion of the Council of the Faculty.  
- John Yang

**THE M.D.S. HEALTH GROUP LTD. PATHOLOGY PRIZE**  
Awarded annually to the medical students with the best performances in the course in Pathology in second year. $300 and $200 - Braden Michael McCue, Catherine Cagianows

**THE DEAN RUSSELL PRIZES IN NEUROSCIENCES**  
Combination of Ophthalmoscope and Otooscope sets are given annually to the two second year students obtaining the highest standings in Neurosciences.  
- Judy Hindsoung  
- Irvin Pathak

**THE LANGE AWARDS**  
Prizes of books published by Lange Medical Publications to each of two outstanding students in each year of the medical program, as selected by the Council of the Faculty.  
- Michael McGinley  
- Catherine Cagianows

**THE CLASS OF 43B AWARD**  
Awarded annually to the student obtaining the highest final mark in the course in Clinical Methods at the end of second year. $100 - Joan Lipta

**C.V. MOSBY COMPANY SCHOLARSHIP AWARD**  
A book to the value of $50 will be given to the student obtaining the highest standing in Microbiology.  
- Catherine Cagianows

**ROWNTREE PRIZES**  
Awarded annually in memory of the late Dr. L.G. Rowntree, for essays in medical history. $125 - Saurin Popat

**THIRD YEAR**

**THE BENJAMIN WEIDENBAUM AND CECILIA ROTSTEIN SCHOLARSHIP**  
Awarded to the students with the highest and second highest standings in the Third Year. $700 and $400 - Sheldon Levy  
- Paul Kursell

**THE MARTIN AND MARY LEBOLDUS AWARD**  
Awarded annually to an outstanding Clinical Clerk in Third Year. Selected by the Council of the Faculty. Established by the late Dr. Martin Leboldus. $300 - Brenda McMullen

**THE CHARLES E. FROST MEDICAL SCHOLARSHIP**  
Awarded by Charles E. Frost and Company, at the end of the Third Year, to the medical student who has shown most promise in the field of therapeutics.  
- $500 and a Bronze Medal - Hamza Khan

**THE ROBERT K. ANNETT MEMORIAL AWARD**  
Awarded to a third year medical student who during the clinical clerkship has best demonstrated awareness and concern for co-workers, as well as empathy and compassion for the physical and emotional needs of patients. Recommended by the Undergraduate Medical Education Committee on the basis of nominations received from the class. Donated by the family and friends of Dr. Robert K. Annett in memory of his efforts to promote professional conduct of this kind. $400 - Mark Maslovich

**THE CLASS OF 1951 FRANK R. CLEGG MEMORIAL AWARD**  
Awarded annually to the third year medical student achieving the best balance of high academic standing and those qualities of compassion and personal commitment generally regarded as essential to fulfillment of a role as a good physician, as judged by the Departments of Family Medicine, Medicine, Obstetrics & Gynaecology, Paediatrics, Psychiatry and Surgery. Established by the Class of 1951 in memory of Dr. Frank R. Clegg. $450 - Louise Parker

**THE DR. V. CAROLINE GRAHAM AWARD**  
Awarded to a female student standing in the top ten of Year Three as selected by the Dean. $200 - Lorri McFarlane

**THE CARLTON C. WHITTAKER MEMORIAL SCHOLARSHIP IN PSYCHIATRY**  
Established by the late Miss Edith M. Whittaker, and awarded to a student in the third year of Medicine with high standing in Psychiatry and other evidence of interest in the subject. $240 - Sheldon Levy

**THE LEONARD SUTCLIFFE MEMORIAL SCHOLARSHIP**  
Awarded to the medical student with the highest standing in Obstetrics & Gynaecology in third year. $250 - Robin Lee

**THE DR. L. W. MANN AWARD**  
Awarded to two third year medical students showing superior achievement in studies in Family Medicine, and demonstrating personal monetary need. $250 each - Warren Cantor  
- Craig Latour

**THE JOHN C. RATHBUN MEMORIAL PRIZE IN PAEDIATRICS**  
To the third year student who receives the highest evaluation at the completion of the Clinical Clerkship in Paediatrics. $150 - Janet Little

**THE C. C. ROSS MEMORIAL PRIZE IN SURGERY**  
Established by the colleagues and friends of the late Dr. C. C. Ross, and awarded to the third year student showing the most proficiency in clinical signs and symptoms leading to diagnosis in Surgery. $100 - Paul Kursell

**THE BRISTOL PRIZE IN MEDICINE**  
Awarded annually by Bristol Laboratories to a third year student selected on the basis of meritorious performance in Clinical Medicine. Books to the value of $200 - Samuel Gutman

**THE ELENA B. WOLF MEMORIAL AWARDS**  
Awarded annually for essays in the field of cancer research or treatment submitted by students in Third Year. Awards will be presented for the two best essays judged by a special committee appointed by the Dean of Medicine. Essays are to be submitted to the Office of the Dean of Medicine on or before June 30th of each year. In memory of Mrs. Elena B. Wolf. $200 and $100 - Paul Dowdy  
- Margaret Beinagessner
SCHOLARSHIPS continued

THE ISHIYAKU EUROAMERICA, INC./PICCIN NUOVA LIBRARIA BOOK AWARD
Awarded to a student in the Faculty of Medicine who ranks in the top 10% of the class at the end of Third Year and has demonstrated outstanding clinical skills as judged by the Dean of Medicine. Book award
Paul Kursell
THE J.A.F. STEVENSON MEMORIAL SCHOLARSHIP
Awarded for academic excellence, tenable in the Faculties of Arts, Music, Social Science and Professional Faculties. (These Scholarships were established by The University of Western Ontario Faculty Association.) Sheldon Levy

FOURTH YEAR

THE MEDICAL ALUMNI GOLD MEDAL
Gold Medal
Mark Andrew Crowther
THE ALPHA KAPPA KAPPA GOLD MEDAL
Gold Medal
Donna Lynn Robinson
THE DR. R.R. ECLLES SCHOLARSHIP
Mark Andrew Crowther
THE CLASS OF ’55 PRIZE $550
Mark Andrew Crowther
THE KINGSWOOD SCHOLARSHIP $275
Elizabeth Anne Cummings
THE CLASS OF 1917 PRIZE $200
Monique Sabina Starok
THE ROWN TREE PRIZES IN MEDICAL HISTORY
2nd - Monika Eva Schwab $100
3rd - Kelly Rae Cranston $75

THE DR. ARCHIBALD MCCAUSLAND MEMORIAL PRIZE IN PSYCHIATRY $400
Clare Jeanette Cormier
THE J.B. CAMPBELL MEMORIAL SCHOLARSHIP IN PHYSIOLOGY $225
James Douglas Awde
THE DR. FRED N. HAGERM AN MEMORIAL PRIZE IN SURGERY $350
Judith Andrea McCart
THE DR. MARTIN L. KWITKO SCHOLARSHIP IN OBSTETRICS AND GYNAECOLOGY $250
Philip Leon Vandewalle
THE IVAN H. SMITH MEMORIAL PRIZE $200
Glen Stuart Bauman
THE DR. HENRI BREAULT AWARD $200
David Buckle
THE ABBOTT PRIZE IN ANESTHESIA
Ronald James Butler
THE HORNER MEDALS IN OPHTHALMOLOGY AND OTOLARYNGOLOGY. Silver Medals
Monique Sabina Starok
Ralph E. Bassett
THE ANDREW D. MASON MEMORIAL AWARD $150
Alistair John Ingram
THE LANGE AWARDS Book Prize
Donna Lynn Robinson
Theresa Anne Podrebarac
THE ONTARIO MEDICAL ASSOCIATION PRIZE IN PREVENTIVE MEDICINE. $100
David Hwee Lee
THE UNIVERSITY OF WESTERN ONTARIO AWARD IN CARDIOLOGY $80
Kristine Jane Roberts

THE RADIOLOGISTS OF WESTERN ONTARIO AWARD IN DIAGNOSTIC RADIOLOGY $200
Frederick John Smith
THE HEMLETT-PACKARD TOP MEDICAL GRADUATE AWARD
Mark Andrew Crowther
Donna Lynn Robinson
Elizabeth Anne Cummings
Monique Sabina Starok
Theresa Anne Podrebarac
THE SANDOZ BOOK PRIZE $150
Jeffrey Dennis Tschirhart
THE COLLINS MEMORIAL PRIZE IN GERIATRIC MEDICINE $150
not awarded this year
THE W.H. MCCUFIN SCHOLARSHIP IN RADIOLOGY $250
Frederick John Smith
THE DR. G. EDGAR HOBBS MEMORIAL SCHOLARSHIP $3000
Mark Andrew Crowther
THE DR. GLEN S. WITHER MEMORIAL AWARD $1,100
Philip Leon Vandewalle
THE ROBIN MIDDLETON MEMORIAL AWARD $825
Warren David Teel
THE JOHN WILLIAM ROHRER MEMORIAL AWARD $650
Dorian King
Cheung Lo
THE BILL MOOD MEMORIAL AWARD $500
David Buckle
THE ROCHE SCHOLARSHIP $50
Bradley Jon Dibble

MEDCOM solutions

"The last thing I need from my computer billing system people is that long distance feeling."

Love 'em and leave 'em. It's a story as common to computers as it is to fiction - and the last thing you need when it comes to billing systems.

So it's good to know there's a computer billing solution in your own backyard; Medcom Solutions to be specific. Our Epsilon Billing Software is recommended by Physicians and clinics throughout Southwestern Ontario. Our new Epsilon Basic Billing Software is perfect for Surgeons and smaller practices.

Over the past five years, we've become a key source of software and expertise for the local healthcare profession. The Epsilon program is incredibly easy to use. It's dependable. And it works from day one until the day you don't need it any more. That's a commitment we support completely. Medcom Solutions. Rock solid billing software - from a computer company that prefers the 'no-distance' feeling.

Call us today – and see how quickly we can be there.
(519) 673-4858

Business Care For The Healthcare Profession
Medcom Solutions (London) Ltd., 546 Adelaide Street North London, Ontario N6B 3J5 Tel. (519) 673-4858 FAX (519) 679-1624
Pouring resources and knowledge into a dedicated fight against suffering.

Suffering costs nothing. The pursuit of the perfect cure requires time, effort... and large sums of money. At Ciba-Geigy, the question is not how much time or how much money, but how effective the end product is.

Which is why any breakthrough that results in the release of a new medicine is the culmination of long years of exhaustive and thorough research. It is, in fact, the creation of "new knowledge".

The initiation of such invaluable work would not be possible were it not for the direct participation of world-famous research institutions and organisations.

Significantly, the goal at Ciba-Geigy echoes that of mankind's – freedom from suffering.

CIBA-GEIGY
Creating new knowledge for a healthier world.